Charles and Ray Eames, a husband and wife team are world renown designers. Their careers were expansive in all areas of design, including: architecture, graphic design, furniture design, industrial design, film making, and the list goes on. They are primarily known as architects first and foremost, yet in comparison to their vast body of accomplishments there are relatively few works of architecture. Of course there most famous building would be their last and their residence and also a watershed modern residence ushering in the lessons of Europe’s modern movement through a very personal and innovative interpretation. Undeniably American, efficient, industrial, eclectic, playful, and reserved the Eames house or Case Study House #8 as it is also known would end one epoch and ring in what would be known as high modernism.
The Eames House has been referred to often as one of the most influential American houses. I have always found this odd in that I have never really seen another house like this one. It is also hailed as a perfect example of the use of prefabricated materials this is true, though it is impossible to think of the Eames house as replicated anywhere else or much less by anyone else than the quirky couple that lived there so long. It is hard to imagine the house on another site for a number of reasons: primarily because it is so undeniably Californian and much more so the house is literally tied to the site, being half way submerged to the rear. And of all the master builders from our history books you would be hard pressed to find one that lived in one of their own residences for so long, much less a pair.

Formally the house draws upon multiple sources. The most striking inspiration may be that of an Asian influence. There is a strong presence of the work of Mies Van Der Rohe, and also coloristically an influence from the Dutch DeStijl group. The organization of the interior while in a clear span structure owes much more to Loos and the concept of the raumplan. And as far as the interior and the furnishings most of which are there own and the rest an amalgamation of their varied interests. What is so telling about the home and it’s refinement is that it seems almost too refined especially for such a creative expressive couple almost as if they held back to such a degree that they landed on a structure with endless possibilities and none at all. A supreme accomplishment by any standards it can relate to all schools of modern architecture.
Precedent Analysis

**UT Solar Decathlon 2009**

Charles and Ray Eames

Case study House #8 | Pacific Palisades, CA | 1949


The house was part of the Case Study program as instituted by Art + Architecture magazine whose editor was John Entenza. When the Eames had moved to California it was Entenza who helped them to find their first apartment, he would become a close friend over the next years. The house was to straddle a lot with another case study house #9, which was designed by Eames and Eero Saarinen for the residence of Entenza himself.

Presented in the magazine as a pair in 1945 the original scheme had a rotated organization of the Eames' house. The house was referred to as “The Bridge House” by Eames. A floating box, it hovered over the meadow with a landing below where one could park their car. House #9 stayed as it had been originally planned throughout construction, an almost square plan radiating out from the center. The two are very different intentionally as this was to showcase the different possibilities of prefabricated housing.
The first scheme was completely detached from the landscape and its surroundings. This is ultimately more appropriate for the call of a pre-fab house that could satisfy any location. Debuted in 1945 in 1947 Charles visits an exhibition on Mies Van Der Rohe at the MOMA in New York. He was already aware of the work of Mies having traveled earlier to Europe to see his work. There at the show he sees a similar scheme to his bridge house. When he returned he and Ray devised a new scheme which would become the built version of the Eames house.
The new building was designed with the same materials as the first design, because the steel had already been manufactured. The excavation into the hillside had already been planned and only had to be extended some. Interestingly the house almost doubles square footage while using the same materials from the first design. It also changes the views from the proximity of the close #9 house and orients towards the ocean.
The house is comprised of two structures separated by a central court. Essentially a living space and a studio space and the amenities you would expect to find in each other. The studio space soon proved to be far too small for their expansive collections of slides, miniatures you name it.
01 Elevation

The elevation is a careful mixture of solid panels and translucent or clear glass openings. The translucent material Pylon like fiberglass was brand new and meant as an extension of the natural surroundings.
The row of eucalyptus trees planted in front was considered as a part of the elevation and an integral part of how the building works and how the building is perceived. The natural shade from the trees is coupled with a large overhang to block harsh afternoon light. The shadows on the interior and the reflections on the exterior all contribute to the way one experiences the space and the ephemeral qualities of the house.

There was also a almost cylinder shaped earth mound placed between the two houses to add to the privacy. The Earth was that from the excavation for the foundation. More trees were planted as well.
The primary colors for the exterior were carefully calculated and meant to correspond to functions that were taking place inside.
The Eames were always interested in the idea of a kit of parts. Making many types of toys and small models this was an extended into the built world.
The lessons from toys were expansive. At the time cutting edge mathematical theory was dealing primarily with game theory. In an article published in Architectural Record, the Eameses speak of the house as a Chinese kite. The metaphor is not too far off, when you think of the delicate structure and thin infill often colored or translucent.
### Precedent Analysis

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The initial photo documentation showed the overt Asian influence. As the house became more lived in it became just that and their individualism became dominant.

01 Early image of the Living room
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Small rooms feel larger due to large openings balconies and even a skylight in the restroom.

01 Bedroom

02 Bathroom

03 Steel Ladder in the Studio
The columns are only 4 inch H beams, and the trusses are a thin 12 inch web. The interior ceiling is the actual roof which only has a layer of gravel and tar above. The columns are 17 feet high, the span is 20 feet and the bays are 7 and a half feet apart.
This was the first Case Study house to use steel to this extent. With such small members the steel was erected in a day and a half. This fact is much lauded and true though the finishing of the rest of the building took much longer.
The retaining wall was much more visible during the construction stages than it is now.
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01 Exploded Isometric

02 Structural Axonometric
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01 Exploded 3-D Model

02 Exploded 3-D Model
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The façade is composed of various panels and windows all held together with a simple mullion system. The panels are almost always in a solid medium to large piece (save one small red unit on the front of the house) while the glass is always broken into smaller units most often paired. The glass is operable by either sliding large panels as doors or smaller windows are hinged to swing out. Some panels of Pylon a synthetic translucent material was double hung on the interior to filter light. The connection to Asian Architecture is most evident in the light thin panels arranged within a rigid visible skeleton.
The Mechanical systems of the home are sparse with minimal artificial lighting being either hung from the ceiling or can lamps in the walls. The Lights hung from the ceiling were either wired on the roof or casually on the interior hung from the rafters so that they could be easily changed. I only found one image that would hint at a HVAC system and that was a small vent under a desk in the studio. Due to the natural light and the climate of southern California and the proximity of the house to the ocean and the winds associated with it, I imagine that the house needed bare mechanical needs.
The entire house is comprised of steel, glass, wood, and panel. The same attention to materiality and transition between materials is paid to the house as it is to the furniture of the Eames. The flooring shifts from sector to sector, this defines the spaces but also serves as a showroom for different manufacturers, as was the intention of the Case Study program.
After the completion of their own house the Eames had two projects, immediately after, never come to fruition. One was a much larger residence drawing upon the lessons from their house for the Hollywood director Billy Wilder. The other was a prototype for a kit house to be manufactured by the Kwikset lock company, but after a change in management within the company the project was abandoned. This frustration with the business of architecture and fussy clients lead the Eames more and more away from architecture and to branch into all areas of design.
Though they moved away from Architectural pursuits the impact that notions of pre-fabrication were never lost on the Eameses, and neither has their impact on our culture.