

DAMAGE WROUGHT BY THE NORTHRIDGE  
EARTHQUAKE IS PARTICULARLY EVIDENT  
ON THE SOUTH FAÇADE OF THE ENNIS HOUSE.



# Righting

DAMAGED BY AN EARTHQUAKE A DECADE AGO, FRANK LLOYD WRIGHT'S FAMED ENNIS HOUSE IS POISED FOR RESTORATION

# Wright

by JOSEPH GIOVANNINI

To that list of must-see Maya ruins in Mexico and Central America, add the Ennis House in Los Angeles. The temple-like romanza of pyramiding volumes and battered walls designed by Frank Lloyd Wright grows up from a plateau the architect built in the Los Feliz hills overlooking the city. Last year, record rains exacerbated the damage caused in 1994 by the Northridge earthquake, and the once timeless, seemingly imperturbable monument, inspired by Precolumbian architecture, precipitously deteriorated. The high plinth on which the house appears to rest lapsed, great expanses of its south face shearing off the cliff-like base. Other façades on this apparently solid but vulnerable structure now resemble sugar cubes in melt-down. This is one of those monuments that doesn't look better as a ruin.

A milestone of invention in Wright's career and a major monument even in this architecture-rich city, this haunting evocation of a distant and exotic Amerindian past was designed at a time when modern artists were looking at the African masks and sculpture of "primitive" cultures for inspiration, and when sensational discoveries in Egypt were capturing the popular imagination. Wright picked Maya architecture because the temples were indigenous to the Western hemisphere.

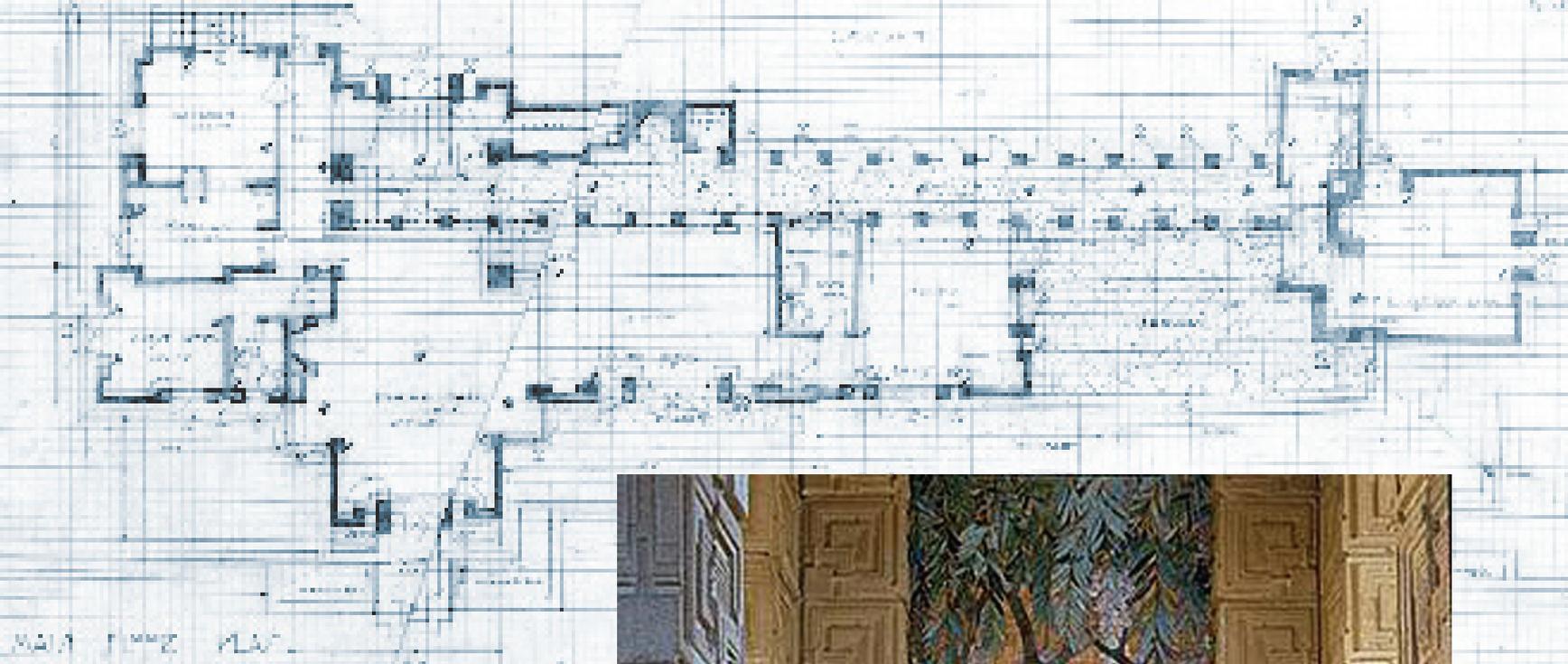
A designated national, state, and local landmark, the Ennis House climbed onto the World Monument Fund's list of 100 *Most Endangered Sites* in 2004. With the most recent damage, building inspectors "yellow-tagged" as unsafe parts of the retaining wall, motor court, and chauffeur's quarters.

