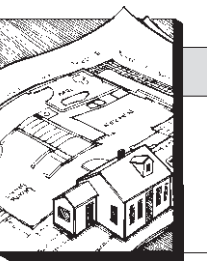

Making Stairs a Pleasure to Climb

by Gordon Tully

If you pay attention to the spatial journeys you take when you use stairs, you'll notice that some trips are exciting and pleasurable, while others are drudgery. In this article, I want to focus on the design of stairs as spatial elements, rather than as machines for getting from floor to floor. The focus is on small homes, not ones with grand stair halls.

The Importance of Openness

If there is one rule to follow in stair design, it is to keep the stair open on one or more sides. I have a theory as to why this is important: In a stair enclosed on both sides, you feel you are walking through a tilted tube from one floor to the next, which creates an unpleasant sense of vertigo. When the stair is open on one or both sides to adjacent spaces, or has a clear view of the outdoors, you can sense the geometry of the adjacent spaces and maintain your balance.

Regardless of the reason, it is essential to have a view to something beyond. Windows help, on the side or end of the run, or on the landings. Roof lights don't usually provide a view, but take advantage of the stairwell to bring light into the middle of a building, and make the trip up seem shorter (in the daytime).

But the main tool for creating openness is to open the stair at the side. How you do this, of course, depends on the configuration of the stair you're working with.

Types of Stairs

While you can't classify every stair into a "spatial type," since each is in some way spatially unique, there are useful things to say about certain stair configurations.

Stair with a half-landing. A stair with two equal runs leading to a half-landing or half-level has a curious problem: the half-landing occurs at an awkward height relative to the floor below, so that people seen on the half-landing are cut off at the knees, and can see only a small piece of the floor below. Given some extra space, stairs with floating half-levels can be grand. But in a small house, I generally avoid half-landings that are easily visible from other spaces below.

Try not to bury a half-level stair on the inside of a plan. If I have to use a half-level stair, I try to put the landing on an outside wall. Then I can extend the landing beyond the plane of the wall to form a bay window, usually with angled walls, as in Figure 1. When there is room, I put in a window seat at the landing, or leave room for plants. Another variation is to make the lower run wider and shorter, and create a broad landing (more about wide landings later).

Straight stair on the inside of the plan. The most efficient stair possible is a straight run from a lower hall to an upper one located more or less in the middle of the plan, as in a typical Cape Cod design. While economical, such stairs feel unpleasant and are not very safe, since you can fall a full story without a break. In most cases there is a passage or room alongside the stair on the lower floor, but not on the upper floor, and most of the run is trapped between two solid walls.

Avoid this stair type (or its cousin, an "L-shaped" stair trapped between two walls) whenever possible. When stuck with a stair like this in a renovation, try cutting interior windows in the walls of the stair with views into adjacent spaces (perhaps with translucent glass); and put a skylight over the stair if you can.

Stair alongside a room or hallway. A design that always works well is putting the stair alongside a hallway or other space, making one side of it open. In its simplest and most space-efficient form, such a stair has a landing at each end, and a single perpendicular riser off each landing, as in Figure 2.

If space is really tight, you can replace the top landing with winders. Avoid winders at the bottom: not only will you lose the desirable lower landing, but in most cases you will run out of headroom and won't be able to get furniture up the stairs.

If you insert a light well between the stair and the hallway, you can bring light (perhaps from

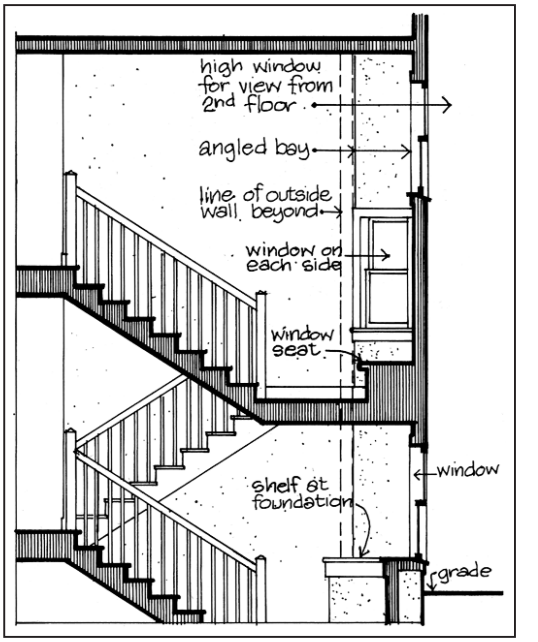

Figure 1. *A "half-landing" stair with an angled bay. The landing is wide enough for a window seat, which has a view out the angled sides of the bay. A high window in the bay's center gives a view from the second floor. Leaving the run to the basement open will admit light from a window just above the foundation.*

