

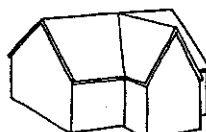
GABLED FAMILY



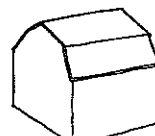
side-gabled



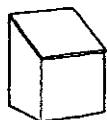
front-gabled



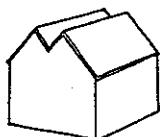
cross-gabled



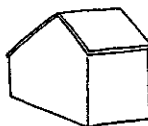
gambrel (dual-pitched gables)



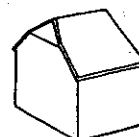
shed (half-gabled)



parallel gables

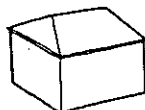


saltbox

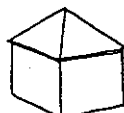


hip-on-gable

HIPPED FAMILY



simple



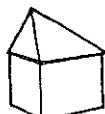
pyramidal



cross-hipped



dual-pitched, hipped ("mansard" when steep lower slope)



half-hipped



parallel-hipped



deck (flat-topped, hipped)



gable-on-hip

FLAT FAMILY

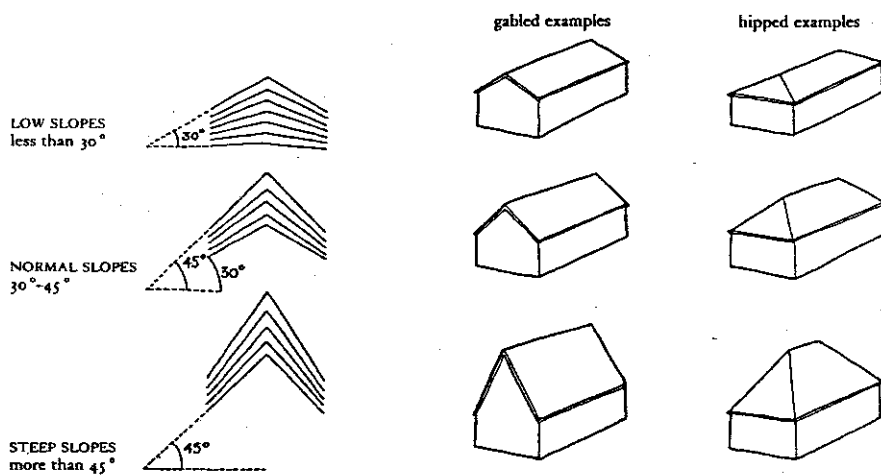


flat, with eaves



flat, with parapet

ROOF SHAPES



ROOF PITCH

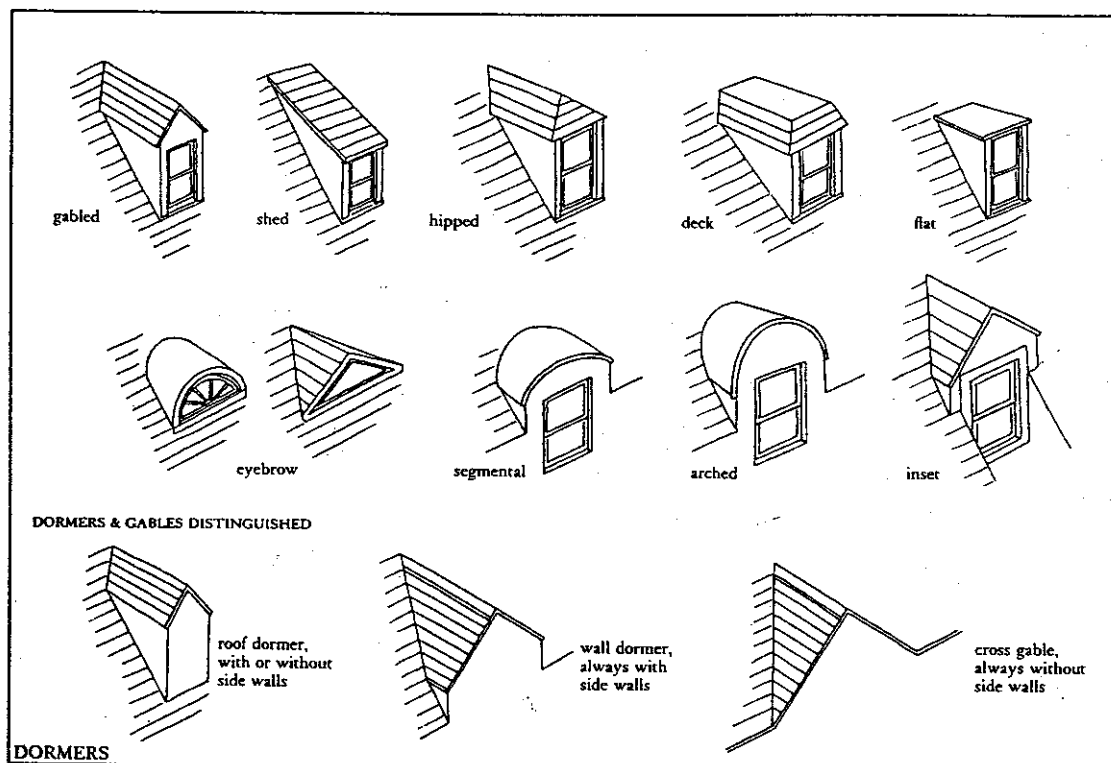
Simple gabled roofs always require the least complex underlying framing; the additional roof planes of gambrel or hipped roofs demand additional framing members.

