



ARO12: Painting the stones black: solving the mystery of painted quartz pebbles

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ARO12: Painting the stones black: solving the mystery of painted quartz pebbles

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The majority of painted pebbles in Scotland have been found in Shetland where they form an important collection within the Shetland Museum. Experimental study of this collection by the authors has been carried out to understand their decoration, the material used in painting the pebbles, the methods of application of the design and consideration of its survival. This paper is a product of the research to date.

Introduction

Painted pebbles are a conundrum. These decorated, white beach-worn quartz pebbles dating to the first millennium AD, have been the subject of much thought and discourse among archaeologists since the first were discovered in Orkney and Caithness during the nineteenth century. This discussion continues today as more of these enigmatic pebbles are unearthed. Painted with dyes that are dark brown and reddish, their decoration of varying forms has been absorbed into the quartz. How this was done, and the purpose of this distinct class of artefact, remains a mystery, but recent experimental archaeology has brought us closer to understanding the methods used in decorating them.

Find localities

To date, 55 decorated quartz pebbles have been found, some during the excavation of broch and post-broch sites around the Scottish Highlands and Islands since the 1870s, but mostly in Caithness and the Northern Isles (see Catalogue). These artefacts have been broadly dated from the middle Iron Age to the Pictish period (Brown 2004, 83). The earliest excavated stones, a total of eleven (numbers 2-12 in the catalogue), of various sizes and with different forms of decoration were discovered during Sir Francis Barry's excavations of broch sites at Keiss in Caithness (Anderson 1901; Thomas 1963). Their exact provenance is unfortunately lost but five are noted by Anderson from two sites, Wester broch and Road broch, and the locations of the remaining six recorded as found in 'Keiss brochs' (Anderson 1901).

Five painted pebbles from Orkney have been retrieved from Iron Age and Pictish contexts, the Broch of Burrian, North Ronaldsay, a multi-period site at Howe, Stromness and a Pictish settlement at Buckquoy, Birsay (Traill 1890; MacGregor 1974; Ballin Smith 1994; Ritchie 1972, 1977).

Two of the Broch of Burrian pebbles (nos. 14 and 15) were discovered in the 1870s (Traill 1890, 352) at a broch site on North Ronaldsay. Their exact provenance was not recorded by Traill but a later interpretation of the site by Arthur MacGregor (1974, 95-96) suggests they were not from the primary Iron Age phase of the broch but from the later secondary layer of occupation. A Pictish date for the Burrian pebbles was previously suggested by C. Thomas (1963) who included the pebbles in his catalogue of Pictish art (MacGregor 1974, 95).

Recent excavations of this site revealed a third painted pebble (no 30) in a disturbed context close to an outbuilding investigated by Traill in the 1870s. Similar in size to the previous two, this pebble appears to have been carefully painted with solid dots, some with elongated commas, and curving lines (Ritchie in Sharman, forthcoming).

During the late 1970s, at the excavation of another Orcadian multi-period site on Howe farm near Stromness, a single painted pebble was unearthed (no. 20). Painted with eight solid dots and a medial line; it too was retrieved from the late Iron Age phase of the settlement, dating to c. AD 400 (Ballin Smith 1994, 82).

Of the pebbles that have been found in stratified excavations, most are recovered from late Iron Age contexts often within secondary phase activity at broch sites. The Buckquoy pebble (no. 13) was discovered not on a broch site, but on the primary floor level of a late Pictish farmstead (House 4) excavated by Anna Ritchie during the 1970s. This Pictish settlement on a coastal location on Birsay included five phases of building (Ritchie 1977, 179-182; Brundle *et al* 2003, 98). The Buckquoy example is decorated all over with repeated circles rather than dots (*ibid*).

During another excavation in the 1970s two quartz pebbles were discovered at the Udal in the Western Isles (see *Current Archaeology* 147, 1996; Ballin Smith 2012,14), and other finds across Scotland include single finds from St Andrews, Fife (Proudfoot 1996, 418), Portmahomack in Ross and Cromarty, and Birnie, Moray (Hunter 2009, 23, 41).

The St Andrew's pebble (no. 28) was a single find from a pre-Christian long-cist cemetery on Hallow Hill during excavations in the 1970s. This

find is unusual in that it is not from a domestic/workshop setting but the grave (Cist 54) of a Roman child containing grave goods which are dated to the 1st-3rd centuries AD (Proudfoot 1996). Another single find (no 45), decorated with solid dots and thick lines was recently discovered within a bronze workshop at Portmahomack in Ross and Cromarty (see catalogue).

