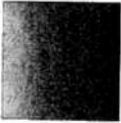


## 2

# INSIDE AND OUTSIDE



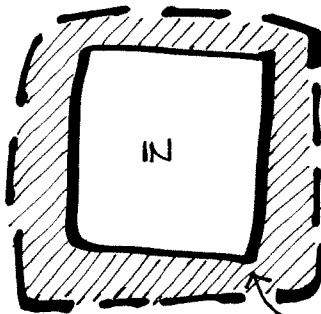
Inside and outside form an inseparable pair—you cannot have one without the other. When you create an inside, you automatically shape an outside. With each stroke, the designer of a building creates inside, outside and the relationship between them; architecture's primary role is to provide the requisite contrast of in/out, and then to link the two in a balanced relationship.

We need the inside to establish physical security and identity, and safety from nature's elements and society's demands. We need the outside to interact with the world and society, and to get nurturing inputs of sun, air and food. But the feeling of being in or out is not limited to being physically indoors or outdoors. In a forest you can feel very much inside; likewise, if your viewpoint is

from an empty adjacent dining room, you can feel very much outside a crowded kitchen.

What makes a place feel inside or outside? What does the host mean when, after taking your coat in the entry, he says, "Come on in"? Weren't you already in? When Frank Lloyd Wright visited Philip Johnson's glass house, he told Johnson that he didn't know whether to take off his hat or leave it on. And isn't it true that many spaces lack strength as either inside or outside places, and are neither here nor there? In cities, we long for the presence of nature, adding greenhouses and sliding-glass doors to our dwellings. In wilderness areas, the challenge is to tame the surroundings by establishing a solid interior feeling.

OUT



Link provides  
a transition  
between outside  
and inside

## Creating In and Out

Here we consider the four major tools that can be used to create the feeling of inside/outside. To make a space feel more interior, you can increase its concavity, give definition to its corners and edges, increase opacity, decrease its size and make it accessible through a series of layers. Conversely, to create a space more exterior in character, you can increase its convexity and transparency, and open it up. Let's look at these strategies.

## Concave and Convex Shapes

From any viewpoint within an architectural space, it is possible to look around in all directions and determine whether the space is essentially concave or convex. Here's a useful rule of thumb: The feeling of inside is increased by concavity; the feeling of outside is increased by convexity. A concave ceiling, such as a vault or simple peak, increases the feeling of in-ness, but an L-shaped living area feels more open and less cozy because of the convex angle of the wall projecting into the room. To increase the feeling of being inside, bend the walls so that they wrap around the occupants. Increase the feeling of being outside by thrusting the exterior walls outward.

and out form  
inseparable  
pair.  
chitecture's  
nary role is  
eate in and  
and to link  
he two by a  
transition  
contrasting  
whole.

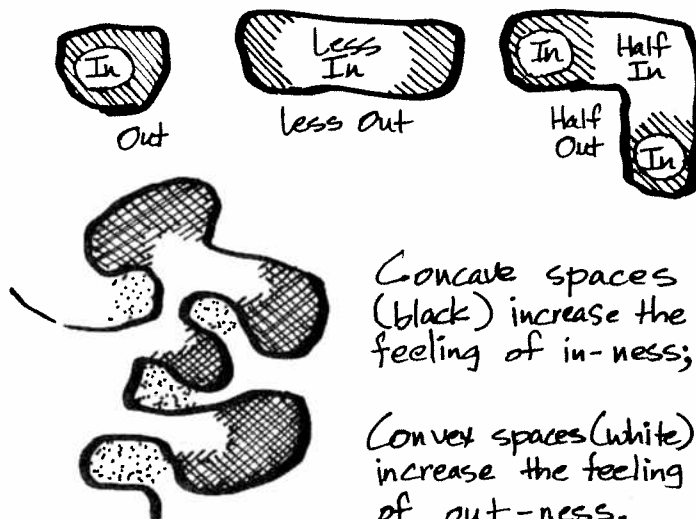
## Defined and Undefined Boundaries

If the corners or edges of a space are clearly defined, we will feel we are inside something. If we cannot perceive the boundaries of the space, we'll feel less enclosed.

