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Chapter 1

An Introduction to the Century of Progress World’s Fair

and

The Role of the Model Homes

To help celebrate the City of Chicago’s centennial anniversary in 1933, a group of citizens began to back the idea of holding a celebration that turned into the 1933 Century of Progress World’s Fair. The exposition not only celebrated the history of a city, it celebrated the recent scientific triumphs and gave hope to most of the country during the depths of the Great Depression.

On August 17, 1923, Myron E. Adams, a Chicago based minister and social service worker, submitted a plan to the City of Chicago Mayor, William E. Dever, to hold a celebration to mark the city’s 100th year of incorporation for the summer of 1933.¹ Plans called for a simple carnival-like event, and people lost interest in it by 1927. On December 13, 1927, a new committee was organized and proposed a more grandiose idea of hosting what they called, “Chicago’s Second World’s Fair Centennial Celebration,” in its place. By January 5, 1928 a charter was granted to set the 1933 World’s Fair and the planning process into motion.² The fair took on the theme of significance of science and its application to industry and modern life and took up 424 acres of exhibits and


entertainment held on the lakefront from Soldier Field to 39th Street in downtown Chicago, including Northerly Island and the lagoons [See Fig. 1].

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Figure 1: Top: Map of the 1933 Century of Progress Exposition. Right: Current map of the former location of the Exposition. The arrows point to the location of the model homes during the fair. Left: Skyline views of the fair, ca. 1933-1934.

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Fair planners originally planned to showcase their city’s growth from a tiny backwoods settlement on the western frontier to the nation’s transportation hub, an industrial and meat-processing giant, and the fourth largest city in the world at the time.⁴ Though what infamously later became known as “Black Tuesday,” on October 29, 1929, the stock market crashed and ushered in the decade of the Great Depression, causing economic despair and unemployment to millions. With the economic decline came unprecedented suffering and one-fourth of the nation’s workforce was unemployed by the fair’s grand opening and recovery seemed remote to many. Not unlike President Roosevelt, fair planners saw the fair as a way to create employment for a large number of workers and create a psychological boost for the nation as people would return home bringing along with them the inspiration felt at the fair.

The fair reflected the business, military, and engineering ways of thinking of its organizers Rufus and Charles Dawes and Lenox R. Lohr, which created a break from the 1893 World’s Fair through its management.⁵ According to Cheryl Ganz, “This trio drew from their national networks to fill key leadership roles, including directors, and they enrolled nationally prominent advisors from the fields of science and technology. They and their team created a civil-military enterprise – a world’s fair that reinvented the concept of international expositions.”⁶ Focusing on the future, rather than the past, the fair organizers adopted its new motto, “A Century of Progress Exposition.” The management style and used the themes of science and industry to bring hope to the nation proved so successful

⁵ Ibid., 2.
⁶ Ibid.
that many of the 1933 themes were seen on a larger scale in New York’s 1939 World’s Fair, who’s motto was “The World of Tomorrow.”

To further break from conventional views of progress and prior fairs, planners promoted the idea of progress as a tool to generate optimism. Fair organizers conveyed their message through visual means by using streamlined and colorful architecture using new building materials and techniques creating a place like no other. Such buildings as the Hall of Science house large exhibits, which invited corporations from various sectors to promote the latest advances in their industry in an entertaining way that promoted the idea of how it would advance society. One of the most popular exhibits was the Home and Industrial Arts exhibit, which demonstrated new ideas and products that worked into people’s everyday lives, such as how one might live in their home.

The fair planners felt that the application of science to manufacturing corresponded with the improvements of living and could even lead to improved living standards through less expensive and better housing. Although mail-order kit homes, such as Sears, Roebuck and Co. and Aladdin Company kit homes, were not a novel idea in the 1930s, the idea of an industrial manufactured home was and the word “prefabrication” entered the industrial lexicon for the first time starting with the fair in 1933. At the start of the fair’s first season, eight homes were constructed and an additional four more were added when the fair’s season was extended into 1934, under the Home and Industrial Arts division. All of the model homes demonstrated the use of specific nontraditional residential building material and designs. While most of the homes were radically different from one another, they all

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7 Ibid, 3.
presented overlapping ideas of how homes can be built to become more economical, easier
to live in and tackled new ideas of using construction materials and methods of
prefabrication.

All of the model homes except for George Frederick Keck's Crystal House and House of Tomorrow had a construction who used them to promote their ideas or industry. Houses that were sponsored by companies included the Armco-Ferro, Brick House, Lumber House, Stran Steel-Irwin Town House, and the Weiboldt-Rostone House. The Florida Tropical home was created out of prefabricated masonry, which was promoted for use in the warmer climates. The house was intended to promote tourism and economic growth within their state. The Universal Country Home promoted the idea of homes that could be completely constructed in a factory, similar to an automobile on an assembly line and moved into place for the homeowner to move in. While some of the homes had similar themes, such as the Armco-Ferro and Universal Country Home, they were built around the fair planners goals of being durable, convenient, livable, and inexpensive.9

While the model homes heavily promoted the materials used in their construction, the architects designing them also demonstrated American designs that served to introduce European concepts of Modernism to the American residential market. Such homes as Keck's Crystal House and House of Tomorrow used the fair as a stage to introduce modernist residential architecture to the masses. Keck and other architects who demonstrated the European minimalist International Style, influenced by European designers such as Mies van der Rohe and Le Corbusier who eliminated applied decoration and used the construction material as decoration and using the honesty of the construction

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material as decorative elements itself. Other model homes, such as the Universal Country Home, interpreted the minimalist design by creating a house that had the appearance of a box, while other homes, such as the Crystal House, used exterior metal beams and trusses with large plate glass windows to make up its radical design [See Fig. 2].

As each of the model homes greatly differed from one another on the outside, they had similarities within their interior floor plans. Prior to the fair, American industrial designer, Norman Bel Geddes published *Horizons*, a book that explored architectural and industrial designs, in 1932. Bel Geddes and other modernist architects felt that the design of the average American homes was largely outdated and poorly designed for modern ways of life. Bel Geddes suggested that residential design could be improved by eliminating wasted spaces that require upkeep such as basements and attics and design the house from the interior then out.\(^\text{10}\) In keeping with Bel Geddes’s suggestion, all of the model homes at the fair have rooms that flow into one another in the manner in which they are used, such as placing the kitchen next to the dining room and open space dinning and living rooms to allow for more use of the rooms and creating a space for easier entertainment.

\(^{10}\) Norman Bel Geddes, *Horizons* (Boston: Little, Brown, and Company, 1932), 123.
Adding to excitement of the model homes was their design completely around modern mechanical conveniences. Many homes built outside of urban areas prior to the 1930s predated the widespread electrification of the country. Designing houses from the inside out not only allowed for smarter room design, it designed a house around the way people use the rooms and the incorporation of larger electrical and gas appliances. A few of the houses, such as the House of Tomorrow and the Armco-Ferro House incorporated central air-conditioning systems, which was not commonly used for residential purposes at the time. All of the houses had specially designed kitchens that were designed around the most up to date appliances and furnishings of the time, such as electric and gas refrigerators and custom built-in cabinets; not only saved space, but also made the kitchen easier to use. While many of these concepts seem routine in contemporary society, many kitchens prior to the 1930s were not designed to house larger new appliances that also required electrical and gas hookups.

While not all model home features were adapted to modern residential vernacular, such as built-in airplane hangers, they proved influential in other ways. The model homes introduced Modernism to many of the fair visitors for the first time and demonstrated new ways of how a home can be designed around the way one lives within it. Despite their appearance during the depth of the Great Depression, the model homes also allowed visitors to envision an improved style of living in the future, as the economy was sure to improve in the following years. Other features seen in the model homes became commonplace within the post-World War II housing boom and in homes constructed today.

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11 Wilson, Pilgrim, and Tashjian, 52.
12 Electrolux Automatic Refrigeration Brochure, 1934, Box 26, Folder 16-344, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
The all-metal homes such as the Armco-Ferro and Stran Steel-Irwin Town House helped launch the short-lived all metal manufactured Lustron Homes that were built right after WWII with surplus metal. Various interior features such as the layout of the modern kitchens and use of decorative materials, such as Carrara Glass, became common in the American home after the fair, especially after the post-World War II boom. Ideas such as the open plan concepts of mixed uses of rooms, allowing for more uses within a space, is still widely used in the modern residential design.

By the close of the fair’s 1933 season, the model homes proved to be so successful that not only other homes were added for the following year, all of the existing houses featured new interior designs to keep visitors interested and allow for further design experimentation. According to a correspondence by a fair official, over 2,000,000 people toured one of the homes by the end of the 1933 season (unknown which one). Thus, they declared the model homes as one of the most popular exhibits at the fair.13 Like many structures, at most world fair exhibitions, the model homes were temporary structures and all but five of them were razed after the fair.

Covered in more detail in the last chapter of this thesis, the Armco-Ferro, Cypress Log Cabin, Florida Tropical House, House of Tomorrow, and the Wieboldt-Rostone were purchased by real estate developer Robert Bartlett and moved to Beverly Shores, Indiana where they reside today. While the other model homes are lost to history the Brick House, Crystal House, General Houses’ Steel House, Lumber House, Masonite House, Stran Steel-Irwin Town House, Stran Steel-Irwin Garden Home, Universal House’s Country Home were demolished after the fair, the existing houses stand as a testament of the once great

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13 J. C. Folsom; letter to Jean Austin, 6 December 1933, Box 20, Folder 1-497, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
Century of Progress World’s Fair and the futuristic visions that progressive architects once hoped to see that would become a reality for all Americans.

A chapter will be dedicated to one of the remaining five houses making up the Beverly Shores Century of Progress Architectural District. The last chapter, Chapter 7, will cover the history of the houses from the moving of them to Beverly Shores to the issues currently facing today.
Chapter 2

The Florida Tropical House

The Florida Tropical House was designed to be a departure from the traditional building types that were more suited for colder regions and to create something that would be uniquely “Florida.” As the name describes, this home promoted the idea of living in a warmer region and helped to encourage tourism and allowing retirees to live in an area that would benefit their health. These underlying ideas were to help the Depression-era economy of Florida. Thus, it was the only state sponsored home of the group.

Prior to the Great Depression, the wealth that came with the Roaring Twenties brought with it a real estate boom that was unprecedented when compared to the rest of the nation. Even prior to the Century of Progress Fair, architects, builders, and developers in Florida had a reputation for experimenting with different styles of building that sometimes turned into exotic revival styles (such as Southwest pueblo-style and Arabian Nights themed) or copied the traditional Spanish styles. Florida state officials and designers saw the Century of Progress exposition as a way to promote their state economically and create a new style of architecture that was uniquely Florida to the rest of the nation. Promoting Florida through a model home, they chose to use only Florida-based designers and locally produced building materials as much as possible.

