

Emphasis On Eaves

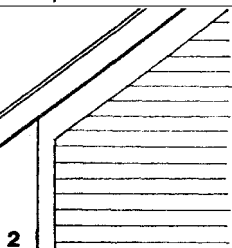
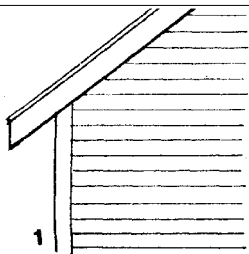
by Gordon F. Tully

In the first of these two articles on eave and rake details, the emphasis was on using historical prototypes as a guide. I noted that the choice of which eave detail to copy depends on the overall style of the house. This month I will suggest another approach, based on 19th- and 20th-century experiments with roof forms and details.

There is so much stylistic variety in the last 200 years of American houses that literal copying seems silly. A better approach is to retrace the thought processes that created these styles, and apply them to our own problems. We may in the process recapture the spirit of the originals, and we are certain to gain a new way of looking at our recent heritage.

A Simple Eave

Start with the simplest gabled-roof detail: a flat plate about 9 inches thick with an 18-inch sloping eave and a projecting rake. The particular example (Figure 1) has an 8-in-12 pitch. This is a simple and direct



overhang detail, but the roof tends to sit uncomfortably on the wall-as if it might slide off or as if it were made of heavy cardboard.

We all know how the roof is made. But our knowledge of construction is not reinforced by the roofs' appearance. Visually, it is not clear what the roof is made of, how it is put together, and how it connects to the wall below.

An architect would say that the roof lacked "scale," a notoriously difficult concept to explain. Scale is essentially the visual clues that tell us the real size and construction of something.

One way to give this roof a little scale is to add a band of trim on the wall below (Figure 2). Now the wall appears to support the roof, the roof appears to have real weight, and it appears that the roof won't blow away with the next stiff breeze.

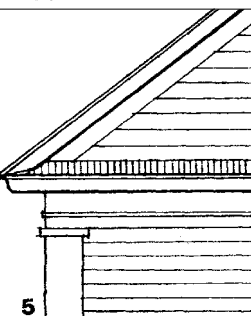
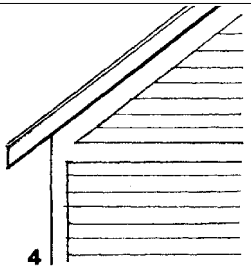
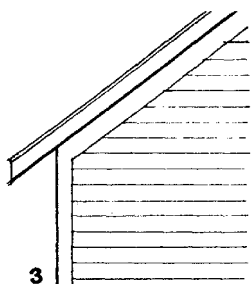
Since we started with a thick roof structure and added an appropriately heavy piece of trim, the result seems heavy and monumental. If a lighter

appearance is desired, the dimensions can be scaled down (Figure 3). Here, the word "scale" is used in the more technical sense of making something bigger or smaller without changing its proportions. This scaled-down detail seems more residential, less institutional and monumental.

Gables with Pediments

Sometimes it is helpful in a design to get rid of the five-sided gable end, breaking it down into a triangle sitting on a rectangle. These simpler shapes are easier to understand and they work better with other simple shapes, such as windows. The easiest way to create a division between the upper triangle and the lower rectangle is to add a board at eave level across the gable end (Figure 4).

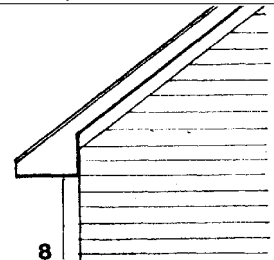
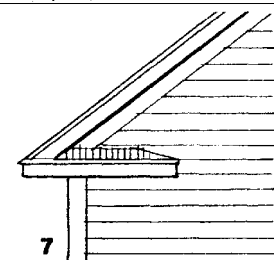
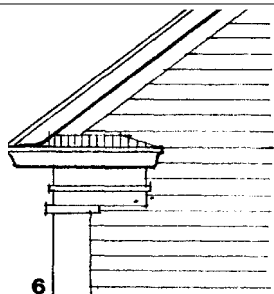
If the budget is limited, that may be all that can be done. But if we wish to create a richer effect (with more scale), we can add a little roof above the horizontal band, creating a triangular pediment, typical of classical or Greek Revival designs. If we exaggerate the trim below into a three-part entablature (with cornice, frieze, and architrave), and add pilasters at the corners, we come close to an authentic classical reproduction (Figure 5). Note that the eave soffit now has to be flat, and that the cornice is now a continuous horizontal line running all around the building, as in a hipped-roof design.



