

S · M · A · L · L HOUSE D · E · S · I · G · N



By Donald Prowler

With thoughtful
planning, small spaces
can yield cost savings *and*
gracious living

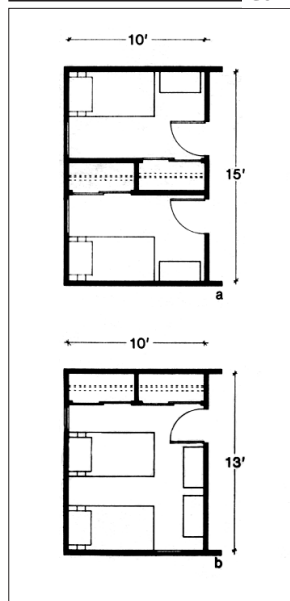
"Small" does not necessarily mean "affordable"—after all, a Ferrari is smaller than a Chevy wagon—but it is true that the space-efficient, compact home can be an economical alternative for today's first-time home buyer. Less square footage means, among other things, fewer studs, less gypsum board, and less insulation. Generally this adds up to lower costs.

Alternatively, a space-efficient home can allow discerning homeowners to trade unneeded size for higher quality. In too many houses, we occupy only a small fraction of the usable space at any one time. Nevertheless, year in and

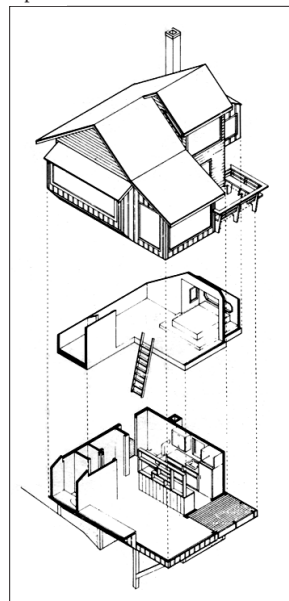
year out, we heat or cool the unused portions of these houses, paint and repaint the excess surfaces, and fill the oversized rooms with possessions we may not necessarily cherish. This has never made sense, and it is now becoming economically insupportable as well.

But designing a gracious small home is a challenge that requires careful thought and planning. There is simply less room for error since each square foot of the home will be intensively occupied. To help make a small house succeed, here are four space-saving principles to consider. Each helps join rooms together to make a small house into a "modest mansion."

Combine Space



Two rooms with identical functions can sometimes be effectively combined. Here, two tight single-occupancy bedrooms have been combined into a single two-person bedroom of smaller total size. The new combined bedroom has the same furnishings as the separate bedrooms—two beds, two closets, and two bureaus—yet is more space-efficient and has friendlier proportions.



The Gordon Residence, located on a wooded site in Virginia is a truly compact home. The house (460 square feet excluding deck and porch) is essentially one large room with cantilevered alcoves at different levels that provide special nooks for sitting and sleeping. Only the bathroom is a separate, enclosed space. By combining various activities in one volume the house feels surprisingly spacious. (Design by Bruce Gordon, Free Union, Va.)

One of this century's contributions to residential architecture is the use of the "open plan." This was made possible, in part, by the ready availability and low cost of long-span roof and floor trusses. With interior partitions no longer required structurally, walls between rooms can be, and often are, removed. The development of central heating (rather than room-by-room hearths or unit heaters) and a relaxed sense of social etiquette have also contributed to the spread of the open plan.

The space-saving advantages of combining rooms can be substantial. When this strategy is used properly, the whole

can be smaller than the sum of its parts. That is, a combined room can be smaller than the total size of the rooms it replaces.

In an open-plan house, separate rooms are combined into larger, multi-purpose areas. These combined rooms, in turn, are often divided into activity zones that are identified—not by partition walls—but by furniture placement, changes in floor level, differences in lighting, or other space-defining elements. The "implied rooms" created by these techniques provide useful and comfortable settings within the larger space.

