

Rethinking the Garage

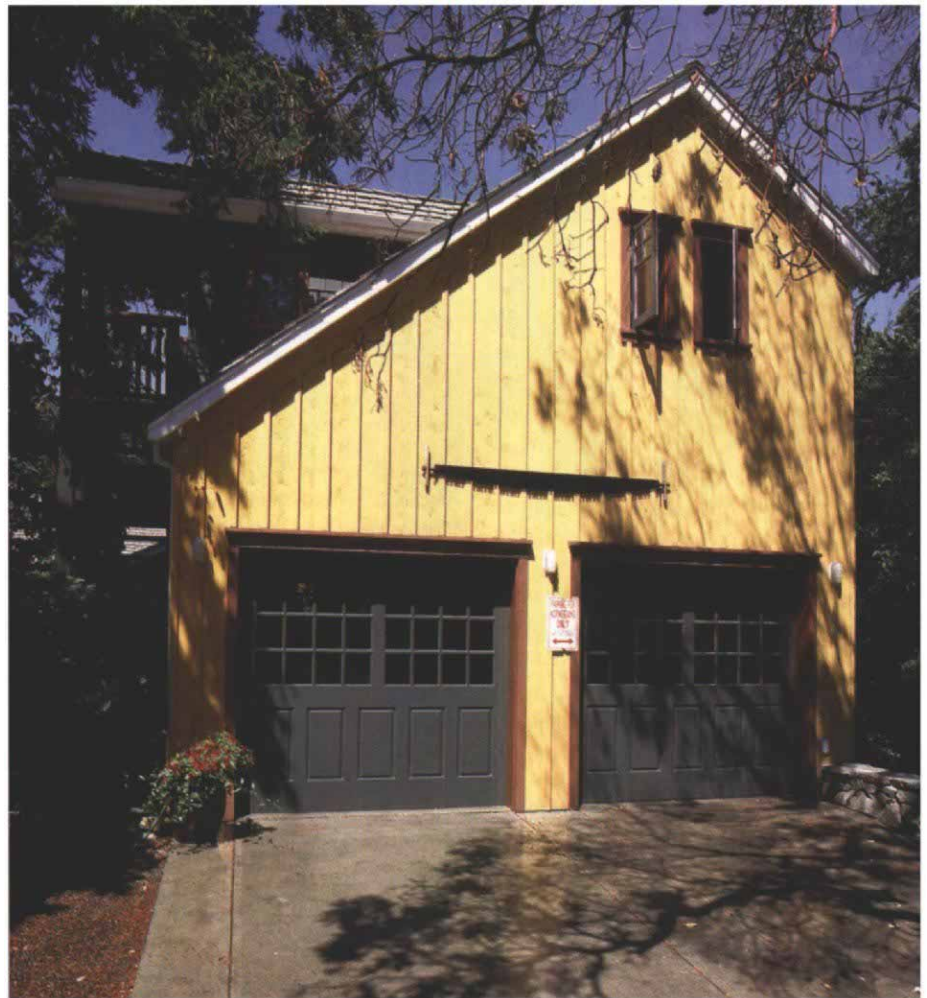
Three projects illustrate how a room over the garage can be the best room in the house

by Tony Simmonds

A secondary living room, with overflow sleeping accommodations



A. Save interior space with an exterior stair.



B. A gabled dormer with a built-in bench shelters the entry at the top of the stairs

Christened the "jazz room" early in the planning stages, the room above this garage (photo C, facing page) is a music lover's hideout where Jarl Whist can crank up his CDs without obliging anyone else to share his enthusiasm for saxophone solos.

On the north side of the room, a tiny French balcony and a

skylight stretch the volume of the space. Unlike the other projects presented on the following pages, the Whists' garage doesn't have a structural ridge beam. Instead, collar ties hold the walls together. The exposed, whitewashed 2x framing emphasizes the coastal, weekend-cottage feel of the place.

The roof runs to the plate line on the south side of the room, where a couple of twin beds are tucked into the wedge-shaped space behind the bookcases (photo D, facing page).

