"This Goodly Frame, the Earth"

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"This Goodly Frame, the Earth," from William Shakespeare, *Hamlet*, Act II, Scene 2.

To understand our world we structure it into vertical and horizontal components. The horizontal relates man to the world as he knows it; it relates man to man. The vertical describes the world and mankind in relation to the unknowns of what is "above" and what is "below." The horizontal is served well by logic; degrees of longitude and latitude position us exactly. The vertical calls on imagination; intuition and faith are our guides. The plan explains the horizontal; the section explores the vertical.

The symbolism of the horizontal opposes right and left, east and west. The sunrise signals birth; the sunset death. But the sensations of climbing and falling are more powerful than those of moving to the right or left, and the symbolism of the vertical holds a power that is called upon to represent supernatural forces beyond the scope of our understanding. God rules in heaven above us, Satan crouches below.

We likewise understand architecture in terms of horizontal and vertical. But whereas symbolically the vertical touches the ultimate limits of imagination, building can only imply these extremes. Building can extend horizontally without limit, but vertically it confronts gravity. It must bear on the earth, and height is limited by the capacity of physical structure. Our imaginations, however, have invented structures that can stretch up to another world. Gershwin's *Stairway to Paradise* leads to the same place as Jacob's ladder. Man has even tried to physically construct such a superhuman proposition, but no actual structure can reach those places that are located in our imaginations. The Tower of Babel was a doomed enterprise.

But accepting the physical limitation of building does not limit the desire for architectural form that speaks of ultimate meaning. We assign significance; we depict our imaginative constructs; we represent.

Whatever the specifics of the symbols, the earth and the sky are and always have been the powerful receivers of human projection, the lodging of elemental forces of a magnitude greater than mankind. Architecture is positioned between, linking earth and sky not only in a symbolic mode but physically protecting us from the elements and bearing on the stability of the earth. And this verticality is obviously akin to our own stance: head in the clouds, feet on the ground.

Bound to the earth, architecture establishes man's place in nature. Whether one understands a given topography as an active component of a three-dimensional composition or one focuses on a single window and its way of looking at the out-of-doors, one is observing the relationship of the man-made object to its natural context. And that relationship ranges from opposition, where lines are distinctly drawn, to fusion, where the edge between the "natural" and the "man-made" is artfully disguised. But even among buildings that appear to oppose nature, a telling diversity exists when one takes a closer look, and those buildings that retreat into the landscape do so in very different manners.

Consider the role of the natural terrain. The plans of major Greek sites are incomprehensible without understanding the underlying topography. Compare the plans of the Athenian Acropolis, or the Temenos at Delphi, for instance, with that of a Roman forum. The sculpted object perceived in the round – and perceived from a carefully choreographed sequence of positions on an irregular landscape – is the experience of the Greek site. The orderly alignment of enclosed volumes set on horizontal planes is that of the Roman.

Architecture is often called upon to do little more than articulate an existing natural condition. At the Campo in Siena, the enclosing ring of buildings rests on the same level but curves around a paved saucer of space that begins the descent that extends out into the Val d'Orcia beyond the bridge-like Palazzo Publico. The paving pattern of the Campo allows the form of the land to be read. The radial pattern emphasizes the fan shape of the whole, and, seen at eye level, the bands of stone that separate the brick sectors reveal the precise contour of the ground plane – steeper at the circumference, flattening to a gentler center – a form that reads more intensely of enclosure than a pure conical section.

The underlying topography of a city can be read often in unexpected ways. At Bath, for instance, the sinewy ribbons of terrace houses follow the horizontal contour lines of the slopes, so that the undulations of the land translate directly into unmistakable architectural form. Architecture and terrain work in concert at the Circus and the Royal Crescent. The plan of the Circus is geometrically precise: a perfect circle rests on a flat plane. The Crescent however forms a composite curve which bends open to the landscape, the sloped hollow of lawn cupped within the arc, reflecting in three dimensions the plan form of the housing. A correlation is developed between the shape of the linear housing mass and the specific contour of a sloped landscape, a contour made visible, incidentally, by the close cropping of the English lawn which drapes like a blanket over the irregular terrain and allows each modulation of light and color to be read.