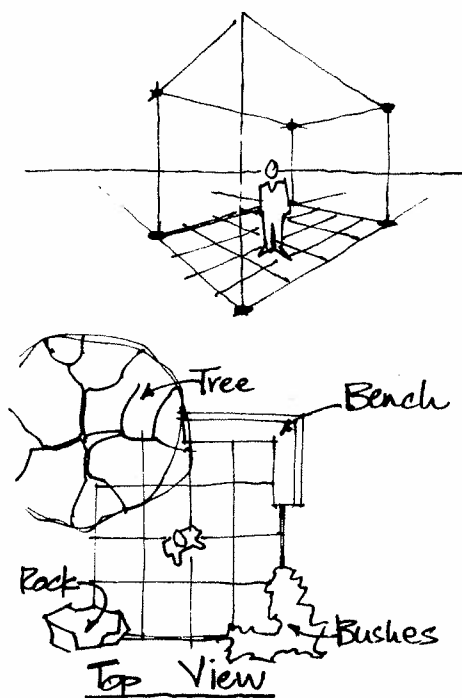
An outdoor space can be made to feel more interior simply by defining its corners, boundaries and limits more strongly. An interior room can be made to feel more spacious and open to the exterior by rounding off its corners and edges.

## Opaque and Transparent Surfaces

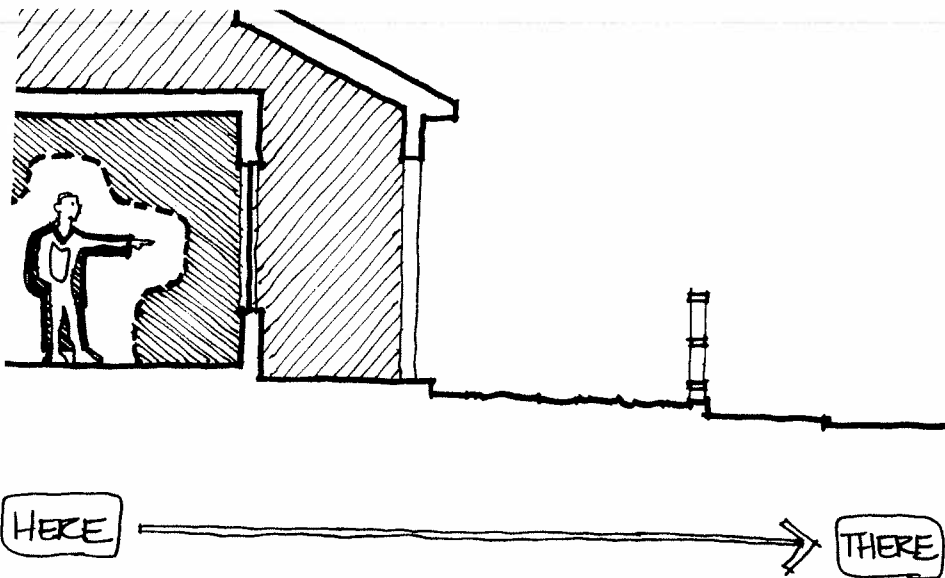
The feeling of inside is increased by opacity; the feeling of outside is increased by transparency. To illustrate, imagine yourself within a cube that has surfaces covered with varying proportions of brick and glass. You can see that the greater the number of opaque surfaces, the more interior the space will feel. Take the same space, add a pitched roof and imagine it rendered in two contrasting opacities — first as a stone cairn with walls 2 ft. thick, and second as a delicate pavilion formed of a few poles and a little lath. Because the stone building buffers all outside stimulation, its occupants will feel more inside than in the pavilion, which is almost completely open.



Define in and out by using varying degrees of concavity and convexity. Concave spaces (black) increase the feeling of in-ness; convex spaces (white) increase the feeling of out-ness.



Defining the boundaries of a space makes it feel more interior.