**ROOF-WALL JUNCTIONS**—The lines of junction between roof and wall are crucial features of house design, both esthetically and structurally, for they join differing roof and wall materials in a junction that must be watertight to protect the underlying structure from damaging moisture. There are various systems of attaching roof to wall (and for enclosing this important junction).

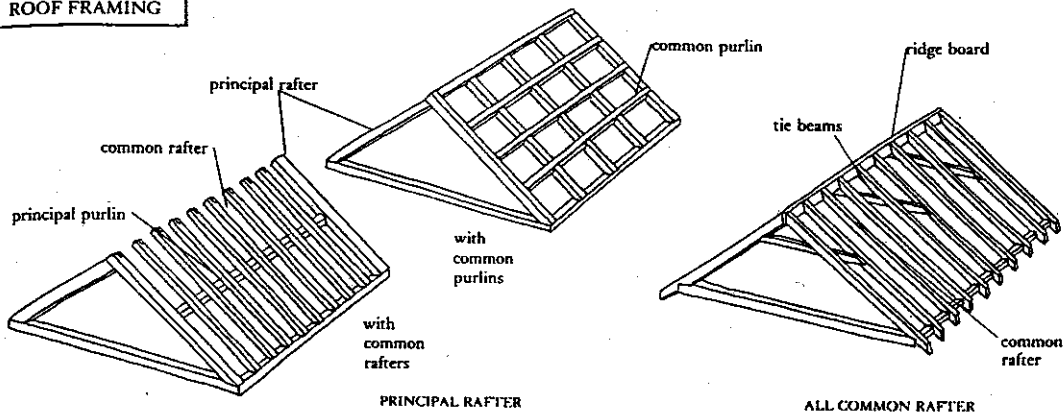
**DORMERS**—Finally, roof slopes may be interrupted by dormers, subunits resembling miniature houses with their own walls, roofs, and windows. These are added to provide space, light, and ventilation to the attic, thus making it a functional part of the house. Dormers are most easily characterized by their roof shapes.

**ROOFING MATERIALS**—Resting upon the wooden framework is the watertight covering, which adds texture and color to the sloping roof planes and thus has a dominant effect on the external appearance of a house. Four principal kinds of materials are used for roofing.