The classical pediment has a shallow pitch in imitation of a Greek temple. To squeeze usable space into the attic, the eaves were lifted above the second floor by extending balloon-framed studs up to the roof plate. (Sometimes little windows with their sills right at floor level were inserted into the frieze board.) Later styles created space under the roof by increasing the pitch, keeping classical details while discarding classical proportions.

Most Georgian or other classical eaves feature a flat soffit. At the gable end, it is necessary to build some kind of "return" to close off the end of the cornice. When there is a pediment, the problem is solved because the cornice simply turns the corner and continues on. When there is no pediment, several options are possible.

In a Greek Revival design, the whole entablature can be carried out a few feet from the corner (Figure 6). When supported by a pilaster at the



corner, the effect is quite handsome. A simplified version of these returns used without a column at the corner can help to visually "lock" the roof to the wall below (Figure 7), or simply close off the end of the eave (Figure 8). I don't have a high opinion of this last detail, although it is often the only practical option.

Overhanging Gable Ends

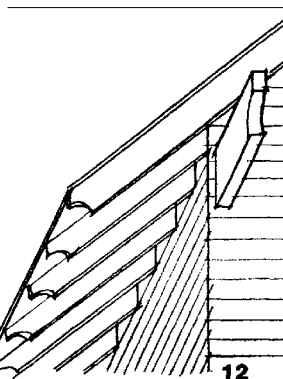
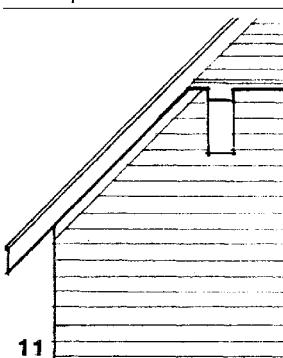
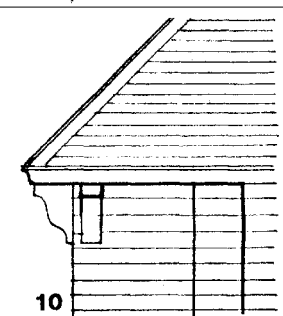
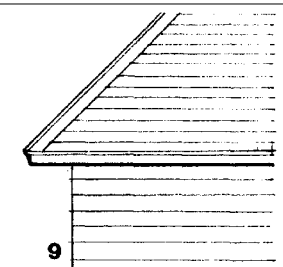
A pediment does not need to be complex and classical. Suppose the whole gable end extends out over the wall below, and the trim along the edge of the roof is minimized (Figure 9). This is a detail one sees on Queen Anne and Shingle Style houses of the 1880s and 1890s.

The effect is a big wedge of space standing over the house below, covered by a thin skin. Since the gable end is really part of the "roof prism," the gable-end siding should

look similar to the roof while contrasting with the wall below.

The big roof prism, however, seems heavy, so it helps to add brackets to cap the wall below and visually support the overhang above (Figure 10). A bay window that comes out to the surface of the gable overhang serves the same purpose, and often a bay window and brackets are found together holding up an extended gable. Another variation on this idea is to extend only the top portion of the gable end and let the roof continue with a rake overhang (Figure 11).

