

A decorated Skaill knife from Skara Brae, Orkney

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ABSTRACT

A newly recognized, decorated stone implement from Skara Brae is described. The implement is of expedient nature and its schematic incised motifs suggest a trial piece, perhaps linked to the design of pottery decoration.

INTRODUCTION

The Skaill knife which is the subject of this paper (illus 1) was first recognized as decorated by Ann Clarke, during examination in 1989 of the Skara Brae coarse stone tools as part of continuing specialist analysis of the finds recovered during the 1970s excavations (Clarke 1976a; 1976b). It was originally found in 1973 in context 41 of Trench 1, that is the floor level of an early house on the western side of the settlement in the area between Houses 2 and 7 (Clarke 1976b, 11–13), dated to around 4400 BP (2450 uncal BC) on the basis of four radiocarbon determinations (Clarke 1976a, 239; Clarke 1976b, 26).

Skaill knives (Clarke 1989, 16; Clarke 1992, 246) are stone flakes which have been removed from the exterior of a cobble by smashing or throwing the parent cobble against another (the anvil-stone). Both primary and secondary flakes can be removed in this manner, though the former are more commonly used, and may sometimes derive from the static anvil-stone as well as from the thrown cobble. This implement type and its production method were first noted by Petrie (1867, 213–15), and the technology was confirmed by Childe (Childe & Paterson 1929, 267), who gave the flake-tool the name of ‘Skaill flake’ (Childe & Paterson 1929, 239) or ‘Skaill knife’ (Childe 1931a, 52; Childe & Grant 1947, 39), from the location of Skara Brae at the Bay of Skaill.

The raw material most frequently used for Skaill knives was micaceous sandstone, cobbles of which are abundant on many Orkney beaches, forming an almost unlimited supply from which the flakes could be quickly and easily obtained. Flakes were rarely modified by any further retouch or trimming, the original sharp, and sometimes very thin, edge providing all that was required for an effective tool. Because of the nature of the blank, the Skaill knife inevitably has a long, curved working-edge, which is normally unifacially bevelled in section at the junction of the dorsal and ventral faces. The overall size range of the tool is wide, reflecting the size variation of the cobbles exploited and the serendipitous element in the method of flake production, though Clarke (1992, 246) has noted some clustering in the 40–80 g weight range.

The Late Neolithic deposits of such sites as Skara Brae (mainland Orkney), The Links of

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Noltland (Westray), Rinyo (Rousay), and Pool and Tofts Ness (Sanday) contain many examples of Skaill knives (Clarke 1992, Table 18.1), and they seem particularly associated with midden contexts when found during controlled excavation (*ibid*, 254; Ritchie 1983, 82). The large numbers in which these tools are found (cf Childe 1931b, 114; Childe & Grant 1947, 39; Petrie 1867, 213) must attest their significance within the contemporary material culture, though assessment of this needs to be tempered by consideration of their expendability. The associations of the Skaill knife are almost exclusively with settlements, the apparent exceptions being the two examples from the chambered tomb of Quoyness (Childe 1952, 135; Henshall 1963, 247) and the three from Quanterness (Henshall 1979, 82), though at Quoyness the context in the 'platform' surrounding the cairn is perhaps one of domestic rubbish (Henshall 1963, 130), of uncertain relationship to the tomb and its funerary function.

Experimental work has demonstrated the efficiency of Skaill knife-type flakes as butchering tools (Clarke 1989), although they may conceivably also have been used for a variety of tasks on other pliant substances (Clarke 1992, 246). Clarke's experiments were restricted to beef, mutton, and venison, but in view of the likely importance of fishing in the Skara Brae economy (Clarke 1976a, 243), the use of Skaill knives in the preparation of fish such as cod can also be envisaged. The working life of these flakes was probably quite short given their susceptibility to edge damage and it is possible, because they are made from such an abundant resource, that they were frequently not used to their full potential before being discarded. Clarke (1992, 254) has suggested that they may have become unsuitable for further use by contamination rather than wear.

