

Carved stone balls

by Dorothy N Marshall

F R Coles, who was Assistant Keeper of the National Museum of Antiquities of Scotland from 1897–1911, made a study of carved stone balls and prepared a paper on the subject about 1911. Mr Bulmer, Stockfield, Northumberland, also worked on these balls and gave his lists and cards to the NMAS in 1936. The information contained in Coles' paper and on Bulmer's cards has been of the greatest assistance to me in preparing this study. In 1911 Coles knew of 180 carved stone balls, whereas now 387 are known to be in 36 museums throughout the country and in private collections. Not all of those listed by Coles and by Bulmer have I been able to trace; many were in private collections, several were in museums but cannot now be located. These are not included in my total but two well-documented but unlocated balls are included. There are 37 casts of balls in the NMAS; 15 are casts of balls in other museums, five are casts of balls in NMAS and 17 do not match any known balls or any in Bulmer's or Coles' lists. These casts of balls I have included in my list and have plotted as far as possible on the distribution maps.

Three-hundred and seventy-five of these balls are much the same size, with a diameter of about 70 mm, but there are 12 large balls of 90–114 mm diameter. There are seven oval balls, two of them larger than average and one small one. This uniformity of size is one of the remarkable features of these balls, yet within this uniformity there is a wide variety of treatment. Just less than half have six knobs; these vary from having six discs just marked out, through prominent square-cut knobs to round projecting bosses. Twenty-six of these six-knobbed balls are decorated; 12 have the interspaces between the knobs clean cut and standing out as part of the design. Some balls have three knobs, some have numerous knobs – 25, 90, 160, all evenly cut and symmetrical. Some are decorated with spirals, some with concentric circles and others with a variety of incised designs. Three unfinished balls in NMAS show that the stone was shaped to a sphere before the carving of the knobs began. AS 18 is broken with rather more than half remaining; the four knobs are barely marked out. AS 183, a well shaped sphere with an even but not smoothed surface, has two discs defined. The third ball on loan to NMAS from Perth Museum has 50 knobs with a small unworked area. The unfinished surface is rounded and even but not smoothed.

TYPE 1.	3 knobs	6 examples	With locality	4
			County only	1
			No locality	1

Two of the balls are atypical, having rounded projecting knobs making a more or less triangular object which is oval in section. The others have clear cut knobs. The distribution is wide, one from Orkney and others scattered between Banffshire and Angus.

TYPE 2.	4 knobs	43 examples	With locality	31
			County only	7
			No locality	5

Three of the balls have rounded knobs, all the rest are clear cut and well defined. The group as a whole is very well made. There are 22 from Aberdeenshire, the others are widely distributed from Benbecula, Arran and Iona in the W, from Wigtown and Cumberland in the S, and Caithness, Sutherland and Ross and Cromarty in the N. The stone used is divided fairly evenly between the harder granite and greenstone and the more easily worked sandstones.

TYPE 2a. 4 knobs with worked interspaces

These six balls are all evenly made and finished with well shaped rounded bosses or clear cut triangles in the interspaces.

TYPE 3. 5 knobs 3 examples With locality 3

Two of the three balls are decorated, the other is oval and they are dealt with under these types.

TYPE 4. 6 knobs 173 examples	With locality	102
	County only	30
	No locality	41

This large group has been divided rather arbitrarily into those with low knobs or discs and those with prominent knobs. Fourteen have triangles or bosses in the interspaces, two of these are decorated. There are also 26 decorated balls which are listed with Type 9. I have no adequate description of two balls and therefore cannot type them.

TYPE 4a 6 knobs low cut 102 examples	With locality	54
	County only	21
	No locality	27

Twenty-eight of these balls have clear-cut sharp-edged knobs. There are 37 from Aberdeenshire, the rest are widely scattered from Caithness to Dumfries. The only one from the W was found at Castle Sween and may well have been a 'carried' specimen. Three come from England; Lowick, Durham and Bridlington. The harder stones were used for 33 and sandstones for 16 of the balls.

TYPE 4b. 6 knobs prominent 55 examples	With locality	37
	County only	7
	No locality	11

Twelve of these balls have clear-cut knobs, the rest are rounded. There are 21 from Aberdeenshire. Apart from the outriders from Ireland and Lewis and Ross and Cromarty, the others are all within the area bounded by the Moray Firth and the River Tay. Three times as many are made from the granite, greenstone, basalt types of stone than from the sandstones.

TYPE 4c. 6 knobs with 14 examples	With locality	10
worked	County only	2
interspaces	No locality	2

These balls are all clearly cut and well defined, most of them with small triangles standing up in the interspaces. They are, to my mind, the most attractive of the carved stone balls. Two have the interspaces decorated with lines, chevrons, wavy lines and incised triangles. Two come from the N, Caithness and Ross and Cromarty, the others are all from Aberdeenshire and fairly closely grouped. Six are made of sandstone, two of granite, one of quartzite and one of diorite.