State officials turned to Robert Law Weed the firm, Paist and Steward, both based in the Miami area, to create a unique modern subtropical home. The official guidebook for the

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14 The Florida Tropical Home at a Century of Progress 1933, 1933, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago, 21.
model homes boasted that these architects were behind some of the most notable houses built in Miami Beach, Coral Gables, Coconut Grove, and Hollywood during this time.\footnote{A Century of Progress Homes and Furnishings, 53.}

Today Weed, is best known for his 1944 design of the University of Miami Florida’s campus and Paist and Steward is known for several historical structures in Miami, including the U.S. Post Office and Federal Courthouse on 1st Ave.\footnote{“Architects Bio,” University of Miami, accessed April 2, 2015, http://www.miami.edu/ref/index.php/real_estate_facilities/campus_planning_development/Historic_landmarks/architects_bio/.} \footnote{Miami: A Sense of Place – Heritage Guide (Miami: Greater Miami Convention & visitors Bureau, 2012), 40.}

During the year before the Exposition, the Museum of Modern Art in New York City, curated the exhibit, *The International Style* that introduced Americans to such modern designers European architects as as Le Corbusier, Walter Gropius, Mies van der Rohe, Alvar Aalto, and JJP Oud.\footnote{Allison Arieff and Bryan Burkhart, *Prefab* (Layton, UT: Gibbs Smith, 2002), 15.} It is possible that the designers of the Florida Tropical House were inspired by modernist ideas coming out of Europe and followed ideas such as the Baukasten (building block) design concept that came out of the Bauhaus between 1920 and 1923. This residential design was based on concrete elements that incorporate geometric concrete masonry unit designs to create prefabricated houses with a flat roof that overhung in specific areas, seen in European experimental designs in the 1920s. Such overhangs double as awnings, as seen on the Florida Tropical Home and in the popular streamlined moderne in Miami [See Fig. 3].\footnote{Arnet Cobbers, Oliver Jahn, and Peter Gössel, ed., *Prefab Houses* (Köln: Taschen, 2010) 14.}
Unlike the other houses presented at the Exposition, the Florida House was mainly constructed out of precast concrete, allowing them to be built out of preformed elements requiring no cutting, fitting, and joining.\textsuperscript{21} According to Weed, “The ‘Florida House,’ insofar as is possible, is built of Florida materials. The State of Florida provides Portland Cement, Florida Travertine, Florida Limestone, and Quality Aggregate for concrete work and the manufacture of concrete products. Clay flooring and roofing tile is also manufactured in Florida.”\textsuperscript{22} The overall house incorporated a waterproofed floor and roof slabs, allowing for an upper deck, and load bearing walls made of concrete building tiles.\textsuperscript{23} On the underside of the roof deck evenly spaced concrete beams make up the interior ceiling.

\textsuperscript{21} A Century of Progress Homes and Furnishings, 54.
\textsuperscript{22} Official guidebook for the Florida Tropical House, 34.
\textsuperscript{23} Ibid.

Figure 3: Left: Artistic rendering of the Florida Tropical House. The overhangs in the rendering are a different color to emphasize the overhangs doubling as awnings. Right: Photo of the front elevation of Florida Tropical House taken at the fair. Bottom: Photo of the rear elevation of the Florida Tropical House taken at the fair, ca. 1933-1934.
throughout the house and act as further support thus allowing for more interior space [See Fig. 4].

The designers placed special attention on window detail and the ability to allow the house to open up to the outside as much as possible allowing for flow-thru ventilation. According to the official guidebook covering all of the model homes, *A Century of Progress Homes and Furnishings*, many of the homes on display used and showcased air-conditioning systems, though it was not present in the Florida Tropical House. Instead of incorporating mechanically cooled air, there was a greater emphasis placed on an open-air concept. To add further protection from the harsh sun and open windows during normal rain, the cantilevered roof slabs project out about four feet just above the windows. The roof slabs were designed with inverted under beams over the exterior openings to allow windows to

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24 *A Century of Progress Homes and Furnishings*, 54 & 61.
25 Official guidebook for the Florida Tropical House, 34.
fit directly against the ceiling. This allowed for more light and ventilation.\textsuperscript{26} Along with the inclusion of abundant windows, the designers also created an outdoor roof deck to make use of normally wasted space. This further maximized the house as “a machine for living” as suggested in \textit{Horizons}.\textsuperscript{27}

The use of roof decks was heavily discussed among modernist residential designers and fair planners also encouraged roof decks with welded pipe railing when possible. They believed this gave buildings a more modern and industrial look.\textsuperscript{28} The use of the roof deck with its enclosed aluminum handrails helped reinforce the Florida governor’s statement regarding the house as Florida being “the playground of the nation.”\textsuperscript{29} Thus, the opulent deck space reminds visitors that Florida is a place where one can enjoy the outside year round. The railings also add to the modern streamline look as they wrap around the roof and one also used in the living room through the inside stairway. With the deck arrangement and rails, the house takes on the abstract appearance of a cruise ship, which adds to the machine look and further the allure of a life of leisure. As one looks left to right facing the front of the house at street level, the far left portion of the house is smaller, reminiscent of the bow of a ship. The soaring ceiling and roof that make up the living room, mimics that of the bridge of the ship. The longer right portion of the deck looks similar to the aft deck a ship, especially of a cruise liner.

Construction of the roof deck used the newly developed $\frac{1}{2}$”, Celotex insulation panels, that has been introduced to the American commercial building markets in 1925.

\textsuperscript{26} Ibid.
\textsuperscript{27} Bel Geddes, 123.
\textsuperscript{29} Official guidebook for the Florida Tropical House, 1.
Materials such as insulation and roofing would increasingly grow in popularity within all types of construction, until the use of asbestos was banned in the 1970s. The rest of the deck space was finished with clay tiles set over sand and graded to allow drainage into drainpipes. According to the fair guidebook, “The roof is divided into three parts; a covered area as a second floor loggia, another part of the decks given over to sun-bathing, and a recreation deck.” The roof deck was promoted as a place for entertaining, while mimicking the feeling of being on the deck of a cruise linger. Also the propionate interior stairway made the outside deck an outdoor extension of the living room.

The interior designers, James S. Kuhne and Percival Goodman, took the Florida governor’s words of being “the playground of the nation” and used that as their inspiration for creating spaces for those who can afford to live a life of leisure. The designers also wrote that they wanted to create a house for someone that can appreciate good design from both the outdoors of the roof deck to the interior spaces within. According to the house’s guidebook, “Each room is a symphony of color. Each piece of furniture a part of coordinated design and a constant study – an individual creation. Line – Color – Comfort.”

The 1933 designers utilized many new concepts and custom designs for making of furniture, wall treatments, fixtures, and more, some of which became increasingly popular for home use (such as Vitrolite for residential uses) [See Fig. 5].

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31 A Century of Progress Homes and Furnishings, 54.
32 Ibid.
33 Official guidebook for the Florida Tropical House, 4.
34 Ibid.
While the exterior pink stucco walls give the impression that the Florida Tropical House was not an ordinary home of 1933 or today, the furniture and art used for the 1933 season expressed the same for the interior. Kuhne and Goodman displayed the art from some of the most cutting edge painters of the time such as Max Weber and Stuart Davis. Both Weber and Davis were some of America's first cubist painters and were influenced by both the streamlined designs and popular jazz of the time, and they really fit in with the style of the house and pushed the boundaries of contemporary design. The designers looked at foreign sources for the inspiration of the furniture.

Starting from the roof deck, the house had a large display of different pieces of stylish metal furniture. During the time of the Century of Progress Fair, industrial and interior designers were experimenting and testing the uses of metal furniture for home use. Many American designers discussed the new designs from European designers such as Fay Hendry and et al., “National Register of Historic Places Inventory – Nomination Form,” (Washington, D.C.: U.S. Department of Interior, National Park Service, 1986), 4.
Marcel Breuer and Le Corbusier. Within one of the exposition guidebooks there is an explanation to the visitor that metal furniture can be easily mass-produced if there is a demand for mass consumption. Metal furniture uses the actual metal for its aesthetic and the interior and industrial designers were unsure of how it would function in the everyday American home.

Although metal furniture was used and displayed in case study houses, throughout the 1920s, designers were trying to figure out how to make the transition from wood to metal. At the start of the 1930s, the great industrial designer Norman Bel Geddes provided his thoughts of the use of metal residential furniture. It appears the fair designers were more comfortable to place the heavier metal pieces of furniture outside to promote the durability to resist the elements of the weather and not as much for the inside. While the interior had furniture constructed of metal, they were largely upholstered or thin and very minimalists and utilitarian. The use of minimalist designs of the metal pieces, such as the chairs, tables, and beds did introduce the ingenuity of creating new pieces built first for comfort and use over overall design.

Designers for the Florida Tropical Home showcased a mixture of interior furniture made of a variety of materials and colors. To keep designs from becoming too extreme and what they would feel like would be off-putting to visitors, traditional pieces such as desks and smaller tables were made of exotic woods. The furniture was carefully designed and matched with various color schemes according to each room and the function of that room to help set a mood appropriate for that room. With the upholstery, carpet, and wall colors,

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36 Official guidebook for the Florida Tropical House, 23.
the interior designers reinforced their understanding of responding to a tropical, yet playful setting.

Unforeseen to Bel Geddes and other designers of the time would be the advent and availability of plastics and flexible plywood. After the material rationing of WWII was over, designers took the ideas of Bel Geddes and others and infused it with other modern materials to create even more functional and aesthetically pleasing pieces. Bel Geddes advised that two principles designers should stick to, are simplicity and the use of interesting materials. After the war, designers still acknowledged the beauty and simplicity of metal design with their furniture designs of all sorts. Unlike the designers of the 1930s, post-war designers used metal with woods and plastics to create even more inviting and minimalist pieces that were also form fitting to the average human body without sacrificing beauty. Designers such as Eames ingeniously used metal design along with plastics and woods to create extremely modern pieces that are still used and influences current design trends of today.

To further accent the light colors and smooth curves of the pieces of furniture, other features inside of the house stands out, such as the deck railing of the stairway coming down into the living room. The high ceilings and expansive windows, helped give the feeling that one did not just walk into a cramped space enclosed by four walls. Extending this feeling, is the sapphire blue marbleized architectural glass used within the living room during the 1933 season to help reflect more light into the room along with adding more color and tying in the colors of the ocean. Prior to the exposition, architectural glass such as Vitrolite was primarily used for commercial places only. Though Vitrolite was not a new

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37 Bel Geddes, 234.
38 A Century of Progress Homes and Furnishings, 54.
product in the 1930s, it was almost exclusively used as a façade for storefronts, high style installation in hotels, office lobbies, and bars. Also by the start of the 1930s, the Vitrolite Company had just started production of a much wider selection of exotic colors that were also used in the designs of the Florida Tropical House and become increasing popular for home interior use after the fair.  

