Though it was built more than ten years after he opened his architecture firm, the Gehry Residence was the architect’s first work to attract widespread attention. As his home, it was also his first project for which he did not have a client to please, which gave him the freedom to explore ideas about different materials and to take big risks. At this point in his career, Frank Gehry couldn’t afford to build his dream house, so the project began with a modest two-story bungalow in Santa Monica that had been found and purchased by his wife at an affordable price. Though he decided to leave the house itself intact, Gehry also wanted to do something with it, something that would put his mark on it before moving in. In his words:

“I became fascinated with creating a shell around it [that would] define the house by only showing parts of the old house in an edited fashion…. I began to engage the house in a dialogue by cutting away from it, exposing some parts and covering up others.”

Gehry wrapped the house in layers of unfinished, frugal materials, including corrugated metal and chain-link, which reflected his relatively limited means at the time. This also allowed him to tap into a fascination with everyday materials that had begun when he was a child spending time in his grandparents’ hardware store. Both corrugated metal and chain-link were considered ugly industrial fixtures in the L.A. landscape, and, inspired by contemporary sculpture, Gehry embraced the challenge of proving that art could be made out of anything, even chain-link.

To open the interior space, he poked glass structures through the exterior of the original house, as seen in the accompanying drawing. As a result, a large glass cube appeared lodged between the old and new fabric of the house, flooding the kitchen with light and framing views of the sky and trees above. Such intruding fragments evoked the disorienting angles of Cubism, and Gehry has said:

“We were told there were ghosts in the house... I decided they were ghosts of Cubism. The windows...I wanted to make them look like they were crawling out of this thing. At night, because this glass is tipped, it mirrors the light in...So when you’re sitting at this table you see all these cars going by, you see the moon in the wrong place...the moon is over there but it reflects here...and you think it’s up there and you don’t know where the hell you are...”

When talking about the house’s design, Gehry also references the sense of movement in Dada artist Marcel Duchamp’s Nude Descending a Staircase and the unfinished quality of Abstract Expressionist artist Jackson Pollock’s paintings, which Gehry says look as though the paint was just applied. The resulting modest and casual appearance makes the house appear “thrown together,” an effect that required a great deal of work and planning to realize.

Architectural historians and critics described the project as a house trapped within a foreign body, or dressed up. To some it seemed transitional, perpetually incomplete, with the means of construction and process exposed for all to see. The interior spaces were opened up and the plaster was stripped away from the walls to expose the wooden frame beneath, which gave the interior a jarring sense of process and movement, what Gehry calls a “sketch quality.” The spaces between the exterior of the old house and the interior of the new structures enclosing it created spaces between the two that were both outside (of the original house) and inside (of the new one), and looking into the windows of the old house from those spaces resulted in a surreal effect. Skylights and glass floors allowed light from above to filter down into the lower level of the house, filling it with light.

The house became Gehry’s laboratory and his showroom, drawing both praise and derision. Neighbors were shocked and angry; one tried to sue him, another attempted to have him arrested. There were protests and poor reviews from the press. One critic even took to walking his dog in Gehry’s yard, encouraging it to defecate there in protest.
Though controversial, the house attracted important clients, which gave Gehry the freedom to work on grander projects than the modest homes he had designed up to that point. A second renovation of his Santa Monica home, in 1991–92, was undertaken to accommodate the changing needs of the Gehry family and included the addition of a lap pool, the conversion of the garage into a guesthouse, and increased landscaping for privacy. Some of the exposed wood framing was removed or covered over, and many lamented a loss of edge. However, for Gehry and his family, the house became more open and comfortable, and the increased finish, nicer materials, and greater coherence reflected Gehry’s new identity as a starchitect on the rise.

DISCUSSION PROMPTS

• If you could design changes to your current home, how would you change it? What would you add and why?

• If you could design your own home, what features would you want? What would it look like?

• Compare the Gehry Residence to the architect’s later work, the Walt Disney Concert Hall. What do they have in common? How do they differ? Some areas to consider include materials, purpose, location, client, style, and general appearance.

• Can you think of any other examples of artworks that utilize unattractive, common objects? In your opinion, how successful are they in transforming these objects into something meaningful and/or beautiful?
Frank Gehry
Gehry Residence Axonometric Projection, Santa Monica, California, 1977–78
Graphite and crayon on tracing paper
36 × 48 in. (91.5 × 122 cm)
Collection Frank Gehry, Los Angeles
© 2015 Gehry Partners, LLP, image courtesy Gehry Partners, LLP
The Lewis Residence was one of Frank Gehry’s most elaborate projects that was never constructed. He compared the process of designing the home to an unrestricted fellowship which allowed him to explore materials, forms, and new technologies in a way that profoundly influenced his later work. The Lewis Residence project began when the client, Peter B. Lewis, a wealthy insurance executive, avid art collector, and museum patron, attended a lecture given by Gehry in 1985. In his lecture, Gehry spoke about the construction of his own home and how he had built it around an existing house. Lewis had recently purchased nine acres of woodland in a Cleveland suburb on which there was a house he wanted to modify and expand. Intrigued by Gehry’s lecture, he called the architect the following day and hired him to design a $5 million renovation.

