

The use of 'skailie' in Medieval and Post-Medieval Scotland

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Recent archaeological reports from excavations carried out round the Royal castles and palaces suggest that a completely new chronology of roof covering for high-status buildings in Scotland should now be formulated.

Key-words: skailie, Scotland, roofing material, slate, shingle

Background

The predominant roofing material in Scotland, from the prehistoric period to about 1900, was thatch. This does not mean that there was a single material covering all roofs in the country, but rather that roofs were covered with a range of vegetable materials including seaweeds, straight-stemmed plants such as bracken, dock, iris reeds, rushes, natural grasses and cultivated cereals to woody plants such as broom, juniper and heather. This list is not exhaustive and the final choice was dependant on site location, degree of exposure, roof pitch, local farming practice, local economy, number of helpers available and many other factors. The final choice is not always easy to understand in relation to present-day criteria but the range of thatching materials, methods of application, anchoring devices and so on, was limitless. Gradually, as construction firms began to replace volunteer labour, the range of thatches reduced, but even then there was an extremely wide choice available. Thatch types, surviving into the 20th century, have been studied (Walker *et al.* 1996) and guidance has been provided for repair and renewal. Many Scottish thatches required periodic resurfacing to ensure their continued performance. This resulted in a stratified accumulation, and by introducing archaeological techniques to the roof covering we have been able to identify changes in the husbandry of the thatching materials over successive decades (Holden *et al.*: 1998).

Thatching was so common that *theik*, *thak* or *thatch* became a generic term for the appli-

cation of any roofing material. Other roofing materials were known from Roman times onwards, but only on very high-status buildings, and even as late as the 18th century reference is often made to a building being 'thatched with' tile, timber, slate or some other material.

Skailie

In Scottish high status building reports these new materials were often referred to as *scailie*, *scailyie*, *scailne* or *skailie*. The spelling is fairly close to *scait*, *sclate* or *slate* and this has caused further confusion, but Imrie & Dunbar (1982) state that *scailie* refers to a covering of slate, stone, tile or timber, that is, blue slate, grey slate, plain tile or shingle.

Although all of these materials were known and used during the Roman occupation of Britain there is no evidence of any large-scale activity in the production of blue slate, grey slate or plain tile in Scotland until the mid 18th century. Small-scale production is possible; for example, glazed plain tiles dated from the 14th century have recently been excavated by Scottish Urban Archaeology Trust at King Edward Street, Perth. Similar glazed plain tiles were also excavated on the Isle of May, Fife (Heather James pers. comm.). The date of manufacture is not known but a coin dating from the later 13th century was found in the same destruction layer (Will n.d). Grey slate begins to appear in both building accounts and archaeological excavations in a 17th-century context, but blue slate does not appear until the 18th century.

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This leaves shingles as the only scale-like roofing material that could have been produced and used in any quantity without leaving much physical evidence on the environment or in the archaeological record. On most sites shingles would rot in the soil, but in water-logged conditions they might survive.

Other new materials such as lead, copper, paper, iron and zinc were gradually being introduced, but all were costly to produce and most were not available in sheet form until the late Medieval or Post Medieval periods.

The change from thatch outside the Royal circles seems to happen in the 17th century, when entries for a range of roofing materials begin to appear. This coincides with a broadening in the range of archaeological finds. Entries from the forthcoming volume of the *Dictionary of the Older Scottish Tongue* confirm the trend. Edinburgh is described in 1621 in the following terms (Acts.IV.627/1):

no . . . persones salbe suffered . . . to builde anye housis within . . . Edinburgh bot suche as salbe covered with sklaite . . . that the heritouris of suche housis as ar already thaicked with thack and straw (if the same thack or straw ruifes sall heireafter at anye tyme becum ruinous) salbe astricted to thack the same agane with sklait, or skailnee, leade, tylid or theackstone.

In 1624 (Edinburgh Burgh Records. VI.425):

Sick (houses) as salbe coverit with sklait, leade, tylis or thackstane.

Glasgow took a similar line in 1681 (Glasgow Charters. II.214):

. . . ordains them to be theicked with lead, sclait, scaillie or tyle.

In these entries *skailie* appears to be used as a term for *shingles* since all the other scale-like roofing materials are identified separately.