Slopes provoke architectural response, but so does any land form of definable character. The Robie House is one of the most celebrated examples of a building that derives its very essence from the horizontality of the prairie, and the splendid spired mass of Salisbury takes on a surreal presence as it presses down on that great lawn that seems as flat as a bowling green. At La Tourette, Le Corbusier turns these tables. The cloister, which traditionally rests on a clear plane of earth, is dislodged and disordered. A horizontal datum is established by the top of the building, not its base which adapts to the irregular landscape. At this monastery all expected responses are distorted, while enough of the traditional monastery schema is retained to make these departures from the norm particularly poignant.

Of course the earth itself can be manipulated. The unsettling form of Le Corbusier's Maison de Jeunesse in Firminy is finally resolved by the berm at the opposite end of the playing fields. The berm's mass balances the negative space created by the huge diagonal overhang of the building. Arne Jacobsen's use of berms in his Tom's Chocolate Factory outside Copenhagen may have been a device to shield the site from an unattractive neighbor, but the stepped berm itself reflects the long, low profile of the factory and extends the composition to include the landscape. These berms at Tom's Factory begin to have the same effect as the dykes of Holland, which replace the expected horizon and produce an uncertainty about one's position in space.

Architectural form responds to the form of the natural terrain and that terrain is modified in response to the architecture. A symbolic bond is established between the two. In terms of the transition from natural to manmade material, this bonding has traditionally been the role given to the garden, which constitutes a physical zone of mediation or connection. The garden may adopt the geometry of architecture, as at Vaux-le-Vicomte, or may simulate the undisturbed landscape, as at Stourhead, but in all cases nature is ordered by man. By extension, whenever one cuts a tree or plants a spade in the earth one is making a kind of garden.

The plan of Vaux-le-Vicomte shows the position of the chateau at the center of an axial composition of elaborate parterres. What can only be revealed in section, however, is the manipulation of the ground plane where slopes are introduced to distort perception, where water level occurs at a variety of elevations, where from certain points of view the distant building appears to stand on a base that is in the foreground. All of these manipulations effect a sense of eery dislocation, where those elements that we most depend upon to give us our bearings (horizon, water level) are rendered ambiguous; and we leave behind the normal assurances of the natural world and enter a conjured realm of artifice.

But in addition to acting as a physical linkage, the garden can also be used to establish a metaphorical context that includes nature as well as man. It can give physical form to an intellectual proposition wherein the opposing elements of artifice and nature, logic and intuition can be reconciled. At the Villa Lante, water flows from a grotto, its source at the edge of the *bosco*, by way of a sequence of increasingly architectural hurdles, to come to rest eventually in the precise parterres of rationality, symbol of the ideal city. The water has known both the waterfall and the basin, and whereas the Renaissance patron would have understood this journey as one of achievement, he would have had to acknowledge that the source of the energy was in the world of intuition.

More attention is given to discussing modern architecture in terms of itself, to the compositional finesse of individual buildings or building groups, than is paid to the relation of these buildings to their settings: how specific buildings appear within their landscapes, how they engage the earth, and what image of nature they present from within.

It is at the scale of the individual house that the Modern Movement has produced its masterpieces. Here the consistently high quality of invention that is demanded can be sustained if one is to approach each component of a design problem *de novo*. At the scale of the house, a building remains relatively small against the generous backdrop of nature; the figure never threatens to become the ground. And in isolation, the adoption of an unfamiliar language is no handicap. The very abstraction of that language can comment with eloquence on the physical reality of nature.