The Birnie pebble was discovered during excavations of an Iron Age settlement and was located within a late Iron Age/Pictish context. Deposited on top of an infilled posthole linked to a roundhouse, the excavator believes this pebble may have been a 'purposeful deposit' connected with the abandonment of the structure (Hunter 2009, 23, 41). The most southern find is from Nutberry Moss in Dumfries and Galloway. A quartzite pebble painted with six roundels, was brought to the surface of the moor during peat milling (Hunter 1999, 23).

The largest concentration of painted pebbles have been found in Shetland (33 in total) and these include three from Jarlshof, uncovered in late Iron Age wheelhouse contexts (Hamilton 1956, 64, 76) and one from Clickhimin within earlier Iron Age layers (Hamilton 1968, 79-80). The excavations at Upper Scalloway revealed five pebbles from a Pictish context dated c. AD 650-900 (Ritchie 1998, 176-8), and a varied collection of fourteen emerged from the recent excavations at Old Scatness (Brown 2004, 82). The Scatness pebbles were found in various layers from Iron Age contexts to the later Pictish period (Brown 2010, 32; and Brown forthcoming).

Recent excavations of a cellular building at Sandwick in Unst, Shetland has also uncovered three decorated pebbles of possible Pictish date, one is a complete pebble (SF1048) which is much smaller than the other Shetland finds, the second is a small broken fragment (SF1119). The markings on the Sandwick pebbles are linear, one of a triangular shape, plus small solid dots, one with a tail and three small circles – all the Sandwick markings appear quite faint (Lelong 2006 and 2007). The third pebble (SF1538) from this site is described in the excavation finds list as a 'decorated stone' but closer inspection confirms that it is another painted pebble (number 48 in the catalogue), its markings are very faded which is understandable considering the sea-washed

foreshore location of the site (Beverley Ballin-Smith pers. comm.).

Excavations at Bayanne in Yell, in the 1990s uncovered 5 painted pebbles. Four of these came from post-abandonment deposits and one was recovered from an accumulation of peat-ash-rich soil in the outermost chamber in structure 2, dated to c. 5th century AD. There are indications that designs on these group were painted successively, for example on F.1/F6 (number 56 in the catalogue) where darker lines overlies more faded patches of colour giving the impression that these pebbles were used and repainted on more than one occasion (Wilson 2014, 190).

There have also been single stray finds from Shetland, including an unstratified find from Sandsound and a surface find from an Iron Age domestic site on Balta, a small island off the coast of Unst (see Plate 1).



Plate 1: Painted pebbles clockwise from top left: Catalogue No 27 (ARC 1993.438) Sandsound, No 25 SF 4017 Upper Scalloway, No 26 (ARC 1997.95) Balta and No 16 (CLN 7057) Clickhimin (© Shetland Museum and Archives).

The majority of painted pebbles are similar in size and would fit comfortably in the hand. The largest measures 94 mm by 77.5 mm (no. 33 from Old Scatness) and the smallest 23 mm by 14 mm (no. 14 from Burrian), but most group around 50 mm by 30 mm. Their decoration varies: the most common motifs are circles and solid dots but some exhibit S-scrolls, linear motifs and saltires (Ritchie 1998, 218-219) (Plate 1). The more unusual saltire motifs, of which there are three, depict a cross with solid dots between its arms: one was found at Keiss, Caithness and two from Udal, North Uist (Ballin Smith 2012 - see Plate 2; Anderson 1901, 146; Hamilton 1968, 86 and Current Archaeology 147 1996, 93).



Plate 2: The Udal pebble with saltire motif Catalogue No 50 (© Udal archive).

Hypotheses as to their use

An intriguing aspect of these pebbles is their function. Evidence from burial traditions in prehistory suggests that quartz was significant. The use of white quartz pebbles to mark Bronze Age cist burials is well documented in mainland Scotland (see Lebour 1914; Mitchell 1884; Mapleton 1866). At Burgie near Forres, the well preserved human remains in a short cist was accompanied by water-worn quartz pebbles pushed close together into the sand under the head of the skeleton. These were deliberately brought to the grave, as the coast is almost eight kilometres from the site (ibid. 123). In 1871 Dr. Angus Smith excavated a Neolithic chambered cairn at Achnacree, Argyll. On opening the innermost chamber he noted: *“the first thing that struck the eye was a row of quartz pebbles, larger than a walnut; these were arranged on the ledge of the lower granite block of the east side. When we looked into the dark chamber from the outside they shone as if illuminated, showing how clean they had remained”* (Mitchell 1884, 286). In Inveraray, while researching the use of quartz in burial practices, Arthur Mitchell noted eight graves, which were decorated with groups of white quartz pebbles. An elderly fisherman confirmed that it was an old tradition to place white stones on the graves of friends in the town (ibid. 1884, 289).