Shingles

Shingle appears to be the material that naturally bridged the gap between the early thatches and the roofing materials currently covering large-scale, high-status buildings such as cathedrals, churches, castles, palaces and government buildings. The medieval sources of *skailie* for Royal buildings such as Edinburgh Castle, Stirling Castle, Holyrood House and Linlithgow Palace are normally given

as Aberfoyle and Dunkeld, but in one instance the source of 'skailie' is given as Dunkeld and Perth (Paton 1957: liv).

Slate quarries may have been possible at Dunkeld, but certainly not at Perth. Both Aberfoyle and Dunkeld were known for slate production in the 19th century but both areas were heavily wooded in the medieval period. The lack of evidence for early slate quarries and the difficulties encountered in extracting Scottish slate both suggest that it was timber shingles that were being used. This is supported by documentary evidence from England, where it is known that churches as large as Salisbury Cathedral were shingled when first erected, and the shingles were only replaced after lead sheets of sufficient size for roofing purposes were readily available (Innocent 1916: 184).

The argument for timber shingles is further strengthened by an item in the accounts for Edinburgh Castle (*DOST* forthcoming: *spule*: 1496 (Treasury Accounts 1.279)):

To Johne Mawar and Dande Archinsone, in . . . payment of the king of the Chapell of the Castell of Edinburgh with spule iiii li xijs.

1496 (Treasury Accounts 1.302):

To Johne Mawar for theking of the rude of spule thak of the werksous in the castel.

1532 (Rocesses (Reg House) NoV (Elphinstone v Innes)):

The rufe of the greit hall contenand of cupillis theikit with spule.

and

The rufe of the keching thekit with spule contenand xx cupillis

1496 (Treasury Accounts. 1.291):

For nails to the spule theking in the Castel of Edinburgh.

1496 (Treasury Accounts. 1.307)

Nails to the spule thak.

Spule is defined in the forthcoming volume of the *Dictionary of the Older Scottish Tongue* as shingles but it may refer to a specific form of shingle.

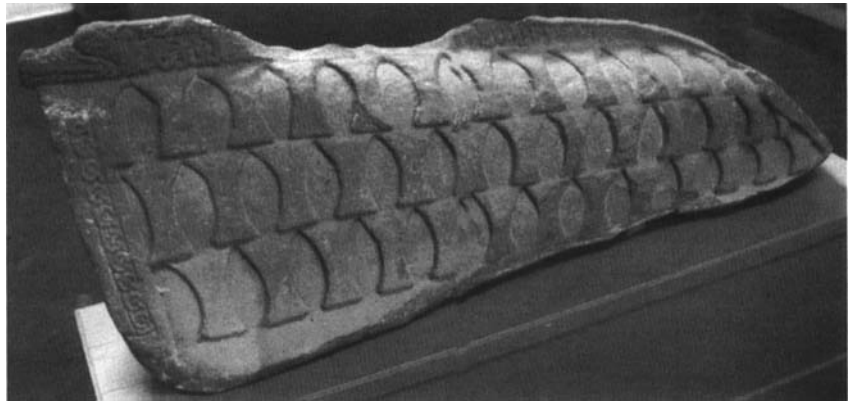


FIGURE 1. *Meikle hog-backed tombstone.*

A similar group of entries appear under the term *spune* but the buildings are not identified. This could again be a specific form.

Further accounts from between 1558 and 1594 (Paton: 1957: 312) refer to *sponne*. These read:

Item to theirk the greit hall callet the workhows with new skailt, to theik the smyddyhows and ane syde with new spowne and the uthir syde with new skailt, to theik the chappell new with spowne.

Item to theiok the shappell with spowne, the west half of the smiddyhows with spowne alsua . . .

Spon is defined by Jamieson (1879) as 'shavings of wood'. The same word in Norwegian is given the same meaning (Daland 2000: pers. comm.) but is also used to indicate a single shingle (Christie 1976: 30). Christie also uses the term 'sponene' in connection with 'tekking' when illustrating a roof of pine shingles. Similarly the terms 'spän' and 'späntak' are used in Sweden (Gustafsson & Biörnstad 1981: 54). The *Scottish National Dictionary* has no entry for 'spon' but the manuscript for 'S' in the *Dictionary of the Older Scottish Tongue* gives *sponne* as roofing shingles:

The rufe of the samin chalmer contenand fifty cuppilis thekit with sponne

The entry is from a court case dated 1532. The second entry reads (Inverness Records: 1558: 1.22):

Wat Cupar's . . . to theik thwe sowtht syd of the moder syrks . . . and wyne the sponne to the same.