THE DECORATED SKAILL KNIFE (ILLUS 1–2)

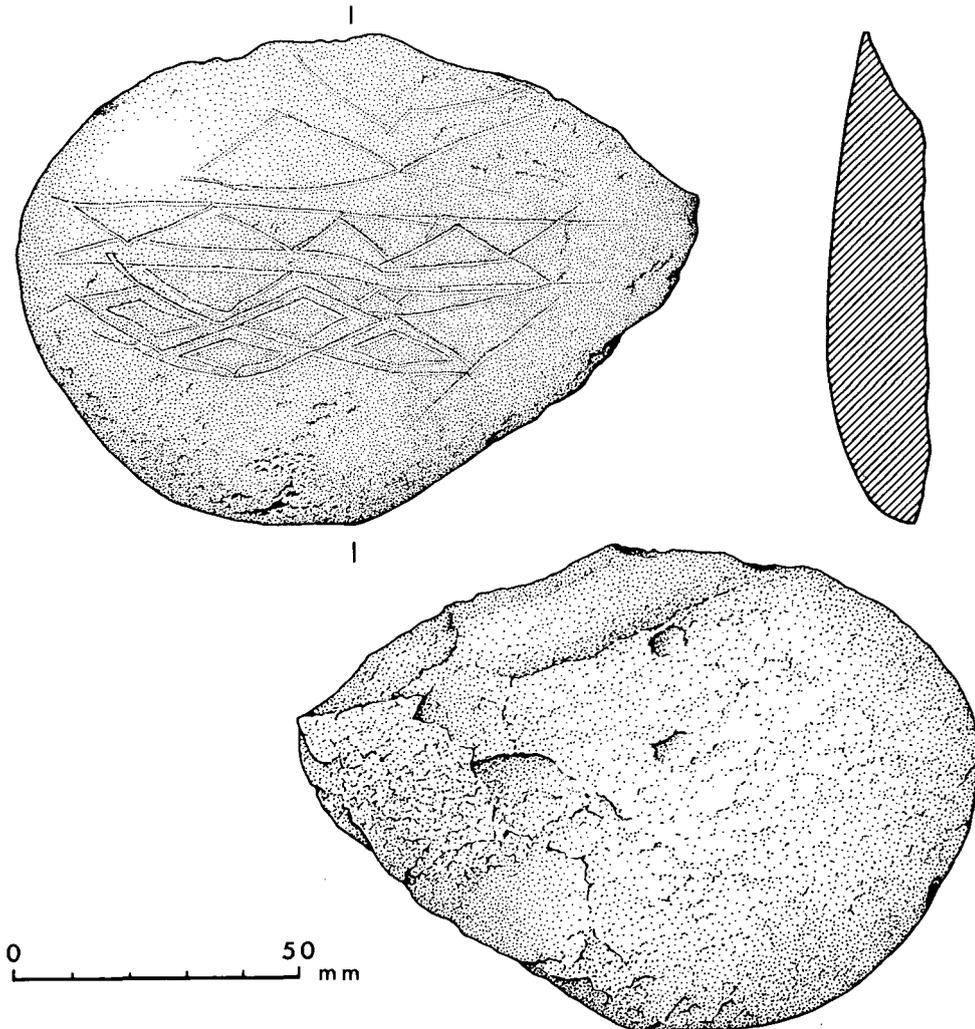
The blank is a primary flake from a cobble of fine-grained, very micaceous sandstone, the external surface of which is a light olive-grey (Munsell 5Y 6/2) in colour. The point of impact in the production of this flake appears to be at the base, as shown in *illus 1*. Following this axis, the flake is 86 mm long and 120 mm wide. The maximum thickness is 17 mm and the weight 204 g.

The ventral face exhibits an uneven surface, caused probably by irregular bedding planes in the rock. The flake edge has not been retouched and it is uncertain whether the slight damage along the distal edge represents wear during use or if it can be attributed to early post-depositional damage. There is no modern damage apart from two slight nicks on the distal edge. Modification, therefore, apart from any slight post-depositional weathering effects, is restricted to the decoration on the dorsal surface.

THE DECORATION

The decoration is formed by shallowly incised lines, varying in width from 0.3 to 1 mm and averaging about 0.5 mm. The depth and distinctness of the lines is variable, and the clarity of the decoration in the photograph (*illus 2*, taken using raking light) is misleading in that the design is much less apparent in the hand under a flat light. Some of the incisions still show lighter-coloured stone of the cobble interior exposed at the base of the incision, in others the base of the incision has effectively weathered to the same colour as the cobble exterior.

The execution of the decoration has been less than exact, and some lines have obviously been restarted or have over-run, others seem to veer accidentally. In part, this reflects slight inconsistencies in the surface of the cobble, in part a lack of ability, care, or perhaps more simply the absence of any concern with precision. Where the incisions cross each other at an angle it is generally clear, from inspection through a binocular microscope, which predates which, and in *illus 1* the attempt has been made to reflect this information.