TYPE 5. 7 knobs 18 examples	With locality	11
	County only	4
	No locality	3

While all these balls have seven knobs, the treatment varies from prominent rounded bosses to shallow discs, and on some balls the knobs vary in size. Nine come from Aberdeenshire, one from Orkney, one from Aberfeldy and one from Clova. Where the locality is given, all are beside rivers. The harder stone has been preferred in this group.

TYPE 6. 8 knobs 9 examples With locality 7
County only 2

This group of balls has variety in the disposition of the eight knobs. Seven have knobs of the same size, five have clear cut knobs. In two examples the knobs are rounded, one has six large and two small knobs, another four large and four small almost falling into the category of four knobs with bosses in the interspaces, and the third with four bosses round the circumference, one small boss on one side and three very close together on the other side. One has eight evenly made bosses with three small ones in interspaces. Apart from the ball from Tarbert, Harris, all come from between the Moray Firth and the River Tay. None is described as made of sandstone.

TYPE 6a. 9 knobs 3 examples With locality 2
No locality 1

The knobs on all the balls are uneven in size. The one in Inverurie Museum is crudely fashioned, while the one found in a field near Kennoway is well shaped with low bosses. The other example, from Cruden, is somewhat irregular but it is made from a metamorphic quartzite, a tough stone to work.

TYPE 7. 10-55 knobs 52 examples With locality 26
County only 14
No locality 12

The 52 examples in this group have much in common in the way of execution and distribution. Twenty-seven come from Aberdeenshire. One from Skye may be a 'carried' specimen. Generally the balls are well and evenly made, with the bosses well spaced, and some carry out the difficult concept extremely well. A few have knobs of differing sizes, but only six can be described as being unevenly carved. There are four from Orkney, three of which stand out from the others because of their prominent, even, sharply carved knobs which are almost cube-shaped. There are 10 made of sandstone and 12 of the granite-type stones.

TYPE 8. Numerous knobs 14 examples With locality 11
70-160 County only 1
No locality 2

These balls are mostly well made, with small even knobs. The one in Elgin Museum with no locality and the one in the British Museum from Cromarty are exceptionally well carved. There are only six from Aberdeenshire. Apart from the Orcadian examples in Type 7, the distribution in this group is wider than in Type 7. A greater variety of stone is used, or perhaps it is just that recording of the stone has been more exact: sandstone, granite and three types of metamorphic stone.

TYPE 9. Decorated balls

The types of decoration vary very much but they fall roughly into three categories, those with spirals, those with concentric circles and those with patterns of straight incised lines and hatchings. More than one design is used on the same ball but where there is a spiral it has been put into Type 9a; where there are concentric circles as the dominant design the balls have been put into Type 9b, and those with varied decoration of incised lines into Type 9c. Those which do not fall into these categories are listed under Type 9d. The decorations are more fully discussed later in this paper.

TYPE 9a.	Balls decorated with spirals	14 examples	With locality	9
			County only	1
			No locality	4

The spiral design is treated in various ways, from the intricately carved designs of the famous Towie Ball (fig 1.4) to a single incised line (fig 3.3). In no case are all the knobs decorated. One ball has the spiral on an interspace. Three balls have no knobs but the whole ball is carved in a spiral (fig 3.4, 5). One comes from near Angus, the rest are all from between the Moray Firth and the River Tay. Mostly they are made from easily worked stones such as serpentine.

TYPE 9b.	Balls decorated with concentric circles	8 examples	With locality	5
			County only	1
			No locality	2

The two balls with four knobs both have concentric circles on one knob only with varied designs on the other three knobs: AUM 159/27 (fig 5.1), NMA AS 105 (fig 5.2). The ball from Orkney Hunt B1914 356 (fig 4.5) is beautifully worked with close symmetrical circles on each of the six knobs, which are so shallow that the ball is spherical. Also spherical is NMA AS 29 (fig 4.4), which is covered by seven sets of concentric circles each bordered by a narrow band of chevrons. In contrast, the one from near Dunfermline in the RSM (fig 5.3) has six bold bosses with three rings on each and reticulated interspaces. AUM 143/7 (fig 5.4) somewhat resembles it but the interspaces are smooth. One from Fordoun, NMA L 1973.1 (fig 3.2), is also a sphere but has just one fairly small set of circles, the rest of the ball being plain; there is one rather similar, AUM 159/34, not illustrated. Three are from Aberdeenshire, two from Fordoun, one from Orkney and one from Dunfermline. Sandstone was used for two, serpentine for three.

