

Stone Roofing

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I recently had a good chance to see period roofing first-hand and review a wealth of information. I will provide: a fairly detailed overview of stone roofing as practiced by a slater in our period, and overview of related trades in their relationship to the slater, and some hypothesis and conclusions for further research and proof. I will often use modern trade names and terminology to provide a better understanding of these people as people like ourselves.

A slater began his work when the framers had finished the necessary split-sheathing. First, he sorted the roofing material by size. In some areas these were delineated as queens (at least two square feet exposed to the weather) on down to ladies (twenty-five to nine square inches); in others tefyll "slices" (fifty square inches?), ysglodion "chips", and ysgyrion "splinters." Then he began laying the stones in diminishing courses. The slater punched an approximate three-eighths hole in the upper portion of the stone. Then he drove a square oak peg through the hole and hung the stone on the upper portion of the split-sheathing.

Several sources confirm the use of a smaller stone as an under-row for the first course, what we now call a starter course. This starter course and the first course often overhung the eaves by one to nine inches. Each course is laid to cover approximately one inch of the second course down. All joints are given at least one inch of lap to the joint below. Rakes had two main forms. The first, and more common in windy areas, had the gable walls run a foot or so above the roof line. These were weatherproofed by adding a lead flashing. The second method extended the stones a few inches beyond the edge of the framing. These may or may not be "torched" in place. More on "torching" later. Ridge lines were the most varied.

Once the eaves, field and rake were laid the ridge could begin. The ridge would be of stone or thatch, most commonly stone. One method of ridging was to dress special stones in a "V" shape. These would be laid overlapping a little less than half their length with the lap facing away from the predominate wind. Another method was to notch the top stones to interlink with the stones from the other side and the "torch" them. Thatch ridges were identical to those found on thatched house, which basically bent the thatch down on each side and stapled it down with rods and hazel staples. Valleys, or joints with other rooflines, varied widely according to region. The best, in my opinion, had a special transition created by the framers. This transition created a curve between the two roof decks.

The slater then cut the stones to fit in the valley by sloping the sides uphill. When done with skill, this creates a beautiful roof detail and the most weatherproof type of valley. More commonly, the valley had a thin metal sheet rolled down the middle of the valley, usually lead or copper. The stones would then be laid to overlap the metal and trimmed to create a smooth diagonal line. Many other methods exist. chimneys and bottoms of protruding dormers were generally flashed with lead. Some roofs need ventilation and a little lead was acceptable. These were "toeon brat", where ever second or third slate in a row would be left out. If a roof was made of a poor quality of stone, it was frequently covered in a thick mortar-like mixture that left the roof almost smooth.

A related trade was mossaing. When ventilation was not desired - as in a barn or granary - the slates were mossaed, that is made more water and wind proof by pushing moss underneath and in-between the stones with a mossaing iron. The moss had the same effect that modern roofing felts have. Mossaing was not universally use.

In some areas "torching" was the norm. "Torching" is applying a mixture; much like daub, of mud, manure, finely chopped grass, and whatever else the torcher felt like. The torch is applied to the underside and commonly the rake and ridge of a roof. Torching often fixed small leaks. In some areas of Wales, "teiriad" or torching was done with fine lime plaster and cow hair. This torch lasted longer than other forms.

When I went to the UK, I wanted to see those marks and styles and details that a scholar wouldn't know to look for, but a trained roofer would. The first thing that I noted was that almost all stone roofs were laid in a left-hand pattern. The stones have that diagonal strip running from lower right to upper left that indicates the stones were laid in the bottom left corner first and then laid in a diagonal upwards. Some of the scholars who wrote the books thought that the stones were laid row by row. I disagree, and the Welsh Fold Museum agrees with me.

The display is laid up exactly like a left-handed shaker would lay up a roof in modern day! The best book for details in roofing has many photos that support this hypothesis. I do not know if slaters were left-handed, but their work requires more research to find out why roof after roof was laid this way. I hope to make a better argument for this hypothesis in the future. I also wonder if the slater laid his own split-sheathing. It followed the spacing for stones very well, I have a few period contracts for slaters I hope to find out more of how they worked on a day-to-day basis. I do have a drawing of what I hope is a period zax, or slaters ax.