As part of the design process, Gehry met with Lewis every three or four months to present new ideas, and the project quickly expanded beyond the scope of a home renovation. The existing house was torn down, and the design for a new, much more expansive building project began. In accordance with Lewis’s requests, the new home would include a commercial-grade kitchen, a dining room, a living room, two master bedrooms, a study, a conservatory, an art gallery, an indoor lap pool, two guesthouses, staff quarters, a large pavilion overlooking a nearby golf course, and a five-car garage. To realize this plan, Gehry called on artist and architect friends to collaborate. Architect Philip Johnson, known for postmodern architecture (for example, the Glass House, an early example of the use of industrial materials such as glass and steel in home design), designed a guesthouse for the project; Maggie Keswick Jencks, an expert on Chinese gardens, created landscape elements; and artist Richard Serra designed an entry gate, which later evolved into his Snake sculpture for the Guggenheim Museum Bilbao. In addition to these design elements, both Serra and Larry Bell submitted proposals for various sculptures that would be installed throughout the property.

With these elements in place and Lewis’s encouragement and financial backing, Gehry pursued increasingly more avant-garde and experimental possibilities. Boxy structures were replaced with organic forms inspired by fish, horse heads, and birds (some of which ended up in Gehry’s later projects). To unite these elements, he incorporated draped forms inspired by sculptures of hooded monks that he had recently seen in France at the fourteenth-century tomb of Philip the Bold (see Resources page for a link to images of these sculptures). For his architectural model, Gehry followed the lead of seventeenth-century Baroque Italian sculptor and architect Gian Lorenzo Bernini, who was said to have dipped fabric in plaster and then arranged it to form a stable model for his sculptures. Gehry used velvet painted with melted beeswax to create flowing shapes that were then scanned and printed using a 3-D printer. Gradually, the original house evolved into a 35,000-square-foot village constructed of plaster, stone, metal, and glass, all unified by this draped form. Two large reflecting pools, bronze figures, a tower, and a light and water sculpture provided the finishing touches. Models suggest a final design reminiscent of Gehry’s groundbreaking Guggenheim Museum Bilbao and Walt Disney Concert Hall, both of which were completed after the Lewis project ground to a halt.

In 1992 the Gehry office began its adoption of a new computer program, which finally made possible the dramatic forms Gehry had envisioned. At that time, the Gehry office was working on its fourth design for the Lewis Residence. By late 1993 they were on their seventh. This rapid succession of proposals was finally halted after a decade of planning when the ballooning budget nearly eclipsed that of the Guggenheim Museum Bilbao. In the end, rather than building the complex, Lewis requested that Gehry make him a final model of the design for display purposes.

Although the project was never realized, the process of designing the Lewis Residence allowed Gehry the time and support critical to the integration of new technology. The results would prove instrumental to the completion of some of his most iconic future projects.
DISCUSSION PROMPTS

• Gehry worked on the Lewis Residence for years, but it was never built. Have you ever put a lot of work into a project that never came to fruition? How did you feel about it afterward? Do you think it's possible to feel that although something did not work out, it was still worthwhile? How can you take steps to feel good about efforts that don’t work out as planned?

• For this project, Gehry was inspired by animals, fourteenth-century sculptures, and Baroque modeling techniques. Collaborate with fellow artists in your class to draw a two-dimensional model for a building that brings together ideas based on various sources of inspiration—from different subject areas, like math, science, history, or art—to create a cohesive design.
Frank Gehry

*Lewis Residence Model, Lyndhurst, Ohio, 1985–95*

Paper, wood, Plexiglas, and foam core

20 × 115 × 60 in. (51 × 292 × 152.5 cm)

Gehry Partners, LLP, Los Angeles

© 2015 Gehry Partners, LLP, image courtesy Gehry Partners, LLP
The Guggenheim Museum Bilbao, a Spanish museum housing modern and contemporary art, was a breakthrough for Frank Gehry when it opened in 1997, bringing him increased fame and public commissions from around the world. In 1990, when plans for the museum began, Bilbao—a proud seven-hundred-year-old port city in northern Spain—was struggling with widespread unemployment resulting from the decline of shipbuilding and heavy industry. The museum was conceived as part of an economic-redevelopment plan for the area, and Gehry was charged with creating an expansive museum that simultaneously harmonized with the surrounding nineteenth-century architecture and created an iconic new face for the city.