Similar uses of quartz pebbles were also prevalent within English burial practices. Barrow graves excavated in Wiltshire contained pebbles of various colours, and in Derbyshire one grave contained eighty quartz pebbles, while in the village of Alsopp, pebbles were actually placed in

the hand of the deceased, and were also noted beside children’s remains, as well as around and inside cremation urns (Lebour 1914, 126).

Similar evidence of quartz being included in child burials was discovered in Shetland during excavations on St Ninian’s Isle in 2000 by Rachel Barrowman. Several cists were covered with kerbed cairns of sand and quartz pebbles. They contained six infant burials: one infant had a quartz pebble in its mouth, and another, a limpet shell. Radiocarbon dating showed these burials to be within the period AD 720-990 (Barrowman 2003, 57-59; Barrowman 2011, 111-112). The use of quartz in a funerary setting was also uncovered during excavations of a farmstead at Sandwick, Unst. Gerry Bigelow and his team uncovered a Pictish rectangular kerbed cairn (see Plate 3), which was covered in quartz pebbles. The single burial within it was radiocarbon dated to AD 370-520 (Bigelow 1985, 102-103).



Plate 3: Pictish burial cairn covered with white quartz pebbles, Sandwick, Unst (© Shetland Museum and Archives).

When discussing the use of quartz in prehistoric funerary contexts, Timothy Darvill suggests it was possibly a source of energy or force; as the white stones gave the dead the power to journey to the other world. He suggests quartz may be seen as the ‘stone of light’, symbolising life and re-birth and notes that large blocks of quartz were built into the fabric of burial tombs, both in Scotland and Ireland to emphasise this (2002, 82). In the large Neolithic tomb at Newgrange in Ireland, two blocks of quartz were used as a component of a moveable cover to the light-box above the entrance, allowing the sun to shine through at the mid-winter solstice. Darvill suggests the importance of the function of white quartz pebbles may have been their symbolic connection between the white rock and the sun

itself. Quartz was certainly significant for the builders of the cairn as stone had to be carried in from the Boyne valley over fifty kilometres away (ibid.) to form the front façade of the tomb.

This presumed emblematic value of quartz in prehistory may also have been important in portable material culture; one suggestion is that the small decorated pebbles may have been used as charm-stones (Ritchie 1972, 299). The supposed healing power of stones in addition to quartz is known from antiquity (Simpson 1860; Lebour 1914). These presumed powers are reflected in a folktale from Sutherland of a witch who threw her magic pebbles into Lochmonar, assuring its healing powers to patients who were plunged into the loch and drank its waters on certain days of the year (Hutcheson 1900, 487). In the post-medieval period balls of rock crystal were used in Scotland to protect against the 'evil eye', these were dipped in water which was then given to cows to drink; another example was recorded in Sutherland where a family used the water in which a healing stone had been immersed, to cure people as well as cattle (Lebour 1914, 126; Hutcheson 1900, 488). While excavating an Iron Age broch site in Unst, Shetland, Alan Small unearthed several highly polished serpentine pebbles (with no markings) and suggests they may have been used as "the cold stone". These healing stones were placed at the back of the neck to alleviate nosebleeds and headaches. This custom is known in Shetland from the medieval period and Small suggests the practice may have been in existence much earlier (Small 1964, 235).

Ritchie (forthcoming) suggests that painted pebbles may have been one element of a Pictish shaman's equipment, holding ancient magic powers. One find from Bayanne (number 52) in Shetland may add weight to this theory as it was found with a small group of slightly unusual finds such as a boars tusk pendant, cattle phalanges and dog whelks. A more practical purpose was offered by Hamilton, who proposed they were used as sling-shots; their differing markings making them instantly recognisable to their owner (see Hamilton 1968, 79 and 104). The appearance of pebbles from Scalloway may invalidate that hypothesis, as their markings are all quite similar with solid dots and S-scrolls (see Ritchie 1998, 176). Another unlikely suggestion has been made by Finbar McCormick. He suggests

that the pebbles, because of their markings, may have been used as decoy eggs to encourage wild birds to lay in a specific location and therefore easier for people to hunt or collect, similar to the use of china eggs in persuading domestic fowl to lay in modern times (see discussion in Ritchie 1998,178). This theory is very doubtful as wild bird's eggs are plentiful around the Scottish coast, and birds will choose nesting places often in inaccessible places that are not easy to reach. Painted pebble motifs do not resemble the markings on wild bird eggs and are certainly not like the plain white china eggs of the modern period.

