



ARCHITECTURE

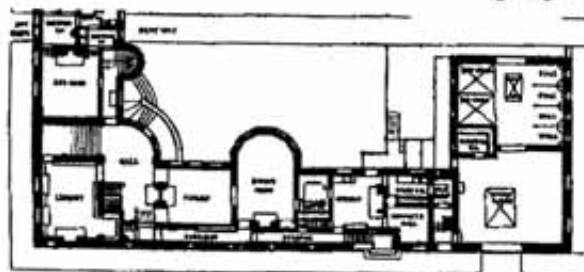
EHLINGER & ASSOCAITES

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The Glessner Residence in Chicago is the subject of this issue's limited edition signed print by Ladd P. Ehlinger. It is on the south side of downtown and was one of the last commissions executed by Henry Hobson Richardson, the architect. In fact the home was completed after Richardson's death on 27 April 1886 of tonsillitis at the age of 47.

The plan of the Glessner Residence is particularly interesting because Richardson chose to build the house on the lot lines of the corner city lot, and use the remainder of the space on the property as an enclosed private courtyard. The carriageway pierces the front wall (on the left in the sketch) and runs the length of the property to the street in the rear. The stable portion of the house is to the rear (on the right in the sketch) and accesses the street as well as this interior driveway.



Richardson considered the conceptual scheme of this house as affording more privacy while being more imposing than most city dwellings. The scheme allowed the architect to design

one of his trademark massive walls right on the street.

Who was Henry Hobson Richardson? Many architectural critics consider him to have been the true founder of an American Architecture - or at least the seeds of what would later become so.

He was born on the Priestly Plantation in St. James Parish just up the Mississippi River from New Orleans on 29 September 1838. He spent his formative years in New Orleans, going to the public school in Lafayette Square (now downtown), and his summers and winter vacations at the plantation. As a student, he showed great talent and promise in drawing and in mathematics - the perfect blend for an architect. He went to Harvard, graduating in the class of 1859. There, he made many friends in the Boston area and all along the east coast who would later become his major clients. In 1860, Richardson applied for entrance and was accepted to l'Ecole des Beaux Arts in Paris, the leading school of architecture in the world at that time. He was tested entirely in French for entrance which required a few months of study before he took the exams.

During his studies, the American Civil War erupted. His funds were cut off from America, and he took employment to survive and persist in his studies, rather than abandoning them and going to war in the U.S. Richardson returned to the U.S. in 1865 and sought employment in New York. He soon opened his own office with an important commission for a Unitarian Church in Springfield, Massachusetts providing his first break in 1866.

He took a partner, Charles Gambrill, in 1867. The partnership lasted until Gambrill's death in 1878. Many important projects were done under the partnership, including the famous Trinity Church in Boston.

With the Trinity Church project, Richardson began designing in the Romanesque Revival style. The custom of the time was to design in one "revival" style or the other.

What H. H. Richardson did however, was to reinvent the "style" by transforming it into something entirely new and personal to him. The characteristic semi-circular arches became "fattened" and very thick. The walls became massive with edges to the stone that served to emphasize the massiveness. The monumental scale of the buildings and the solid to void relationships acquired a rhythm unknown in anyone else's Romanesque Revival or even in the original Romanesque style of the 6th through the 10th centuries (which was copied from the Roman style(s) of the millennium).

In essence, the style became transformed into "Richardsonian Romanesque" - what we call it today. Richardson influenced numerous architects with his work, so much so that it provided the foundation for American Architecture.

Louis Sullivan admitted and admired the Richardson influence. He mimicked the pattern of arches in Richardson's Marshall Field Warehouse in Chicago in his own Auditorium Block Building. Sullivan's pupil, Frank Lloyd Wright used the massive arches in many projects in both his early and later works: the Thomas Residence, the Arthur Heurtly Residence, the Dana Residence, and in the V. C. Morris Gift Shop in San Francisco. The last example copies the Glessner off center entrance through a large arch as shown to the right rear of the sketch.

Few Richardson commissions were executed in the south. There is only one in New Orleans. It is located on Lee Circle and presently houses the Pat Taylor energy enterprises. The authorship of this project is disputed, as the design was not finished by his office until after Richardson's death.

"TOO LITTLE, TOO LATE"

Those of us living along the Gulf and Atlantic Coasts are all too familiar with the routine "put away the yard furniture, tape and board up the windows, grab the kids and the dog and head toward high ground 'til the storm passes."

If we're lucky, our home will be OK when we return.