In this respect two modern houses come to mind: Fallingwater by Frank Lloyd Wright and the Villa Mairea by Alvar Aalto, both dating from the late thirties. Both are villas in the

traditional sense, that is they are country retreats, second houses for clients who spend most of their time in cities. However, they are "modern" villas, free to be set deliberately into the landscape without the need for their own elaborate support systems. They are not small communities like the villas of Pliny or Cardinal Barbaro. They are not Victorian country houses built to accommodate the retinues of the owner's family and of its guests as well.

Gone are the elaborate parterres, the vegetable gardens, the livestock, and the outbuildings that supported an operation of a much larger scale. And with them go the traditional buffers between house and countryside. Here house confronts nature directly. These are not dwellings that developed over generations on a particular piece of land. Each of these houses was designed for a wealthy, supportive client and was willfully placed in the landscape. Any relationship with the land is by choice, not necessity. The appearance of the building in the landscape and the view onto the landscape from within the building are under the architect's complete control and reveal an attitude about nature and our place within it.

These houses are particularly revealing of chosen attitudes, because they represent the first generation of country houses built without the traditional constraints of climate, construction techniques, and dependence upon a rural support system, all of which affected the building's relationship to landscape. Steel and reinforced concrete effectively eliminated the need for the bearing wall, thus the degree of enclosure became a conscious choice – an aesthetic decision – and the architect could sidestep the formal implications of gravity. Technology had overcome the need to limit windows to retain heat or to accommodate the availability of glass. The automobile made possible the isolated house. Food could be bought and brought, it did not need to be grown. One elected to retreat into the countryside for pleasure.

Neither house has a formal garden with elaborate borders or geometric lawns, but if we expand the meaning of garden to include all landscape that has been restrained to act as an intermediary between building and "raw" nature, then each villa has its garden – sometimes appearing completely "natural" but administered none the less.

At Fallingwater, Wright's intention was to wed the house to a very specific piece of land. The Kaufmanns had had a long association with Bear Run and knew the land intimately. They had built a previous camp on the site, which they had enjoyed for fifteen years before the second building was considered. They were used to swimming and to fishing in the stream, and as the house was fitted in and around the rocks they knew so well, the boulder that was Mr. Kaufmann's favorite spot for sunning became a foundation for the chimney and the hearth stone of the living room fireplace.[3]

3. Donald Hoffmann, *Frank Lloyd Wright's Fallingwater: The House and its History* (New York: Dover Publications, Inc., 1978), p. 3ff.

The house at Bear Run is rooted in the lower register of Boullée's Temple. The cleaving of the earth over time by the stream creates a site that lies low, recessed. This is not a heroic site. The place speaks of intimacy, of organic growth, a place where a seed might germinate. We are low, protected, embraced by the land. And we hear the sound of water, sometimes strong, sometimes weak, but ever present.

This wooded glen appears to be completely natural, but it has been carefully tended, lower limbs pruned, unwanted undergrowth removed, so that the trees, the rhododendrons, the ferns can all be enjoyed for their particular shapes but together form the image of the forest. Even before Fallingwater was planned, the Kaufmanns were engaged in a program of conservation, cutting out dead chestnuts, planting spruce to fill in the openings in the forest, replenishing the trout.[4] A certain artifice is at work, but an artifice that is necessary if one is to reveal the character of the land. This is critical to Fallingwater, because one's gaze is rarely guided upward to the sky, but is constantly led out horizontally into the darks and lights of the forest.

4. Hoffmann, *Frank Lloyd Wright*, p. 10.

Driving down to Fallingwater, as the Kaufmanns would have done, one passes through miles of the rolling farmland and wooded hills of western Pennsylvania. It is a gentle and welcoming landscape. On the property itself the driveway winds through oaks and thick rhododendrons higher than the eye, until it curves around a low hill to run parallel with the flow of the stream. Shortly one catches sight of the building at some distance ahead and slightly lower, resting gently against the opposite slope, horizontal bands within the trees. In the first instant one does not see the full profile of the house. This is a building that unfolds, that reveals itself in stages, like the forest, and discloses secret places as you come to explore it.