Whether a healing stone or a sling shot, painted pebbles would not have been difficult to produce yet few have been found. One assumption would be that due to their symbolic significance their use and numbers were 'controlled' in the community.

A recent suggestion concerning the function of painted pebbles is that they were produced and used in conjunction with metalworking (Allen Fraser pers. comm.). Metalworkers, who could be perceived as 'magicians', would have used peat charcoal for smithing and this would have afforded them a source of pigment and the intense heat required to heat the stones (see Fenton 1997, 237-8). As suggested above, a limited number of painted pebbles have been discovered to date, and this may imply their production and distribution was restricted to a few individuals within the community, and smiths could have been likely contenders. The Sandwich pebbles were found within the floor levels of a cellular structure in association with a large anvil, a steatite tuyere fragment and a deposit of bog iron. These finds could indicate the structure may have been a workshop for metal working or pottery production (Lelong 2007, 23-26). Likewise, pebble number 45, a single find from Portmahomack, Ross and Cromarty was from a bronze workshop.

The mystery of the marks

Whatever their function, the one thing that is consistent in this group of artefacts is their distinct brown-coloured markings. For many years the composition of the colourant used has remained elusive, but recent experimental research goes some way in identifying the substance. Experiments by Arlene Isbister,

Orkney, using powdered haematite mixed with tempera emulsions have left indelible marks on quartz surfaces, comparable in colour to those on the painted pebble found at Buckquoy, Orkney (Ritchie 1977, 197, 199). As haematite is to be found on the island of Hoy, Isbister suggests this may well be the material used to paint the pebble (Isbister 2000, 194).

Experimental archaeology offers a valuable research process where one can test a theory or replicate a technique in the hope of understanding ancient skills and methods now lost (see Ingersoll et al. 1977). Scientific analysis of the dark pigment on two of the Old Scatness painted pebbles (SF 17156, SF 27649 – Cat. nos. 33 and 34), using Raman spectroscopy, suggested that the medium was lamp black, most likely soot obtained from the burning of organic material of vegetable composition (Ambers 2001, 24 and 2010, 322). These findings have been further verified by the author's (RA) own experiments.

The author (RA - a stonemason) observed that external gable walls containing the unlined, stone-built flues for open hearths often show a dark, blackish-brown stain, very similar to the colour of the spots on the painted pebbles. The staining penetrates right through the stonework (Plate 4). The distillation of vapour, from the burning of peat, occurs when the flue cools. This produces a sticky deposit which is a natural bituminous substance very like coal tar. It is this material which has permeated the stone and stained the outer face of the gable in Plate 4. When a fire warms the chimney again, this tar dries to a dark and shiny substance resembling pitch. It was this substance which was used for the authors' experiments.



Plate 4: Commercial Street, Lerwick: the dark bituminous stain is evident in the gable end below the chimney (© Shetland Museum and Archives).

On the first attempt to reproduce the prehistoric pigment, liquid tar from the flue of the peat fire was collected, and using a straw, was painted onto a quartz pebble (Plate 5), producing dots and lines. The stone was heated on the top of a stove and, although it became very hot, the peat tar marks did not dry. Further examination of the pebbles in the Shetland Museum collection revealed that many of the painted pebbles showed cracks and discolouration from intense heat, comparable to heated stones from a burnt mound. In order to replicate these conditions, the pebble was put amongst hot embers for a more intense heat. The painted marks dried and became indelible despite much scrubbing with a brush and water.



Plate 5: Robbie Arthur's first experimental painted pebble (© Jenny Murray).



Plate 6: Author scraping pitch from the open fire (© Jenny Murray).

Another experiment was made to replicate circles found on some of the stones; but using a different application technique. A portion of shiny pitch was removed from the inside of the chimney near the open hearth (Plate 6). This pitch was placed into a scallop shell and heated on the fire until it liquefied (Plate 7). This pigment was applied to a cold quartz pebble with a straw.

This was unsuccessful as the paint solidified as soon as the substance hit the cold surface, making it impossible to spread. A further step in the process was required: heating the pebble before decorating it. This proved effective as the liquid pitch was applied easily to the surface of the quartz (see Plate 8).