Not so, for thousands in the past few years. The damages caused in storms like Andrew and Opal have caused the designers, builders, insurance companies, and code authorities (mostly in the South Florida area) to reevaluate their standards and to take a deeper look into common causes and reasonable remedies to the most common types of building failure resulting from high winds and water intrusion.

The basic structural components (stud walls, frames, etc.) of homes were not found to be a major source of the failures; rather breaches most often occurred as a result of roof, window, wall (building skin) failure to resist penetration by projectiles, battering and pulsing wind pressures, and ultimately intrusion of water.

These most common sources of failure became the object of much research and re-engineering in the past few years. Already, building codes and standards in many counties of Southern Florida have influenced product manufacturers and home builders to higher standards, in a similar way that more stringent earthquake standards have helped save lives and reduce property damage in Southern California.

Taping of windows is definitely of little value and considered as "too little, too late."

Another traditional method of protection is the nailing of plywood over windows, which is also usually of little value unless the plywood is a thick, heavy type and had been securely bolted in place.

FLYING DEBRIS was found to be the number one source of damage in all the recent Hugh and Andrew type storms. Once airborne, an object such as a piece of roof equipment, roofing aggregates (small stones used as ballast on some roofs), roof tiles and shingles, street furniture, shattered wood framing, metal roofing or siding can achieve 1/2

to 1/3 of the actual wind speed when traveling before impacting.

New codes and standards and designers are demanding that builders and manufacturers live up to higher standards especially in the area of fastening methods. A good rule in all hurricane prone areas is to use a proper and adequate supply of nails for roofing and sheathing, stronger sheathing, and a higher quality of roofing nails and fasteners. Metal roofing usually failed at the fasteners from fatigue or tearing of the metal sheets rather than actual failure of the fasteners.

BUILDING CORNERS were most vulnerable for houses clad in wood, vinyl or metal siding. It was found that wind damage most often starts with peeling and tearing at building corners. Better construction details should include anchoring and fasteners in corners and covering or corner trim of siding covering in this area.

PLASTER and STUCCO: Once again studies showed that weakness in homes clad with these systems resulted in inadequate fastening of material to the structure. Most often, failures here were also because the systems were poorly flashed at windows and deterioration of the wall behind the plaster had already been weakened due to previous rot and water damage.

SHUTTER protection requirements in South Florida were restudied after 1994, with new attention to projectile and missile impact tests in the establishment of better standards for shutter design. Most of the manufacturers of shutters in the South Florida area have complied and now produce various style panels, accordion or roll up style shutters which pass missile impact tests, whether made of plywood, ribbed aluminum, corrugated metal, or PVC. Corrugated galvanized steel was judged to be the most superior in the impact studies.

Even WINDOW and GLASS manufacturers are paying attention to the impact test and have come up with some residential style products especially designed with hurricane protection in mind.

DOORS can also be a source of wind and water intrusion if not properly constructed. Flashing is always important and in new construction it is advisable to use reinforced construction in exterior doors.

Better SECURITY is a very fortunate side benefit result of using hurricane damage resistant doors and windows in new construction, as a result of the higher impact resistance required.

GABLED ROOF shapes were found to be the most vulnerable to wind damage and should get special attention in better fasteners, bracing, and tie down methods. Most often poor nailing contributed to the wide spread roof failures encountered even during moderate wind storms. The hip roof design showed a better aerodynamic performance in high wind.



So "battening down the hatches" can be something that is kept in mind all year around in the maintenance and improvements of one's residence. Keep in mind the several little items that could make a difference when the "Big One" comes:

1. Remove obvious exterior furnishing and items that could become projectiles ... and encourage your neighbors to do the same.
2. Make sure that the "skin" (brick veneer, vinyl siding, stucco) of your home is healthy and free of existing rot or deterioration. Make sure that siding at corners is securely fastened and protected.
3. Make an investment now which is economical and reasonable for protecting windows. Tape and thin plywood is of little use. Consider pre-built galvanized or heavy plywood panels to be easily and quickly bolted in place by two people and stored when not in use; or manufactured working shutters that have passed high impact test and code standards of Southern Florida.
4. When re-roofing your house or purchasing a new house, inspect the roof for proper amount nails and fasteners. This is a little hard, but insist on the quality and quantity of nails for better wind resistance.
5. Make sure that your roof trusses have adequate and proper bracing, especially if the roof is a gable design.

Sources of information for this article comes from Construction Specifications Institute Specifier Magazine, Tom Heineman, FCSI, Miami, Surviving Intact, April 1996; ASCE 7: Minimum Design Loads for Building and Other Structures, 1995 Editions; the Standard Building Code (SBCCI).