*The personal  
sense of a  
here/there axis  
can organize  
one's spatial  
experience of in  
and out.*

### The Here/There Axis

The architectural dimension of in/out can be related to a personal sense of in/out. Imagine an axis of in/out, starting with your body at the center and extending radially outward into the world. The drawing at left illustrates a scale of size in that a room is bigger than a body but smaller than a neighborhood. Because a small room is closer to our bodies, we tend to feel more inside in smaller spaces, less inside in larger spaces. This is perhaps because our sense of inside begins with our bodies, then extends to our clothes and from there proceeds outward to the surrounding spaces.

This diagram has another feature: As you go outward from room to building to yard to street, the sense of moving outside will be increased if each level is marked with a transition, barrier or gate, creating onion-like layers of in/out. Likewise, the sense of inside will be increased if the building is comprised of layers proceeding from entry to public area to living room to alcove. These layers encourage a sense of depth — how deep in or how far out.

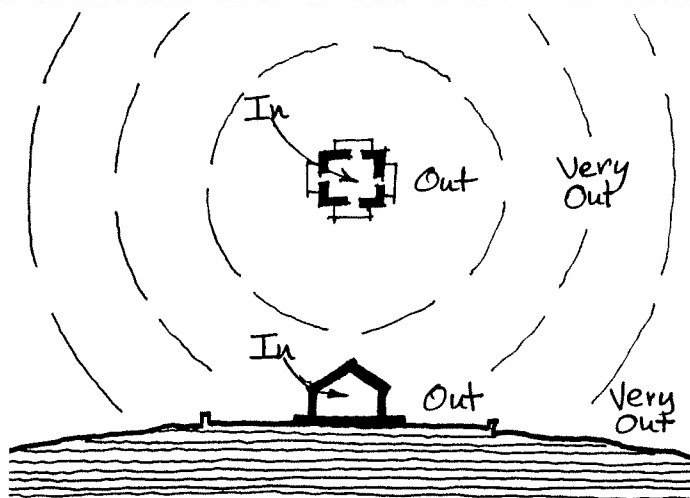
## Linking In and Out

Now let's consider the ways in and out can be linked to form a contrasting whole. Here are strategies we find useful in our work.