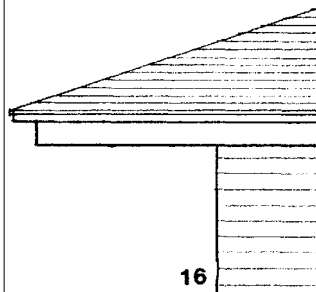
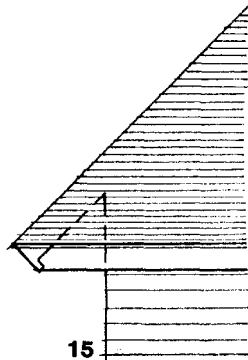
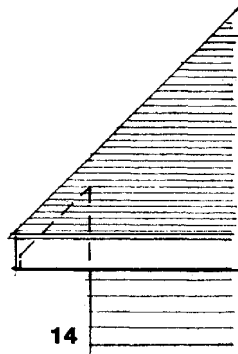
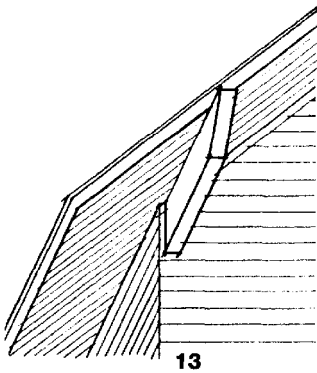
A footnote: Extending the gable end is a bit tricky, because the framing must run the "wrong way," perpendicular to the gable end, for a few feet. The first joist running from eave to eave needs to be doubled or tripled to take the added weight and roof thrust. With roof trusses it is possible to create the overhang by cantilevering a gable-end truss off the building wall with properly designed concealed framing.



Exposing the Roof Structure

Returning to the basic platelike gable roof, there is another way to create scale, used in the Craftsman style: Expose the structure of the roof. The best example of this is the Bungalow-style roof, where carved rafter ends are exposed under a broad overhang, with the rake carried on brackets (Figure 12).

Beginning in the 1940s, many contemporary designs used a simplified version of this idea, with exposed planking set on large beams that cantilevered at the gable end (Figure 13). While this idea is simple and economical, the thin roof plate lacks scale, and looks to my eye a bit like an oversized architect's model.



Hipped Roofs

So far I have shown only gabled roofs. Hipped roofs follow somewhat different rules. The basic difference is that a hipped roof is always a single form with a continuous edge, whereas a gabled roof is made of two opposing planes. If a hipped roof hangs down over the walls, it looks like a sheltering hat; if there is no overhang, the roof looks like a pointed top to the form below (as in a tower); and if the soffit is flat, the roof forms a large prismatic form standing on the walls.

One simple way to detail a hipped roof is to drop a wide board vertically down from the eaves, with the soffit tucked up inside, creating a barnlike, utilitarian appearance (Figure 14). Running the fascia perpendicular to the roof and boxing in the eaves (either horizontally or sloping up with the roof) makes the roof look much heavier, as if it were thatched (Figure 15).

The visual effect of a hip roof is very sensitive to roof pitch, because hipped roofs slope away from you in two directions. Unless they are quite steep, preferably 12 in 12 (or even more), they tend to look weak and saggy.

A very low-sloped hipped roof looks flat, an effect used by Frank Lloyd Wright in some of his prairie houses. It is hard to make the overhangs too wide on houses like this. Small overhangs tend to make the roof look like the lid on a pot, rather than a powerful horizontal plane hovering over the wall below. The fascia can be quite deep but looks better if stepped, as in Figure 16.

The Rest of the Picture

Eave and rake details are, of course, only part of the overall detailing system, which should be consistent with the overall appearance

of the house. For example, don't mix trimless clad windows with a monumental Greek Revival-type trim system at the eaves and corners, since wide window trim is needed to complete the image. Conversely, trimless windows look fine in Shingle Style houses, with their spare eave and rake details.

Another related element is the dormer. Dormers can reinforce or contradict the basic relationship between roof and wall. For example, should a dormer look as if it pokes through the roof from the wall below, or should it stand on the roof as a separate space? Being roofs of their own, dormers need properly scaled eave and rake details.

An incredible variety of ingenious solutions to the wall-roof joint evolved over the last 200 years, and they are all useful in solving today's design problems. These prototypes are the source materials.

The key to using these prototypes is to uncover their visual and structural logic—to figure out *why* the old-timers did what they did. By starting with the process instead of the outcome, we can solve our own problems with imagination and style.

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