Famously used as a set for Ridley Scott's *Blade Runner* and *Black Rain* and John Schlesinger's *Day of the Locust*—as well as many horror movies and fashion shoots—it can no longer host any income-producing shoots or public visits.

The Ennis house is one of five textile block structures built by Wright in Los Angeles and nearby Pasadena in the 1920s, as he reinvented himself with a silver-bullet material that would at once act as structure, enclosure, and decorative surface. Wright



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would use versions of block throughout his career, always changing and modifying its application. Related to today's concrete blocks, the textile blocks in Los Angeles—made of cement and, in the case of the Ennis house, an aggregate mixed with decomposed granite to match the color of the hills—were cast on site like miniature sand castles in molds that left complex, sometimes jazzy geometric surface imprints.

Wright had used poured-in-place concrete earlier in, for example, the Unity Temple, but the technique was labor-intensive and time consuming, and discouraged surface patterns. In Los Angeles he arrayed the blocks inside and out in patterns that recalled the textured hand-carved decoration of his Imperial Hotel in Tokyo. Using blocks rather than poured concrete, the architect could eliminate the labor-intensive board-forms of cast-in-place technology. What was essentially on-site factory manufacture and assembly would, in theory, limit trades and reduce construction while generating surface patterns similar to those at the Imperial Hotel, achieved through the laborious process of skilled carving.

In Pasadena, the first of Wright's local textile-block houses, the Millard residence—tarped now and awaiting restoration—leaked from the beginning, according to architecture historian Robert Sweeney, author of *Wright in Hollywood*. In this and subsequent houses, the causes of water penetration were multiple, and the biography of each house tells a different version of a similar tale. "As Tolstoy wrote, each unhappy family is unhappy in its own way," says Jeffrey Chusid, a preservation architect now finishing a book on the restoration of Wright's Freeman House in the Hollywood Hills, owned by the architecture school at the University of Southern California.

Problems started with the actual fabrication of the blocks. Chusid notes that the blocks incurred hairline cracks even as they were evicted from their molds with the stroke of a mallet: the cracks eventually became conduits for water. Furthermore, the blocks were insufficiently compressed when cast, and not properly hydrated and cured, so they proved porous, thirsting like sponges. All but the Millard house were laid without mortar at their seams: water also penetrated at the joints.