Fallingwater is smaller, more intimate and delicate than photographs suggest. The wide angle lens tends to exaggerate the scale of the building and makes it appear to thrust energetically out of the natural surrounding. On the contrary, the house rests within the landscape, and for all its dynamic composition, it seems very much at peace. The famous view from below the falls is from the one position where the building appears imposingly dramatic.

The house reads as an asymmetrical pattern of horizontal lights and darks, where roof planes do not align with floor planes, and deep shadows, like those below the rock ledges, obscure supports. The house appears to fuse with the land, as the distinction between nature and artifice is not drawn between earth and structure but between the stone and concrete elements of the building. Wright has separated those two aspects of the vertical, lightness and weight, assigned to each an architectural equivalent, and then recomposed them, not one above the other but interlocked. Even the "artificial" concrete, despite its geometric shape, does not appear alien to the context. The height of the parapet bands is similar in dimension to the faces of the rock ledges in the stream below, and the concrete is painted the strongest color in the range of the buff sandstone. Neither white nor black is used, only colors that belong to the earth.

The highest edge of the building is stone, but it is not read in silhouette against the sky. Like the bottom edge it merges visually with the land behind. The concrete parapets and roof planes, however, are sharply defined and read light and uniform against a dark and variated background. But even these planes are gently rounded at top and bottom to soften the crispness of the edge, allowing a delicate modulation of color toward the brightness of the sky and toward the darkness of the shadow. The gravel stop of the roof planes is held back from the rounded edge so that it is unnoticeable.

The experience of Fallingwater is of upward and downward impulses balanced by strata of space. The insistent horizontals calibrate one's vertical movement. At first sight of the house, one's eye level is approximately the same as that of the upper roof. Walking downhill to the bridge, the perceived relationship of the cantilevered horizontals is constantly adjusting. Crossing the bridge, one's eye is drawn down to the sculpture of a mother and child by Lipschitz that stands on the wall between the pool and the stream, a figural representation of birth, of growth, of nurturing. Surrounded by water, the figure of the mother with her arms outstretched is placed so that her back is protected by the rock foundation wall, not unlike the siting of the house itself.

The bridge is at the lowest elevation in the entrance sequence, and the rising movement that follows continues to the entrance and up through the house. Beyond the bridge the ground rises on the right to form a cliff that deflects the drive to the left towards the entrance. One senses a rise in grade, but actually this change of grade is negligible. The lines of stratification on the face of the cliff slope down to the left, exaggerating the sense that the drive is rising in that direction. Passing through the entrance gallery, one's eye is again drawn to the south light and around to a crevice in the rock foundation walls where steps drop abruptly to the pool – a last view of water before stepping indoors.

Within the building the pattern of upward movement refers to the climbing of a hill. The experience is not abstracted, because the reference is to the actual cliff face, and the climb is more literally represented by shifting the runs laterally as they rise toward the light and view. Directly inside the entrance door one can catch a glimpse up to the right through the entire stair sequence, but a burst of strong south light pulls you to the left up to the living room. Though the change of level is slight, these three steps are very important, for they lift away from the slope, breaking your connection with grade and carrying you to a level where it feels natural to be among the branches of trees. The notoriously low ceilings over the windows (in the bedrooms they are only 6'- 4") induce a pressure that is only released by the view beyond. From a sitting position the ceilings are more comfortable and the heads of the windows are well above eye level. This is particularly effective in the living room where the band of windows above the south window seat reveals tree trunks and rhododendron bushes that appear close enough to touch, though they are on the other side of the stream. The sense of elevation is exaggerated by the light that is reflected up into the living room from below through the hatch above the suspended stair. In summer the hatch opens to a welcome flow of air, cooled by the stream, which circulates through the living room. But the equilibrium of the house is really maintained not by the extended horizontal view into the woods, but by the compensating balance of the open terraces, where finally one can see up to the sky and break the downward insistence upon earth and water.