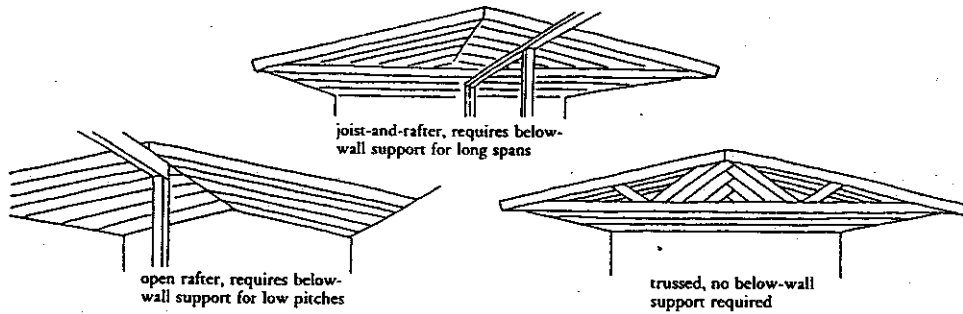
The first are organic coverings. Of these, thatch, closely packed bundles of reeds or straw, is the most common roofing for folk houses throughout the world. Although thatch is commonly used on modest European dwellings, it was quickly abandoned by American colonists because it was particularly vulnerable to the high winds, driving rains, and severe winters of the New World. Long boards of split wood were sometimes substituted for thatch in early colonial houses but these, too, were rather quickly abandoned for roofs of wooden shingles—thin wedge-shaped rectangles that were either rough-split or sawed from oak, cedar, or other durable woods. Shingles could be closely aligned and generously overlapped to give an impervious and weather-resistant roof;