Plate 7: Molten pitch or 'paint' (© Jenny Murray).



Plate 8: Painting with a straw (© Jenny Murray).

some motifs are much fainter (2009, 42-43). Similar observations were recorded on the Howe pebble (no. 20), in that some dots showed traces of repainting (Ballin Smith 1994, illus 106). The authors suggest that rather than being repainted, some dots are more prominent than others on these pebbles due to the initial method of application, as demonstrated in our experiments.



Plate 9: Painting the pebbles using a straw (© Laurie Goodlad).



Plate 10: Birnie pebble Catalogue No 49 (© Fraser Hunter).

Applying pigment

In an attempt to replicate the original designs, various methods of application were tried. Anne Brundle (Brundle *et al* 2003:98) suggested the circular dots on the Buckquoy pebble were painted using a brush, but in this experiment it was decided to use natural resources to recreate the motifs. At first, a straw was used, and this replicated dots, S-scrolls and lines similar to those on the Scalloway pebbles used as examples (see Plate 9). As more dots were applied to the stone's surface, and as the paint on the straw lessened, the dots became fainter, which was reminiscent of some of the original designs. This can be especially noted on the Birnie pebble where the application of paint became fainter as more dots were produced (see Plate 10). Hunter notes, '[the pebble] *seems to have been repainted, as*

To reproduce the perfect circles seen on the Buckquoy pebble (for image see Brundle *et al* 2003, 98), two 'tools' were used: the shaft of a large seagull feather cut in half, and the hollow stalk of Wild Angelica, both of which were used with good precision to duplicate the original designs (see Plates 11, 12 and 13). The rings produced on the experimental pebble, using the bird's feather, were almost identical to the markings on the Balta example (Plate 1).

The pebbles were left to dry overnight before the stability of the pigment was tested (Plate 14). This was achieved by scrubbing the stone with a coarse pot-scourer in hot water. The marks on

the pebbles remained exactly the same and did not fade with further scouring. The stones were also rubbed together with no effect on the newly painted symbols.



Plate 11: Wild Angelica produced perfect rings (© Laurie Goodlad).



Plate 12: The author painting a pebble using Wild Angelica (© Laurie Goodlad).



Plate 13: Creating perfect rings recreated using a feather (© photo: Laurie Goodlad).



Plate 14: Collection of newly painted pebbles (© Jenny Murray).

Conclusion

These experiments using distilled peat tar reveal a substance, which was readily available as a resource and much easier to find than haematite. This is especially the case in Shetland where haematite is extremely localised and usually found in spoil from nineteenth century mining. In most areas where painted pebbles have been found, peat was generally used for domestic fires and also for smelting and smithing, due to the dearth of wood resources. This was especially the case in Shetland from the early Iron Age onwards (see Edwards and Whittington 1998, 11). The process of peat burning produced considerable quantities of pitch, which could have also been used to water-proof ropes and fabric coverings. Evidence for pitch use in the early Neolithic period came to light recently when a wooden bowl was found which had broken and been subsequently repaired using molten pitch to seal the break (Catling 2010). With no chimneys from which to retrieve the distilled tar during the Iron Age (as used in the author's experiments), peat tar was undoubtedly produced on cooling back stones around the open hearth and on the roofs above, therefore a readily available resource would have been accessible.

While the function of painted pebbles remains open to conjecture, experimental research by the author (RA), and earlier work by Arlene Isbister in Orkney, goes a significant way towards identifying the pigment and tools used to decorate them. Scientific investigation appears to confirm the substance is organic, which corresponds with the author's findings.

Whatever their function, painted pebbles must

have been significant in some way or form as a portable entity, perhaps highly valued by the people who carried them. Their numbers in the archaeological record appears to have been limited perhaps suggesting they were of revered significance, held by a certain few within the communities. The attached catalogue of painted pebbles records the location of these finds throughout Scotland, with single examples from as far south as Dumfries and Galloway and west to the Outer Hebrides. It also highlights predominant clusters of finds within the north-east regions of the Highlands and Islands. Why they appear more frequently in Caithness and the Northern Isles remains a mystery to be resolved, and while their purpose remains enigmatic recent excavation has offered us new information about when they were in use.

Excavations at Old Scatness and Sandwick, Unst present us with reliable dates obtained from secure archaeological contexts, establishing their use from the middle Iron Age, through the late Iron Age and into the Pictish period (Brown 2004, 83, Lelong 2006, 2007). As more archaeological sites are investigated in the future we may yet find further clues about the origin and purpose of these intriguing artefacts. The decorative motifs may have specific meaning and further research is needed into their type and distribution across the surfaces of these mysterious stones.