Turning away from the documentary evidence and considering some of the early stone monu-

ments found in Scotland we see that many of the Class 2 Pictish stones depict crosses constructed from brushwood, that is, they are copies of basketwork structures. The accuracy of this statement was recently confirmed by the late Alistair Smart, sculptor who was producing a replica of the Pictish cross-slab from Fowlis Wester, Perthshire. He demonstrated that although there was an underlying geometry to the pattern each strand was off-set to allow for the thickness of the osiers and that it was impossible to set out the pattern mechanically. This, combined with the accuracy of some of the incised carving on both Class 1 and Class 2 stones, suggested a high degree of observation in carving from nature or from an existing object. Assuming a similar level of artistic expertise for other stone monuments from about the same period, the hog-backed tombstones which are dated to AD 900–1100 stand out as reasonable depictions of buildings. They show a range of vertical-walled buildings with hog-backed roofs with bestial finials at one or both ends of the ridge (FIGURE 1). The carving of the watted panels forming the walls is accurate but out of scale with the entire structure, and the same can be said of the roof covering. The roof carving appears to depict timber shingles of the Nordic type as can still be seen on the stave churches of Norway (FIGURE 2) and many later buildings in Sweden and other Baltic counties. Different stones depict different types of shingle, but each type corresponds exactly with the types still surviving in Scandinavia.

Sceptics may consider the apparent link between the hog-backed tombstones and Norwegian stave-churches to be tenuous, but many of the excavated Viking longhouses at sites such

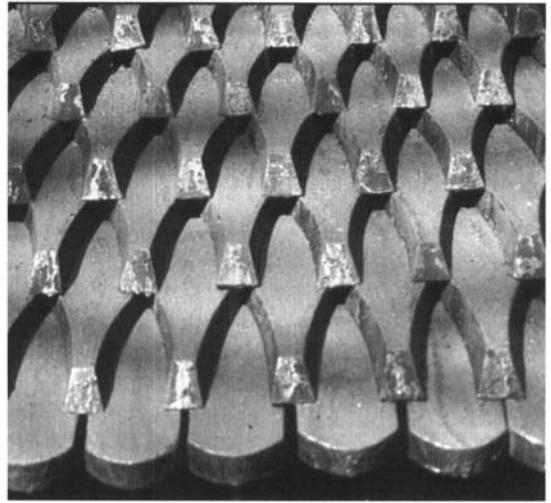


FIGURE 2a & b. *Fantoft stave-church, Bergen.*

as Jarlshof, Shetland would, from their plan form, have had hog-backed roofs and the oldest surviving stave-church in the world is at East Grinstead, Essex (Hauglid 1980: 14 & 18). Similarly, Irish cross-slabs often incorporate a representation of the early church or oratory at the top of the cross. Leask (1955: v1.54) illustrates Muiredach's Cross, Monasterboice, which depicts a small timber structure with a shingled roof, and points out that in addition to oak shingles, the Irish also used yew shingles.

Others, like Carole Morris (1984), recognized that the hog-backed tombstones represented shingles but warned that these were 'possibly artistic rather than realistic representations to be treated with caution'. This tends to suggest that she had not, at that time, studied the surviving Scandinavian examples, as she has since changed her views (Morris 2000). Morris (1984) also refers to an illuminated manuscript showing a man hammering 'nails' into the shingles 'below the lap' and points out that this 'would be technologically incorrect' and therefore unreliable. This statement is correct in itself, but the stave

churches at Borgund, Sogn og Fjordane (FIGURE 3) and Eidsborg, Telemark, Norway dating from the mid 12th and 13th centuries respectively have a timber peg through the centre of the weather surface of each shingle (Lindholm 1969: ill. 23) showing that the original recorder was also correct in his depiction.

The shingle types known in Scandinavia (see FIGURE 4) can be classified as

- a scalloped
- b lancet
- c pointed
- d straight-tailed
- e fish-tailed

These are pine shingles and are quite thick at the butt edge, although the shingle is quite narrow in proportion to its length. Similar shingle patterns are to be found on the spires of many early churches in Transylvania, Romania (Szabóky 1987) and Poitiers, France (Altet 1998).