Wright uses many devices to blur the distinction between inside and outside, in order to reinforce the grounding of the house. The line between earth and construction is indistinct. Door sills are recessed to be flush with the paving stones inside and out. Glass is set directly into stone, and the glass itself is startlingly clear, having been fired three times. The corner mullion is eliminated where the glass is fixed and mitered, and at the casements it disappears completely when the windows are opened. Interior planters obscure the sills of the window, so that indoor flowers join visually with the foliage outside, and a moss garden runs uninterrupted below the glass of the guest wing bridge. The trellis above both interior hatchway and exterior terrace receives and admits light equally indoors and out, making the intervening window vanish.

In this manner the house at Bear Run fuses visually with the landscape, but physically all contact with the land is made through the heavy stone walls. Within the "abstract" concrete portion one moves freely out of the house but not onto the land. There are a great many doors, but they lead to terraces where one is lifted among the trees, but is unable to touch them.

Aalto's Villa Mairea stands in a clearing within a dense forest. Like Fallingwater it is surrounded by trees, but in this case they are the dense evergreen pines of Finland and not the deciduous oaks of Pennsylvania. The forest is dark throughout the year, so that the black-green of the branches and the red-brown of the trunks form a constant background. One can follow the rhythmic march of the tall, straight pines into the distance, but because the trees are so thick, one's gaze is soon lost in the shadow, and the forest appears dense and impenetrable.

Whereas the approach to Fallingwater draws one's attention down into a hollow and to the stream at the bottom of that hollow, one moves up to the Villa Mairea, and the eye follows the masts of the trees as they stretch to the sky. Also in contrast to Fallingwater, Aalto's house frames a courtyard, capturing a piece of nature within its boundary. Making a clearing is of necessity a first act, and in the courtyard Aalto retains this feeling of carving a primitive dwelling place out of an alien forest. At Fallingwater Wright projects the house into the volume of space formed by the valley. Aalto enfolds nature within a domestic precinct, framed in part by the building and in part by an artificially formed earth berm. This soft-edged, gentle berm, a positive shape balancing the negative of the pool, replaces the rectilinear stone

wall that appears in earlier schemes, letting nature engage in the definition of the intermediate space. The berm is a limit less hostile to the pines but also less decisive – more tentative and equivocal – less defensive against the dark mysteries of the forest.

Aalto interweaves the natural materials of the forest with the machined forms of a technological culture. He is as comfortable with the language of the axe as with that of the machine shop. The trees that surround the villa are critical both to its composition and to its materiality. Wood is used throughout, although it is not the primary building material. On the exterior its vertical patterning, especially on the entrance facade, continues that of the trees through which one sees the house. Peeled wooden poles find their way onto the building as does sod, and the hard edges of machined pieces are found in the landscape. The pool takes an irregular shape but one that has been carefully drawn and sharply edged with a band of cut stone. Steel light fixtures sprout out of the bushes like giant, fantastic wild flowers – each different – their delicate stems recalling the trunks of the trees behind them. The house delights in unexpected variety. The attitude is different from that of Wright, who distills extreme qualities of nature, the solidity of rock, the lightness of a leaf, and expresses them in juxtaposition. Aalto weaves the many strands together while maintaining their independence. He does not draw the unadulterated materials of nature into the house as paving stones or moss garden. Nothing appears to be a happenstance of nature when it has in fact been constructed, but the references back and forth between natural and man-made are so numerous and interwoven that the line between them vanishes. The eye constantly darts to make unexpected connections. Trees with their bark stripped look like pipe rail, polished wood floors have the sheen of tile.