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Appendices

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Catalogue of painted pebbles (2014)

By Anna Ritchie

NMS = National Museums of Scotland;

OM = The Orkney Museum, Kirkwall;

HM = Hunterian Museum, University of Glasgow;

SM = The Shetland Museum, Lerwick.

1. Crosskirk, Caithness ND 025701

Although published as a painted pebble, the markings are natural and the stone is not quartz. HM.

Fairhurst 1984, 124, ill.74,2.

2. Road broch, Keiss, Caithness ND 348615

31 mm diameter; encircled cross on one side, curl and dot on the other. Found 1895.

NMS GA 503.

Joass 1895; Anderson 1901, fig 22; Thomas 1963, 46-7, fig 3,14; Hamilton 1968, fig 37,4.

3. Wester broch, Keiss, Caithness ND 338583

54 mm by 41 mm; solid dots on one side, pentacle motif on the other. Found 1895.

NMS GA 502.

Joass 1895; Anderson 1901, fig 22; Thomas 1963, 46-7, fig 3,11; Hamilton 1968, fig 37,3.

4. Wester broch, Keiss, Caithness ND 338583

39 mm by 32 mm; solid dots over entire surface. Found 1895.

NMS GA 504.

Joass 1895; Brown Portfolio, p 67.

5. Wester broch, Keiss, Caithness ND 338583

65 mm by 51 mm; solid dots over entire surface.

NMS GA 511.

Joass 1895; Anderson 1901, fig 22; Hamilton 1968, fig 37,2.

6. ?Wester broch, Keiss, Caithness ND 338583

43 mm by 39 mm; crescent, arc and two circles on one side, curving line on the other.

NMS GA 509, labelled 'Wester'.

7. Keiss brochs, Caithness

28 mm by 22 mm; four solid dots and three circles on one side, two solid crescents and dot on the other.

NMS GA 505.

Brown Portfolio, p 67.

8. Keiss brochs, Caithness

48 mm diameter; solid dots over entire surface.

NMS GA 506.

Anderson 1901, fig 22.

9. Keiss brochs, Caithness

42 mm by 28 mm; triangle on one side, crescent enclosing solid crescent on the other.

NMS GA 507.

Thomas 1963, 46-7, fig 3,10.

10. Keiss brochs, Caithness

22 mm diameter; solid triangle on one side, circle enclosing triangle on the other.

NMS GA 508.

Brown Portfolio, p 67.

11. Keiss brochs, Caithness

41 mm by 35 mm; two curls on one side, subdivided semi-circle on the other.

NMS GA 510.

Anderson 1901, fig 22; Thomas 1963, 46-7, fig 3,12.

12. Keiss brochs, Caithness

55 mm by 46 mm; arc and saltire with dots between arms, decoration on one side only.

NMS GA 512.

Thomas 1963, 46-7, fig 3,13; Hamilton 1968, fig 37,7.

