

Fallingwater, 1935–1939

Fallingwater is a man-made dwelling suspended above a waterfall. It offers an imaginative solution to a perennial American problem: how to enjoy a civilized life without intruding upon the natural world. Especially in the United States, which had once possessed infinite acres of unspoiled land, technological progress almost always comes at the expense of nature. A long tradition of American landscape painting had developed partly to satisfy city dwellers with restorative glimpses of the countryside they'd left behind (see 5-A). With Fallingwater, Frank Lloyd Wright went one step further—designing a house nestled into a mountainside, with views that made the house appear to be part of nature itself.

Fallingwater was commissioned by Edgar J. Kaufmann, founder of a prominent Pittsburgh department store. To escape the pressures of business, Kaufmann and his family regularly left the city for their sixty-acre woodland retreat in the Allegheny Mountains. By 1935, the Kaufmanns' country cabin was falling apart, and Wright was invited to design them a new weekend residence. Kaufmann undoubtedly envisioned a house overlooking the most outstanding feature of the property, a mountain stream cascading over dramatically projecting slabs of stone. Wright believed that a country home should become part of the landscape. He studied the site from every point of

view before making the audacious proposal to build the house on the side of the cliff. The waterfall itself would be invisible from the interior but wholly integrated into the plan, with a stairway from the living room giving direct access and the rush of falling water always echoing through the house.

Wright had never been constrained by convention, but even for him, the design for Fallingwater is a stunning feat of invention and one of the most original and groundbreaking concepts in the history of architecture. A traditional country house would have been set back from the road on a manicured lawn with a pleasing view of the wilder regions that lay safely beyond its boundaries. Wright reversed that idea. Fallingwater, a large, low structure hovering like a boulder over the falls, seems almost as much a part of nature as apart from it. Every element of the architecture is meant to blur the distinction between the natural and built environments, and to integrate the residents into the out-of-doors. Deeply recessed rooms, fieldstone interiors, and unusually low ceilings create the impression of a cave—a private, sheltered space within the natural scheme of things.

If, through light and sound and structure, Fallingwater evokes the feeling of existing in the unspoiled American wilderness, everything else about it is unmistakably modern. The house is a marvel of twentieth-century technology. Although it proved impractical for all sorts of reasons, it was the architect's (if not the client's) dream house, and Wright would not permit a single alteration to his plan. The most striking element of the design—and the biggest engineering challenge—is the series of reinforced concrete terraces cantilevered above the rocky ledges and parallel to the natural lines of the site. Although firmly anchored in solid rock, the terrace platforms appear to defy gravity; Wright compared them to trays balanced on a waiter's fingers. Between the terraces are rooms with glass walls—transparent boundaries between inside and out. Walls not made of glass are built of locally quarried stone, and the massive, central fireplace is composed of boulders removed from the site to make way for construction but restored to form the hearth, the traditional heart of a home. As the distinguished scholar and architecture critic Ada Louise Huxtable has observed, the effect of Fallingwater “is not of nature violated, but of nature completed—a dual enrichment.”



16-B Frank Lloyd Wright (1867–1959), Fallingwater (Kaufmann House), Mill Run, Pennsylvania, 1935–1939. Courtesy of Western Pennsylvania Conservancy. © 2008 Frank Lloyd Wright Foundation, Scottsdale, Ariz. / Artists Rights Society (ARS), New York.

TEACHING ACTIVITIES

E = ELEMENTARY | **M** = MIDDLE | **S** = SECONDARY

Encourage students to study this house carefully, keeping in mind the land around it.

DESCRIBE AND ANALYZE

E

Why is this house called Fallingwater?
The house extends over a waterfall.

E | M | S

Have students locate the balconies, the man on the lower balcony, a vertical column of stone, and a vertical area of glass windows.

E | M | S

Ask which exterior materials on this house are natural and which are man-made.

The stone is natural, and the concrete, glass, and metal are man-made.

Notice how the textures of these materials contrast with each other. Describe the textures of the different parts of the house.

The glass is smooth and shiny and the rock is very rough. The concrete is gritty, but not as rough as the stone, nor as smooth as the glass.

M | S

How did Wright preserve the natural beauty of this site?

He made the house blend into the natural landscape by echoing the shape of the cliff and boulders. He built a large portion of the house from rock quarried on site. He did not plant large expanses of lawn, bulldoze the site to make it level, or cut down many trees.

M | S

To understand how cantilevers are balanced, have each student set a pencil on the desk so that the point extends over the edge of the desk. They should gradually push the pencil toward the edge of the desk until it begins to fall. Then have them put a weight such as a book or their finger on the eraser end of the pencil. How much farther can they extend the pencil over the edge with the weight on one end?

Ask students what parts of Fallingwater are cantilevered.

The horizontal balconies are cantilevered.

What part of the building appears to create the weight to hold them in place?

The vertical stone column fulfills this function.

M | S

Ask how Wright created an impression of a natural cave.

He deeply recessed the rooms under the balconies, used natural fieldstone for floors and walls that were not glass, and made the ceilings low.

INTERPRET **E | M | S**

Why might a city dweller enjoy this house? Imagine being on one of the balconies. What would you hear?

A retreat in the country would be a change of scenery for those who live in a city. From the balcony you hear the sound of the waterfall.

E | M | S

The Kaufmanns wanted a vacation home on their land. Why was the location that Wright chose for the house a surprise to them? Where would most architects probably have located the house to take advantage of the natural waterfall?

Most architects would locate the house to have a view of the waterfall instead of placing the house on top of it.

S

How is Fallingwater like a piece of contemporary abstract art from the twentieth century?

It's been simplified into basic, essential shapes without added ornamentation.

CONNECTIONS **Science:** ecology; physics
Mathematics: geometry

Literary Connections and Primary Documents: *Frank Lloyd Wright for Kids: His Life and Ideas*, Kathleen Thorne-Thomsen (elementary); *Silent Spring*, Rachel Carson (secondary)

Arts: architecture; Prairie Style; Modernism