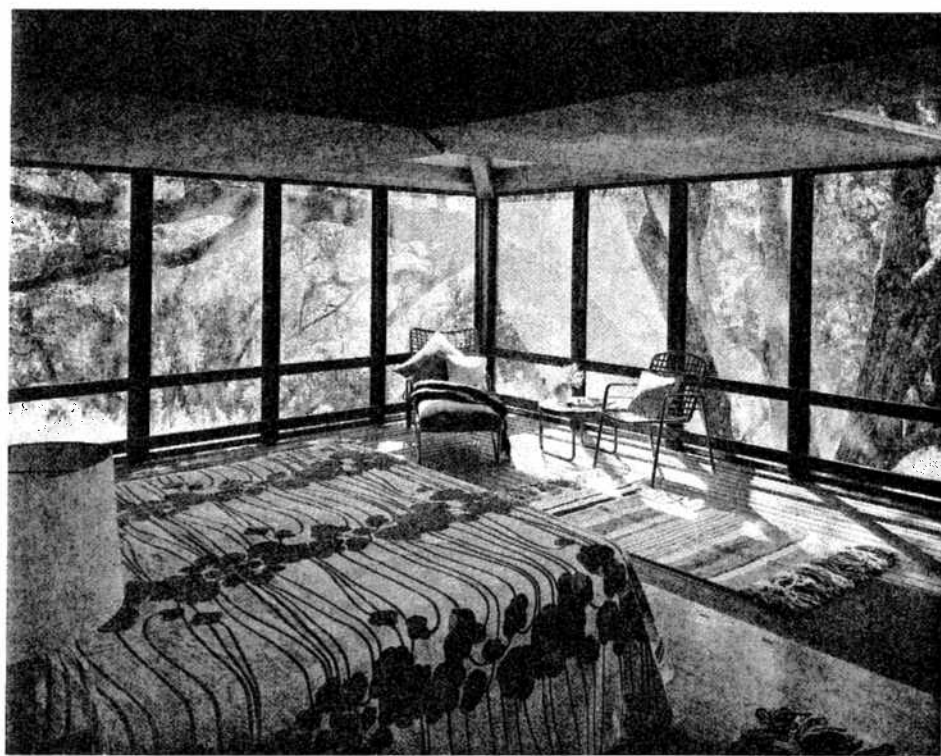
### In Stands Alone in a Field of Out

This is the simplest strategy of all. The building stands fortress-like, isolated in the landscape, creating a central focal point around which nature radiates outward. As Rudolf Arnheim writes in *The Dynamics of Architectural Form* (Berkeley: University of California Press, 1977; p. 215): "...a tower on a hill creates an accent around which nature may organize itself in a comprehensible order." Obviously, this technique works only for fairly isolated buildings. In/out are linked here through radial geometry (see p. 60), by distance to the centered building. That land near to the building—with its porches, decks and tended gardens—links the inside with the wilder land beyond.

A variation of this technique on smaller sites is to design the house so it appears to be a platform floating in nature. An example is shown in the photo at right. This approach can be used even on tight city lots, where the house "floats" at the center of a front and rear yard.

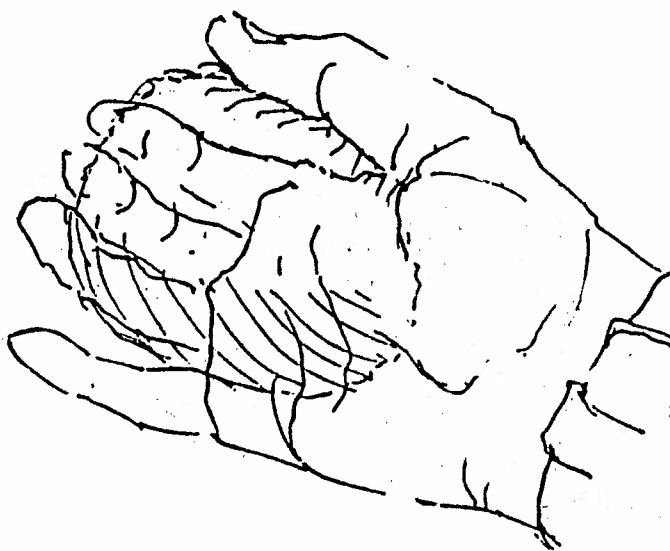
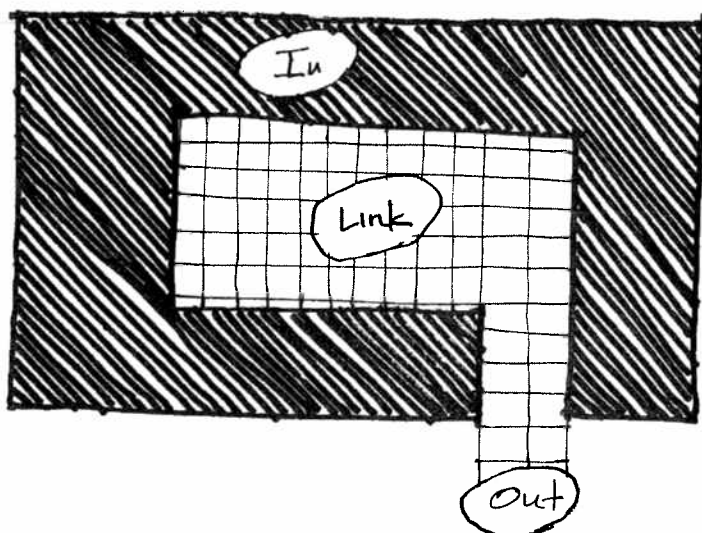


*In stands alone  
in a field  
of out.*



*The Budge house by Charles Moore and William Turnbull (1966) is a simple pavilion—an inside that, with its panel walls raised, seems to float in a sea of outside. (Photo © Morley Baer.)*