Vitrolite was the perfect material for the house’s interior for several reasons. Not only was Vitrolite unconventional at the time for home use, it added more color with a new modern look and was a good substitute for other common nonporous materials such as marble. The 1933 interior of the house utilized the colored glass on the wall surrounding the fireplace in the living room and inside of the bathroom. While the average post-war American homeowner would not be seeking architectural glass murals for their walls, Vitrolite did have obvious benefits within places such as the kitchen and bathroom. After the Second World War, Vitrolite became heavily marketed to homeowners with such slogans as "beauty, permanence, and ease of cleaning," with great success. Vitrolite home use brochure, mentioned the extra light and illusion of more room, in the same manor as the Florida Tropical House.

As in the other model homes at the fair, changes were made the to Florida Tropical House for the reopening of the second season [See Fig. 6]. During the fair’s second season, changes were made to the house’s interior, though not made to the physical structure itself. Interior designer Marjorie Thorsch was hired to recreate new interior spaces to keep up

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41 Hendry, 4.  
42 Advertisement brochure, “Vitrolite Baths and Kitchens for all America.”  
43 Ibid.
interest with returning fair goers and to test new ideas. Thorsch did not try to invent whole new designs on her own, rather modernize existing ones. According to Thorsch, “I wanted to keep it cool in colors; comfortable and inviting with the furniture chosen. One is always most comfortable with familiar things; hence, the modernized Victorian.” Thorsch favored simpler ideas, thus removing the Vitrolite from around the fireplace (though leaving it up in the kitchen and bathroom), adding risers in the open metal stairway, and adding large murals of tropical birds above the fireplace to give a more monumental feel to the house.\footnote{A Century of Progress Homes and Furnishings, 54.} \footnote{Hendry, Keith Everett, Hensley, Kuck, and O’Bright, 4.}

Figure 6: Changes made to the interior design of the Florida Tropical House’s 1933 and 1934 seasons.

A) 1933 view of the stairway.

B) 1934 view of the stairway.

C) 1933 view of the living room.

D) 1934 view of the living room.
While other rooms such as the bedrooms were more straightforward and incorporated streamlined designs, the kitchen was proudly showcased with all of its new ideas. As in kitchens in the other homes, the main focus of the Florida Tropical kitchen was to create a space that allowed for maximum work with the least effort. Designers of the Florida Tropical House cited five elements for their success, which were designing around the stove, sink, refrigerator, worktable, and storage space [See Fig. 7]. Unlike kitchens in more traditional homes during this time, the kitchen space is more compact. The smaller space makes greater use of well designed built-in cabinets that hang from the wall and allow for longer counter space.

Figure 7: Interior views of the kitchen space in the Florida Tropical House, ca. 1933-1934.

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Official guidebook for the Florida Tropical House, 29.
While the kitchen incorporated many modern electrical appliances, the emphasis was placed on layout and the storage units within the kitchen. The Florida Tropical House’s guidebook states, “The kitchen cabinet with its central sink and work table and surrounding storage space should be located on an outside wall, with a window in the center for the best results, while the range may be most logically situated opposite the cabinet.”\textsuperscript{47} Much like a contemporary kitchen, the Florida Tropical House’s kitchen was planned for optimal space, while taking in to account the key appliances and how a person interacts with them as they prepare food. To further advance the kitchen’s usefulness and scientific feel, designers also experimented with lighting techniques and new materials.

The installation of Vitrolite on kitchen and bathroom walls and ceilings demonstrates that the interior designers were aware of the importance of proper lighting and the reflective surfaces. The fair’s \textit{A Century of Progress Homes and Furnishings} stated, “There are scientific lighting devices – work and soffit lights, which emit a diffused glow – placed over stainless steel counter tops.”\textsuperscript{48} While the extra lighting may have helped bring extra attention to particular sponsored appliances, it also demonstrated the importance of how one thinks about work within the home. The interior designers also sought to provide optimum access to electricity by carefully placing electrical outlets where they would be most advantageous.

Interior designers focused on how one uses the interior fixtures and maintaining them with the least effort as possible. Bel Geddes argued that built to the floor bathtub and a stove with no legs were necessary to create spaces that eliminated needless cleaning.\textsuperscript{49}

\textsuperscript{47} Ibid.
\textsuperscript{48} \textit{A Century of Progress Homes and Furnishings}, 55.
\textsuperscript{49} Bel Geddes, 253.
the Florida Tropical House bathroom there is no traditional claw foot bathtub that would be awkward to clean around and the modern bathtub is sunken into the floor [See Fig. 8]. The interior designers also designed the walls and workspaces that took as little effort to clean as possible. Interior designers favored surfaces that that were resistant to dust and dirt by as promoting custom made cabinets with no seams. With white steel cabinets and Vitrolite walls, everything could be easy cleaned by simply wiping it down. Though it is unlikely that any homeowner would want to, one of the promotional guides got a little over zealous when describing all of the rust resistant metal and nonporous surfaces, suggested that people would be cleaning their kitchens by using a the hose.50

![Figure 8: Sunken bathtub in the floor in the master bathroom of the Florida Tropical House, ca. 1933.](image)

While fair planners encouraged the creation of houses that were cheaper and easier to build for a Depression era audience to view, the Florida Tropical House was designed for an upper-middle class audience. The model home’s guidebook suggested that it would approximately cost $15,000 to recreate this house in 1933, which translates into $270,833 in 2015 Dollars.51,52 The construction methods used in this house have obvious advantages in areas where moisture, termites, and mold is more prevalent, such as the southern

50 *A Century of Progress Homes and Furnishings,* 13.
51 Ibid, 54.
regions of the country. Introducing pre-poured concrete construction spurred the
imagination of future designers and influenced Miami architecture and the larger scale tilt-
up slab construction, commonly seen in warehouse design.

Today designers are still experimenting with uses of pre-poured concrete
construction methods in residential design and one such house was constructed in Venice,
California in 2003, named the Tilt-Up Slab House. The budget to build the Tilt-Up Slab
House was roughly the same amount as the Florida Tropical Home, which was set at
$270,000.53 Though it is not commonly used in home building today, designers are still
experimenting with pre-poured concrete designs in residential design. Even as recently as
2003, architect David Hertz designed and built the Tilt-Up Slab House in Venice, California
to demonstrate how quickly and economically such houses can be built, even in small
urban lots.54 David Hertz, describes his concept in terms similar to Weed’s as wanting to
design a house that has minimal maintenance and is waterproof.55 According to Allison
Arieff and Bryan Burkhart, “Hertz is not particularly interested in creating mass-produced
housing. Instead, he is excited by the potential of prefabricated building techniques for
custom projects.”56 Hertz is re-creating the use of prefabricated concrete residential design
in Southern California, and seems to be making the same arguments that Bel Geddes did in
the early 1930s. Hertz describes the simplistic beauty of the design of an engine block in
much the same manner that Bel Geddes showed the beauty of an airplane engine.57, 58 I am
not suggesting that Hertz is knowingly copying Bel Geddes’s ideas. However, I am

53 Arieff and Burkhart, 129.
55 Arieff and Burkhart, 129.
56 Ibid, 133.
57 Ibid.
58 Bel Geddes, 276 – 277.
suggesting that designers are still making the same arguments and struggling with the same that challenged the designers of the Florida Tropical House.

Figure 9: Floor plans from the Official Guidebook of the Florida Tropical House, ca. 1933.
Chapter 3

The House of Tomorrow

While fair patrons walked the boulevard of what promised to be the future of American housing, one of the most futuristic-looking homes was George Frederick Keck’s House of Tomorrow. This twelve-sided house was built to demonstrate what building materials and mechanical systems may be utilized in single-family dwellings in the future.

Unlike the other model homes presented at the Century of Progress Fair, the House of Tomorrow and Crystal House, both designed by George Fred Keck, did not have state or corporate sponsorship. Keck first applied for a permit to construct the House of Tomorrow in the Home and Industrial Arts Exhibit at the fair to demonstrate the newly available mechanical equipment and building materials in January 1933. Heavily influenced by the Post-World War I idea that modern design would lead to better living, Keck had little success in finding commissions to build single-family modernist homes. Thus Keck saw the Century of Progress Fair as an opportunity to educate the general public over modern home design in an entertaining way, while in the hopes of attracting investors by presenting the House of Tomorrow.60

Modernism was not a new concept to Keck prior to the fair, for when Keck studied at the University of Illinois and opened up his practice in downtown Chicago in 1926, he was fascinated by both the architectural concepts of the Chicago School and modern

60 Ibid.
According to Lisa D. Schrenk, “In demonstrating the widespread benefits of modern design, he [Keck] highlighted several characteristics shared by many progressive architects at the time. These included reliance on functional designs, an interest in new building technology, and a desire to eliminate historical forms.”

Although Keck studied the designs of many of the pioneering Chicago based architects such as Louis Sullivan, Frank Lloyd Wright, and others, his ideas of design where heavily influenced by the European designer, Le Corbusier. Thus Keck did not see a purpose in designing ornate spaces, rather he advocated designing a space that was more functional for its intended use.

In the decade prior to the fair, Keck purchased a copy of Le Corbusier’s book, *Towards an Architecture*, soon after it was released in a translated English edition from French in 1928. In *Towards an Architecture*, Le Corbusier is critical of how architects copy the same traditional aesthetics and teach their successors to do the same. Le Corbusier suggested that architects should apply their work in the same manner as engineers, who are constantly looking at their designs and trying to figure out how improve on their progress, thus leading to even better designs and functions. Keck expanded on Le Corbusier’s ideas of architecture by designing the House of Tomorrow around the mechanical systems first, the floor plans second, and the outside aesthetics last. Thus Keck and his team designed the House of Tomorrow literally from the inside out.

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62 Schrenk, 159.
63 Ibid, 161.
65 House of Tomorrow, 1933, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago.
To explain the basic inspiration for House of Tomorrow’s design, Keck wrote within its promotional brochure that his design is based on the Richards House in his hometown of Watertown, Wisconsin. The Richards House is an octagonal, four-story, brick house, built in 1853. What Keck did not publically acknowledge, was that he was also inspired by another modernist architect, Buckminster Fuller, known for his 1929 concept of the six-sided Dymaxion House (which only existed in drawings and model form), though Fuller later constructed a different version in 1949 that currently resides in the Henry Ford Museum. Unlike the Richards House, that is built with brick load bearing walls, the structure of Dymaxion House was designed to be supported and to cantilever off of the heavy metal central core of the house [See Fig. 10]. Looking beyond the obvious similarities of having more than the traditional four sides, both the Richards House and the Dymaxion House were designed from the very center and out, then expanding outward in equal directions at all sides. Keck saw the design of using the core of the house as a way of using a heating, ventilating, and air conditioning system (HVAC), utilities, and a spiral stairway without taking up space in the house. Using the core of the house would make it easier and quicker to run electrical wiring, plumbing, and allow for more efficient cooling and heating systems.