Aalto threads the trees of the forest through the building. Poles that are bound in groups to support the entrance canopy take up the irregular rhythm of the trees and lead the eye to the door. Within the building they move through the entrance hall, guiding one to the left along a curved free-standing wall. Above this wall and through this set of poles one sees a cluster of similar poles surrounding the stair. As one moves, these poles are seen to ripple past one another as trees do when one walks through the woods. At the window that looks out to the garden beyond, the corner of the fireplace mass is cut back in an Arp-like arabesque to tease the edge between light and dark; and also, perhaps, to allow someone entering the room to see the poles of the stair against the trees without the intervention of an architectural framing edge that would clearly separate inside from outside.

Wright paves the floors and terraces of Fallingwater with the stone of the site, but whereas the hillside drops abruptly to the stream, the floor levels lift free from the ground and stretch out like branches into the air above the water. Ironically, Wright effectively dissociates the rooms of the house from the earth itself. Aalto, on the other hand, rests these spaces solidly on the ground. From the driveway and the forest floor, one ascends along a path through the building to the higher lawn of the courtyard. This rise in elevation, of approximately six feet, is reinforced by a sequence of paving materials of increasing refinement. The gravel drive that curves up a slight grade to the house is met by steps of naturally cleft stones, set in an irregular pattern, grass growing between them. On the rough stones before the front door rests a single smooth rectangular stone step, which in turn leads to the slate of the vestibule. At this point one stands in an intermediate place – between earth and dwelling, between rough and smooth – a zone represented on the exterior by the vertical band of slate that separates the white brick from the stone and which extends both above and below the sill of the entrance door.

Within the building one mounts four more steps to the main floor; the materials change from slate to tile, and from tile to polished wood. Each increment is carefully gauged to reflect the transition from wild forest to civilized dwelling and, within the dwelling, from more

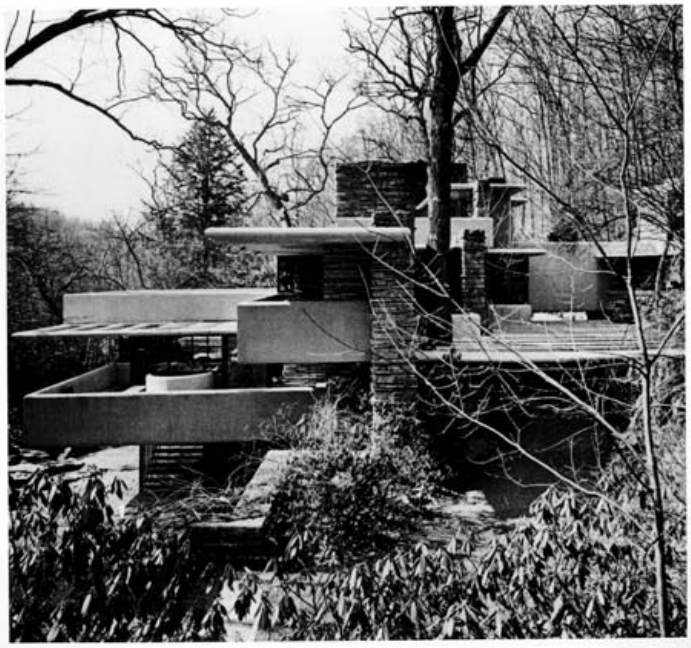
public to most private. Carpet is introduced on the stairs that continue up to the bedroom floor. These open steps have the airiness of ladder rungs, not to be confused with those steps that are of the earth.