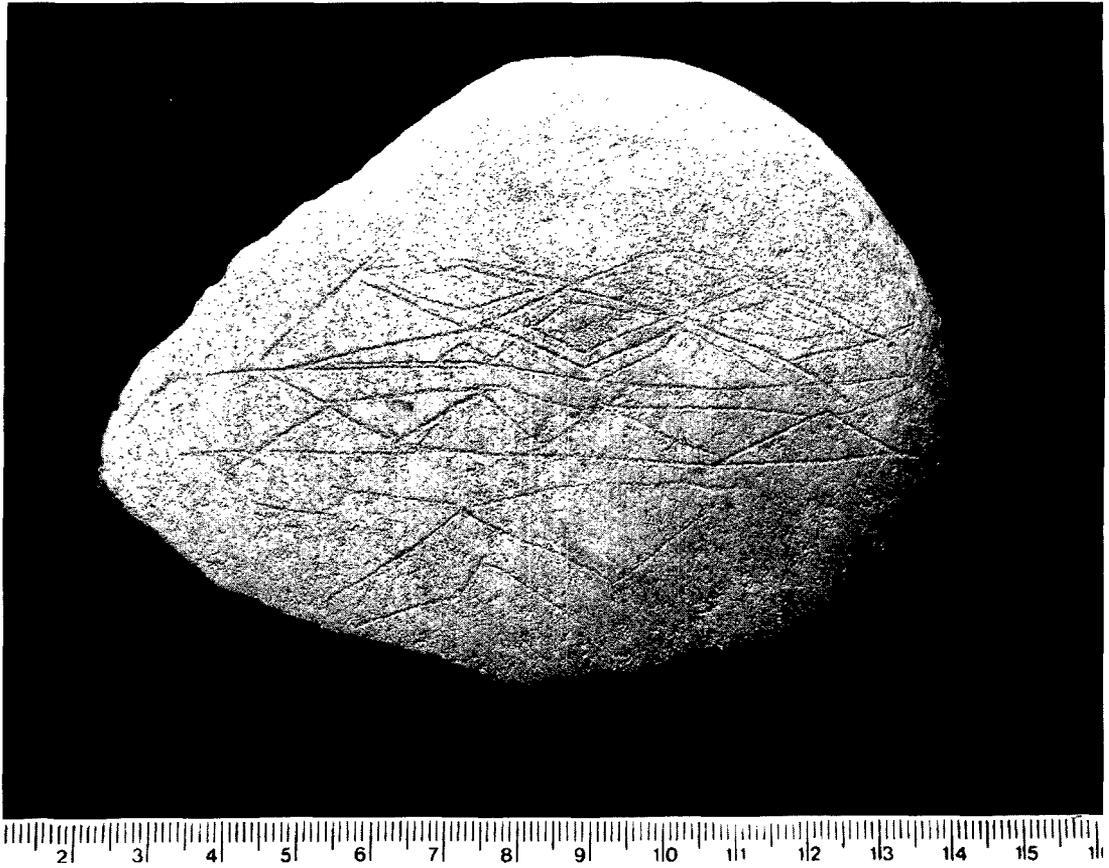


ILLUS 1 Decorated Skail knife from Skara Brae. Scale 3:4. (Drawn by Marion O'Neil)

The design can be described in three main sections, following the orientation in *illus 1*. At the top, above the first main transverse line, is a triangle, with two sides of a probably uncompleted second triangle on its right. Above these are two lines meeting in a rough V-shape, one line having a pronounced kink.

Across the central part of the surface are two transverse lines with a series of triangular motifs between them. These can be described as formed of four inverted triangles pendent from the upper transverse line which forms their base, with further lines drawn between the lower points of these triangles. The points of the far left and right triangles are linked to the transverse line below by short oblique lines.

Below this are three pendent triangles, the two on the right very small and interlocking, with



ILLUS 2 Decorated Skaill knife from Skara Brae. Scale shown in mm and cm. (Photograph copyright The Trustees of the National Museums of Scotland)

the lower transverse line as their base. Parallel with these triangles is a transverse line in the form of a very flattened W, which comprises the top of a linked design of four lozenges, each with a roughly concentric inner lozenge. Finally, there is an oblique line which truncates the tip of the lozenge on the right-hand side.

THE TECHNIQUE OF DECORATION

Of the raw materials available to the inhabitants of Skara Brae, only lithic items would have been able to produce the incisions on the Skaill knife.