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66 Ibid.
Keck and Fuller believed that more efficiently designed homes that could be easily mass-produced would greatly improve society and creating a house from the core out is the most logical method to do so.\(^68\) To build even further on Fuller’s ideas, Keck hired Leland Atwood as his chief draftsman, who had previously worked for Fuller and had helped him design his earliest concepts of the Dymaxion House.\(^69\) Previously working for Fuller, Atwood had an advantage in incorporating the building materials that Keck chose since many of the materials dictated such a novel design.\(^70\) Keck worked with a variety of well-

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\(^{68}\) Ibid, 161.
\(^{69}\) Wilson, Pilgrim, and Tashjian, 193.
known companies to help create the materials and equipment for the House of Tomorrow, such as H. W. Howell to produce the metal tubular furniture.\textsuperscript{71}

Keck’s selection of building materials and size of the home also dictated the number of sides that the house had. According to Keck, “The shape [dodecagon] was not selected arbitrarily but resulted from the number and sizes of rooms required on the different floors and from the fact that the glass walls on each of the these twelve sides would be of a size that could be installed efficiently.”\textsuperscript{72} With Keck’s choice of structural system and floor plan, the dodecagon side worked best [See Fig. 11]. Thus if the dimensions or frame of the house were altered, this would increase or decrease the number of sides and windows of the house.

![Figure 11: Front and rear view of the House of Tomorrow, ca. 1933-1934.](image)

Keck used a steel frame construction for the House of Tomorrow, which only took forty-eight hours to assemble at the site.\textsuperscript{73} At the center of the house is a steel core that supports a spiral stairway and is used to support the floors by cantilevering from it. The outer frame of the house is made up of thin lally columns at each of the twelve corners of

\textsuperscript{71} Wilson, Pilgrim, and Tashjian, 193.
\textsuperscript{72} House of Tomorrow.
\textsuperscript{73} Boyce, 44.
the house to support the outer portions of the floors and roof above. With the use of the lally column, this eliminated the need for load bearing walls within the house. Keck explained that the use of the steel frame eliminated the use of load-bearing walls, which make it easier for the homeowner to add additional bedrooms and bathrooms without worrying about damaging the structural system. Keck also stated that prefabricated additions to of the House of Tomorrow could be constructed offsite and added to the top of the house, without making any changes or disturbing the floors below.

Although the use of steel frame construction was not new during the fair, it was a novel application to residential design. To create a departure from traditional residential building materials, Keck used a variety of unusual and new materials throughout the house. Starting from the ground level, Keck used a molded plastic for the ground floor exterior walls that was believed to be resistant to fire and water, vermin proof, and could help insulate the house. Other exterior portions (not covered in glass) of the house used phenolic board and plasterboard walls, which were replaced with sheets of copper in the fair’s 1934 reopening. The upper floors of the house extensively used plate glass windows of a curtain wall system, which dominated the house’s design. The top of the roof of the projecting areas of the house is covered with a waterproof compressed asphalt board, which also serves as the floor for of the roof top terrace. With the use of glass curtain walls, Popular Mechanics Magazine dubbed the House of Tomorrow, as a “glorified

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74 A lally column is a hollow and nearly circular steel column that supports girders or beams.  
75 House of Tomorrow.  
76 Ibid.  
78 Schrenk, 184.  
79 House of Tomorrow.
fish bowl without water.”\textsuperscript{80} None of the plate glass windows were operable for the purpose of saving on construction costs and Keck did not believe anyone would actually be living in the house.\textsuperscript{81}

Keck designed the house to function around machinery and transportation systems, by including an airplane hanger, auto garage, and a central air conditioning and heating system. While the idea that we would be using private airplanes to travel to and from our homes still seems like science fiction today, Keck’s use of a residential HVAC system is common in almost homes today.

While air conditioning systems were used in larger commercial buildings in the 1930s, they were almost unheard of for normal residential use. In 1931, H. H. Schultz and J. Q. Sherman invented the individual room air conditioner that sits on a window ledge and were too expensive for the average person to purchase, costing about $120,000 to $600,000 in today’s dollars.\textsuperscript{82} The official brochure of the House of Tomorrow stated, “In the near future it is reasonable to suppose that all buildings in which people live and work will have such systems. Air-conditioning units will be considered as necessary as central-heating and bathrooms are today.”\textsuperscript{83} Although the mechanical room housing the furnace and air conditioning systems is nestled out of sight, the whole house was designed around these systems.

Unlike the Florida Tropical House, which was a feature to be opened up to the outside and allow for cross ventilation, Keck designed the House of Tomorrow to be closed

\textsuperscript{80} “The Glass Home of Tomorrow,” \textit{Popular Mechanics Magazine} 59, no. 6 (June 1933): 817.
\textsuperscript{83} House of Tomorrow.
Keck believed that by closing off the house from the outside and using an HVAC system would allow a healthier lifestyle by reducing dust and controlling humidity and air temperature. The air conditioning system proved incapable of countering the solar radiation trapped by the inoperable windows lead to the unexpected result of creating a greenhouse effect inside. According to Narciso G. Menocal, “During construction of the House of Tomorrow, in February of 1933, in spite of very low temperature outside, workmen inside the unheated building were comfortable in their shirtsleeves. It was then that the idea of heating a house by means of ‘greenhouse effect’ occurred to him [Keck].” For both privacy and reducing “greenhouse effect” created by such large windows, the interior designs adopted combined use of Venetian blinds, roller shades, and curtains treatments throughout the house.

Along with the air ducts for the HVAC, the stack, and water pipes are all housed within the central core of the house. Keck credits the house’s dodecagon shape for allowing an easier and more even dispersion of the utilities, as everything radiates out from a central point and with the rooms central to the core. Unlike traditional wood framed houses, none of the HVAC systems utilizes the space within the walls, allowing easier alterations of creating more or fewer rooms as the home’s occupants desire. Keck’s design of one central core for the house’s HVAC and other utilities also kept overall installation costs low and would have been easier to mass-produce if the house was to become mass-produced as he and other designers presenting their houses at the fair envisioned.

84 Ibid.
86 A Century of Progress Homes and Furnishings, 71.
87 Ibid, 71.
Keck strived to design the House of Tomorrow’s interior to be as progressive as it was on the outside. At the fair, there were two entrances to the house from the outside, one entering the kitchen (from the outside terrace with steps going to the ground level) and through a porch on the ground level. Entering the house from the ground level leads into a hallway and bottom of the stairway leading up to the main living area of the home above. Facing the stairway is the mechanical rooms to the left and recreation room, garage, and airplane hanger to the right. The ground floor was more utilitarian and had exposed metal support beams supporting the floor above, which allowed the visitor to get a better understanding of the house’s construction.

Likely inspired by the aviation craze of the late 1920s and early 1930s after Charles Lindbergh’s solo flight crossing of the Atlantic Ocean, Keck added a built in airplane hanger into the House of Tomorrow [See Fig. 12]. With a Curtis-Wright sports biplane parked next to the sleek Pierce, Silver Arrow automobile, this strongly demonstrated of how the house was designed around the cutting-edge advances in transportation. To further demonstrate how the mechanical equipment could be built and used within the structure of the home, Keck had automatic electric garage and hanger doors installed that folded up towards the ceiling to save floor space.88 Keck saw the House of Tomorrow as a way to also experiment and demonstrate how both mechanical systems of all types and new building materials could be used within the house, thus he also had a heavy hand within the interior design and decorations.

88 Ibid.
Although Keck and Atwood designed most of the furniture and other interior elements for the 1933 season of the House of Tomorrow, Keck hired Irene K. Hyman as their interior design consultant. Keck could not find furniture and standalone lighting fixtures that he felt suited the progressive character of the house and worked with various furniture companies to create custom made pieces that used various woods and chrome-plated metal tubular designs. According to Robert Boyce, “The designers’ use of rare and exotic woods was inspired by the Art Deco design philosophy, and their light fixtures and movable wardrobes relied on Werkbund Bauhaus aesthetics.” Keck and Atwood’s interior design demonstrated their strong interest in the modern European designs of incorporating simplicity with functionality while showcasing this all through the House of Tomorrow.

Unlike the Florida Tropical House, Keck did not try to draw a great deal of attention to or try to improve on modern furniture design for a mass market, as the Florida Tropical

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89 Boyce, 47.
90 Ibid.
91 Ibid.
House heavily promoted the idea of mass-produced metal furniture. According to Keck, “Furniture was designed especially for the House of Tomorrow. The concern of the designer was no to have pieces that would stand out but rather to have the individual pieces take a definite part in, be subservient to, the decorative scheme as a whole.” Keck wanted the furniture to be an extension of the home’s design as one unit, rather than to promote new manufacturing techniques or use of particular materials. Living and dining room furniture was also designed to compliment each other with also serving the purpose of offsetting the two spaces for their intended purposes of use.

Exiting the stairs onto the second floor leads into the living quarters, which are made up of the combined living and dining room, master bedroom, bathroom, children’s room, and a kitchen [See Fig. 13]. With the House of Tomorrow’s shape, the open concept of the dining and living room keeps the rooms from feeling claustrophobic creates a space that can be more easily rearranged to accommodate more guest or entertainment purposes. This concept would become increasingly popular, especially within smaller homes and is still seen in many homes today to allow more openness.

Figure 13: Floor plans of the first and second floors of the House of Tomorrow, ca. 1933.

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92 House of Tomorrow.
Keck found creative ways to use traditional materials that fit in with the modern style he desired, such as using end-grain walnut blocks as flooring in the combined dining and living room area and into the master bedroom. Using new modern materials within the interior, Keck also turned to European modern design. Keck was influenced by Ludwig Mies van der Rohe’s use of elegant materials for the large wall surface in buildings such as the German Pavilion at the 1929 Barcelona Exposition. Much of the interior wall spaces on the second floor were overlaid with Carrara plate glass. According to Lisa D. Schrenk, “Keck positioned a soft-gray glass wall between the living room and kitchen, a polished black glass wall in the stair hall, and white glass walls around the bathroom [See Fig. 14].” Much like the Vitrolite glass used in the Florida Tropical House, this created an easy to clean sanitary surface that was reflective and gave the illusion of a larger space within the home. Also with Keck’s choices of color in the glass helped set the mood and allowed for the desired reflectiveness depending on the use of the room, thus helping with the lighting of the room.

Figure 14: Left: View of the dining room in the House of Tomorrow and use of the polished black glass on the back wall. Right: View of the bathroom. Both photos, ca. 1934.