The front elevation (photo B, above) reveals the asymmetrical roofline, with a dormered entry to the upstairs level. The stair

rises up the side of the building, passing the main roof eave (no problem cleaning this gutter) and arriving at a small landing where the railing has been pushed out on one side to form a bench in the treetops (photo A, left) At the ground level, an enclosed gallery connects the garage to the main house.

Consider the garage. Typically occupying a chunk of real estate almost half as large as a house and built to identical standards of exterior finish (often insulated and drywalled, too), it usually does little more for its owner than expand the construction budget and fulfill the dubious purpose for which it was intended: to shelter a vehicle that is more weatherproof than most houses.

But everybody wants a garage—even people building recreational property, who make up a

high proportion of Vancouver architects Mark Osburn and Wayne Clarke's clients. Some of them want garages to house their cars. But they also want them for storage, for shop space, for guest accommodations or just for a space to play loud music without stirring up a family feud, or to chip away at a project without having to vacuum the floor every day.

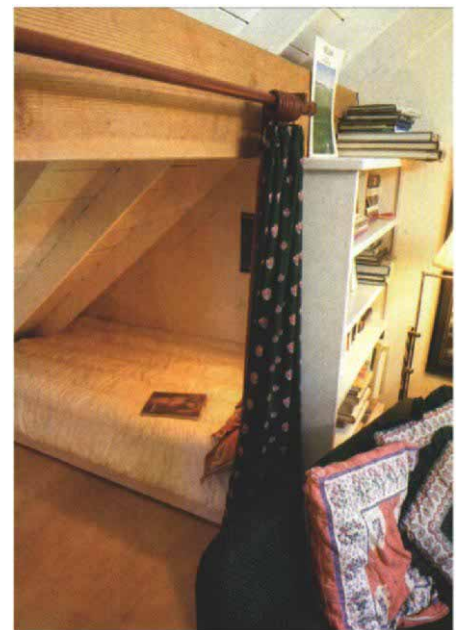
"So we thought, if we're going to be building a garage anyway, why not make something out of it?" says Wayne. "Instead of just throwing trusses

on top of the walls, why not build the roof in a way that lets you use the space up there? People always want more storage space, but this way we can give them a studio or a guest room as well. And for not a whole lot more money."

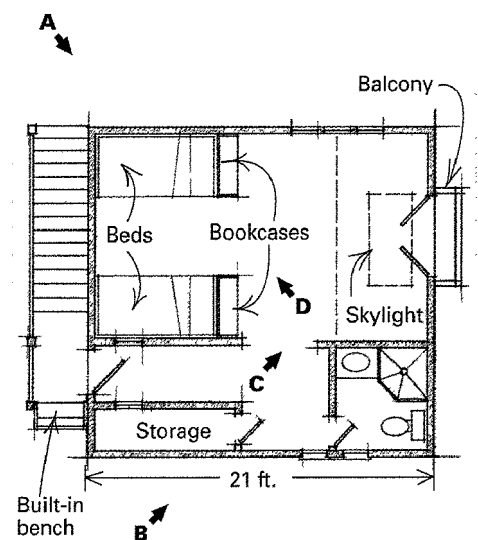
Most of Osburn/Clarke's clients are building in rural areas, where zoning laws are pretty relaxed. In my experience, city zoning laws are designed to make it as difficult as possible to use garages for anything except parking cars. I expect this will change as cities look for ways



C. Whitewashed framing, a generous skylight and French doors enhance the living room.



D. A bed-length alcove for overnights.



Photos taken at lettered positions.

to increase residential density. But for the moment, it must be said that in many cities in Canada and the United States, it would be impossible to build the kind of garages shown on these pages without flouting the bylaws.

Planning considerations—So if you're lucky enough to be able to do it, how do you design a garage with usable space in the attic? First, let's review the basics of garage planning.