*In cradles out.*



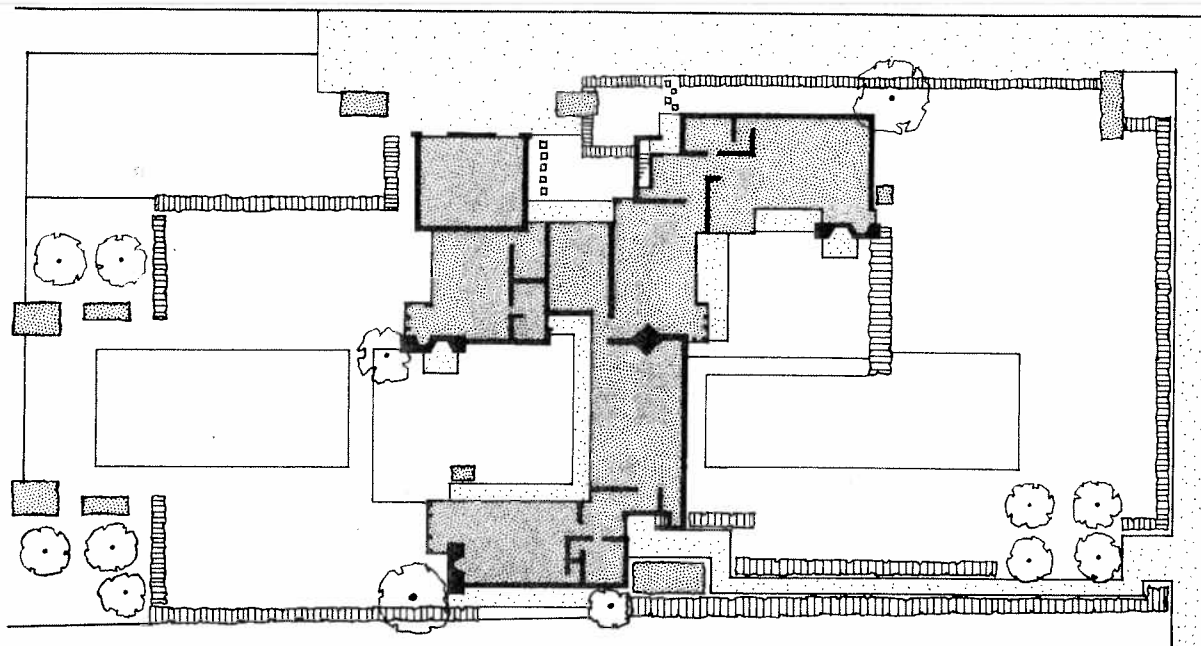
### In Cradles Out

This is conceptually the opposite relationship: Out stands alone in a field of in. It is a courtyard scheme, where the building wraps around the edge of the site, capturing a piece of the outdoors. This captured space becomes the link between the building and the world beyond. In cities, courtyard schemes may be stacked one against another to form blocks; in the country, such buildings often stand alone, as in the strategy shown in the drawing at left, where, paradoxically, the outside court is experienced as the most interior place.

### In and Out Interlock

The previous two strategies stress separateness and oppositeness. At the other extreme, in/out can interlock so evenly and democratically that neither one dominates. Those exterior spaces that are strongly shaped by the building become the link between the inside and the world beyond.

A characteristic of such compositions is that they tend to possess figure/ground reversal, like the black-and-white Gestalt diagrams that may be seen as both a white figure on a black ground and vice versa. Indeed, designers searching for this



*In this site plan of the Rudolf Schindler house in Los Angeles (1922), interiors and exteriors interlock to form a strong weave of in/out.*

interlocking quality in their site plans will often squint at their early sketches to see if they flip in precisely this way. This may seem like a formal quality that only architects see on the drawing board, but it can lead to buildings that, like the Schindler house (whose plan is shown in the drawing above), are experienced as a strong weave of in/out.