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93 Ibid.
94 Schrenk, 167.
95 Ibid.
While some of the rooms, such as the recreational room and workshop, were pretty straightforward except for their color scheme, Keck and Hyman chose a variety of colors to set these rooms apart. According to Boyce, “The floor of the workshop was orange, the recreation/laundry room had ultra-marine blue ceilings, lipstick-red curtains, and red, orange, and green overhead ducts.”\textsuperscript{96} Although the colors in the main living space above were more neutral by using grays and beige, the color scheme bellow added a carnival like atmosphere that demonstrates how one can enjoy living in such an unorthodox designed home. The most playful room with its color scheme and design was the children’s room that was painted turquoise and had green rubber floor tiles.\textsuperscript{97} Keck and Hyman also added a built in tropical fish aquarium into the wall within the children’s room to add entertainment for both children and adults [See Fig. 15].\textsuperscript{98}

The House of Tomorrow’s kitchen boasted that it had plentiful electric sockets for kitchen appliances, a mechanical dishwasher, and used the latest gas powered range and gas fueled iceless refrigerator.\textsuperscript{99} Due to space and shape of the kitchen, the emphasis was not placed on an improved layout of the kitchen, rather than the modern appliances and use of enameled steel kitchen cabinets, which became standard in many post-World War II homes. Much like the children’s room, the kitchen also made use of a dark brown rubber tiled floor provided by the Goodyear Tire and Rubber Company.\textsuperscript{100}

\textsuperscript{96} Boyce, 46.
\textsuperscript{97} Ibid.
\textsuperscript{98} House of Tomorrow.
\textsuperscript{99} A Century of Progress Homes and Furnishings, 71.
\textsuperscript{100} House of Tomorrow.
Figure 15: Interior photos of the House of Tomorrow: (A) workshop located on the first floor, ca. 1933, (B) child’s bedroom with a tropical fish aquarium, ca. 1933, (C and D) living room area, ca. 1934, (E and F) kitchen area, ca. 1934.
On the third floor of the House of Tomorrow was a sun deck, which Keck stated could be enlarged or converted into more rooms if needed.\textsuperscript{101} For practical reasons of the fair and the constant flow of people walking through, the sun deck added a peaceful perch for fairgoers to collect their thoughts and get a birds eye view of the immediate area [See Fig. 16]. Although I will later discuss the changes to the House of Tomorrow in a following chapter, the third floor solarium is no longer a feature on the house today.

![Figure 16: Left: View from the inside of the solarium on the 3\textsuperscript{rd} floor. Right: View of the 3\textsuperscript{rd} floor deck outside of the solarium. Both photos, ca. 1934.](image)

During the fair’s extended second season in 1934, Keck lost creative control over his house and fair officials hired a new interior designer, Mable Schamberg, to redecorate it for the new season. Schamberg preferred a more traditional setting, such as heavily upholstered chairs and the mainstream streamlined furniture of the time. According to Schrenk, “Gone was the functionalist steel furniture in the living room and bedrooms. In its place were upholstered chairs selected for comfort and charm, giving the space cozier, more inviting atmospheres.”\textsuperscript{102} While Schamberg changed out much of the furniture and color designs, she left the Cararra glass, kitchen, and aquarium in the children’s room

\textsuperscript{101} Ibid.
\textsuperscript{102} Schrenk, 184.
untouched. Although Schamberg did not appreciate the furniture designed for the house, she did respect Keck’s choices of the building materials and chose to leave the exposed steel beams and use the colors of the Cararra glass to determine her color pallet for decorating inside.\textsuperscript{103}

Regardless of the interior changes made in the 1934 season to the House of Tomorrow, it was designed as an experiment to determine whether better designs through technology could improve living. According to Keck, the House of Tomorrow was designed "To demonstrate mechanical equipment and building materials; to not find a specific form to a house, but to find solutions to the many and varied contemporary requirements of a residence in a simple and direct manner."\textsuperscript{104} Inspired by Fuller’s ideas, Keck sought a way to create a house that could be mass-produced to create a new type of utopian architecture that could help improve society and allow affordable housing for all.

With the abundance and endless possibilities of using metal in residential design, such as a simple steel frame, the House of Tomorrow could easily be replicated like an automobile is from the chassis up. While the House of Tomorrow successfully demonstrated the European minimalist designs, open floor planning and what a prefabricated home could be, the round design was too far out of the comfort zone of what the average layperson thought a home should look like. Looking past the design and shape of the home, it demonstrated and proved how homes can be elegant and still be designed around mechanical systems.

\textsuperscript{103} Ibid.
\textsuperscript{104} Boyce, 51-52.
Chapter 4

The Wieboldt–Rostone House

The Wieboldt-Rostone House was not built to push the boundaries of modernist architectural design, but rather to promote the use of a synthetic stone product also called Rostone. The Wieboldt-Rostone House was an experiment of how traditional looking homes could be quickly built using techniques of prefabrication, by using a steel frame that is clad in sheets of Rostone. The use of Rostone eliminated many of the costly and timely building techniques, such as creating plaster walls.

The Rostone Company was founded in 1927 after Richard L. Harrison, a chemical engineering graduate student at Purdue University, discovered a new process of creating a synthetic stone that has similar properties to limestone and dolomite. Harrison named the synthetic stone, Rostone and created it by combining pulverized limestone, lime hydrate and water that was molded into shapes and cured under heated pressure for two hours at 320 degrees Fahrenheit. The result was a product with the compressive strength of approximately 4,000 pounds per square inch. Seeing promise in the new company, Lafayette, Indiana industrialist, David E. Ross backed the Rostone Company and moved the company to Lafayette from Riverside, Indiana. To bring attention to the new company, Ross also funded the construction of the Wieboldt–Rostone House for the 1933 World's

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Fair and hired the Lafayette-based architect Walter Scholer to design the house using a prefabricated steel frame along with their product [See Fig. 16].

Figure 17: Front view of the Wieboldt-Rostone House, ca 1933-1934.

Scholer followed the mission of the fair’s concept of presenting a house that was affordable, modern, and promoted the use of prefabricated construction. He designed the Wieboldt-Rostone House in a manner that could be produced in a factory, in the same manner as different parts of an automobile were bolted together on an assembly line. The Wieboldt-Rostone House used steel channel double studs on 4-inch centers bolted together, with board insulation between the studs. The façade of the house used sheets of Rostone, which had threaded metal thimbles inserted to the back, to allow for easier installation as they were bolted to the supporting steel frame. For the house’s interior, traditional construction methods, such as plastering, are eliminated to reduce cost and the time of construction. The interior walls were constructed with a mixture of Rostone, premade wallboards, and wood paneling depending on the room. The structural system of the two roof decks are supported by steel beams and sheets of steel, covered by

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109 *A House of Rostone: At a Century of Progress*, 1933, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago.
insulation board and paved with Rostone. The Wieboldt-Rostone House also made use of a newly developed fuseless circuit breaker and outside reading meter.

While the Rostone Company promoted the house’s steel frame structure, the use of Rostone was the main reason for presenting the house at the fair. Rostone was marketed as having the strength, permanence, hardness and chemical stability of real stone though also being cheaper, offered in an array of colors and shapes and sizes. According to a Rostone brochure, “Pigments are introduced during the mixing process and Rostone contains no active chemicals the colors are permanent, as has been shown through several years of severe exposure to weather and sunlight.” It also stated, “The colors produced include grays, buffs, browns, reds, greens, blues and intermediate hues in almost endless variety and in degrees of intensity ranging from gray-white to black, a variety far exceeding that available in natural stone.” Rostone offered a cheaper alternative to using real stone and was made into specific shapes and forms in a variety of colors. For the exterior façade of the Wieboldt-Rostone House, sheets of Rostone were produced in 48 x 17 x 2 inch slabs, which could be more quickly installed, rather than laying individual cut stones or brick.

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110 Corbett.
111 Ibid.
112 *Rostone: A Colorful Synthetic Stone of Entirely New Chemical Composition*, 1933, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago.
113 *Rostone: A Colorful Synthetic Stone of Entirely New Chemical Composition*.
114 Corbett.
The Wieboldt-Rostone House uses its flat deck-roof and symmetric geometric setback design to create a reserved modern look. The façade of the house during the fair used slightly roughened sheets of cream-buff colored Rostone. Smoothly polished red-brown Rosetone was used for the coping and molding pieces and roof slabs, making up the paved deck were red and brown in color.\textsuperscript{115} The front entrance of the house is framed by a decorative use of red-brown Rostone with brown and gray pilasters flanking the doorway. Above the door is a simple geometric art deco design, with a chevron patter and a decorative Mediterranean inspired balcony railing below the window and just above the entrance.\textsuperscript{116}

Figure 19: Decorative colored Rostone inlay around the front entrance of the Wieboldt-Rostone House, ca. 1933.

Inside of the home the Wieboldt Department Stores of Chicago and Evanston, Illinois provided the furniture and all of the home décor that could also be purchased at their

\textsuperscript{115} Rostone: A Colorful Synthetic Stone of Entirely New Chemical Composition.
\textsuperscript{116} A Century of Progress Homes and Furnishings, 120.
stores. Using modern, yet easily obtainable furnishings that is not custom-made also made the idea of owning a similar home more of a reality for those touring it. Although Wieboldt Department Stores had a heavy influence on the home’s interior, the home's designers hired Frank van Vlissingen as the interior designer to bring together the modern interior structural materials, furniture, and different color schemes of each room for the fair’s two seasons.\textsuperscript{118}

On the first floor of the Wieboldt-Rostone are six rooms and an attached garage [See Fig. 20]. Just inside of the front door is an entrance hall with a stairway on the right-hand side. The walls of the entrance hall used light gray Rostone and the floors and stair risers and treads were constructed with colored Rostone tiles.\textsuperscript{119, 120} Leading straight ahead from the entry hall is an open plan dining and living room. Most notable in the living room is a large steel framed bay window, and a fireplace that is surrounded by floor to ceiling sandblasted treated Rostone.\textsuperscript{121} Decorative patterns and colors of Rostone surround the fireplace to give the appearance of a mantel and floor to ceiling bookshelves flank both sides of the Rostone around the fireplace [See Fig 21]. The Wieboldt-Rostone House adopted the open plan concept for the dining and living room to allow for a more open space, especially in the dining room that is usually the least used room in the house.\textsuperscript{122} To soften the feel of the living and dining room area, the walls were finished with paneled oak

\textsuperscript{117} About Modern Furnishings in Wieboldt’s World’s Fair House, 1934, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago.
\textsuperscript{118} A Century of Progress Homes and Furnishings, 120.
\textsuperscript{119} Ibid.
\textsuperscript{120} Ibid.
\textsuperscript{121} Ibid.
\textsuperscript{122} Ibid.
and the ceilings used Cornell In-Cel-Wood, a decorative wood fiber insulation board, instead of Rostone.\textsuperscript{123, 124}
If facing the front of the house, the left side of the house is the working area with the kitchen, utility room and attached garage grouped together. The kitchen, which is connected to the dining room, showcased various styles free standing and built in cabinets, along with modern appliances and other equipment [See Fig. 22]. For easy cleaning, the kitchen floors used linoleum and the walls were constructed with Cornell Tile Board, which was painted light green with white metal strips around it for trim.\textsuperscript{125,126} The tile board was installed by hanging large sheets at a time and mimicked the look of traditional hand laid tile, which allowed for quicker installation and ability to be painted over with any color one chooses. Across the hallway from the kitchen is an attached garage and utility room. The utility room was very utilitarian, which showcased a modern washing machine and clothes dryer.

\textsuperscript{125} A Century of Progress Homes and Furnishings, 120.
\textsuperscript{126} A House of Rostone: At a Century of Progress.
ironing area. The utility room also housed a combined furnace and air-conditioning unit that was strategically placed centrally within the home to allow for maximum efficiency. Within the utility room is also a small bathroom with only a toilet and sink.