Childe (1930, 181) suggested three types of incision on decorated stones at Skara Brae, for which he postulated the use of flint tools: (1) scratching using an unworked edge; (2) engraving using a worked flint edge; and (3) carving deep V-shaped grooves using a worked flint. Childe's suggestions appear to have been entirely hypothetical and there is no indication that he attempted to reproduce the kind of decoration involved, nor did he specify the kind of worked flints he envisaged being used for this purpose.

Accordingly, some experiments were made to try to reproduce similar incised designs to those in *illus 1*. As blanks, a selection of actual Skail knives from Skara Brae (unstratified examples recovered during the 1970s) were used, together with some miscellaneous cobbles from other Orkney locations. As implements, flint flakes and cores, freshly knapped from small beach pebbles, were used, as well as burins and a scraper freshly made from southern English flint. One of the Skail knives was also used as an implement.

The results, examined under a binocular microscope at enlargements up to $\times 50$, were that very similar incisions to those visible in *illus 2* could be produced using any sharp flint or stone edge. Variations in depth and width and profile of the incised groove appeared to have as much to do with the hardness of the blank as with the nature of the tool. The harder, more 'quartz' the cobble surface, the less the edge of the tool would penetrate. There are, of course, many other relevant variables, of which the degree of pressure applied when making the incision is the most obvious. The conclusion is that Childe's suggestion, that worked and unworked flint edges produced detectably different grooves, is unsubstantiated.

Examination of the original Skail knife and the replica engravings at higher magnifications using a scanning electron microscope (SEM) was considered, and experiments were undertaken in the preparation of latex and silicon rubber moulds of such engravings to assist in this, but it was decided that this was unnecessary. Even at $\times 50$ magnification, some observations made in relevant studies using an SEM (eg d'Errico 1988), such as the sequencing of intersecting lines, were possible. Observations which would probably be possible only with the SEM, such as the direction in which the incisions were made, and perhaps whether the originator was right- or left-handed, would not have been very germane to the inquiry. To judge from the observations at $\times 50$, the incisions on the experimental pieces were not sufficiently distinctive to allow identification, at whatever magnification, of the type of tool used.

The chipped stone industry from Skara Brae has yet to be studied in detail, but preliminary examination (Wickham-Jones 1977) has indicated a mixture of flint and chert as the raw material, the former predominating and obtained in the form of beach pebbles. Scrapers are the main tool-type, and the overall size of tools and debitage is very small. Two possible burins, one of flint and one of chert, were noted in the sample studied by Wickham-Jones, and they had apparently been used on a hard material (*ibid*, 19), but the experiments reported here suggest that burin-type edges were no more nor less suitable for engraving pebbles than any other unretouched or sharp retouched edge. Incision was even possible with a freshly knapped, still sharp, scraping edge.

Examination at $\times 50$ of the artefacts used in making the experimental incisions showed, in the fresh state, marked spalling and crushing of the edge at the point of use, though not of any particularly distinctive type. To the naked eye these edges remained essentially unaltered. Thus there seems little chance of being able to identify any artefact used for this purpose from among a large archaeological assemblage.

DISCUSSION

Superficially, the most obvious parallel is provided by the well-known decorated stone knife from Skara Brae (Childe 1931a, 63 and Fig 23; Childe 1931b, 114–15 and Pl LII,2; Clarke *et al* 1985, 245 and Fig 7.13; NMS reg. no. HA 612), found in the area of House 10 on the eastern side of the settlement. This is, however, a completely different type of tool, and the contrast merits emphasis. Since this knife has been illustrated previously only by photographs, the opportunity is taken here to publish a newly prepared drawing (*illus 3*).

The maximum dimension of this knife is 76 mm, the maximum thickness 9 mm, and the

weight 70 g. The blank is again of very fine-grained micaceous sandstone, but in this case is a thin pebble, apparently complete, dark greyish-brown (Munsell 10YR 4/2) in colour. It has been modified by the provision of a bifacially bevelled edge, sharpened to a cutting edge on the broad side, and by the blunting of the short edge opposite the sharp one.

This knife has been described as having polished (Childe 1931a, 63) or ground surfaces (Clarke *et al* 1985, 245), but it is difficult to be specific about this. It is possible that the morphology is largely natural and that the blank was in origin a slim pebble. There has been some abrasion or grinding of the surfaces as well as the edges, as shown by the striation marks indicated in *illus 3*, but these could be largely ancillary to the edge sharpening and it is probable that the edge has been sharpened more than once. The undoubted smoothness of the surfaces is as likely to result from repeated handling, and perhaps from being kept in a container such as a leather bag, as from deliberate smoothing.

