

## Robie House: Innovation created through design thinking



Figure 1.0 - Robie House (Rossiter, no date)

Design solves problems and transforms the world. However, as time passes, design has shifted away from improving people's lives. Instead, it positioned itself at the centre of consumerism, creating smaller and more disposable items that drive consumption and damage our planet. The original purpose of design is to bring change through different approaches and provide a better life to people. To do so, "design thinking" skills are essential. Frank Lloyd Wright is an individual who employed genuine design thinking skills and stimulated innovation,

thus influencing architecture history; his masterpiece, the Robie House (Figure 1.0), evidences this. The Robie House is an architectural landmark that symbolises the transition from classical European architecture to Modernism in the present day. At the time of its construction, the Robie House exerted a tremendous influence on European architects, functioning as a catalyst for Modernism. Robie House was commissioned by Frederick C. Robie, built in the Hyde Park neighbourhood of Chicago, Illinois, and completed in 1910. Robie was an engineer and the CEO of a bicycle manufacturing company; he thoroughly knew what he wanted from the House and realised that Wright could only construct it to his specifications (Mooney-Melvin, 2008, p. 4). Robie requested Wright:

I wanted rooms without interruptions. I wanted windows without curvature and doodads inside and out. I wanted all the daylight I could get in the House, but shaded enough by overhanging eaves to protect me from the weather. I wanted sunlight in the living room in the morning before I went to work and I wanted to be able to look out and down the street to my neighbours without having them invade my privacy. I certainly didn't want a lot of junk, a lot of fabrics, draperies and whatnot or old-fashioned roller shades with the brass fittings on the ends in my line of vision gathering dust and interfering with window washing (Frank Lloyd Wright: The Robie House, 1975).

Wright employed various design thinking techniques in the Robie House to make the House more than what his client had been expecting. The House is widely regarded as the finest exemplar of the Prairie School, the first architectural style that was distinctly American. It was designated a National Historic Landmark on November 27, 1963 (NPS, 2010) and was included on the first National Register of Historic Places list, published on October 15, 1966 (UNESCO, 2019).

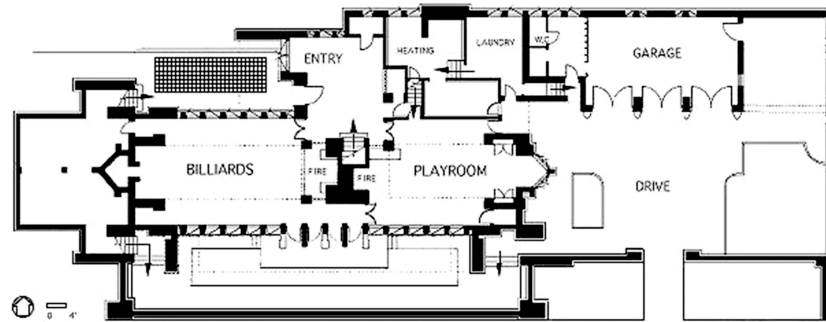


Figure 2.0 - Robie House Ground Floor Plan (greatbuilding.com, no date)

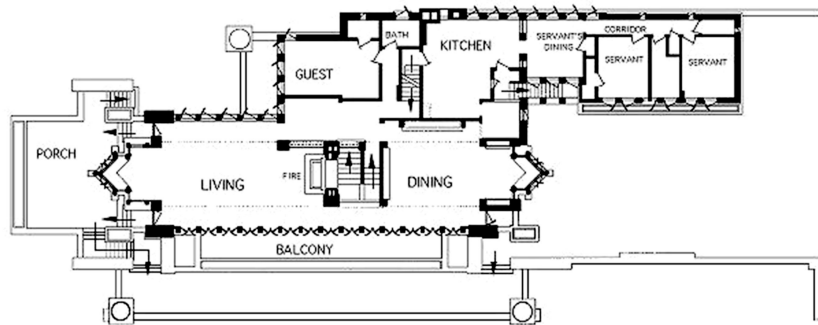


Figure 2.1 - Robie House First Floor Plan (greatbuilding.com, no date)