![Figure 22: Kitchen space in the Wieboldt-Rostone House, ca. 1934.](image)

On the opposite side of the house are two bedrooms of the same size and the master bathroom, separating the two rooms. One of the ground floor bedrooms was set up for a boy and the other for a girl’s room. The bedrooms were standard in décor for the period, using the furniture and furnishing from the Wieboldt Department Stores. Instead of traditional plastered walls, the bedrooms walls were made of wallpapered Cornell Super Board to make up the interior walls and allow for more insulation within the home. The master bathroom also made use of the Cornell Tile Board, instead of traditional wall tiles and green Carrara Glass on the walls and ceiling to allow for easier cleaning and reflection of light [See Fig. 23].

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127 Ibid.
128 Ibid.
129 *A Century of Progress Homes and Furnishings*, 121.
On the second floor of the Wieboldt-Rostone House is a sunroom that was converted into the master bedroom in the center of the house and flanked by roof decks on both sides. Within multiple primary sources describing the house, it is unclear if the sunroom was converted into the master bedroom before the fair opened in 1933 or ’34 season, although it is clear that Scholer originally intended this room to be used as the house’s sunroom. Like the downstairs bedrooms, the walls of the master bedroom also used wallpapered Cornell Super Board. The master bedroom is more expansive than the downstairs bedrooms and has three sides of large windows and a fireplace that had mirrors around it to create a more modern look. On each side of the bedroom is a door that opens up to the outside room deck that was furnished with metal porch furniture during the fair.

As the fair began to wind down in its second season, the Rostone Company was becoming increasingly busy. With the success of the Wieboldt-Rostone House, the company hired a sales manager who sold several hundred residential and commercial Rostone structures (where one is still stands and in use at 325 Waldron Street in West Lafayette, Indiana). What set the Rostone Company apart from other prefabricated homebuilders was the company’s ability to construct homes and businesses in any size and

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130 *A House of Rostone: At a Century of Progress.*
131 *A Century of Progress Homes and Furnishings*, 120.
132 Ibid, 121.
133 “A History Overview of Rostone,” *Rostone Inc.*
style, such as the popular colonial revival style of house during that time [See Fig. 24].

The Rostone Company also boasted that they used cost savings systems that other homebuilders did not use. According to a Rostone Company brochure printed for the fair, “Thus the Rostone System means that (1) the walls and frames are made up of fewer parts, (2) more of the work is done in the factory under efficient conditions and (3) the building is erected in an easier simpler way.”

The Rostone Company was using factory methods to cut costs while also seeking and using new construction methods that are commonly used today, such as using wallboards instead of plaster. Although the Rostone Company is not as commonly known as other prefabricated home producers, such as the Lustron Homes (who manufactured smaller one story enameled paneled homes completely manufactured in a factory), they offered a flexibility of design and price ranges that, even today, are not normally seen in prefabricated house construction. In 1937, the Rostone Company merged with the R. H. K. Company and started to shift its focus from manufacturing the Rostone product to molded plastics, causing the original-founding members company to leave and work within other home building companies.

Figure 24: Rostone brochure explaining that Rostone can be used with any type of architectural style, ca. 1933.

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136 “A History Overview of Rostone,” *Rostone Inc.*
While the Rostone Company is still in operation in Lafayette, it has long abandoned the home building in favor of manufacturing molded plastic products, though the Rostone Company has left a legacy that has affected how homes are built today. The Wieboldt-Rostone House not only eliminated the use of costly and expensive building materials, it also allowed home building to become easier.
Chapter 5
The Armco-Ferro-Mayflower House

The Armco-Ferro-Mayflower House represents the teamwork of metallurgists, engineers and architects to create an affordable prefabricated metal frameless house. The home’s design also represented a departure from traditional home building materials and methods, by using a porcelain enameled façade to highlight the durability and simplistic beauty of the materials.

Two years prior to the fair’s grand opening, fair committee members began to seek out specialized building material manufacturers that were willing to showcase their products within the new experimental residential design. The committee overseeing the model homes was especially interested in showcasing at least one model home that included the use of enameled steel and invited the Porcelain Enamel Institute of Chicago to take part of the exhibition. The Porcelain Enamel Institute responded back in favor of the idea, though they turned down the invitation due financial constraints and suggested that the American Rolling Mills Company of Middletown, Ohio (also known as Armco) should be contacted with the opportunity.¹³⁷

Armco was a prime candidate to present a metal home at the fair since they had recently unveiled an experimental home in Cleveland, Ohio that used a metal frameless design and could be replicated using prefabricated techniques.¹³⁸ When the model home in

¹³⁷ Wayne O. Axtell; letter written to Armco Co., Century of Progress, 2 September 1931, Box 25, Folder 1-619, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
¹³⁸ Amco Co.; letter to Wayne O. Axtell, 25 January 1932, Box 25, Folder 1-619, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
Cleveland proved to be a success, Armco agreed to construct and fund a model home in Chicago after eight months of negotiations. Armco felt that they needed to create a new home that was different from the previous one built in Cleveland that was more cost efficient without sacrificing quality or durability of design.\(^{139}\) Initial designs for the Armco-Ferro Home started in April 1932 with the same architect who designed the Cleveland model home for Armco, Charles Bacon Rowley.\(^{140}\)

Fair officials rejected Rowley’s design and especially commented on the use of horizontally overlapping enameled metal panels on the house’s façade. One fair official stated in a letter that the use of a new material in a way that mimicked wooden shingles was unimaginative. He stated that he felt it was no different from using faux brick design using stamped sheet metal.\(^{141}\) Armco hired a replacement architect, Robert Smith, Jr. who is known for designing futuristic airport designs in the 1930s.\(^{142}\) Smith made the changes to the home’s design that allowed Armco to stay within their budget and addressed the issue of the house’s façade by attaching the flat enameled metal pieces flat against the house’s façade, only leaving horizontal lines along the seams [See Fig. 25].\(^{143}\)

\(^{139}\) Ibid.
\(^{140}\) J. C. Folsom; letter to Bennett Chapple, 11 April 1932, Box 25, Folder 1-619, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
\(^{141}\) Louis Skidmore; letter to Bennett Chapple, 27 June 1932, Box 25, Folder 1-619, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
\(^{143}\) Bennett Chapple; letter to Louis Skidmore, 29 June 1932, Box 25, Folder 1-619, Century of Progress Records, Special Collections and University Archives, University of Illinois at Chicago.
Armco teamed up with the Ferro Enamel Corporation of Cleveland, Ohio to help create the house’s façade and to cosponsor it at the fair. After the metal chassis making up the house was shaped and sent to Chicago, the Insulated Steel Construction Company of Middletown, Ohio erected the prefabricated units by welding and bolting them together in five days.\textsuperscript{144, 145} The total construction time was ten days including all of the interior work such as the plaster work, painting, electrical, etc.\textsuperscript{146} To further reduce costs and construction time the house did not use any rafters, studs, or joists.\textsuperscript{147} The house was built on a concrete slab foundation and the structural system was constructed with welded 20-gauge rolled steel box-like units, lined with insulation board and covered with interior and exterior sheathing. The floors were made of 18-gauge rolled steel and also welded together. As all of the prefabricated units are put together, they create the chassis of the home.\textsuperscript{148} The second floor metal units of the house were lifted onto the ground floor and

\textsuperscript{144} *A Century of Progress Homes and Furnishings*, 18.
\textsuperscript{146} Ibid.
\textsuperscript{147} *A Century of Progress Homes and Furnishings*, 18.
\textsuperscript{148} Frederick, 5.
fastened into place to the exterior walls.\textsuperscript{149} The enameled exterior façade was attached to
the house using a concept developed by Armco during the planning of the Armco-Ferro
House. After the enameled steel panels were set into place by hanging them on steel clip-
strips, they were riveted in place using a new style of rivet that was smaller and expanded
after a pin was inserted into it, which caused the end piece on the back to expand and did
not need to be back driven.\textsuperscript{150} The flat roof of the house was covered in tar and used green
metal coping around the roof deck and around the base of the parapet.\textsuperscript{151}

Plasterboard walls and wood parquet flooring placed on top of the welded steel
floors made up the interior of the house.\textsuperscript{152} The interior of the house also featured
wallpaper in the bedrooms, living room, kitchen and dinning room by the Mayflower
Wallpaper Company, whose name was also added to the official sponsored name of the
house during the fair.\textsuperscript{153} When entering the house at the fair, the first room is the living
room with a simple metal decorative stairway to the second floor, which has four
bedrooms and a bathroom [See Figure 26]. Unlike some of the other model homes, the
Armco-Ferro dinning room is separated from the living room and kitchen by partition
walls. The kitchen has an open doorway flanking both sides, leading from the dining room
and into the laundry room, with appliances and built in cabinets with table space lining
both walls. The laundry room leads into the garage, which also has a side door that opens
up to the living room at the base of the stairway. Unlike the other model homes, less

\begin{itemize}
\item \textsuperscript{149} \textit{A Century of Progress Homes and Furnishings}, 18.
\item \textsuperscript{150} Roy Freeze Jonathan. “United States Patent: 1,957,770 – Fastening Device,” May 8, 1934 and
Cobbers and Jahn, 18.
\item \textsuperscript{151} Frederick J. Lindstrom, and et al., “Armco-Ferro-Mayflower House, Beverly Shores Century of
Progress Architectural District,” 8.
\item \textsuperscript{152} Ibid.
\item \textsuperscript{153} \textit{A Century of Progress Homes and Furnishings}, 17.
\end{itemize}
emphasis was placed on the interior design or home decor, yet it was all placed on the metal construction of the house.

During the fair, the durability of the steel construction of the Armco-Ferro House was compared to that of streamlined trains, ocean liners, and skyscrapers.\textsuperscript{154} The porcelain-enameded façade has the benefit of durability and low maintenance and was openly compared to durable exteriors of washing machines, refrigerators, and cooking ranges inside of house.\textsuperscript{155} Smith's designs for the house proved to be success creating a modern looking home with its flat roof and allowing the enameled facade to take the place of traditional ornamentation. Of all the model homes at Beverly Shores, the Armco-Ferro

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\end{tabular}
\caption{Interior views of the Armco-Ferro House, ca. 1934. Top: Living room area and dining room spaces. Bottom: Views of the kitchen into the dining room and the utility room on both ends of this space.}
\end{figure}

\textsuperscript{154} Ibid.
\textsuperscript{155} Ibid, 18.
was the only house that fulfilled the fair organizers’ criteria of being well suited for mass production and being affordable for the average American family.\textsuperscript{156}

The Armco-Ferro House later helped set the stage for a Post-World War II all metal prefabricated home manufacturer called the Lustron Corporation in Columbus Ohio.\textsuperscript{157} Much like the Armco-Ferro House, the Lustron Homes used porcelain enamel panels for the home’s façade and were constructed of interlocking metal parts, instead of using a traditional frame method.\textsuperscript{158} While the Lustron Homes showed great promise, the number of orders for Lustrons began to decline as metal prices began to rise and the price for the homes were up fifty percent higher than they were originally advertised for. By 1950 the Lustron Company declared bankruptcy due to a combination of sluggish sales and the company’s business owners dubious business dealings.\textsuperscript{159}

The Armco-Ferro House’s simple geometrical design with its enameled exterior surface demonstrated the balance between modern residential designs without surpassing the comfort zone of the general American’s taste in contemporary design. As Armco designed the house, it inspired patented technologies that advanced the use of metal paneling and inspired the launch of a new company to carry on the idea. Even by today’s standards, the all-metal designed house still seems innovative and relevant in today’s society; the practicality of costs hinging on metal prices will always be a burdening factor with this design.

