

## **SLATE Roofs in America: A short history by Jeffrey S. Levine**

As architectural design has developed, so too has roof design. In fact during some periods of architectural history roof design went far beyond the merely functional and contributed much to the character of buildings. Roofs by their compelling forms have defined styles and by the decorative patterns and colors of their sheathing material have imparted both beauty and dignity to buildings. Slate is perhaps the most aesthetically pleasing of all roofing materials. It is indicative at once of the awesome powers of nature, which have formed it and the expertise of the craftsman in hand shaping and laying it on the roof.

Slate roofing was used in the eastern cities of this country prior to the American Revolution. Despite this, the slate industry did not gain prominence here until the mid-nineteenth century. A number of factories contributed to the industry's development including the advent of cheaper forms of transportation, first by canal and later by rail. An increasing U.S. population, which almost tripled in the years from 1830 to 1860 and an increase in the demand for housing and, hence, building materials resulting from the population increases.

Architectural tastes also contributed to advances in the slate industry. The prevailing architectural styles of the mid-nineteenth century placed strong emphasis on prominent rooflines. Slate, laid in multi-colored decorative patterns, and was particular suited to the curved or straight Mansard roofs of the Second Empire style and the steeply pitched roofs of the High Victorian Gothic.

John Ruskin, an English writer and critic of art and architecture, was strongly influenced by Venetian Gothic design, and urged his contemporaries to employ a "veil of color" for the upper stories of new buildings, like the Venetian palaces of the Medieval period. We see the influence of Ruskin's ideas on American architects in Peter B. Wight's National Academy of Design (New York, 1863-65), Leopold Eidlitz's Church the Holy Trinity (New York, 1873) and Ware and Van Brunt's Memorial Hall Harvard University, Cambridge, Mass., 1865-78). The upper regions of all three of these buildings are constructed of different colored stones and/or bricks laid in decorative patterns in the case of the latter two buildings, the polychrome is carried up to the patterned slate roofs.

Many late nineteenth century pattern books contained designs with decorative slate roofs. Andrew Jackson Downing's The Architecture of Country Houses (1850) was probably the most influential because it was the first architectural publication in this country to be directed at a mass audience. It was Downing's intention to elevate the taste of his countrymen through the presentation of plans and three-dimensional views. Downing believed that certain moral benefits could be derived from linking architecture to its natural surroundings. The sublime power of nature humbled men and its beauty, which in architecture must ultimately transcend the useful, had a powerful civilizing force. The link was made through the use of such devices as the open porch or veranda, an earthy palette of colors and an irregular plan and massing. The Gothic style, picturesque by its very nature and thus able to respond to a varied landscape, was deemed most appropriate for rural residences.

Variety, according to Downing, was an important element of architectural design. In The Architecture of Country Houses Downing states, "a slight difference in the forms, sizes, or decorations of certain parts of a building, is sufficient to give it an expression of variety, and by judicious employment of this quality, every architect is able to increase the beauty of his whole composition." Variety is indeed important to Downing's discussion of the ornamentation of roofs: "...it is often desirable to break up the plainness of [a steep] roof and a very easy and efficient mode of giving good effect to such roofs is that of cutting the shingles in certain patterns before laying them." Three patterns are illustrated - diamond, round and hexagonal cut - along with the suggestion that three or four courses of ornamental shingles be introduced between several courses of plain shingles. Recognizing the high cost of slate, -Downing reserved its use to country houses of the first class."

The treatment of rooflines contributed greatly to the picturesque of villa and cottage designs according to Calvert Vaux, an architect who worked with Downing. In his introduction to roof coverings Vaux recommends both wood shingles and slate over metal roofing from a strictly practical point of view. Slate, however, was preferred when aesthetic qualities are considered. "...Lately, new American quarries, supplying slate of different colors, have been opened in various parts of the country, and worked with success. The slate that comes from the Eagle quarries in Vermont is of two tints: the one a rich purple gray, the other a delicate green. This slate, when arranged on a roof in stripes or patterns so that the colors are equally represented " has a very agreeable effect, and one that is far superior to that produced by any shingle or metal roof."

The designs presented in Villas and Cottages confirm Vaux's enthusiasm for decorative slate roofs. Design No. 10, a "Suburban House With Attics" built in Newburgh, New York, "depends almost entirely on the roof lines for any picturesque it may lay claim to." The house is covered with purple and green slates from Vermont, arranged in bands and with the purple slates appearing to be diamond cut "The effect, as executed, is very soft and agreeable.

In the late 19th century and early 20th century slate covered roofs became even more popular. The Queen Anne style, for example, often employed slate for roofs as well as for the sheathing of wall surfaces. One identifying feature of the Queen Anne was the use of wall surfaces as a primary decorative element. This was accomplished by avoiding flat, plain wall surfaces and by the use of a variety of materials of different textures and patterns whenever possible.

Later styles, such as the Tudor and Chateau, looked primarily to Europe for their design inspirations. Thus we see in the Tudor style the desire to imitate the quaint appearance of the Westmoreland and Cornish slates produced in England which, because of their granular cleavage, are thick and irregular. These slates, which vary materially in size, are often laid in a graduated pattern with the largest slates at the eaves and the courses diminishing in width as they ascend up the slope of the roof.

French slates, though of good quality, are often very thin (1/16") and small (5"X9") due to a high degree of impurities in the material that ultimately becomes waste. The French Chateau style adopted these smaller slates (indeed, the cheapest of French slates) in order to increase the scale of the roofs and to insure a smooth texture and singularly neat and elegant appearance.