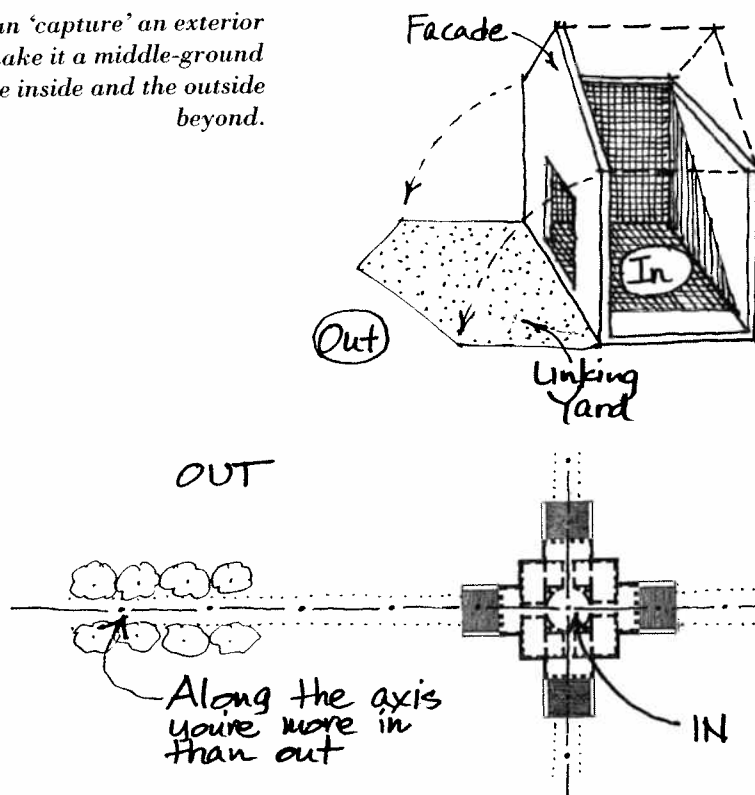
### **Inside Enfronts Outside**

This strategy and the ones that follow are based on geometrical relationships. If a building establishes a geometrical order, then that order will radiate outward into the landscape. When we are outside, we can

be made to feel the geometry of the inside; when inside, we will sense the building's order radiating out into the landscape beyond.

The interior of a typical single-family dwelling is linked to the outer world by front and rear yards; neither yard is as outside in the public sense as the street. These yards are defined by fences, paths and plantings, but most of all, by the building facades that enfront them. Think of the yard as a room, one wall of which is the enfronting exterior facade of the building. The yard-room can then be developed as a space whose plan organization and volumetric proportions are related to the defining wall. In this way, the front and rear facades of a building

*A facade can 'capture' an exterior space and make it a middle-ground link between the inside and the outside beyond.*



*The building's strong symmetry organizes the outside around it. If you step off the axis, you are really outside. But on the axis, you are on a conceptual carpet leading to the building, and in this sense you are less outside than if you were at an unrelated point.*

can be made to capture their yards, taming them, and thus forging a link between pure outside and pure inside. Such yards can be thought of as transformations of the front and rear facades of the building projected down onto the ground. The dimensions of the yard space are thus proportional to the dimensions of the facade. A tall facade will establish a deep yard, a wide facade suggests a wide yard. The tall, squarish facades of Old West storefronts created strong, deep front spaces.

Adjoining townhouses can create especially strong yards because the definitions of nearby spaces are cumulative—the spaces don't have a chance to dissipate at the gaps between buildings. In effect, there are no side yards to reduce the impact of the front yards.

### Axes of Symmetry

If a building establishes an axis of symmetry, residents will sense being on-axis or off-axis as they stand outside facing the building. Similarly, when inside a symmetrically organized room, inhabitants will feel the axis extending beyond the room, out into the surrounding landscape. Thus the axes of symmetry link inside with outside.