The decoration on this knife is incised very shallowly, and the incisions are never more than 0.5mm wide. This may imply the use of a sharper tool and more careful work than on the Skaill knife, but it is also probable that the incisions now present are merely the bases of the original ones, which have been worn down during the life of the tool. This explanation would account for the apparent gaps in the incised lines in places, and the fact that the decoration is sometimes rather difficult to distinguish from other surface marks and striations, and that the detail of the overall design is somewhat difficult to appreciate.

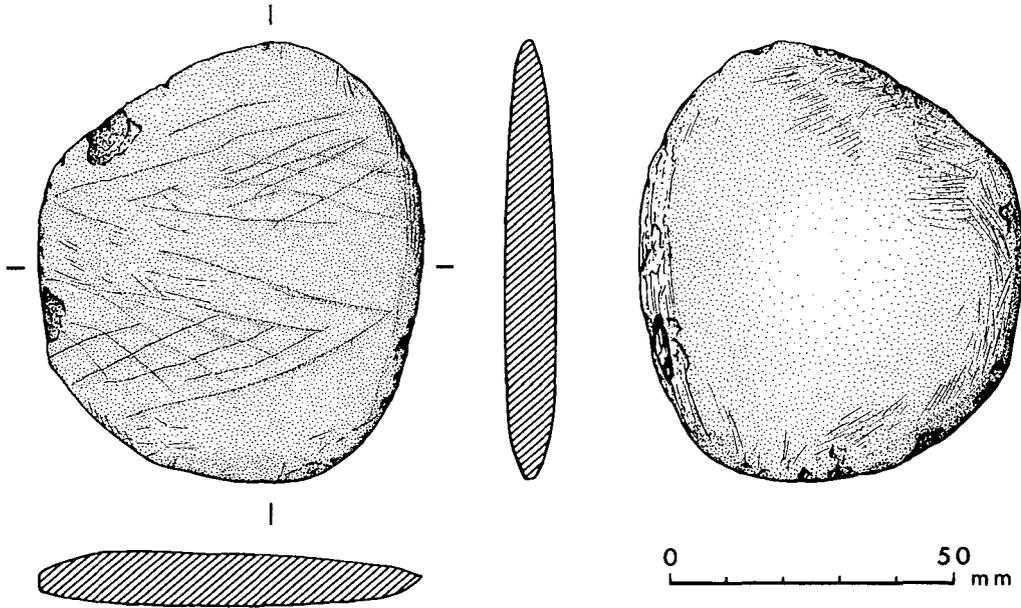
The decoration is on one face only and is divided into two triangular fields by a zigzag line with a short gap in the middle of the zigzag. In each of the fields is a triangular design with irregular criss-cross lattice infill.

As Childe (1931b, 115) rightly maintained, the affinities of the knife shown in *illus 3* lie with the other discoidal knives of the Late Neolithic, normally made in flint and usually at least partly polished (Clark 1929). Discoidal knives often have a bevelled, bifacially polished type of edge which precisely matches that on the Skara Brae example (cf Wickham-Jones 1987). Remarkably, the same 1973 excavation context which produced the decorated Skaill knife also contained a small micaceous sandstone knife (roughly rectangular 52 × 46 mm, 6 mm thick, weighing 19.7 g, and dark greyish-brown: Munsell 10YR 4/2), with a bifacially ground edge, but lacking any surface decoration (Clarke 1976b, Fig 5,2). Although small, this knife must be seen as belonging to the same general class of discoidal knives. It has a much cruder appearance than the knife in *illus 3*, mainly because it is on an unevenly laminated piece of stone and is slightly damaged, but it has been carefully shaped by retouch, and the smoothing of prominent surfaces attests longevity of use.

The discoidal knife type of edge-ground lithic tool is likely to be a curated one; both because, with resharpening, it could be used over and over again, and because, at least in the case of the flint examples, it represented a considerable investment of craft-skill in its manufacture. In this respect the presence of decoration on the Skara Brae example seems exactly appropriate for what was probably a prized personal possession.