Cars come in different sizes, and that's why garages don't. They all tend toward the maximum. The overall size of a typical two-car garage

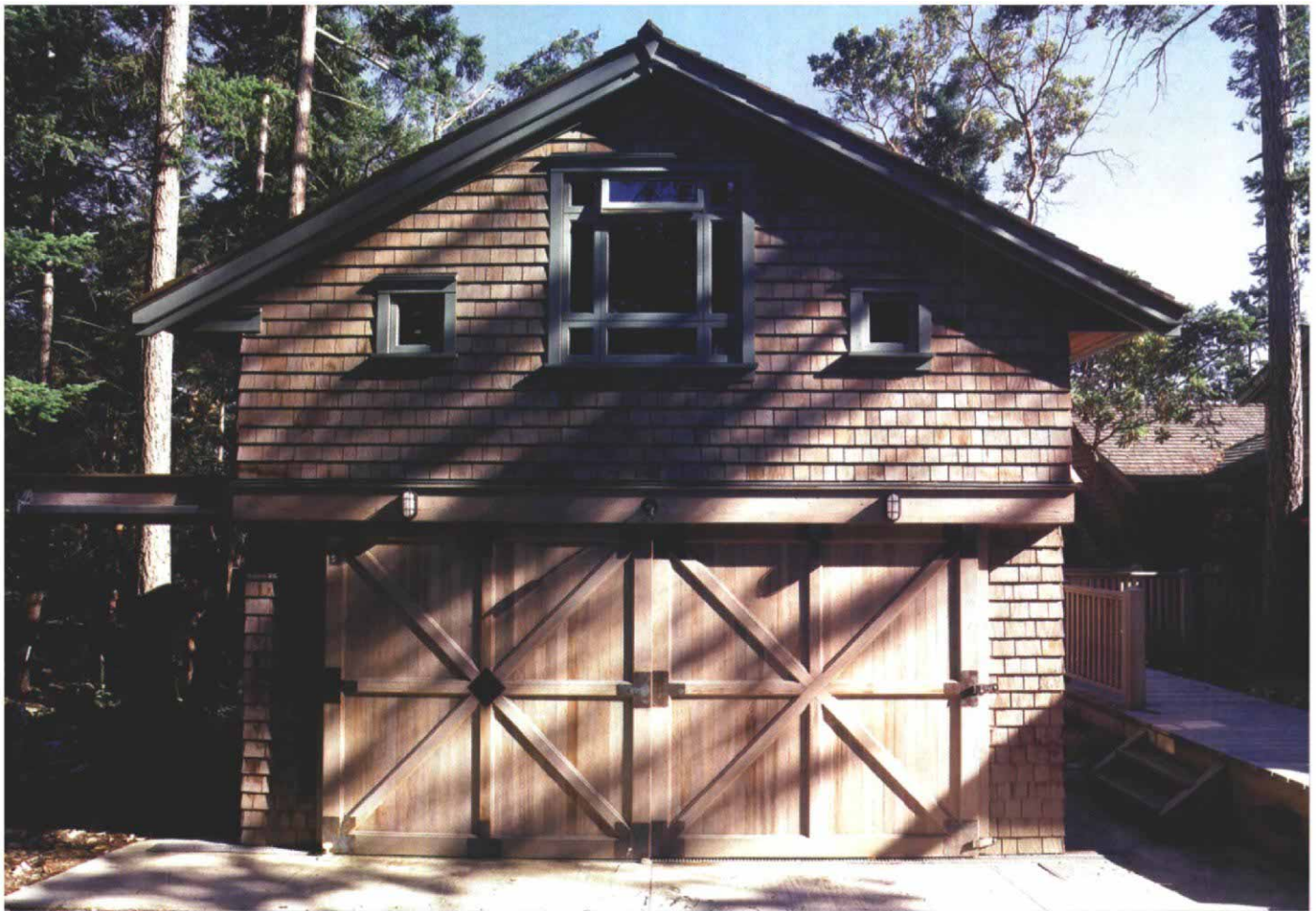
with access from one end is about 24 ft long by at least 20 ft wide—more if you use two independent doors with a section of wall between.

Overhead doors are the most common doors for garages (although only one of the three garages shown here, the Whist garage, has them). Overhead doors come in widths from 8 ft to 18 ft and in heights from 6 ft 6 in. up. For purely vehicular purposes, there's no need for a door taller than 8 ft, and because the taller the car, the more headroom lost in any developed space above, you might think twice about that molded-fiberglass luggage rack.