13. Buckquoy, Birsay, Orkney HY 243282
40 mm by 35 mm; circles over entire surface.
OM 1976.58.
Ritchie 1977, 182, 199, fig 8,87.
14. Broch of Burrian, North Ronaldsay, Orkney HY 762514
23 mm by 14 mm; two dots and a triangle with radiating lines on one side, patch of discolouration c. 12mm diameter in the centre of the other.
NMS GA 67.
Traill 1890, 352; MacGregor 1974, 95-6, 112, fig 20,277, Ritchie in Sharman, P forthcoming.
15. Broch of Burrian, North Ronaldsay, Orkney HY 762514
23mm by 18mm by 16mm; three circles, two of which are not entirely closed, and traces of two more circles on one side, two solid dots of unequal size at one end of the other.
NMS GA 67.
Traill 1890, 352; MacGregor 1974, 95-6, 112, fig 20,276, Ritchie in Sharman, P forthcoming.
16. Clickhimin, Shetland HU 463408
65 mm by 46 mm; curving lines over entire surface.
SM CLN 7057.
Hamilton 1968, 79, 86, fig 37,1.
17. Jarlshof, Shetland HU 398095
60 mm by 59 mm; curving lines and solid dots on one side, curving lines and solid dots on the other.
NMS HSA 4105.
Hamilton 1956, 64, pl xv,c; Thomas 1963, 46, fig 3,9.
18. Jarlshof, Shetland HU 398095
26 mm diameter; solid dots over entire surface.
NMS HSA 4107.
Hamilton 1956, 84.
19. Jarlshof, Shetland HU 398095
32 mm by 23 mm; circles over entire surface.
NMS HSA 4108.
Hamilton 1956, 77, fig 39.
20. Howe, Stromness, Orkney HY 275109
32 mm by 20 mm; eight solid dots overall with a medial line dividing them into groups of five and three; traces of repainting.
OM HH 2200.
Ballin Smith 1994, 192, illus 106, 2200.
21. Scalloway, Shetland HU 406399
50 mm by 36 mm; solid dots overall, some fainter than others.
Sharples 1998, 176-8, no 4267.
22. Scalloway, Shetland HU 406399
58 mm by 39 mm (broken); solid dots in rows overall, some fainter than others, and a fine line forming an S-scroll with one dot.
Sharples 1998, 176-8, no 4253.
23. Scalloway, Shetland HU 406399
48mm by 36mm; two S-scrolls attached to solid dots, a double S-scroll and a small dot on one side, two irregular dots on the other.
Sharples 1998, 176-8, no 4461.
24. Scalloway, Shetland HU 406399
45mm by 42mm; irregular solid dots overall, some fainter than others.
Sharples 1998, 176-8, no 4389.
25. Scalloway, Shetland HU 406399
78 mm by 43 mm (broken); irregular solid dots in rows overall, some fainter than others, and two S-scrolls.
Sharples 1998, 176-8, no 4017.
26. Balta Isle, Unst, Shetland HP 659084
42 mm by 41 mm; pebble with flat base decorated with seven solid dots and convex top decorated with eleven solid dots, one of which has a tail like a comma. Original paint likely to be present. Found in eroding midden.
SM ARC.1997.95.
27. Sandsound, Sandsting, Shetland HU 359484
53 mm by 46 mm; flat oval pebble decorated with 12 solid dots on one side, and two solid dots (and a fainter third) and two curving lines on the other; heat-crackled, paint may survive in cracks; faint traces of re-painting.
SM ARC.1993.438.
28. Hallow Hill, Fife NO 493156
28 mm by 23 mm by 14 mm; pink quartzite; traces of brown pigment on one side, possible linear motif SF 105/2. From Cist 54, Roman child burial with grave goods of 1st to 3rd century date.
Proudfoot 1996, 418, 438.
29. Nutberry Moss, Dumfries and Galloway NY 256676
22 mm diameter; white quartzite sphere; six

painted roundels. The stain of the paint is grey in colour, and each roundel consists of two finely painted concentric rings, the inner ring thicker than the outer. There are several natural pits in the surface of the stone, one of which contains traces of enamel/glass.

Dumfries Museum.

DES 1999, 23.

30. Broch of Burrian, North Ronaldsay, Orkney HY 762513

34 mm by 24 mm by 21 mm; oval pebble, flat on one side and rounded on the other, small abraded area on rounded side over which paint has been applied. Solid dots, some with lighter tails, and informal curving lines.

Ritchie in Sharman, P forthcoming.

31. Old Scatness, Shetland HU 389106

42 mm by 25.5 mm by 19.5 mm; triangular pebble. Black dots and swirls, stamped.

Brown 2010, 321, fig 6.1.2, pl 6.7.2; SF16981.

32. Old Scatness, Shetland HU 389106

28.7 mm by 25 mm by 14 mm; triangular pebble. Trapezoidal figure with dots.

Brown 2010, 321, fig 6.1.2, pls 6.7.3 & 6.7.4; SF18147.

33. Old Scatness, Shetland HU 389106

94.3 mm by 77.5 mm by 44.8 mm; oval pebble. Cross formed of dark brown dots with a dot in each quadrant, and dots round the perimeter. Painted with brush; evidence of repainting of dots forming cross motif.

Found within stone setting near pier of wheel-house, context dated 7th to 8th centuries.

Brown 2010, 321, fig 6.1.2, pl 6.7.1; SF27649.

34. Old Scatness, Shetland HU 389106

37 mm by 31.9 mm by 17 mm; oval pebble. Curving lines and S-scroll.

Brown forthcoming; SF17156.

35. Old Scatness, Shetland HU 389106

36 mm by 12 mm by 24 mm; broken pebble. Lines and solid dots.

Brown forthcoming; SF18630.

36. Old Scatness, Shetland HU 389106

24 mm by 18.5 mm by 13 mm; rounded triangular pebble. Curving lines.