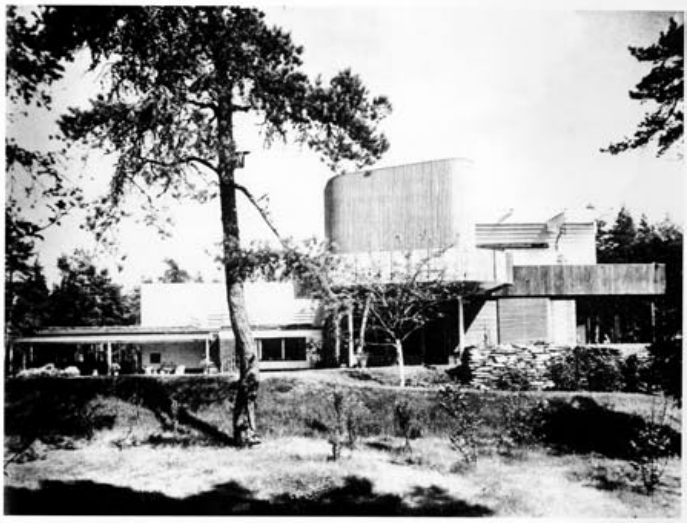
Outside, a transformation of natural forest to artificial building rises clockwise around the courtyard. Trees pass to artificial berm, to a rustic fence that seems to grow out of the ground, to a wood lattice gate which gives over to the more substantial but roughly laid-up stone wall, to the sauna pavilion with its sod roof. The wood construction changes to steel as the building turns the corner, though it still continues to support a sod roof. At this point the balance has tipped from man manipulating nature to nature invading the man-made. The blue tiles on the dining room wall continue the deep shadow line of the covered patio and interlock with the white stucco where the rough stone steps slip behind a white steel column. The sod roof gives over to a railing of steel and wood that appears, from the ground, to be hastily thrown together because of its seeming irregularity. From here around to the living room windows, trellises encourage vines to grow over the lower portion of the building, covering not only the edges of the windows but the base of the building itself. And finally the full two-story garden facade of the villa is presented. The upper floor is a clear white block lifted off the earth. However, as the eye moves on to the curved volume of the studio which caps the composition, a free stroke against the sky, the abstract white of the brick is gone to be replaced by vertical wood strips, returning to the texture of the forest.

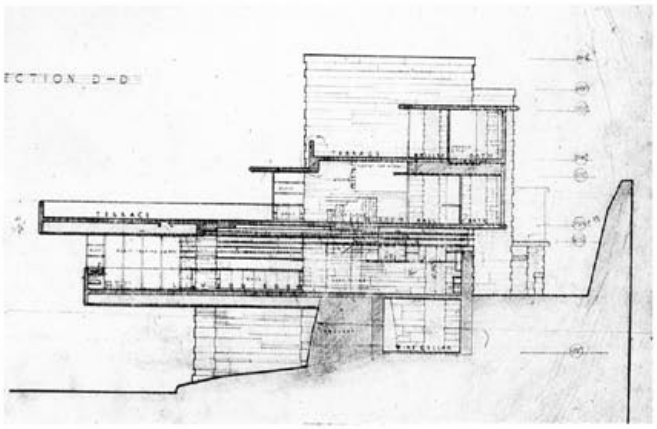
The vertical manipulation of each building results from its particular lockage with the land – physically, visually and metaphorically. However, the metaphors are not neat. Both houses reject tidy analysis. Although the experience of rock dominates Fallingwater, and although one clearly climbs a hill within the house, the section drawing shows the building reiterating the general slope of the terrain but itself standing free of the cliff. The image of the section suggests a tree, rooted in the rock and branching into cantilevered terraces. The mixture of these two metaphors – the cliff and the tree – collides in the choice of stone paving for cantilevered terraces. And yet, although this decision may be disturbing in the abstract, the experience of the house overwhelms any such reservations. This is a house about emotion, not about rationality. The power of going down to water, of climbing rocks, of emerging mid-air, this power is irresistible.