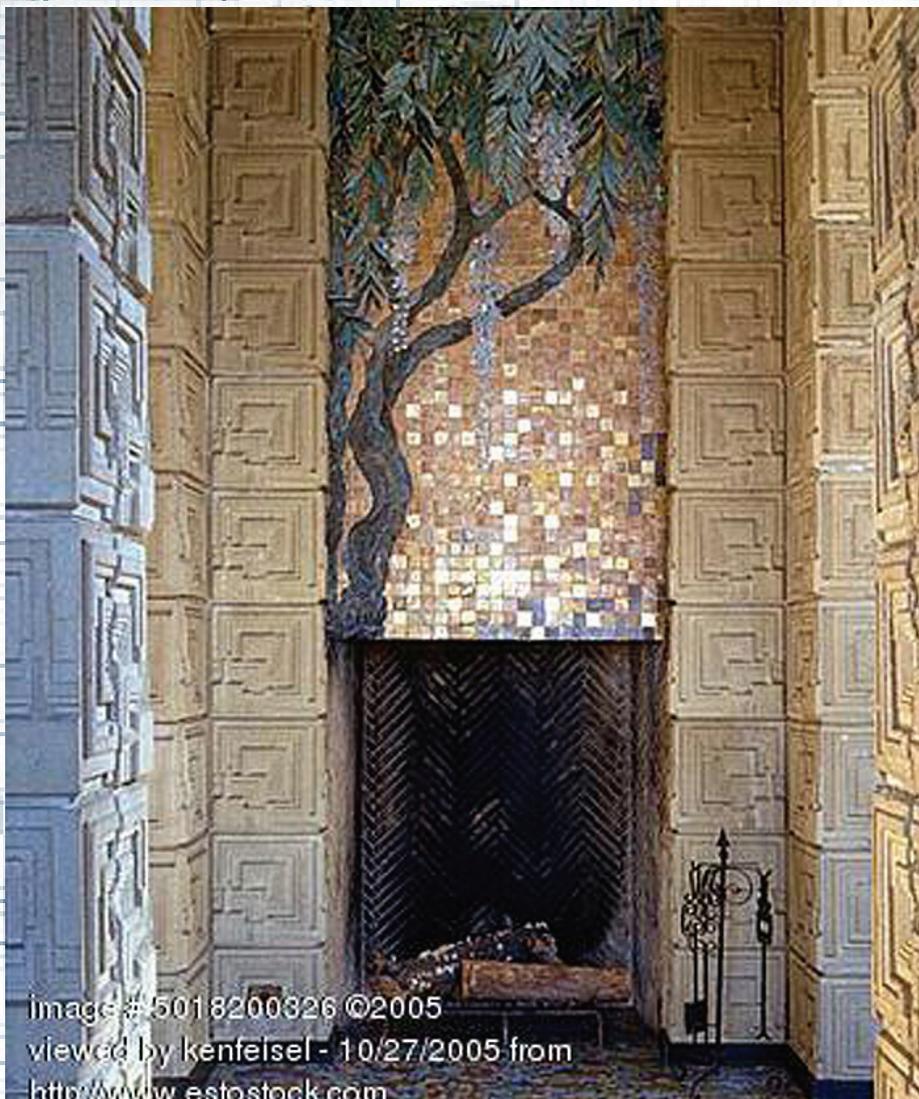


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**A MOSAIC GRACES THE SURROUND  
OF THE LIVING-ROOM FIREPLACE.**

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Except for Millard, which has no steel reinforcing, a grid of rebars lying in grooves at the sides of the blocks reinforced the wall structure. But when the grooves were packed with grout to bind the steel and the block, not all the crevasses were completely filled, which created small air pockets that collected water penetrating the wall. The consequent pooling, aided and abetted by the acidity of Los Angeles' rain, has caused the steel reinforcing bars inside to rust, which has exploded the interior grout, starting a deterioration that has proved progressive. The result is a ring fracture which splits the block in two, like slicing a bagel. On the back face of the Ennis House, the outer half of the block characteristically pops off because of a failure where the steel rebar collars the block, leaving half the block in place. The combination of the concrete's softness and consequent porosity, its brittleness over time, and the creeping rust inside the walls causing ring fractures creates the conditions for a structural cancer growing within the wall.