Shingles of a distinctive stepped pattern (FIGURE 4f) are also to be found on the timber churches of Novgorod, Russia (Bartenev & Fyodorov 1972). This is yet another area with long-standing trading links with Scotland. Similar shingles are to be found in Chile (FIGURE 4g & h).

The pine shingles from the Nordic countries are quite different in character to the oak shingles still common in Central Europe (FIGURE 4i, j & k) and it is the oak-shingle technique that is found in England. There the documentary evidence for shingles goes back to at least the 12th century, when Alexander Neckham

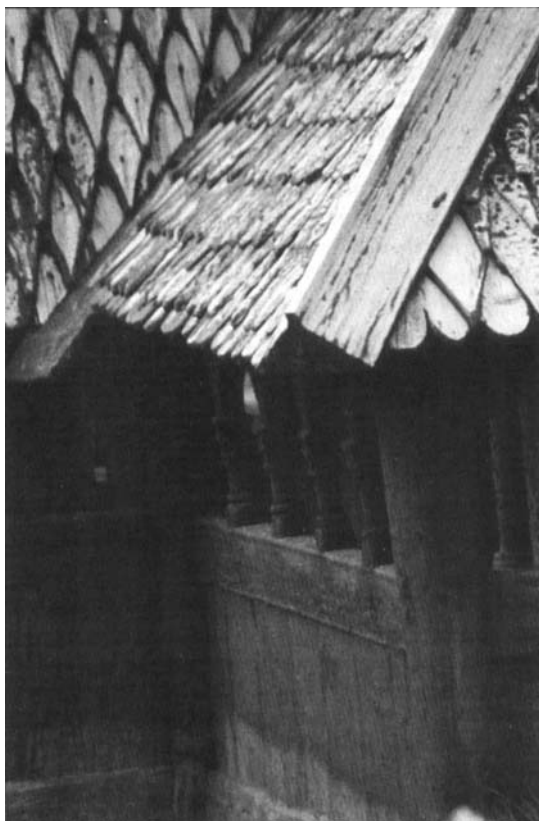


FIGURE 3. *Borgund stave-church.*

stated that a hall might be roofed with straw, rushes, shingles or tiles ('*chaume, rod, cengles, teules*'). Wooden tiles were used at Dover Castle 1220–1221 (Colvin 1971: 34); Kennington and Woodstock were shingled 1248 (Salzman 1952: 228–9); Westminster Abbey in 1259 (Colvin 1971: 358). Similarly, in 1260, King Henry III ordered that the thatch be removed from the outer chamber of the high tower of Marlborough Castle and be replaced with shingles (Turner 1851: 251); Clarendon '*aula domini regis indiget coopertura scindulavum*' 1272 (Parker 1853); and at Walmer, Hants in 1285 (Turner 1851: 60).

Innocent (1916: 184) gives other examples from the early Middle Ages: Salisbury Cathedral, roofed with shingles from the Bramshaw Woods in the New Forest: twelve oak trees from Sherwood Forest sent to the Franciscan Friars in Lincoln for shingles.

Innocent (1916: 185) appears to believe that the use of shingles in England did not last beyond the end of the 14th century:

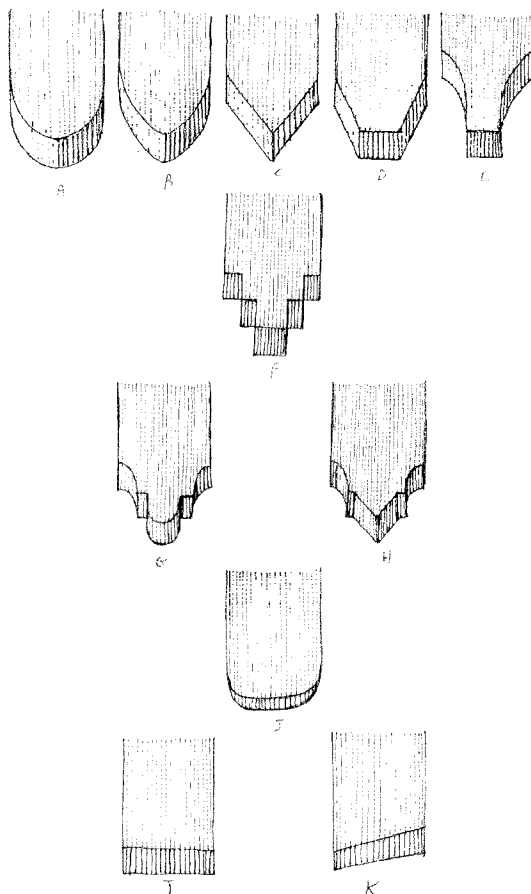


FIGURE 4. *Shingle types.*

In the year 1314 it was found that certain of the royal manor houses and castles which were roofed with wooden shingles might be roofed at a less cost with stone slates or earthen tiles.

