



“House of Tomorrow” is Truly One of a Kind

It’s a bird! It’s a plane! Wait, it’s a house?!

With its sweeping angles and large glass windows, this unusually designed house has drawn considerable attention since it was built in Lawrence in 1956 by then-associate professor of engineering Dr. Donald Dean. Some called it the first innovation in home building in 50 years; others called it a fantastic departure from the conventional.

Never minding what folks said about his design, Dean believed it to be the “House of Tomorrow” due to its economical construction. The house indeed proved its economical feasibility, costing \$18,000 partially furnished, and, according to the February 1957 issue of *Fortune Magazine*, it had as much finished floor space as a conventional \$36,000 home.

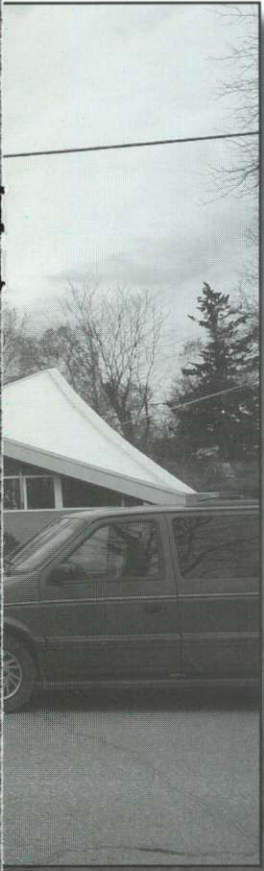
With help from his senior students at the University of Kansas School of Engineering and Architecture, Dean designed and constructed the three-bedroom house south of the KU campus. His inspiration was a 20-x-20-foot hyperbolic paraboloid model that his students constructed on

campus during the 1956 University of Kansas Engineering Exposition. The purpose of the project was “to demonstrate the feasibility of this type of construction, to give students an introduction to full-scale research, and to check qualitatively the adequacy of design methods.” Their research and execution of the plans are evident in the unusual house that Dean and his family called home for four years.

Judging from local newspaper accounts at the time, reaction to the house was somewhat contentious. Shortly after its construction, Dean said, “The most outstanding thing about the controversial house is the roof. We have had so many people commenting on the low corners and the awkward space caused by them that we started judging them by the vehemence of their comments.” He added, “Many people think the house was built only to attract attention, and it isn’t practical. But that idea is far from the truth.”

The house—Dean’s only residential design—exemplifies unique, distinctive, and experimental construction. Although

*By Sarah Martin, National Register Coordinator,
and Tom Harper, Realtor and Nomination Author*



“The most outstanding thing about the controversial house is the roof. We have had so many people commenting on the low corners and the awkward space caused by them that we started judging them by the vehemence of their comments.”

The late Dr. Donald Dean





A look inside the house shows sweeping angles, open spaces, and efficient use of the low walls.

at least one other Kansas example of a hyperbolic paraboloid structure exists (a church in Ulysses), no other homes of this design are documented in the state.

The house was built following World War II, during an era of experimentation in residential construction, materials, and design. According to authors Virginia and Lee McAlester, "Most domestic building ceased between 1941 and 1945 as the United States prepared for and fought World War II. When construction resumed at the war's end, houses based on historical precedent were largely abandoned in favor of new variations of the modern styles that had only begun to flourish in the pre-war years." These styles included Minimal Traditional, Ranch, Split-level, and Contemporary.

The McAlesters suggest that there have been "few basic changes in house construction since the development of balloon framing in the mid-19th century and the perfection of masonry veneering in the early 20th century, as a look at any new housing development under construction will confirm. Many attempts have been made to change this by introducing new building techniques."

The Lawrence house is an example of an attempt to develop a new and economically feasible housing type—much like the prefabricated, porcelain-clad Lustron houses. While the double hyperbolic paraboloid building plan has proven its feasibility over 50 years, it did not become a popular building type.

Hyperbolic paraboloid roofs, however, were not completely new. When Dean began construction of his home, examples existed in Mexico, Europe, and in the



United States. Mexican architect Felix Candela employed this building style on factories, warehouses, markets, and even residences; however, his roof designs were constructed using reinforced lightweight concrete. Dean, with economic feasibility in mind, used a wood lattice roof system to keep labor and material costs down. While Dean succeeded, his design was never widely used.

In its 50-year history, the property has changed hands about a half-dozen times. The owners have made limited changes to the structure, resulting in a well-preserved one-of-a-kind home. Current co-owner Kathleen King-Masten perhaps best summarized the thoughts of all the previous owners: "It's a work of art and we get to live in it."

Sources Cited

- Lawrence Journal-World*. 23 June 1956.
- McAlester, Virginia, and Lee McAlester. *A Field Guide to American Houses*. New York: Alfred A. Knopf, 2000.
- Strode, Willard, and Donald L. Dean. "Design, Construction and Testing of a Plywood Hyperbolic Paraboloid Lattice Structure." In *The Bulletin of Engineering and Architecture*, 41. Lawrence: University of Kansas Publications, 1958.

While typical buildings have load-bearing walls, the weight of this unique roof is supported by three concrete bases.



“It’s a work of art and we get to live in it.”

Homeowner Kathleen King-Masten