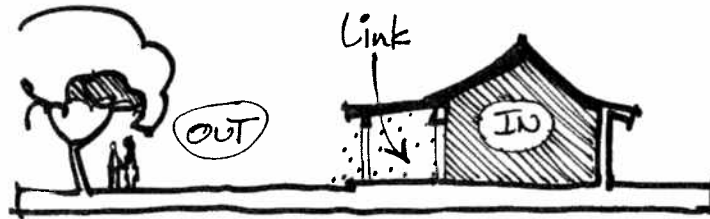
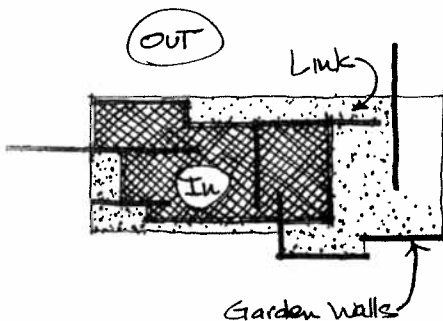


## In-Between Places

Porches, patios and arcades, which are neither in nor out, connect the inside and the outside. Examples on a smaller scale include the area next to the building under a deep roof overhang, or the outdoor space defined by an interior corner of the building's exterior walls. On an even smaller scale, a deep doorway or window ledge can convey a sense of in-betweenness, linking inside and outside.

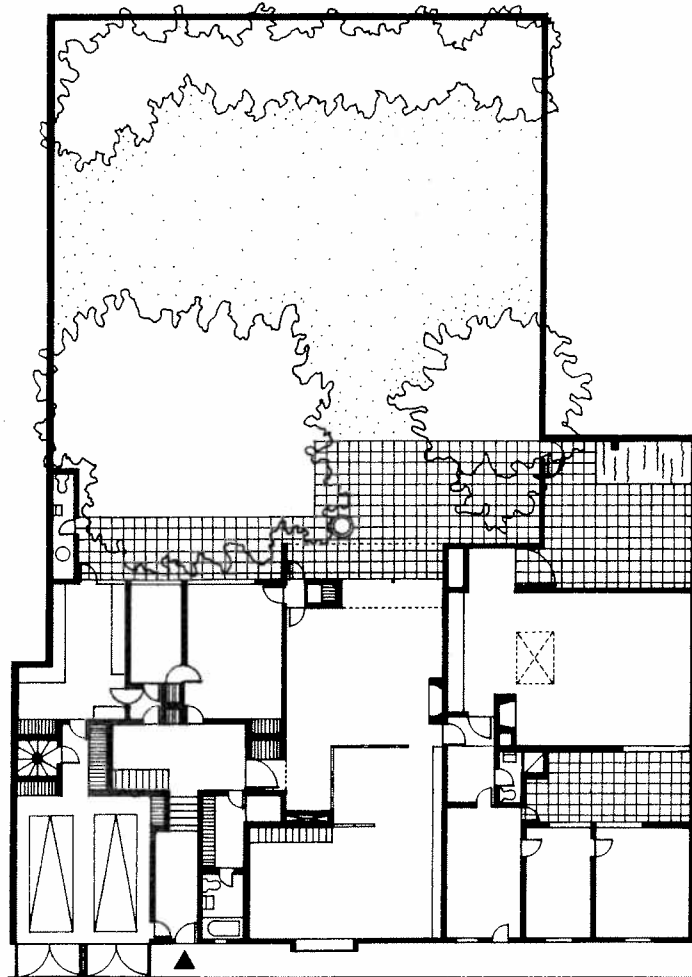
## Interpenetration

We can relate inside and outside by projecting pieces of the building into the landscape. These extensions of the building's fabric become the links. The wall that continues beyond the interior, reaching out to define exterior space, is an example of this strategy. The drawing at right shows a version from the work of Luis Barragán.



*In-between places such as porches and decks link in and out.*

*In the house that architect Luis Barragán designed for himself (Tacubaya, Mexico, 1947), the same walls that define the interiors reach out to enclose the garden and patios.*



*The walls extending beyond the building link it with the surrounding landscape.*



*The indoors and outdoors are linked  
by the unexpected placement of  
interior elements outside.  
(Terrace by William Minschew,  
1979, photo © Mark Citret.)*

### Intermixed Elements

A final technique for relating in and out is to intermix elements, putting exterior elements, such as a tree, inside, or interior elements; such as a fireplace, outside.