The high cost of shingles and the availability of other, less expensive, roofing materials were not the sole criteria considered in the choice of roof covering. To take Winchester as an example, slate from Devon and Cornwall was being used on Royal buildings in Winchester during the reign of Henry II (1154–1189) and was in widespread use on private houses by the 13th century. Slate had supplanted shingles as the principal roof covering by the early decades of the 14th century. Plain tiles first appear in Winchester in the 13th century but do not replace slates as the principal roof covering until the second half of the 15th century. However, in the midst of this change, the Great Hall of Winchester Castle was re-roofed with shingles

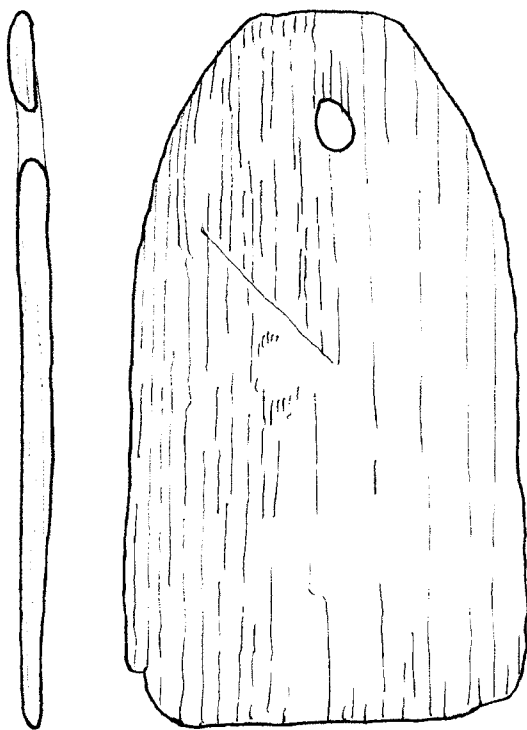


FIGURE 5. *Perth High Street shingle.*

in the early 15th century (Keene: 1990: 320, plate LXII).

In 1688, R. Holme defined shingling as a mode of roofing with cleft wood, about 6–8 inches broad and 12 inches long (150–220x300 mm). These are slightly wider but considerably shorter than the Scandinavian pine shingles. He continues (Innocent 1916: 184)

pinned at one end to hang on the laths. They are laid as slates with moss under them, which is termed mousing.

In 1773 shingles are defined (Auld 1778) as

small pieces of wood or quartered wooden boards sawed to certain scantlings, but they are more usually cleft to about an inch thick at one end and made like wedges, about four or five inches broad, and eight or nine, and in some places twelve inches long. They are used to cover houses; but more commonly churches and steeples with, instead of tiles or slates.

In England the use of oak shingles is now confined to use on church spires, particularly in the southeast of the country (Walton 1998). This proves that the technique was not totally abandoned. The use must have persisted on less

prominent buildings for which there were no detailed building accounts. This is confirmed by the English settlers in New England who adopted shingling for all types of buildings. There they were sawn in random widths from 2½ to 14 inches and about 16 inches long (60–350x400 mm) and are made from cedar, cypress and redwood (Innocent 1916: 185).

Innocent also comments on the confusion surrounding the use of the word ‘slats’ or slates to refer to timber, stone or ceramic elements. The word ‘slats’ is also used both for timber and stone slates.

A group of English plantation houses erected at Moneymore, Co. Derry, Ireland in the early years of the 17th century also illustrate that the art of shingling was not exclusively reserved for ecclesiastical structures. A plantation survey of 1622 reads (Robinson 1983: 51)

6 stone houses, where 5 are 40 foot long, 22 foot broad, 2 stories high shingled: 8 timber houses, where of 2 are 40 foot long, 20 foot broad, 2 stories high shingled: 3 houses 36 foot long, 19 foot broad, 2 stories high, shingled: one timber house, 18 foot square, one storie high shingled. A Water Mill house, 30 foot long, 19 foot broad, one storie and a half high, shingled, and ten thatch houses and cabbins.