Overhead doors also take up space within the building—typically 14 in. or so below the joists they hang from, by a distance equal to their height plus some room for the track and the latching mechanism.

Sliding doors, on the other hand, can be divided into sections and hung from tracks. If you choose to run the doors into interior pockets in the wing walls, you'll need from 6 in. to 9 in. for the tracks above the doors. Alternatively, the doors can be mounted on a single track outside the wall (photo below, top photo p. 102). This provides minimum intrusion on interior space.

A guest room with its own garden balcony



E. Custom doors slide past the wall on barn-door hardware protected by a wooden overhang.

The simplest of the three garages is a shingled building for Heather and Les Little, on Salt Spring Island (photo E, above). The garage doors are made of 2x6 red-cedar rails and stiles, reinforced with horizontal and diagonal braces affixed with custom-made copper plates at the

joints. Panels of vertical tongue-and-groove cedar 1x4s, backed with plywood, fill out the doors.

The Littles' garage is tied to the main house via a boardwalk. The entry to the upstairs room is at back, at a small deck at the top of the stairs (floor plan, facing page). Planter boxes filled with

flowers bracket the deck, and the peak of the simple gable roof projects 3 ft. beyond the wall to shelter the entry (photo G, facing page).

Inside (photo H, facing page), the space is broken only by the enclosure of a full bathroom in one corner. Because the walls are

less than 4 ft. tall at the eave lines, an 18-in. deep shelf behind the toilet pushes the fixture out far enough for comfortable use (photo F, facing page). The upstairs floor, including the bathroom, is made of 2-ft. wide strips of plywood, painted glossy dark blue.

but requires plenty of room outside for the track if it's cantilevered beyond the building (photo facing page).

As well as the functional questions they pose, doors are a major aesthetic consideration. They're so big, it's impossible for them not to dominate the wall they're in. You can dress up a garage door with siding to match the building, or you can choose from a variety of options for inserting windows into the panels. When stock options run out, you can build custom doors, such as the ones on the Little garage (photo facing page).

Doors also pose a couple of structural problems. The large opening that they require makes the garage wall susceptible to racking. That's why building codes usually prescribe a minimum dimension for the short pieces of wall on both sides of a garage door. Using thicker wall sheathing and cutting it carefully to form gussets at the top corners of the openings can improve the situation.

Then there's the lintel over that opening. Unless the floor joists for the space above can be engineered to span 20 ft. or more, there are going to be two concentrated loads landing right

on it, one from one end of the beam at the midspan of the joists and another from the end of the ridge beam above. Because the roof can't be framed with trusses and because you can't generally use collar ties because of headroom considerations, you're pretty much stuck with a structural ridge. And if the roof is a gable, as all these roofs are (for good reason, because the gable is the roof shape that gives you the most space inside), one end of that ridge beam is going to be supported by a post that's sitting right in the middle of the garage-door lintel. That makes it into a beam that will need to be engi-



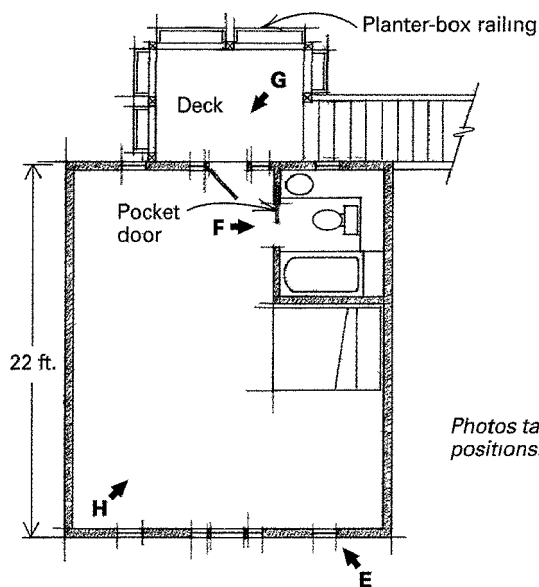
F. Maximum bathroom in minimum space.



H. The balcony landing extends the guest room into a sunny outdoor space.



G. Planter boxes border the balcony.



Photos taken at lettered positions.

neered because tables don't deal with concentrated loads.