**ROOF FRAMING**



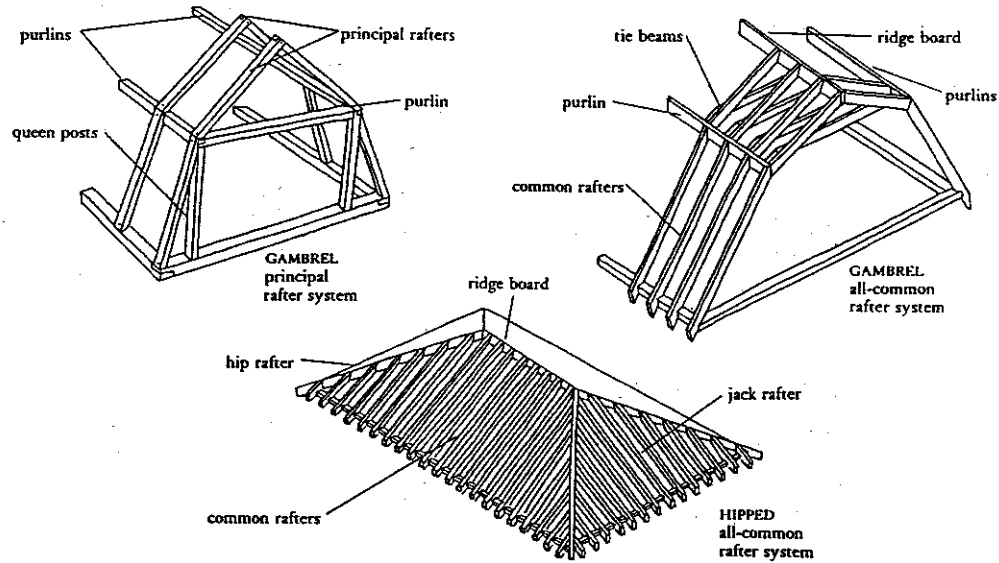
**RAFTER SYSTEMS**



**RAFTER SUPPORT SYSTEMS**



**RAFTER TRUSSING SYSTEMS**

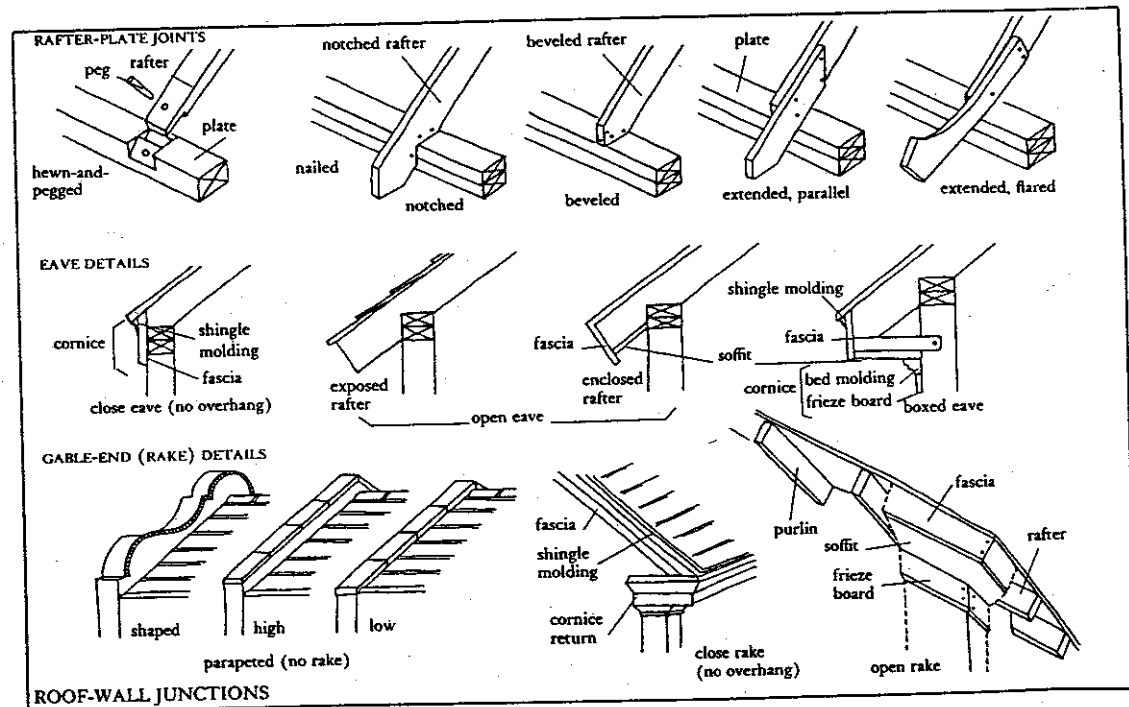


**TYPICAL GAMBREL & HIPPED FRAMING**

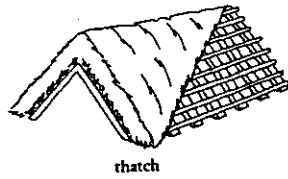
since colonial times, wooden shingles have remained a dominant roofing material of American houses.

Roofs of mineral materials also have a long history. Simplest are roofs of earth, or of earth bound by grass roots to make sod; both are common on folk dwellings everywhere. Both the earliest New World colonists and 19th-century settlers in the treeless western half of the country commonly used earth or sod roofs on temporary dwellings. They are also used for the roofs of permanent Spanish-influenced dwellings in the American Southwest. Roofs of thin, flat pieces of natural stone, tightly overlapped as with wooden shingles, were common in the larger dwellings of Medieval and Postmedieval Europe. An abundance of wood for making shingles—and a relative scarcity of quality slate, the most easily split and durable type of stone—made such roofs uncommon in this country until the late 19th century, when they began to be used in houses that simulated earlier European traditions. A third type of mineral roof, composed of thin, shaped units of baked clay tiles, was developed in classical times and has since remained a continuous feature in European architecture. Several systems of interlocking tile units have been developed through this long history. Most of these systems have been employed on monumental New World houses since colonial times but, like slate roofs, they have been common only since the late 19th century. In the 20th century, tiles made from concrete and other composite ceramic materials have been developed which simulate clay tile. (Note also that metal and composition roofs are often shaped and colored to resemble ceramic tile.)