\textsuperscript{156} Gössel, 18.
\textsuperscript{157} Ibid.
\textsuperscript{159} Gössel, 101.
Figure 27: Floor plans of the Armco-Ferro House, ca. 1933-1934.
Chapter 6

Cypress Log Cabin

Among all of the model homes presented at the Century of Progress Exposition, the Cypress Log Cabin was one of the most traditional designs. Instead of exploring new construction materials, the purpose of the Cypress Log Cabin was to display the many uses and longevity of Cypress in an idyllic wood cabin. While the Cypress Log Cabin did not present the ideas of Modernist architecture, it remains as an important historical monument to the fair.

Constructed by the Southern Cypress Manufacturers’ Association, the Cypress Log Cabin was presented at the fair to promote the use of Cypress wood products.\footnote{A Century of Progress Homes and Furnishings, 45.} To ensure the cabin’s rustic design that was also worthy of being presented along with the other model homes, Chicago-based architect Murray D. Hetherington worked with both the Southern Cypress Manufacturers’ Association and fair planners. Hetherington was a Chicago-based architect who is known for his large upscale residential designs during the 1920s and 1930s within the Chicago area.\footnote{“Murray D. Hetherington,” Curbed Chicago, last modified 2015, http://chicago.curbed.com/tags/murray-d-hetherington .} He is especially known for his rustic designs such as the Tudor revival Murray D. Hetherington House, constructed in 1924 at 8918 S. Hamilton Ave. and the Ridge Park Field House at 1817 W. 96th St. in Chicago.\footnote{Harold T. Wolff, “Historic Home Tour,” Beverly Area Planning Association, accessed May 6, 2015, http://www.bapa.org/content.asp?contentid=1 .} \footnote{“Ridge Park,” Chicago Park District, last modified 2014, http://www.chicagoparkdistrict.com/parks/Ridge-Park/.}
The Cypress Log Cabin was especially promoted to the male audience at the fair as being described as an idyllic mountain cabin for those attuned to nature.\footnote{A Century of Progress Homes and Furnishings, 45.} Such cabins became increasingly popular after the fair ended with the formation of the Civilian Conservation Corps (CCC) in 1934. The CCC was part of President Franklin Roosevelt’s New Deal Plan and hired unemployed men to perform a wide variety of conservation projects around the nation under the National Forests Service. Many carpenters and architects were also hired into the CCC to create buildings to accommodate and house personnel and equipment required for the National Forest Service to conduct their work, such as ranger cabins and forest fire watch-out stands.\footnote{“1934-1946: Civilian Conservation Corps to the End of World War II,” The Forest History Society, last modified June 8, 2008, http://www.foresthistory.org/ASPNET/Publications/architecture/chap1c.htm .} Many of the buildings constructed by the CCC often used heavy timbers and stone construction, similar to the construction of the Cypress Log Cabin.

The cabin is a one story, L-shaped structure with a semicircular pecky cypress siding façade, to give the appearance of a solid log design [See Fig. 28]. The Cypress Cabin guidebook heavily promoted the cabin’s use of pecky cypress, describing it as a type of old growth cypress that has naturally occurring honeycombed shaped holes that form in the tree over time. Within the guidebook, it also stated that although pecky cypress has naturally occurring holes, it is more rot resistant and stronger than other types of lumber used in building.\footnote{Pecky-Cypress, Its Nature and Use, 1933, Box 26, Folder 16-342, Century of Progress records, Special Collections and University Archives, University of Illinois at Chicago, 21.}
Fig 28: Front views of the Cypress Log Cabin at the fair, ca. 1933-1934.

Figure 29: Floor plans of the Cypress Log Cabin, ca. 1933.
Upon entering the house is the large living room with its open ceiling reaching 13 feet up to the ridgepole and decorative triangle exposed bracing.\textsuperscript{167} The living room walls and ceiling were constructed using both pecky and red cypress with 6” laminated cypress slats making up the flooring.\textsuperscript{168} The most striking feature in the living room is a large limestone fireplace making up the left wall of the room. Opposite of the fireplace, the living room opened up to a screened in porch, which was enclosed to make an extra bedroom after the house was moved to Beverly Shores [See Fig. 29 & 30]. Tucked away behind the fireplace is a bedroom on the right side and a kitchen to the left. An extra bedroom and a bathroom are also located just left of the kitchen. The kitchen, bedrooms, and pork also incorporate the exposed rafter ceilings, though without the triangular braces.\textsuperscript{169}

Figure 30: Views of the living room space, ca. 1933-1934. Left: Stone fireplace, Right: view of living room and cypress related artifacts on display in the living room during the fair.

\textsuperscript{167} A Century of Progress Homes and Furnishings, 45.
\textsuperscript{169} Ibid.
Unlike the other model houses that were fully furnished, the Cypress Log Cabin made minimal use of furnishings. The expansive living room held various displays of historic cypress related artifacts, such as shingles from Mt. Vernon, a 150-year-old Seminole Native American canoe, and 200-year-old Spanish prison stocks to name just a few items [See Fig. 31]. Although the interior lacked many of the furnishings, great emphasis was placed on the details of the landscaping around the house. The space around the Cypress Log Cabin was decorated with rustic cypress fences, arbors, bridges and a small pond to further add to the natural rustic feeling surrounding it.

![Figure 31: Cypress related artifacts presented in the Cypress Log Cabin's living room space during the fair, ca. 1933-1934.](image)

Although the Cypress Log Cabin did not push the boundaries of modernist residential design, it introduced thousands to a beautiful construction material that was widely unknown to most. Cypress is still viewed a durable building product and often used as natural wood siding and decks for residential uses. Today the Southern Cypress Manufacturers’ Association is still in operation and dedicated to promoting the use of cypress building products and the companies that specialize in it.  

\[170\] Pecky-Cypress, Its Nature and Use.  
Chapter 7

After the Fair and Through Today

While ten of fifteen of the other model homes and structures built for the fair were demolished at the fair’s end, five of the homes were purchased and moved to Beverly Shores, Indiana where they currently stand. For over 70 years the fate and management of the model homes that still stand has been uncertain. Also the effects of vacancy, blowing sands, and the harsh Great Lake winters have lead to further damage of the homes.

Chicago-based real estate developer Robert Bartlett purchased 3,000 acres of lake front property during the Depression-battered economy in hopes of developing the land into a resort community of Beverly Shores, Indiana. To increase attention of the development, he purchased five of the model homes and a group of other structures making up the fair’s colonial village and moved them to their current site in Beverly Shores. The five model homes were barged across Lake Michigan, except for the Cypress Log Cabin, which was brought to Beverly Shores by truck [See Fig. 32]. The model homes and a guesthouse next to the Cypress Cabin still exist and make up the Beverly Shores Century of Progress Architectural District, which is listed in the National Register of Historic places.

Bartlett grouped the model homes on both sides of Lake Front Drive, overlooking a sandy beach of Lake Michigan. He originally planned to furnish and allow tours of the

\[172 \text{“Beverly Shores, Indiana, 'History,'” Town of Beverly Shores, Indiana, last modified 2014, http://www.beverlyshoresindiana.org/History.html .} \]
homes in 1935 but never saw it to fruition. The development of Beverly Shores was slower than he anticipated so Bartlett sold the remaining property and his assets in 1946.¹⁷³

In 1961, President Kennedy authorized the creation of the Cape Cod National Seashore, which was the first time federal funds were used to purchase natural parkland. After this legislation, Kennedy began to speak out about protecting other environmentally sensitive areas, such as the Indiana dunes, and Congress started to work out a compromise between local industry and protecting the environment within the area. In what became known as the Kennedy Compromise in 1963 and 1964, the Burns Waterway Harbor (Port of Indiana) was created to allow large ships on the Great Lakes to bring and export materials (especially related to the local steel industry). Shortly after the compromise, the bill to establish the creation of the Indiana Dunes National Lakeshore was passed in

1966. The park would increase in size in the following decades, to allow the preservation of environmentally sensitive areas and to guarantee their protection and would eventually make more than 15,000 acres including parts of Beverly Shores.

The original 1966 Act eliminated the Beverly Shores municipality from the park and created what is known as the Beverly Shores Island. In 1967, the park sought to acquire an uninterrupted eleven-mile length of beach front from the west end of Dune Acres to Michigan City that would allow visitors to walk the length of beach and to not trespass on private property. On November 15, 1968, the National Parks Service (NPS) held a meeting with 150 residents about acquiring their land and the homeowners asserted that Senator Paul Douglas told them that they could sell and lease back their homes for retention of fifteen years. Agreements were made with all of the homeowners, and the park’s expansion would envelop around the Century of Progress model homes.

As the leases expired on the NPS’s newly acquired properties, they began to raze the houses near the shoreline to allow the land to go back to its natural state. With the Century of Progress model homes lying within the park’s boundaries, questions began to rise over the future of the homes and the legality of the National Historic Preservation Act of 1966. The main purpose of the National Historic Preservation Act (NHPA) is to preserve the historical and cultural foundations of the nation, in which Congress pointed out; significant historic properties were increasingly being altered and destroyed. Under Title I, Section 110 of the NHPA, it also states, “The heads of all Federal agencies shall assume

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175 Ali, 19.
responsibility for the preservation of historic properties which are owned or controlled by such agency.” Under this legislation, it also states that federal agencies also have a responsibility to identify and nominate such historical properties to the National Register of Historic Places and to protect them. Implementing the goals required of the NHPA, the model homes, they were nominated and placed on the National Register of Historic Places as the Beverly Shores – Century of Progress Architectural District in 1986.

Figure 33: Map of the Century of Progress Architectural District from the Historic American Buildings Survey.