Life above parking—Once you move beyond the vehicle and start thinking about attic use, the first problem is getting there. Cars take up space, but so do stairs. That's why all the examples shown here, and most of the other garages Osburn/Clarke have done, have an exterior stair.

"We've done interior stairs," says Wayne Clarke, "but they have to be very steep, more like ship's ladders. Otherwise, they just take up too much space."

Exterior stairs have other advantages. They make it a great deal easier to achieve the fire separation between parking and living space, a requirement on which all building codes agree. If the separation is penetrated by a stair, the opening has to be protected by a rated door, weatherstnpped and equipped with an automatic closer. Such a door will also be required to protect any opening in a wall that is common to both parking and living space.

In these three garages, the stair and the entry it leads to are consciously given prominence. Instead of being spatial liabilities inside the build-

ing, the stairs and entries become architectural assets to the exterior, where they provide a point of focus that varies and enriches the rooflines.

There are several paths to daylight—The upper floor of a garage presents the same problem as any attic space does when it comes to getting light in. The first and easiest thing to do is to put windows in the gable ends. Their size will be governed by the slope of the roof and by whatever structural support there is under the ridge beam. To get light into the middle of the plan, a skylight is the easiest and cheapest solu-

A little house that will eventually become a garage

The third garage, at Qualicum Beach on Vancouver Island, comes the closest of the three to being a full-fledged house (photo I, right). In fact, it's made a good pretense of being just that for two years now while the owners prepare to build their real house next door. Then the garage will finally see some cars, while the upstairs will remain a guest room.

The exterior shares some of the characteristics of the two other buildings—long, single-flight exterior stairs; asymmetrical roof planes; shingle siding; and custom doors—but with some differences. Here, the stair climbs up the side of an eave wall to a gabled dormer entry (photo J, bottom right), and the eaves overhang the wall enough to provide some shelter from the rain. On the opposite side of the building, the downstairs roofline shelters an outdoor space (photo L, facing page) that includes a shower, storage area for recreational gear and a big sink for cleaning fish.

The upstairs room (photo M, facing page) has enough space to accommodate the Bentleys and their three small children in the window seat and the loft over the entry. And future plans include adding a kitchenette. At 24 ft., this is certainly the tallest



I. Glass doors fill the garage bays.

building of the three. Even so, ceiling height at the shed-dormer wall is no more than 5 ft. As in the Littles* bathroom, the commode is strategically placed between a couple of rafters (photo K, facing page).



J. Deep eaves shelter the outdoor stair.

tion. But for opening up the space as well as bringing light in, you can't beat a dormer.

For the Bentleys' garage (photos below, facing page), the architects put a dormer on each side of the building. One of them houses the entry; the other accommodates the bed.

The Whist garage uses all three techniques: There are windows in both gable-end walls, a dormer on one side for the entry, and a pocket balcony cut into the opposite side, with French doors and a skylight over them that makes the space inside them feel as though it's outdoors as well (photo left, p. 99).

Don't forget the utilities—All the garages shown here have full bathrooms. To minimize intrusion on floor space, the fixtures are usually tucked into the low-headroom space against an eave wall. If the roof comes down too low, a shelf with storage under it pushes them out far enough to allow them to be used comfortably.

Incidentally, the roofs of all these garages are built with insulation above the roof decks, which serve as the finished ceilings on top of the rafters. This has a practical purpose: Not only does there appear to be a lot more space under the roof that way, there really is more. In one

case (photo top left), the headroom a fellow needs in front of the toilet is made possible by the judicious placement of the rafters above it.

For heat, Osburn/Clarke have applied solutions as simple as airtight stoves and as refined as hydromc radiant-floor systems. Of these projects, the Little and Bentley garages use electric-baseboard heaters. The Whist garage has hydronic radiant heat under a maple floor. □

Tony Simmonds operates Domus, a design/build firm in Vancouver, British Columbia, Canada. Photos by Charles Miller.



K. Toilet strategically placed between rafters.



M. A big window seat doubles as sofa and overflow sleeping accommodations.



L. Sink, shower and storage under the eaves.