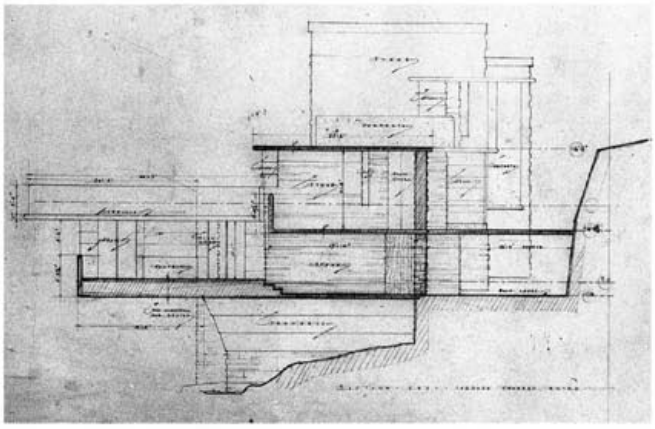
Fallingwater, in the hollow of Bear Run, never rises above the embrace of the earth. Within the house one climbs higher and higher, but stone is always under foot, and the architectural character of the upper floors is like that of the lower. Change occurs not from bottom to top but laterally as the building grows out from contained spaces to open terraces. The Villa Mairea, however, stands on high ground, and its architectural character changes as it climbs and finally lifts up from the earth. Whereas the public areas on the ground floor are porous, engulfed by vines and opening generously onto the courtyard, the private upper floor is contained and hard-edged, reached not by a continuation of the broad ground floor steps but by a narrow and delicate stair. But as with Fallingwater, ambiguity enriches implication, for this upper floor stands on its own ground, a sod roof, and within the courtyard one wonders whether one has reached a crest or is below the surface of the earth.

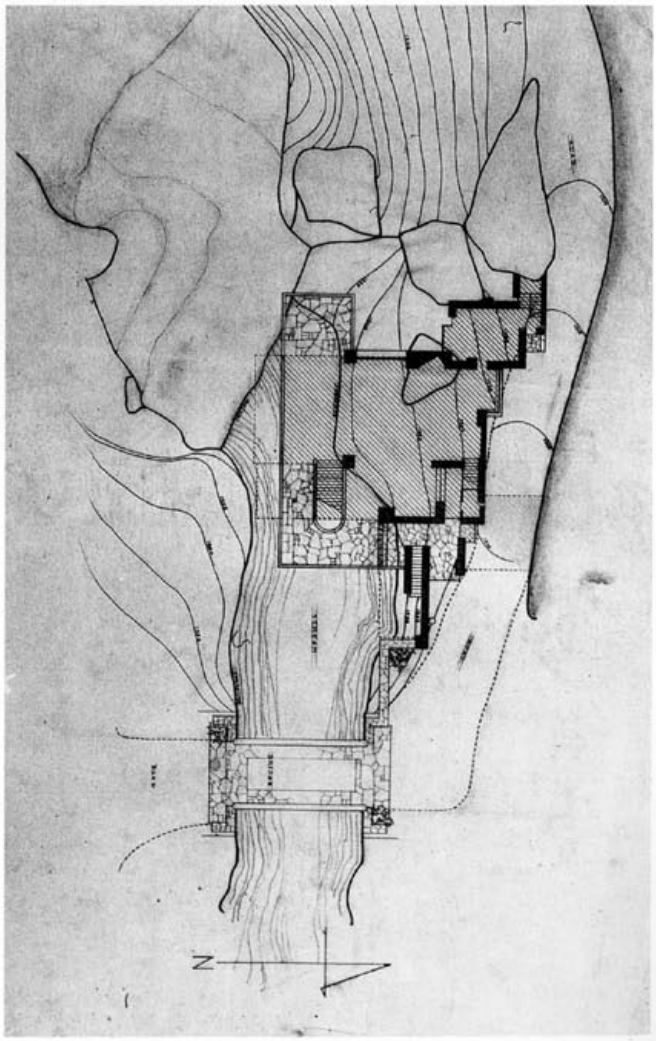
Fallingwater and the Villa Mairea are themselves like gardens in that they create controlled contexts within which nature and artifice can converse. Both houses appropriate the dominant natural characteristic of the site – at Fallingwater, the rock ledges, and at the Villa Mairea, the pines – and represent them in architectural terms. These surrogates mediate between the natural surrounding and the explicitly man-made elements of the building. And, while both houses intimately engage the land, both are able to lift free. They speak of depths and of heights, drawing nourishment from the earth yet striving for the freedom of the sky.







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