On the other hand, the Skaill knife is an entirely expedient tool, incapable of prolonged functional use and on the face of it a wholly inappropriate vehicle for decoration, because the normal pattern of use seems to involve rapid discard. Since, among all the hundreds of Skaill knives examined by archaeologists, this is the only one so far to exhibit decoration, it can also be concluded that it was very unusual for such tools to be incised. The tool used to effect such decoration was probably equally expedient; another Skaill knife or a discarded flint flake could have sufficed for momentary use and been immediately jettisoned.

The type and form of decoration on both these knives have many parallels among other



ILLUS 3 Decorated ground-edge stone knife from Skara Brae. Scale 3:4. (Drawn by Marion O'Neil)

objects from Skara Brae and from Neolithic sites elsewhere in Orkney. Incised decoration on stone using similar geometric motifs occurs on pebbles (Callander 1931, 97 and Fig 20), on balls (Clarke *et al* 1985, Fig 3.27), on slabs both loose and architectural (Childe 1930, 181–5, Figs 16–21; Childe 1931b, Pl LIII, 2–3 and Pl LIV, 1–2; Clarke *et al* 1985, 245 and Fig 3.18; Richards 1991, Fig 2.3), and even on the inside of the Maes Howe tomb (Ashmore 1986). The famous Brodgar slab provides a veritable thesaurus of incised geometric decoration, including concentric lozenges (Clarke *et al* 1985, 257, Fig 7.20).

Farther afield and from comparable Late Neolithic contexts, the most obvious parallels in the form of portable lithic objects are probably with the two decorated schist 'plaques' from Ronaldsway, Isle of Man (Bruce *et al* 1947, 12, Pl XX), with their incised chevrons and lozenges; the stone 'plaque' from Graig Lwyd, North Wales (Piggott 1954, 290, Fig 46.7; Warren 1921, 194, Fig 21), with its incised triangles pendent from a double line; and the two chalk 'plaques' from Amesbury, Wiltshire (Harding 1988, Fig 2 and Pl 20) with lozenges, zigzags, and chevrons. The Ronaldsway and Amesbury objects are eminently curatable items, if of obscure function, while that from Graig Lwyd is perhaps more *ad hoc* and expedient. The Ronaldsway finds were from the floor of a house, the Graig Lwyd piece from a working floor at a stone axehead quarry, and the Amesbury finds from a pit of possible domestic or 'ritual' aspect; certainly none was from a funerary context.

The decoration on the Skara Brae Skail knife is simple, in that it appears to be essentially of a single phase, with no suggestion of the complexity that accumulated elements might denote (Marshack 1969). It is also not obviously other than 'decorative', in the sense that nothing about the motifs readily suggests significance of an ideographic or notational kind, as might be the case if there were a sequential, repetitive aspect to the incisions (Marshack 1972). It is rarely profitable

to pursue the question of the 'meaning' of such ostensibly abstract, certainly not directly representational, designs as these. As Childe (1931b, 153) maintained, the motifs are '...plainly just decorative or possess at the most an unknowable magico-religious significance...', and they obviously recur in myriad cultural contexts through time (cf Petrie 1930, Pl LXI-LXIV). The triangle, lozenge, and other geometric motifs are recurrent traits in European prehistoric art and/or decoration on portable items from the Palaeolithic onwards (Sieveking 1987), and it is not relevant here to indulge in a consideration of abstract symbolism in itself.

It is, however, perhaps worth drawing attention to the similarity between the design on the Skaill knife and those designs found on the Grooved Ware pottery of Orkney, particularly the occurrence of such motifs as pendent triangles and concentric lozenges. These, although relatively rare (especially in comparison with British Beaker pottery decoration, or for that matter with decorated gold lunulae), do appear in various forms, including incision, on the pottery at Skara Brae (eg Childe & Paterson 1929, Fig 31; Childe 1931a, Fig 27.2) and elsewhere, such as Pool (see especially MacSween 1992, Fig 19.1). Could the decoration on this Skaill knife be the casual sketch or trial piece of a potter, using the convenient surface of an already discarded knife in the same way as a modern craft-potter might use the back of an envelope? Perhaps further study of the Skara Brae pottery will produce a precise decorative match.

ACKNOWLEDGEMENTS

Ann Clarke drew the object of this note to my attention and very kindly supplied much of the information on Skaill knives incorporated here. Alexandra Shepherd provided details of the 1973 excavations and Dr David Clarke allowed publication of the knife in advance of the final excavation report. Theo Skinner prepared experimental moulds of decorated surfaces in the NMS Conservation Laboratory and Dr Alec Livingstone gave geological advice. The two line drawings are the skilful work of Marion O'Neil and the photograph was taken by Ian Larner.

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