He began by choosing a waterfront site that would both honor the city’s shipbuilding and port city past and connect Bilbao with the river that had sustained it for so many centuries. A public plaza on the south side of the museum extends out into the old city of Bilbao, connecting the complex with its urban surroundings. On its north side, the building extends over the Nervión river with a riverside promenade. The building’s swirling, undulating curves resemble the vast hulls of the ships that used to loom over the city from its ports; while the museum’s shimmering surface, resulting from its titanium exterior, echoes the river’s reflective surface.

Gehry knew early on that he wanted a metal exterior that would respond to the changing light conditions of Bilbao. Because it often rains there, he also needed a material that was leak proof and didn’t rust, but would glisten in the rain and was not prohibitively expensive. He had never used titanium before; it’s typically used in much smaller applications that exploit its strength (like airplane parts and golf clubs), and it was usually too expensive for such large-scale use. However, a sudden drop in prices allowed the architect to obtain a large quantity of the material. The titanium used for the museum exterior is not much thicker than several sheets of paper stacked together, and yet these thin metal sheets are actually more stable than stone, which erodes in pollution. They are also relatively flexible, which was critical for the molding of the sheets into the sweeping curves called for by Gehry’s design. The thinness of the metal allows it to flutter and quiver in strong winds, reinforcing the sail-like effect of the museum’s exterior, while the steel structure of the building underneath, together with layers of insulation, keeps the gallery space inside peaceful and calm.

The Guggenheim Museum Bilbao was the first Gehry building to fully utilize the computer program CATIA (Computer Aided Three-Dimensional Interactive Application), without which the sweeping organic forms would not have been possible. The program simplified the museum’s construction by providing digital data that could be used in the manufacturing process—including the measurement and placement of each metal bar in its internal structure—which helped control costs and keep construction within its strict time frame. CATIA also enabled Gehry to scan his handmade models so that the gestural qualities of his drawings could be captured in built form for the first time, preserving their energy and vitality on a monumental scale. The effect is remarkable. From across the river, the museum looks like a fantastic ship, sails full, sweeping into the center of a somber nineteenth-century town.

In order to avoid overwhelming the smaller, older surrounding buildings without relinquishing either size or grandeur, the museum is set slightly below “city level.” Unlike other museums, where visitors must climb to lofty sites high above their surroundings, at the Guggenheim Museum Bilbao visitors descend a flight of stairs to reach the main entrance. As visitors approach, the stairs gradually narrow until visitors reach the limestone and glass entrance and step into the expansive, light-filled atrium, towering 160 feet tall and filled with vertical, curved, and twisting forms. The space has been compared to a luminous cathedral, and it forms the centerpiece of the museum’s interior.

Twenty galleries of varying sizes and configurations are arranged in three levels around the atrium. A network of walkways, stairs, and glass elevators connect the galleries, offering numerous views of the vast and complex interior space and controlling the flow of people through the museum. Ten of these galleries follow a conventional rectangular gallery plan and are intended for the display of more traditional art. The remaining galleries deviate from conventional gallery
spaces. Intended as a challenge for contemporary artists (who might create art to fill the space), these galleries complement the unconventional forms and often monumental scale of the contemporary sculpture for which the museum is known. For instance, the vast “boat gallery,” a tribute to Bilbao’s long tradition of shipbuilding and trade, showcases a permanent installation, *The Matter of Time*, created in harmony with the space by sculptor (and Gehry associate) Richard Serra.

Once completed, the museum’s effect was almost immediate. During the first three years of operation, the Guggenheim Museum Bilbao was visited by almost four million people, many of them tourists. Within a year of its completion, the money spent by museum visitors on hotels, restaurants, shops, and transportation generated enough revenue in taxes to more than offset the cost of the building. This complete turnaround created a worldwide demand for what has come to be known as the “Bilbao Effect” and led to an increased awareness of the potential power of architecture to change the fate of a city. The museum not only raised Gehry’s profile, it also catalyzed a city’s cultural and economic rebirth.

**DISCUSSION PROMPTS**

- Can you think of other iconic buildings that are strongly identified with their locations (like the Guggenheim Museum and Bilbao or the Eiffel Tower and Paris)? How do those structures fit in their respective settings?

- If you could travel to see any building in the world, which would you most like to see and why?

- Think of a place (a room or a building) that you consider important. How does its architecture signal that this space is important or worth noticing?

- How would you design a distinctly L.A. building that echoes its surrounding landscape and contains some allusion to the history or cultural identity of the city? Quickly sketch your design, incorporating some of the surrounding landscape.
Frank Gehry
_Guggenheim Museum Bilbao, design sketch of the riverfront elevation, Bilbao, Spain, c. 1991_
Ink on paper
9 × 12 in. (22.9 × 30.5 cm)
Collection Frank Gehry, Los Angeles
© 2015 Gehry Partners, LLP, image courtesy Gehry Partners, LLP
Today Gehry’s Walt Disney Concert Hall is an architectural icon of downtown L.A., but it came close to never being built. The entire process, from initial design to completion, spanned fifteen years and during that time the project underwent numerous transformations and challenges, ranging from earthquakes to technological difficulties. The hall was first proposed by Walt Disney’s widow, Lillian, in 1987, and the next year Frank Gehry was selected from an international pool of architects in a design competition. As the winning architect, he was charged with creating a concert hall that would harmonize with its surroundings, be a focal point in downtown L.A., reflect the warmth and friendliness of Southern California, and have excellent acoustics.