Brown forthcoming; SF23115.

37. Old Scatness, Shetland HU 389106

34 mm by 30 mm by 19 mm; rounded pebble. Lines and dots.

Brown forthcoming; SF25389.

38. Old Scatness, Shetland HU 389106

28 mm by 22 mm by 16 mm; oval pebble. Lines.

Brown forthcoming; SF33752.

39. Old Scatness, Shetland HU 389106

51 mm by 38 mm by 13 mm; oval pebble. Lines.

Brown forthcoming; SF34047

40. Old Scatness, Shetland HU 389106

50 mm by 29 mm by 18.5 mm; oval pebble. Lines and dots.

Brown forthcoming; SF34508.

41. Old Scatness, Shetland HU 389106

39.5 mm by 35.1 mm by 23 mm; oval pebble. Lines and solid dots.

Brown forthcoming; SF36035.

42. Old Scatness, Shetland HU 389106

71.4 mm by 61 mm by 22.1 mm; oval pebble. Single line.

Brown forthcoming; SF36418.

43. Old Scatness, Shetland HU 389106

45 mm by 31.5 mm by 26 mm; oval pebble. Small dots.

Brown forthcoming; SF36670.

44. Old Scatness, Shetland HU 389106

28.5 mm by 21 mm by 12.5 mm; rounded pebble. Lines and a dot.

Brown forthcoming; SF37841.

45. Tarbat, Portmahomack, Ross and Cromarty NH 915840

From bronze workshop. Thick lines and solid dots. Martin Carver pers, comm.

46. Sandwick, Unst, Shetland HP 619021

28 mm by 21 mm, chipped oval pebble; lines and an open triangular motif. Pre-second century AD, from floor of cellular building Structure 3.

DES 7 (2006), 153; SF1048. SM ARC.

47. Sandwick, Unst, Shetland HP 619021

25 mm by 20 mm chipped from larger pebble; thickly painted lines. Pre-second century AD, from cellular building Structure 3.

DES 7 (2006), 153; SF1119. SM ARC.

48. Sandwick, Unst, Shetland HP 619021

44 mm long oval pebble, broken roughly in half; outside Structure 1. Lines, two small solid dots, one with tail, and three small circles.

DES 7 (2006), 153; SF1538. SM ARC.

49. Birnie, Morayshire NJ 208585

Found 2008 on Iron Age settlement.

DES 9 (2008), 123.

50. The Udal, North Uist NF 825783

63 mm by 58 mm by 36.5 mm; flat round pebble with saltire with three solid dots and a possible dot/line between its arms on one side, and straight lines in a T shape with other faint straight marks on the other.

Current Archaeology, 147 (1996), 93; B. Ballin Smith pers. comm. US 28654 found in 1992.

51. The Udal, North Uist NF 825783

40 mm by 29 mm by 22 mm; faceted oval pebble with linear and dot markings.

B. Ballin Smith pers. comm. US 29701.

52. Bayanne, Yell, Shetland

51 mm by 38 mm by 20 mm; F.21 Small rounded flattish quartzite pebble. Five definite dark brown spots visible on one side, plus a very thin line. Very faint markings visible on reverse.

Wilson, in Moore and Wilson 2014, 189-90.

53. Bayanne, Yell, Shetland

47 mm by 36 mm by 35 mm. F.501 Rounded quartzite pebble, broken at one corner. A single dark linear mark, some 7 mm wide and curving over a maximum length of 24 mm, is visible on one face. Larger areas of dark-brown are visible on other surfaces. However, it is not clear if these are natural or artificial.

Wilson, in Moore and Wilson 2014, 189-90.

54. Bayanne, Yell, Shetland

51 mm by 40 mm by 20 mm. F. 501 Rounded quartzite pebble. Faint markings on both faces but no forms or patterns are discernible.

Wilson, in Moore and Wilson 2014, 189-90.

55. Bayanne, Yell, Shetland

39 mm by 34 mm by 17 mm. F. 6 Small rounded quartzite pebble. Faint markings visible all over, in the form of largish pale-brown markings. At least three linear marks can also be seen.

Wilson, in Moore and Wilson 2014, 189-90.

56. Bayanne, Yell, Shetland

33 mm by 37 mm by 24 mm. F.1/F6 Fragment of rounded flattish quartzite pebble. Both faces contain pale-brown and darker brown, indistinct markings. Two more linear marks also visible.

Wilson, in Moore and Wilson 2014, 189-90.

Total 55 painted pebbles (excluding no 1 Crosskirk)

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