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177 Ibid.
178 Ibid.
179 Collins and Nash, 28.
Although the houses were placed on the National Register, they already in various states of disrepair as they faced almost 70 years harsh Great Lake winters, wind, sand and surf battering them. According to the park superintendent Dale Engquist, “These unique homes were never designed to exist after the World’s Fair closed. Acquiring them after decades of residential use presented us with an expensive maintenance challenge right from the onset.”\textsuperscript{180} Although some of the houses were leased under the original NPS agreement, residents had little incentive to keep the houses up and only preformed the most basic of maintenance. If the original tenants at least fixed the roof and gutters, it would have saved the Armco Ferro House from the extensive water damage it had suffered.\textsuperscript{181} With the park’s lack of funds to properly maintain the model homes, the Historic Landmarks Foundation of Indiana, a statewide nonprofit preservation organization, included the model houses on their “Ten Most Endangered Sites in Indiana” list in 1993.\textsuperscript{182}

As the homes spiraled into further disrepair and no way of securing the money needed to maintain the homes, NPS began to forge a partnership with the Historic Landmarks Foundation of Indiana (now known as Indiana Landmarks). Under Title I, Section 111 of the NHPA, it allows any federal agency to establish and implement alternatives for historic properties, that are not needed for current or projected agency purposes, and may lease a property owned by the agency to any person or organization.\textsuperscript{183}

\textsuperscript{180} Ibid.
\textsuperscript{181} Putre, 18.
\textsuperscript{182} Collins and Nash, 28.
\textsuperscript{183} “National Historic Preservation Act of 1966: As Amended Through 1992.”
Thus in 1996, NPS and Indiana Landmarks entered into an agreement allowing Indiana Landmarks to maintain the houses through a long-term residential leasing program.\textsuperscript{184} By the early 2000s, interest in model homes and the leasing program began to increase and had a feature article about the leasing program in the real estate section of the \textit{New York Times} December 2000. After the \textit{New York Times} article brought the model homes national attention, hundreds of people contacted the Indiana Landmarks Foundation, though those were eligible had to go through a screening process to make sure they were a right fit to ensure the house's future. Such requirements of legibility made sure that potential lessees have an understanding of the goals of the preservation process and are finically able to restore the homes. According to the \textit{New York Times}, “In exchange for agreeing to restore the houses, a process that Historic Landmarks estimates will cost $350,000 to $600,000 apiece, tenants are being offered 30-year lease at minimal or no rent, with options to renew. The agency must approve the restoration plans.”\textsuperscript{185} On top of the financial burdens and lack of permanent ownership of the houses, interested person were also chosen by matching their personality to fit the house and personal interests.\textsuperscript{186}

Currently all of the houses have been leased to private individuals and are under various states of repair. The Florida Tropical home was the first house to be leased under the new program by William and Marcia Beatty in 1998. The Beatty’s first discovered the Florida Tropical Home from a broadcast on one of the Chicago TV stations.\textsuperscript{187} They initially intended to spend at least $200,000 on initial repairs at the beginning of their 25-year lease

\textsuperscript{184} Collins and Nash, 28.
\textsuperscript{185} Sharoff, 7.
\textsuperscript{186} Collins and Nash, 28.
and partially reside in the house while still working on it.\textsuperscript{188} The house itself has been largely restored to its 1933 grandeur after decades of decline, including the painted mural above the fireplace that was originally painted during the fair [See Fig. 34].

Sitting on the lot east of the Florida Tropical House on the edge of the beach is the Wieboldt-Rostone House, which was leased by Ross Gambril.\textsuperscript{189} Gambril has close emotional ties with the house and stated that he was probably six or seven years old when he first learned about the house. He also stated that his father had toured the houses at the fair and would take him to see them at Beverly Shores, while explaining the story behind the houses and why they were moved to Beverly Shores.\textsuperscript{190} The repairs of the Wieboldt-Rostone House proved to be a challenge from the start. By the 1950s, the Rostone walls had already begun to fail and was replaced with another synthetic stone called Perma-Stone, which had already began to crumble apart before the restoration began.\textsuperscript{191} Although Gambril is currently researching methods of using a precasted-concrete that looks like the original Rostone used, remnants of the original Rostone still survive inside of the home. Gambril is also restoring all of the interior walls, flooring and rebuilding the upstairs fireplace, which all had extensive water damage [See Fig. 35].\textsuperscript{192}

\textsuperscript{189} Szrom.
\textsuperscript{190} Putre, 20.
\textsuperscript{192} Putre, 20.
Figure 35: (A) Front view of the Wieboldt-Rostone House with its Perma-Stone façade replacing the original Rostone in the 1950s, ca. 2005. (B) Rear view of the Wieboldt-Rostone House, ca. 2005. (C) Front door with original Rostone flanking all sides, ca. 2005. (D) View of the Wieboldt-Rostone House in 2010, as restoration work began. (E and F) View of the living room of the Wieboldt-Rostone House in 1934 compared to the view of the same room in 2005. (G and H) Reconstructed faced with precast-concrete mimicking the original Rostone, ca. 2013.
Across the street from the Wieboldt-Rostone House is the Armco-Ferro House that is leased by Christoph Lichtenfeld, a retired manufacturing engineer and his wife Char in 2005 for a 30-year lease.¹⁹³ According to Christoph Lichtenfeld, “There was water running down, corroding everything. Had anyone known what it would’ve been like, it would’ve been condemned or no one would’ve taken it.”¹⁹⁴ Though the Lichtenfeld’s persisted on in the restoration and contacted Iron Workers Local 395, who agreed to allow fourteen of their apprentices to help with the restoration project. The Lichenfeld’s provided the materials and the apprentices installed them, yet the task proved to be labor intensive with the rusted out window frames and rusted out holes all over the house [See Fig. 36 and 37].¹⁹⁵ The Lichenfeld’s stated that the best part is finishing up, as their project now goes faster and as he stated, “We have brought life back to this house.”¹⁹⁶

Figure 36: Top Left: Front view of the Armco-Ferro House, ca. 2005. Top Right and Bottom: Front and rear view of the Armco-Ferro House after the exterior enameled panels were removed for restoration, ca. 2005-2009.

¹⁹³ Szrom.
¹⁹⁴ Ibid.
¹⁹⁵ Ibid.
¹⁹⁶ Ibid.
At the far southeast corner of the district, is the Cypress Log Cabin, that is leased by a plumbing contractor, Flint and Jamie Alm. The Alms’ first impression of the cabin was of an abandoned shell that housed raccoons and had strong unbearable odor inside.\textsuperscript{197} The only whimsical detail on the outside that remains from the fair is the dovecote over the entrance. Behind the Cypress Log Cabin is an additional wooden structure that was used to display the “many decorative and practical commercial uses of tide water red cypress,” at the fair.\textsuperscript{198} According to Laura Putre, “To make the oddly configured place a little more livable, Judith Collins, the National Park Service architect overseeing the Beverly Shores project, is allowing Alm to attach the demonstration house to the main house – the biggest concession she’s made to any of the leaseholders.”\textsuperscript{199} Much of interior was intact, except

\textsuperscript{197} Ibid.  
\textsuperscript{198} Putre, 19.  
\textsuperscript{199} Ibid.
for four or five timbers that were rotted and new ones were difficult to find since the remaining southern cypress forests are protected. Alm eventually found the replacement pieces through a company that reclaims old logs from the bottom of rivers and lakes [See Fig. 38].

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\[200\] Ibid.

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Figure 38: Left and Right Top: Front and rear view of the Cypress Log Cabin, ca. 2005. Middle Left: Photo of the dovecote, which is the only original extorter decorative piece from the fair, ca. 2013. Middle Right: Interior view of the fire place, ca. 2013. Bottom: Front view of the Cypress Log Cabin, ca. 2013.
Between the Armco-Ferro House and the Cypress Log Cabin is the House of Tomorrow, which has been leased to an architect that specializes in preserving historic homes in the Chicago area, Susan Barnes. Like Gambril, Barnes also has a personal connection to the house that she is restoring. Barnes grew up in a home in Aurora designed by the same architect that designed the House of Tomorrow, George Fred Keck. According to Barnes’s, “My reaction [to the house] was, Oh, I think we’ve got some real work here.” Keck did not foresee anyone living in the model home after the fair and decided to save money by installing stationary windows, rather than using the more expensive thermal-pane windows that opened up. With the inoperable windows that caused a greenhouse affect inside, at some point after the houses were moved to Beverly Shores, the house’s residents had partially covered the large window panes with copper cladding and replaced other windows with smaller windows that could be opened up in warmer weather.

The interior of the House of Tomorrow was largely altered and in disarray by the time Indiana Landmarks stepped in. According to Putre, “Inside, the original modernist cabinetry and finishes had been replaced with 70s kitsch, walls had been added, and a Scandinavian freestanding fireplace from the 60s had been installed. A tenant who worked at a seafood restaurant had glued hundreds of clamshells to one of the original walls.” While much of the home’s interior very little resembled the house’s original designs from 1933 and “34, the structural frame of the house was overall in good condition. According to Barnes, “They [Keck and his designers] didn’t have the formulas we have today – what

201 Ibid.
202 Ibid.
203 Ibid.
kind of steel size can carry certain loads. They overdesigned just to be on the safe side.”

Thus within the current state of the house the frame and central support core are strong enough to allow the contractor to relatively easily install a new heating and cooling system. As Barnes is currently working on the house, she has stated that she feels like the house’s design is practically enough where she would like to move her family into the home year around upon its completion [See Fig. 39 and 40].

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Figure 39: Top Left and Right: Front and rear view of the House of Tomorrow, ca. 2005. Bottom Left and Right: Comparison of the kitchen in the House of Tomorrow from 1934 and 2005.
While just a decade before, it appeared that the Century of Progress model homes were going to be lost forever, though with the collaboration of the NPS, Indiana Landmarks, and those leasing and repairing the homes, it appears that they have a bright future. These model homes are the product of what designers and builders hoped Americans would call home in the years to come out of a decade looking for hope in the harshest economic depression in American history. They are also a connection to America’s architectural past and standing monuments to America’s ingenuity and progressive designs.

The Armco-Ferro, Cypress Log Cabin, Florida Tropical, House of Tomorrow, and the Wieboldt-Rostone Homes were constructed as model houses for the 1933 Century of Progress World’s Fair and moved to Beverly Shores soon after the fair ended. Each home demonstrates the use of different construction materials, and building technologies. These five homes also demonstrated early American Modernism with European influences in residential design. The largest impact of the model homes presented at the fair was how

![Figure 40: Top Left: View of the top interior floor of the House of Tomorrow, ca. 2005. Top Right: Exterior view of the House of Tomorrow starting renovation work, ca. 2010. Bottom: Exterior view of the House of Tomorrow, ca. 2014.]
residential design and construction could incorporate new technologies and materials to create a better living environment with cheaper housing costs. Though the future of the model homes did not look certain as they became part of the Indiana Dunes National Lakeshore in 1966 and fell into disrepair due neglect and the lack of funding to maintain them.

With the goals set by the National Historic Preservation Act of 1966, the model homes were listed on the National Register of Historic Places and the National Park Service formed alliance with the Indiana Landmarks Foundation to ensure their preservation. With the partnership of the National Park Service and Indiana Landmarks, a leasing program was established to allow private individuals to lease the houses long-term with little or no rent. In return for the lease, the residents have maintained the houses and have spent their money and resources to bring the homes back to their former glory from the 1930s. In the process of repairing and maintaining these historical homes, the residents have also secured the historical link of the 1933 World’s Fair and the visions of what designers hoped the future would look like during the start of the Great Depression.
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