The project faced challenges from the beginning. Once Gehry had won the commission, he had to scrap his initial plan for a small village-like group of limestone buildings and start from scratch, working with the Japanese acoustics company, Nagata Acoustics. A year after receiving the commission, Gehry’s office expanded from a staff of thirty to seventy-five in order to handle an increase in business, and then in 1992, the firm began using new computer programs as part of its practice. Construction experienced a setback in 1994 when the destruction caused by the magnitude 6.7 Northridge earthquake highlighted the need for a more stable and more expensive steel-brace frame. The resulting budget problems, together with competing demands from the County, the Music Center, the Philharmonic, and the Disney family, finally brought the project to a standstill. Construction was shut down, and it was unclear whether it would ever be revived until 1997, when Gehry’s Guggenheim Museum Bilbao opened to great acclaim. L.A. took notice, and funds were raised to resume construction.

With the Concert Hall, Gehry’s personal goal as an architect and music lover was to design a building that expressed the joy of music both in its aesthetics and its acoustics. The sweeping curves and arcs of the structure’s exterior evoke a sense of movement and flow reminiscent of music. Though Gehry initially resisted constructing the exterior of steel because of its industrial associations, the potential for glare during the day, and its overly dark appearance at night, budget constraints limited his options for materials and led him to seek an innovative solution.

This was achieved when Nippon Steel, a Japanese firm, developed a method for wire-brushing each panel of steel in multiple directions to achieve a luster that eliminated the glare but stayed luminous at night. These wire-brushed panels were then laser-cut and shaped in L.A. before installation on the building’s exterior. The resulting effect is a building that both stands out from its surroundings and reflects them, thereby creating an impression that is simultaneously singular and harmonious.

In an effort to make the Concert Hall’s otherwise striking exterior more inviting, Gehry created a transparent, glass-enclosed ground floor with a light-filled lobby opening up to the sidewalk. Inside, steel columns encased in warm wood create the illusion of a stylized glade of trees, while immediately outside the space, terraces and gardens disrupt the concrete city landscape. This combination of transparency, innovation, and greenery contributes to the structure’s overall impression as a gleaming and inviting centerpiece of the city.

Whereas the exterior and the lobby of the Concert Hall are expansive, Gehry wanted the concert space to have a feeling of intimacy and focus. Acoustics were the priority, but the hall also had to harmonize with the signature-Gehry exterior and evoke the same feelings of movement and musicality. After touring top-tier concert halls and consulting with countless musicians, Gehry worked with acoustical consultant Yasuhisa Toyota to shape the hall’s sound through its spatial design and the materials used (see Resources page for a link to more information on the acoustics). While the acoustics demanded that the hall be a box shape, Gehry found a way to incorporate the billowing curves of the building’s exterior into its walls and ceiling. The bowed strips of the ceiling evoke billowing sails and are precisely spaced and contoured to optimize acoustics and create a drapery-like illusion, which also references traditional theater ornamentation.
Discussion Prompts

• How would you describe your ideal environment for listening to music or viewing art? What is it about that environment that is conducive to the appreciation of art?

• For the exterior of the Walt Disney Concert Hall, Gehry managed to make a hard metal, steel, appear soft and organic. Look at different architectural materials, like steel, wood, and stone. How would you describe them? How do they make you feel? How could you change the form of a material (geometric, organic, etc.) in order to change a viewer’s impression of that material?

Using scaled-down models and new technology, Gehry and his team determined how much direct and reflected sound would reach each seat in the hall. These details worked together to ensure that every audience member, at every performance, has access to the best sound quality and sight lines. This has made music accessible to Concert Hall attendees of all ticket levels, and the Concert Hall itself a beacon of the joys of music for all of Los Angeles.
Frank Gehry
*Walt Disney Concert Hall Project Drawing, Los Angeles, California, 1991*
Ink on paper
9 × 12 in. (22.9 × 30.5 cm)
Collection Frank Gehry, Los Angeles
© 2015 Gehry Partners, LLP, image courtesy Gehry Partners, LLP
Frank Gehry
Walt Disney Concert Hall—Project Model; Los Angeles, California, 1989–2003
Paper, stone, and metal
22 × 69 × 60 in. (55.9 × 175.3 × 152.4 cm)
Gehry Partners, LLP, Los Angeles
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