Extend Space

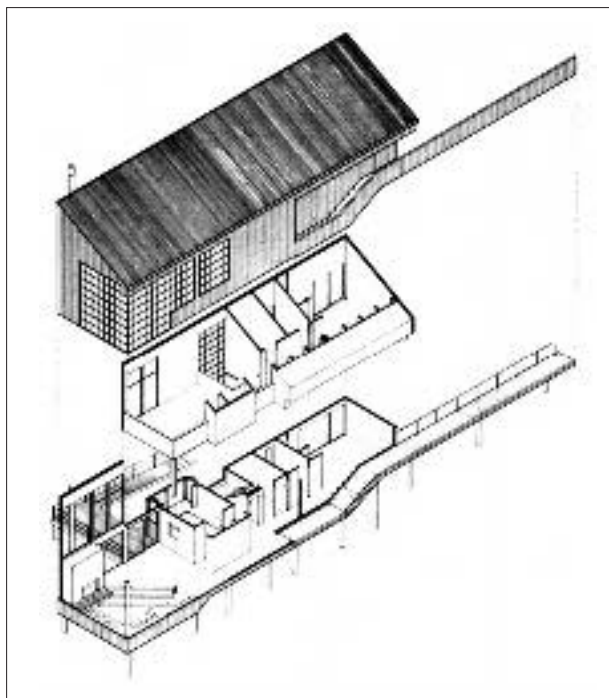
You can extend your home by a variety of means. One of the most familiar is building an actual, spatial extension, such as a dormer or bay window. Somewhat less obvious is the technique of visual extension, whereby views of distant scenes relieve the tight feeling of small rooms. Imagine making a phone call in a telephone booth that is wrapped in aluminum siding from top to bottom. You would feel claustrophobic,

notice how small the phone booth really is. But when you occupy a regulation glass-walled booth on a street corner, you are hardly aware of its narrow dimensions. You feel as though you were still outside, participating in the passing scene. You are comfortable inside a small space.

For this reason, the placement and size of windows is crucial in home design. For instance, a picture window

that extends to the adjoining wall, floor, or ceiling—rather than a standard “punched” opening in the middle of a wall—can make the wall of a living room seem to dissolve. The uninter-

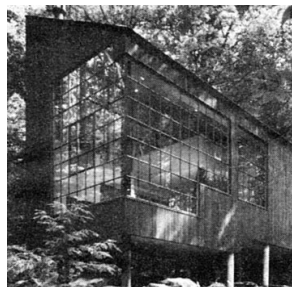
rupted view into the landscape beyond makes the room feel larger. The challenge for the creative home builder is to provide this transparency without sacrificing economy and energy efficiency.



This exploded isometric view of the Bohlin residence, located on a heavily wooded site in Connecticut, shows the building's horizontal organization. Notice the two-story-high living room which ends the path established by the pedestrian bridge. (Design by Bohlin, Powell, Larkin, Cywinski, Wilkes Barre, Pa.)



Floor-to-ceiling windows, which in this case use an industrial glazing system, dissolve the corner of the living room and visually extend the common area of the house into the forest. The dramatic quality of the room masks its relatively small size.



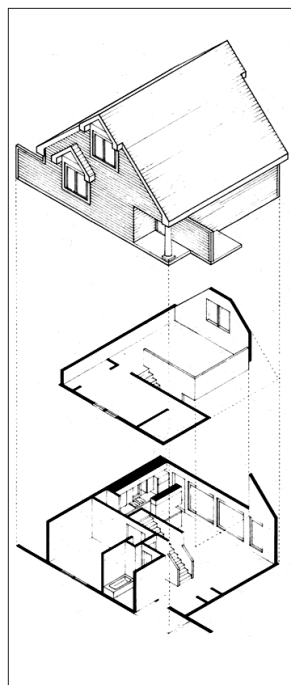
This exterior view of the Bohlin residence highlights the glazed, two-story living room, which dominates the structure. The piles on which the home is supported make this a kind of tree house for adults.

sense of spaciousness of the room below by allowing light to filter down.

Another place to look for found space is on the vertical dimension of rooms. In most homes, the floor-to-ceiling height is constant, because it simplifies construction. But consider, why should a narrow corridor, a sprawling living room, and a bedroom closet all have the same height ceilings? In some instances, perhaps, storage areas can be fashioned above, in rooms where headroom space is higher than necessary.



In this case, the attic level of the Triple A House has been finished as a den space with a balcony overlooking the combined living/dining space below. The steeply sloping eaves give a sense of coziness and shelter in this northern climate.



In the Triple A House located in Vancouver, British Columbia, the attic was designed for use as expanded living space. At first, only the 640 square feet on the house's ground floor would be finished. However, when a growing family requires more space, the upstairs area could be completed as a family room, or it could be partitioned into several bedrooms. (Design by R.E. Hulbert and Partners,



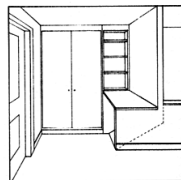
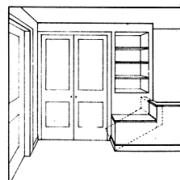
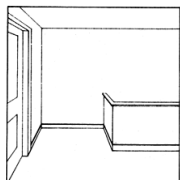
Many of today's attics are unusable because the roofs are built with trusses. With parallel-chord trusses, however, the entire upper floor is usable. Also, they provide ample room for the roof insulation in cold climates.