The USC architecture school, guided until recently by its dean, the late Robert Timme, has taken the long preservation view for the Freeman House, and is now in the process of building new foundations and a supporting structure. In this interpretation, the blocks are being re-applied as a veneer on the new reinforced concrete armature. Expensive and complicated, the process will save the house many earthquakes into the future, though the structural redesign undercuts the original intention of using block as a one-stop, cost-saving mono-material intended to do it all. Saving the Freeman House meant defeating the principle. The restoration project doubles as a study program: using the original molds, students have been casting new blocks.

Nearby, the Storer House, restored by film producer and architecture buff Joel Silver,

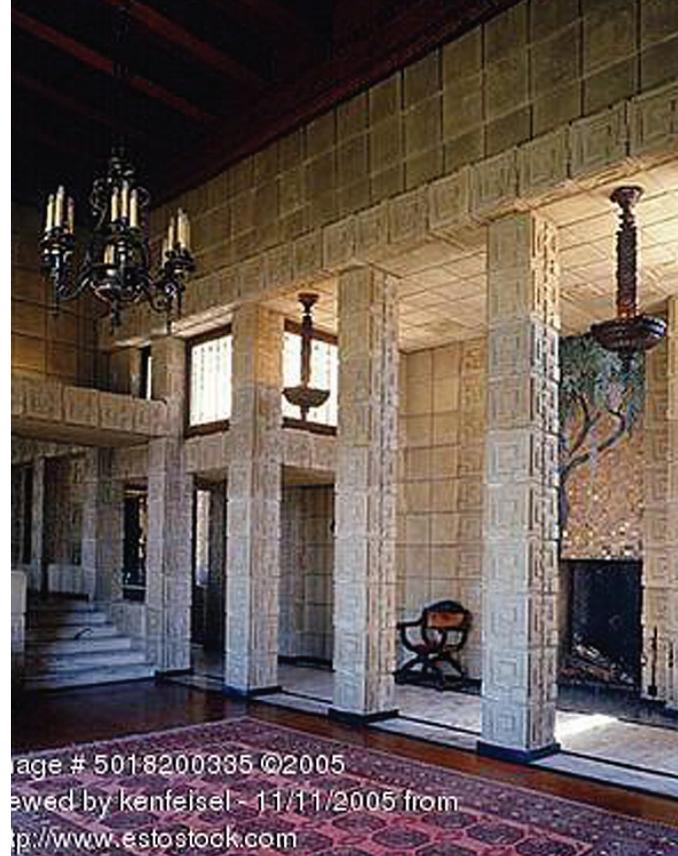


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**TEXTILE BLOCKS WERE USED  
THROUGHOUT THE INTERIOR,  
INCLUDING THE DINING ROOM, LEFT  
AND THE LIVING ROOM, ABOVE.**



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**TEXTILE BLOCKS OF DECOMPOSED GRANITE, USED BOTH INSIDE AND OUTSIDE OF THE HOUSE, BEGAN TO DETERIORATE AT AN ALARMING RATE FOLLOWING THE APPLICATION OF CEMENTACEOUS PLASTIC, WHICH HAS TRAPPED MOISTURE WITHIN THE BUILDING ELEMENTS.**

compared, which had the unanticipated effect of keeping water inside, provoking even more damage. Melting behind the viscous coating, the pattern of overlapping squares is losing its defining edges. When the sealant is peeled off, the surface detail disappears. According to Eric Lloyd Wright, Frank Lloyd Wright's grandson and the restoration architect working on the house, the coating was not only deleterious but also unnecessary. Much of the exterior block is perforated anyway, and Wright anticipated water by building two separate walls, exterior and interior; the second interior wall was intended to serve as the water barrier. Wright fingers another issue instead: "The problem is the connection of the roof to the block wall. In the early days, it was not sufficiently flashed."

is today in the best shape of any of the textile-block houses, but it had never deteriorated significantly.