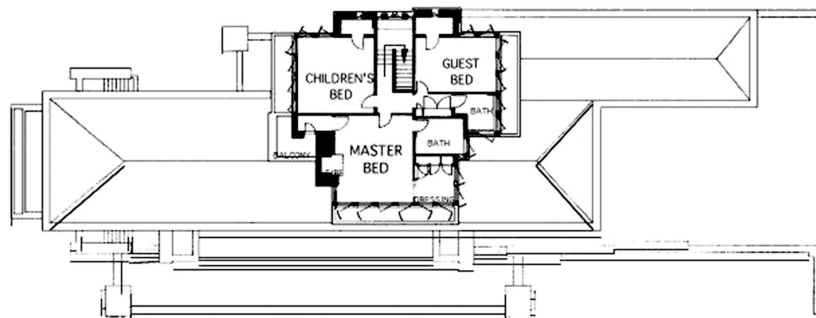


Figure 2.2 - Robie House Second Floor Plan (greatbuilding.com, no date)

The foundational value of design thinking is rooted in human-centred design, which integrates technology and economics while beginning with questioning what humans need or might need to make life more enjoyable and make technology valuable and usable. Human-centred design is more than just good ergonomics (Brown, 2009). Wright pursued a human-centred design approach while considering Robie's house requirements, making the human scale the reference point. When designing the Robie House, Wright took an approach that contrasted highly with conventional western architecture, which was deeply rooted in structure and geometry. The Robie House is a three-story building with a rectangular floor plan measuring 60 feet by 180 feet. The first floor (Figure 2.1) houses the living and dining rooms, while the top floor (Figure 2.2) contains the bedrooms. The children's playroom and billiard room occupy the ground floor (Figure 2.0). The kitchen, servants' quarter and garages are located in a separate block attached to the House. The floor plan of the Robie House is significantly different from other residences of its time, as its entry is tucked away on the ground level behind the dominant south facade of the building rather than opening directly onto the street (Estoque, 1987, p.40). In the film *Prairie Style*, architect Barry Hobin described one of Wright's main contributions to modern architecture: rethinking the House's organisation. At the time, Victorian houses were composed of segmented and separated rooms; he began to pull these apart and open up the spaces, connecting them to one another. Eventually, he developed the prairie house, where he moved the fireplace to the centre of the House, freeing up the entire roadside of the House for windows (1999). These characteristics in the plan are clearly shown in the Robie House, the outer walls of the dining room and living room are shared, but the "wall" that divides the two rooms is a freestanding fireplace (Brooks, 1979). Another feature of Wright's design thinking manifested at the Robie House is the rearrangement of levels based on the program's privacy. As we see in the section (Figure 2.3), Wright designated the upper level of the House as private space and the lower part as public and functional space. This design clearly shows his consideration for the client's request.



Figure 2.3 - Robie House Section (greatbuilding.com, no date)

Wright asserted that buildings should be designed to be in harmony with their environment, and the Robie House serves as a notable illustration of this idea. Wright deliberately chose materials for Robie House to integrate it with its surroundings. Predominantly masonry construction, with reinforced concrete, enabled cantilevered and overhanging rooflines to give the building its iconic horizontal profile. Wright's signature element, red-tinted Roman brick, created a contrast between the warm brick and the lighter-coloured stone used for the building's base (Mooney-Melvin, 2008, p. 5). Light also played a crucial role, with horizontal bands of windows wrapping around the building to allow ample natural light and create a sense of privacy. Deep overhangs provided shade, while carefully curated views of the surrounding landscape created a visual connection between indoors and outdoors, central to Wright's design philosophy (Frank Lloyd Wright Trust, no date). In sum, the House's utilisation of material and light culminates into a single element: the fireplace. The fireplace is the central element that serves as the House's focal point. This part alone is the architectural device that Wright used to draw the exterior materials into the interior, providing a connection between the occupant and the exterior. Wright conceived houses as living

organisms, with the fireplace being the central, life-giving element (Lloyd Wright: *The Robie House*, 1975). From this small, light-emitting fireplace/chimney, the building geometry reaches out towards its surroundings, attempting to marry the prairie landscape while simultaneously providing a sense of warmth as a shelter from nature.

