(Figure 5). The complex and sheltering roof planes, dormers, gables, sheds, hips and valleys offer layers of interest from the outside, and plenty of niches and cubbyholes inside—they make you feel like a kid again *(Figure 6)*.

Finally, study folk houses built by cowboys and ranchers in America, and by farmers in Norway, Finland, and central Europe. Their scale is modest and human. The rustic yet refined surface of old grayed logs, and the way each building intimately fits its site and has become part of it. Much of our attraction to log homes, and much of their beauty, comes directly from the long tradition of providing good shelter for families on the frontier.

Figure 4: A modern scribe-fit home at a ski resort town. The jutting gable roof line is sometimes called a butterfly. Certainly impressive and imposing, but is it cozy or inviting?

Popular Misconceptions

Log homes have been burdened with persistent misconceptions. Some of them might be in the back of your mind right now: "log homes are dark;" "settling is bad;" "log buildings won't last;" "log buildings use too many trees;" "log homes are difficult to heat;" "log homes are among the most energy efficient homes;" "log homes must be fire hazards—they're made of fuel;" "insects and decay are a big problem;" "log homes are cheap to build or buy." In this book I'll tackle these myths head-on.

Figure 5: Adirondack-style footbridge made of scribe-fitted white cedar poles with the bark left on.

R-value

Wood is an excellent building material—one of the very best, in fact. It's resistance to transmitting heat or cold is good. Pine logs have an R-value of about 1.5 per inch (though some building codes require us to use R-1.2), which means wood is much better than brick (R-0.2), and half as good as fiberglass (R-3.1). Of course, the thicker the log wall, the better its R-value. A 6" thick milled log wall hovers around R-10, while a handcrafted home using 15" diameter wall logs may exceed R-22—not superinsulated, but a very respectable number.

(For metric readers: a 25cm milled log wall has an R-value of 1.76 m^2KW^{-1}; and a 38cm handcrafted log wall would be valued at about 3.88 m^2KW^{-1}.)

In addition, wood is solid insulation, which means that water vapor has very little effect on its R-value. Space-filling insulation, like fiberglass and cellulose, is mostly air, and requires a plastic film barrier to keep water vapor out of it. When the humidity in fiberglass gets high, its R-value plummets fast and far. Logs, because they are solid, do not need a vapor retarder.

Figure 6: A classic with low pitch roofs, eyebrow shed dormers; gable dormers, a tower with kicked hips; and a broken-back valley (on far left). The variety of roof planes and styles really makes this building interesting. It has charm and pleasing proportions—a human scale that is naturally welcoming, cozy, and appealing.

Air Infiltration

Log homes must be tight to be energy efficient in cold climates. This is a big task when you consider that a modest log home can have several thousand feet of wood-to-wood joinery. To decrease air leakage and improve energy performance, use building gaskets inside the notches and long grooves. The best scribe-fitted joinery makes logs look like they grew together, but air, water vapor, and rain can penetrate joints that are visibly tight.

A simple strip of fiberglass batt inside the notches and grooves is not effective at stopping air, water vapor, wind, bugs, or rain. Unfortunately, some professional log home builders rely upon bare fiberglass. At the very least, all space-filling