Designed in 1924 for wealthy clothiers, the Ennis House was the most grandiose of Wright's block houses in Los Angeles, and at nearly 1,000 square meters, one of his biggest anywhere. Catching up with the emerging design ethos of the twentieth century, this former Arts and Crafts architect introduced factory production to the sites by virtually creating an on-the-spot assembly line to fabricate the textured blocks that became, in his hands, petrified tapestries. He went on to build about 50 block structures during the rest of his career, always seeking an inexpensive modular material that would yield affordable buildings.

In the Ennis House, the problem of water penetration was aggravated after a previous owner, Augustus Brown, sealed the blocks with a cementaceous plastic



WRIGHT DESIGNED 27 ART GLASS  
WINDOWS FOR THE ENNIS HOUSE,  
WHICH REMAIN IN SITU.

Brian Curran, a preservationist who serves as the West Coast consultant for the World Monuments Fund, says, “The rains turned what was an exterior problem, which was being dealt with, into an interior disaster, compounding the problem. Wright’s art glass windows are now threatened as the sills swell with water, and the woodwork and mosaic tiles on the fireplaces are all affected by the water ingress. As the trust puts out one fire, another emerges. It’s a race against time. The interior problems will provide the trust with issues for decades.”

The current effort at the Ennis House is aimed at stabilizing the house according to plans already prepared by Eric Lloyd Wright, who has worked on rehabilitating most of his grandfather’s textile block houses in Los Angeles. The 1994 earthquake weakened the house in several places, including the forecourt wall, portions of the house’s south wall, and the south wall of the majestic plinth. Fortunately the plinth, which forms the visual foundation for the house, is not structural to the house, which has its own independent foundations.

Still, the damage is extensive, and growing. Wright’s plans call for rebuilding the south wall of the plinth, reinforcing the structure under the forecourt, and replacing the living room exterior south wall, where a temporary steel beam now keeps the wall from separating from the main structure. FEMA money already available is, unfortunately, insufficient to execute Wright’s plans and repair the immediate damage.

“Is it savable?” asks Wright. “Sure. We’ve been working with the trust to stabilize the house, and rebuild the whole forecourt, roofs, and exterior wall, which will stabilize the house. But the problem with the sealant, that’s for another future. The main thing is the walls affected by the earthquake and the rains.” Halting further deterioration and restoring the exterior will require what Wright historian Kathryn Smith calls a “heroic” effort, simply because of the size of the monumental structure and its acropolis of terraces. One estimate on restoring the entire structure, with its 24,000 blocks, many of them spalling, points to a \$10 to \$12 million price tag.

The immediate goal, however, is the stabilization of the house, but until recently, fundraising efforts fell short. Federal and state funds and a Getty grant amounted to \$2 million less than the estimated \$5 million construction price necessary for stabilization. The federal component, in the form of FEMA funds, also required matching funds as a condition of the agreement. Recently, the Ennis House Foundation met the FEMA requirements by securing a bank loan commitment for the balance of the funds (though closure on the deal is still dependent on a guarantor, who at the time of this writing had not yet signed onto the loan). A happy conclusion seems imminent, but the fact that such a ranking American monument could come so close to destruction is itself an indictment of American cultural values. Before the matching moneys seemed secure, Curran said, “In America, we have no central system to fall back onto, and have to depend on the ability of a voluntary organization. If the FEMA money doesn’t come through, the building will dissolve into a ruin, and the remains will turn into artifacts displayed in a museum. That’s the antithesis of preservation.”

The denouement now seems promising, with new and expanded leadership, and enough money in the pipeline to stabilize the house before more extensive restoration can occur. “We almost have everything in place,” says Robert Leary, chairman of The Ennis House Foundation, which has begun to attract the support of Hollywood notables such as Diane Keaton. “We just need the green light to go ahead and bring this building back to its glory. There’s been a tremendous amount of hard work getting to this day, when construction will commence. And we believe that that day is very close.” ■



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