Roger Martin, a business school professor at the University of Toronto, introduces design thinking as beginning with integrative thinking, which is the ability to synthesise opposing ideas and constraints to create new solutions (Brown, 2009). During the period of intense experimentation and innovation in American architecture, Frank Lloyd Wright deeply immersed himself in the values that were uniquely American. Drawing inspiration from the vast prairies of the United States, which differed drastically from the landscapes of Europe and from Japanese architecture, which had utterly distinct features, Wright developed his designs and propelled them forward. He was at the forefront of the movement that sought to create a new style of architecture which was distinctly American and embodied the nation's unique character and cultural identity. The Prairie School style, of which the Robie House is a prime example, was marked by its use of horizontal lines intended to evoke the vast expanse of the American prairies. Apparently, Robie House does not show any of the "destruction of the box" characteristics; however, the strong grammar of this building, which is so profoundly rooted in Robie House, is a horizontal line that powerfully expresses the prairie landscape. Wright used horizontal design elements extensively in the House, creating a sense of unity between the building and the surrounding landscape. The horizontal lines were also used to create a sense of continuity throughout the House's interior, with each space flowing seamlessly into the next. At Robie House, what was remarkable was that he aimed to change the life of his clients to come closer to nature spontaneously through his design. Design is no longer being viewed primarily as a means of consumption; instead, design thinking is beginning to be

explored for its potential to enable participation (Brown, 2009). A better view and privacy are fulfilled by placing the living room on the first floor. Furthermore, the low ceiling and array of windows encourage clients to appreciate the scenery outside rather than the interior, creating a simultaneous connection to nature.

Frank Lloyd Wright, widely regarded as a visionary, was a man with a deep passion and love for architecture, evident in his native design thinking skills. He was a devoted artist who strived to attain the highest value through his work and was unafraid to break away from European-derived architectural forms to create a new style that would eventually influence generations of architects to come. The innovative features of his designs, such as the use of horizontal lines, open floor plans, and integration with the natural environment, have had a significant impact on the field of architecture and can still be observed today. Wright's design thinking was an unconventional tool and often involved exploring different ideas and creating unique solutions, all in pursuing positive change and bettering people's lives.

Despite being commissioned to design the Robie House for a single client, Wright's masterpiece has become a landmark in the evolution of humankind's architecture. The prairie school style of architecture, of which the Robie House is a prime example, marked a new era in design, emphasising openness and integration with nature. Wright's contributions to the modernist design movement have left an indelible mark on the world of architecture and will undoubtedly continue to inspire future generations of architects and designers.

## References

Brooks, H.A. (1979) 'Frank Lloyd Wright and the Destruction of the Box', *Journal of the Society of Architectural Historians*, 38(1), pp. 7–14.  
DOI: 10.2307/989345

Brown, T. (2009) *Designers - think big!* [video]. Available at: [https://www.ted.com/talks/tim\\_brown\\_designers\\_think\\_big?utm\\_campaign=tedspread&utm\\_medium=referral&utm\\_source=tedcomshare](https://www.ted.com/talks/tim_brown_designers_think_big?utm_campaign=tedspread&utm_medium=referral&utm_source=tedcomshare) (Accessed: 14th February 2023).

Estoque, J. (1987) 'Heating and Cooling Robie House', *APT Bulletin: The Journal of Preservation Technology*, 19(2), pp. 38–51. DOI:10.2307/1494160

*Frank Lloyd Wright: The Robie House* (1975) BBC2, 5 April.  
Available at: <https://youtu.be/r7nJ9EYFvFc> (Accessed: 10th February 2023)

Frank Lloyd Wright Trust (no date) *Frederick C. Robie House*.  
Available at: <https://www.flwright.org/researchexplore/robiehouse> (Accessed: 14th February 2023).

GreatBuildings.com (no date) Available at: <https://www.archdaily.com/60246/ad-classics-frederick-c-robie-house-frank-lloyd-wright> (Accessed: 14th February 2023).

Mooney-Melvin, G. (2008) 'The Robie House: An Inspirational Design', *The Wittenberg History Journal*, 37, pp. 4-8.

National Park Service (2010) *National Register of Historic Places*. Available at: <https://npgallery.nps.gov/NRHP> (Accessed: 14th February 2023).

*Prairie Style* (1999) Directed by Katherine Jeans [DVD].  
Ottawa: Sound Venture Productions.

Rossiter, T. (no date) Robie House [Photograph].  
Available at: [https://architecture.uchicago.edu/locations/robie\\_house](https://architecture.uchicago.edu/locations/robie_house) (Accessed: 16th February 2023)

UNESCO World Heritage Centre (2019) *The 20th-Century Architecture of Frank Lloyd Wright*. Available at: <https://whc.unesco.org/en/list/1496> (Accessed: 14th February 2023).