The forms used for shingles are in part repeated in slate- and tile-making. The plain-ended type is universal and is the standard type for blue slates, grey slates and plain tiles. Scalloped ends are found in decorative blue-slate and plain-tile work as the straight-tailed type. The earliest Roman roof tiles found in England are pear-shaped, having a scalloped tail and a truncated point above the nail hole. Slates of this shape are still produced in the slate quarries close to Bergen, Norway.

Taking the archaeological evidence a stage further, shingles were found at a level attributed to 1250 AD in the Marks & Spencer site, High Street, Perth. Only one was retained and this is now in Perth Museum (FIGURE 5). The shingle is small, approximately 7 inches long by about 4 inches wide (175x100 mm), but this is clearly the right shape and compares well with the earliest-known list of slate sizes, dating from 1688, where the shortest slate, a ‘short haghhattee’, is only 4 inches long and the longest, a ‘winfast thou’, is 16 inches long. Discussion with archaeologists regarding the location of shingles in archaeological excavations suggests that finds are rare but that there are often

unidentified fragments of timber, that are normally designated as barrel staves, that could be shingles (Murray pers. comm.). When asked about the remains of slates, which would not perish in the ground, these were rarer than timber fragments on early sites.

Had that been all it might have left a slight doubt in the mind of the researcher, but the most compelling piece of evidence is an account of the removal of shingles from the roof of the Cannongate Tolbooth, Edinburgh (built in 1591) (FIGURE 6), in the late 19th century and their replacement with slates (Smith 1873: 162–4). This was an important building, one of the earliest stone buildings in Cannongate, which was still shingled about 300 years after its first construction.

John Alexander Smith, who was vice president of the Society of Antiquaries of Scotland, described his initial surprise in the following terms (Smith 1873: 162–7):

Some years ago when walking with a friend down the Cannongate, on a bright sunny day, I made a discovery which rather astonished me; the sun was shining brightly, as we passed, on the picturesque roofs of the turrets and tower of the Old Tolbooth, and from its rich brown colour and general appearance, I saw that it was not covered with slates, but with wooden shingles; and my friend, who was familiar with shingled roofed church towers in Berkshire agreed with me on this opinion. The fact was a new one to me, though it may have been known to others, and must have been well known at least to the workmen who from time to time would require to repair the roof. I looked into the various published works which gave details of the antiquities of Edinburgh and the adjoining burgh of Cannongate; but though some gave short, and others larger accounts of the Tolbooth, none that I could discover made the slightest reference to the fate of its shingled roof.

In the course of this winter, I happened to notice planks and scaffolding projecting around the eaves of the old building, and on making closer inspection, I found that it had been undergoing a thorough repair; but I was startled to find the shingled roof had altogether disappeared, and that it was now newly covered with small blue slates.

The man superintending the work was called Andrew Slater and Smith discovered that he still had some of the shingles in his possession. He continues:

At my request he sought out various good shingles, which are all of oak, and fixed them in order on a board, sending me also some separate ones; these I



FIGURE 6. *Cannongate Tolbooth.*

have now much pleasure in presenting, in Mr Slater's name, to the Museum. The shingles measure about one foot in length, by three to five inches in breadth, and scarcely half an inch in thickness, and the ribbed and furrowed appearance of the exposed lower extremity of each, shows the long period of time during which they have borne the varying weather of our northern climate.

Dorothy Kidd of the Royal Museums of Scotland located the shingle panel described above