Find Space

Using found space is difficult, but the process can be highly rewarding. What is “found” space? It is leftover space: the pockets of wasted space between, around, or adjacent to structural elements that creep into even the most space-efficient designs. Found space can be exciting, for it is often unusually shaped and surprisingly positioned. It can be out in the open or hidden within the dimensions of a wall. It can be any size—maybe only a few inches wide and

so subtle that it escapes notice, or several yards wide, but hidden so that it might be overlooked.

The best time to find space is before a house is built—then you can either eliminate it or alter the design to make the found space productive. But you also can continue the search for found space after the walls are up and the roof is on. For example, space can often be found between roof trusses for skylights or roof monitors, which increases the



Stair landings—particularly those on the top floor of a multi-story house—often use space inefficiently. Consider taking advantage of the “dead space” above stairwells by building out over flights of stairs (headroom permitting). For example, a stair landing can be transformed from an unused corridor (a) to closet and shelf space (b), or to closet/desk/bookshelf space (c). In figures b and c, the dashed line indicates the required headroom height below.

Share Space

Throughout much of Europe, a tradition of smaller homes has generated creative responses to compact living, responses that often are based on a strategy of sharing facilities. Travelers soon realize that even the smallest village in France or Italy has a guest house to accommodate the visitors of town citizens whose own homes are too compact to include a guest room. Similarly, public restaurants and bars in the same

villages serve as shared living rooms for parties and celebrations of all sorts. Necessity has fostered spatial cooperation. The whole fabric and organization of the community is affected by house size.

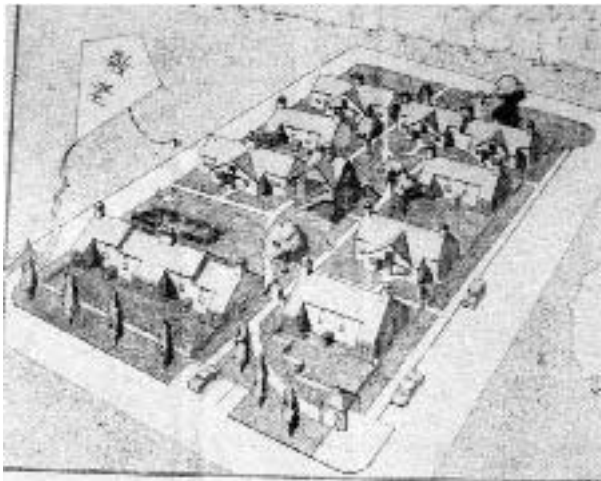
In addition to facilities, neighbors can share something more intangible: a common means of expression. For example, in some housing developments, the designers make conscious

efforts to create an image of greater size by designing two or more dwellings to look like one large dwelling. Each time is varied slightly to contribute to an overall appearance of the building group. Because of this larger scale, each

home can be more compact than otherwise might have been acceptable. After all, house size often is selected not only because of a practical need, but also because of the desire to express an acceptable status within the community.



These two one-bedroom units share an entry porch with a gable roof bearing a large open trellised window. The shared entrance has a grander appearance than a single dwelling unit could afford. The community building, seen in the background, acts as a visual focal point for the entire community.



This 24-unit seniors' housing cooperative, located in a two-acre site in central New Jersey, leans heavily on the principle of shared facilities and design. For example, each home has been "taxed" the equivalent of several square feet of floor space to fund the construction of a central community building. (Design by Kelbaugh & Lee, Architects, Princeton, N.J.)

These four principles are by no means exhaustive, nor are they mutually exclusive. In fact, it is impossible to pinpoint neatly where one strategy begins and another ends. Several or all of them may appear in a single home—indeed, some of the most handsome and successful small homes are skillful blends of many ideas.

Too often homeowners, and as a result home builders, equate large rooms with comfort and luxury. This is unfortunate, because some of the most pleasant rooms of all are personal spaces, modestly sized and modestly furnished. Think, for example, of a sunlit break-

fast nook, a cozy sleeping loft, or a cool screened porch. The builder of the affordable compact home must learn to capture the spirit of these special places for tomorrow's high-quality compact home. These principles are offered as a step towards an appreciation of the excitement and challenge of compact house design. ■

*Donald Prowler is an architect who teaches at the University of Pennsylvania and Princeton University. The article is adapted from his book, *Modest Mansions*, available from Rodale Press, Emmaus, PA.*