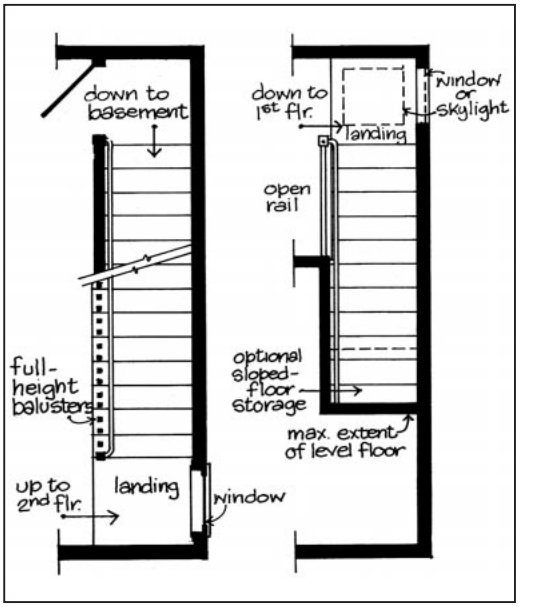

Figure 2. *Enlivening a straight run. In the first-floor plan (left), the landing, one riser up, can be lit by a window if the stair is on an outside wall. The balustrade is easier to build and looks better if the balusters run to the first-floor ceiling. In the second-floor plan (right), a room closes in the stair to some extent. The second-floor hallway would be nicer if it ran alongside the entire stair, but this is often impractical.*

a roof light) down to the lower levels, and also continue the stair balustrade past the intervening floor (see Figure 3). The width of this well provides room for more perpendicular risers, which shortens the stair. If the plan requires it, the stair can be L-shaped, rather than U-shaped.

Landings

Everyone enjoys being just a little higher than normal in space. Mezzanines and lookouts are always interesting, because we like to imagine ourselves floating above it all. The lower risers of a stair function the same way a raised floor does, lifting you up above your normal perspective. But you need a place to stop and enjoy the view.

A landing provides such a stopping place, allowing you to forget about the steps and glance around at adjacent space. Insert the landing near the bottom, far enough below the ceiling so a tall person can see out. Widen the landing to make room for a bench or chair next to a generous window, and you will have created an ideal spot to withdraw and still feel part of the activity below. Kids will treat an oversized landing like a treehouse, and use it for dramatic activity and ordinary play. (If a house feels good to a 6-year-old, you'll probably like it too.)

A landing near the top feels very different from one near the bottom and serves a different function: it makes the trip down safer. The most likely place to fall on a stair is at the top, where you might have a moment of vertigo or miss the first step if it is dark. A landing near the top reduces the length of the main run, and gives you a second chance to get your balance.

Since the stair turns at a landing, an upper landing creates a wall at the end of the main run, which is a great place to put an interesting picture. As you go up, you focus on the picture instead of peering over the edge of the floor above, and this makes the stair seem easier to climb.

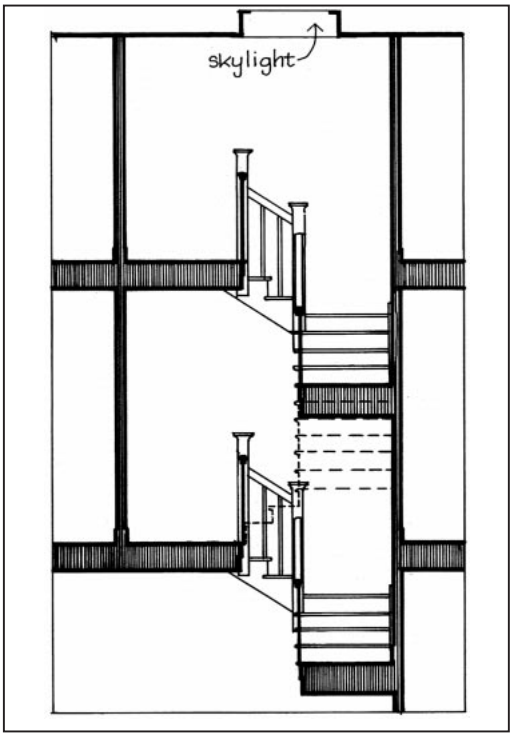

Figure 3. *Section through a U-shaped stair. This stair has short, perpendicular runs at either end of the straight run. This opens a narrow light well which will bring down light from a skylight two or three stories above. (The dotted lines show the stairs to the viewer's side of the section plane.)*

Planning for Efficiency

In designing a small house, I spend a lot of time exploring various stair options. Rather than just figuring the area dedicated to stair treads and landings, I compare the entire floor plan, and the space needed to get to the stair at each level, for every stair design. Each time I shorten a stair run by a riser, the whole plan shakes into a new configuration. This playing around often leads to new and better overall plans.

It's important when juggling stair designs to remember that the goal is not just to minimize the space taken by the stair, but to keep the overall plan small, while making the stair as interesting as possible. By careful study, anyone should be able to have the best of both worlds: an open stair and an efficient plan. ■

Gordon Tully is an architect practicing in Cambridge, Mass. He also teaches at the Harvard Graduate School of Design.