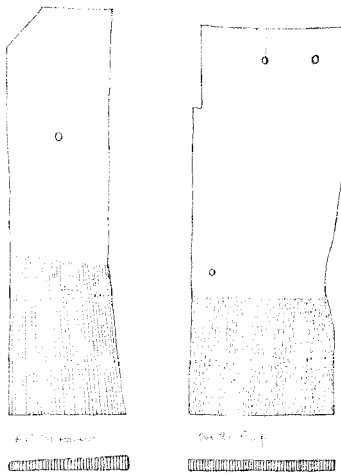
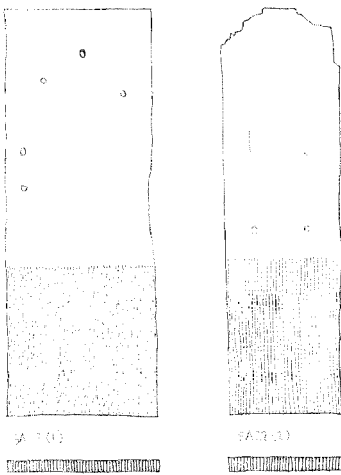
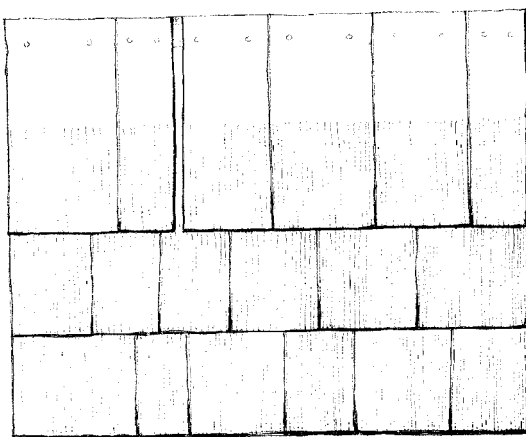


FIGURE 7. *Cannongate Tolbooth shingles.*



10 mm
Cannongate Tolbooth, 1871
Shingle Panel

and this is shown in the accompanying illustration (FIGURE 7). The panel was inspected by the author and Dr Anne Crone at the National Museums of Scotland store, Port Edgar, West Lothian. It measured 620x500 mm overall and was made up of shingles approximately 255 mm long and 4–5 mm thick. The shingles were laid in straight courses with a 120-mm exposed face. The widths of the individual shingles varied from 65 to 150 mm. The shingles were nailed to the panel but other holes in the surface suggested they may originally have been pegged. In addition to the panel, the Museum had four other shingles, three from the Cannongate Tolbooth tower and one from the Cannongate Tolbooth roof. These were longer than the shingles on the panel, measuring 335–350 mm in length. The Tolbooth tower shingles were 100 mm, 125 mm and 133 mm in width and showed approximately 130 mm of weathered surface. The Tolbooth roof shingle was 125 mm wide with a 112-mm weathered surface. All of the individual shingles were slightly thicker than those on the panel, being 8 mm on average, although the thickness of the narrow Tolbooth tower tapered from 7 mm to 10 mm across the width. Dr Crone considered it possible to obtain a dendro date from the shingles which could assist in assessing the life-span of this material on a Scottish roof.

Returning to Smith; he goes on to trace some of the early references to shingles:

They were used, as I have shown, in Anglo Saxon times, and have never since been wholly laid aside, being more easily obtained, where wood was plentiful than tiles or slates . . .

Conclusions

Smith gives a clue as to why shingles may have remained popular in Scotland long after their apparent demise in England. Although many areas of England found it cheaper to abandon shingles in favour of slates, it must be remembered that these sources of slate and flagstone were normally much closer to the main centres of population than they were in Scotland. The Winchester evidence (Keene: 1990) shows that, even when slate and tile were available, shingle was the preferred material.

Scotland had had a long timber tradition and Scottish aesthetic preferences were linked to that tradition. These preferences included ex-

tremely steep pitched roofs, ideal for shingles but not readily adapted for the application of extremely heavy grey or blue slate. Substantial timber resources appear to have resulted in a continuation of the shingle-roofing tradition on high-class properties, although there is some evidence to suggest that grey slate may have been used in Angus, the Borders and Caithness at a slightly earlier date than its introduction into central Scotland.

It is not surprising to find little evidence of blue slate being used prior to the 18th century, since Scottish blue slate was notoriously difficult to split and, because of its thickness, was expensive to transport. Even at the height of production of Scottish blue slate the industry could not stop the Welsh slate quarries providing the slate for a high proportion of Scottish roofs.

Shingles provide a good -quality roof covering ideally suited for use on Scottish Medieval and Post Medieval roofs. They are a fully sustainable resource and could be produced locally without harm to the environment. This makes them ideal as a conservation

material, provided they can be successfully fireproofed.

The only way forward is to organize a detailed review of all the archaeological excavation reports for the Royal castles and palaces where *skailie* was purchased to confirm or deny the views put forward in this paper. It is to be hoped that Historic Scotland may consider this in the near future.

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