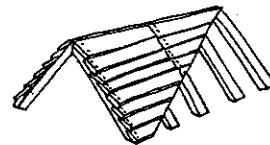
Metal roofs also have a long history, for sheets of lead or copper have been used as roofing since classical times. A few landmark colonial houses of the New World used such roofs, but metal became a common roofing material only in the early 19th century when sheet iron (usually coated with zinc, tin, or lead to prevent rust) first became relatively inexpensive and plentiful. Usually metal roofs are applied as large sheets joined with standing seams, which help prevent leaks. Later in the 19th century, stronger corrugated panels of iron became common for roofing of commercial and modest domestic



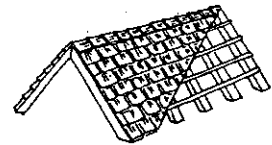
ORGANIC



thatch

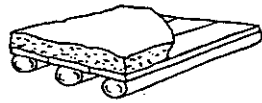


boards

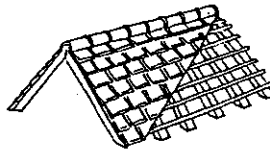


wood shingles

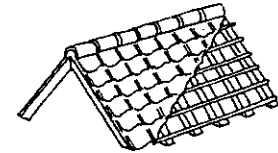
MINERAL



earth

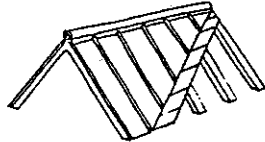


slate, stone

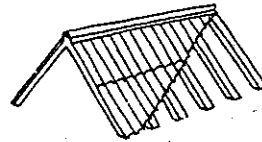


ceramic tiles

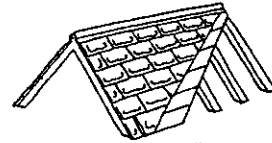
METAL



sheets (lead, copper, iron, tin, zinc, etc.)

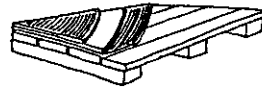


corrugated panels (iron, steel, aluminum, etc.)

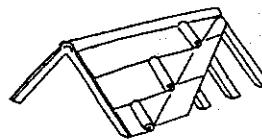


metal shingles, tiles

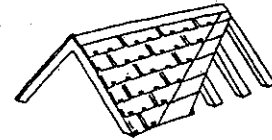
BITUMEN & MISC.



tar (built-up roofing)



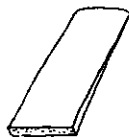
composition sheets (roll roofing)



composition shingles

ROOFING MATERIALS

WOOD SHINGLES



sawed

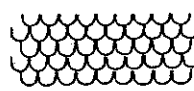


split shingles

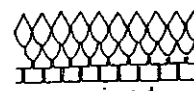
normally sixteen to twenty inches long

SHINGLE SLATE PATTERNS

Both slates and wood shingles are sometimes cut into decorative shapes



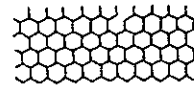
fishscale



variegated



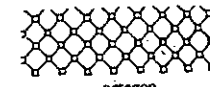
diamond



hexagon



plain



octagon

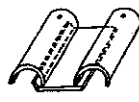
CERAMIC TILE SYSTEMS



shingle tile (plain tile)



pantile



Roman



Spanish (Mission)



modern Spanish

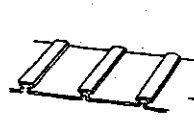


interlocking shingle

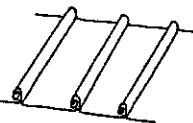


French interlocking

METAL SHEET JOINTS

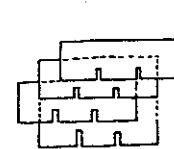
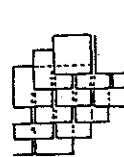
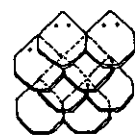


batten or ribbed



standing seam

COMPOSITION SHINGLES: TYPICAL SHAPES



ROOFING DETAILS