TYPE 9c.	Balls decorated with hatchings and incised lines	23 examples	With locality	16
			County only	4
			No locality	3

The method of treatment in this type is varied; the number of knobs varies also from 4 to 14, with one that has no knobs. On the whole the decoration is not done with precision, though the workmanship on Perth 1290b (fig 9.2) and AUM 159/44 (fig 9.1) could not be more meticulous in the criss-cross lines on the knobs leaving tiny cubes, the effect of which is something like a golf ball. These two examples have decorated interspaces. Five balls have lines on only some of the knobs, some have a decoration of small cups as well as incised lines: NMA AS 122 (fig 6.1) and AS 42 (fig 6.2). ARM (fig 7.5) has criss-cross lines on eight of its knobs, the other having vague scratchings. The one with 14 knobs, RSM (fig 8.1) has concentric circles on six knobs, criss-cross lines on four and small cups or pittings on the rest. Distribution is wider than in the other decorated groups but the number of examples is also greater. Five are from Aberdeenshire, with others from the N, Orkney, from the W, Argyll, and from S of the Tay in Fife. Two are described as being made of sandstone, two of greenstone, one of granite and three have been identified as being made of serpentine.

TYPE 9d.	Various decorated balls	4 examples	With locality	4
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These balls do not fall into any of the other groups of decoration and so are treated individually. From Carnwath is a six-knobbed ball with a line of small dots round one knob. A beautifully worked serpentine ball from Hillhead, St Ola, Orkney, has two large discs opposite each other, one carved in 23 oblong rounded knobs contained within a broad oval space; the other disc is divided in two, one part has six deep vertical parallel grooves, the other has six triangles one within the other. The periphery of the ball is grooved longitudinally with eight incised lines. The one from Inch, AUM (pl 1.7) is very smoothly worked with six small knobs in a trefoil-shaped depression: the small knobs do not project beyond the spherical shape of the ball. It has been suggested that this might be an unfinished ball but, compared with the unfinished balls already described, the very smooth, almost polished surface of the plain part makes it seem probable that the ball is as it was originally designed. The fourth example from Bogmill (NMA AS 185) has five knobs with the space which might have contained the sixth one filled with eight small knobs; there are eight raised triangular knobs in the interspaces. The ball is very well worked and smoothed all over.

TYPE 10. Oval	8 examples	With locality	7
		No locality	1

This small group is widely distributed but four of the balls come from Orkney, three from Skara Brae. One of these, HA 660, is very irregular in its shape and in its peaked knobs. The two in Kingussie Museum, from Kimmudry near Fraserburgh, are well worked and very similar; otherwise the balls are varied in design and in the number of knobs (5-67). As a whole the workmanship is not as exact as in other groups. One of the balls from Skara Brae has an hour-glass perforation. Two balls are described as made of granite and one of quartzite.

TYPE 11. Large, over	11 examples	With locality	4
90 mm diam		County only	2
		No locality	5

Six of these examples, four of them in the Elgin Museum and one on loan from Elgin to NMA, have six knobs regularly and well made. One from Newburgh, in the NMA (AS 201) with 14 knobs has two round bosses and 12 triangular ones. While these are well placed, the knobs are irregularly shaped, ill-defined and shallow. A granite ball from Buchan is well made with 13 even rounded knobs. One, from Aberdeenshire, has 24 shallow bosses of unequal size; it came from Ludovic Mann's collection and was labelled ' ?forgery'. One from Rhynie (NMA AS 55) has 18 very pronounced and even knobs. Five out of the six with known localities come from Aberdeenshire, the other from Newburgh. Six are made of granite.

There is a curious stone object from Laurencekirk (BG Cast, original in Montrose Museum) which might possibly have some connection with the idea of the carved stone balls. It is a perforated disc (26 mm thick, 101 mm diameter), smoothly finished with six projecting spikes rounded at the tips, three of them chipped.

Of the 387 balls on my cards I have handled all but about a score. In every case the ball gives the feeling of having been much handled. This is more than the smooth finish of a well made object. Each and every one is a craftsman's job; many are real works of art. There is one which stands apart, being made of white quartzite (Dumfries Museum), surely one of the trickiest of materials to work. One found at Ballalan, Lewis is particularly attractive in its symmetry, proportion and finish, and also in the pink granite of which it is made. For photographs illustrating the characteristics of the balls I have chosen a group from the AUM which are less well known than those in the NMAS (pl 4).

- FIG 1 1 Elgin 1x (Elgin, Moray), 2 NMA AS 165a (Lumphanan, Aberdeenshire), 3 AUM 159/6 (New Machar, Aberdeenshire), 4 NMA AS 10 (Glass Hill, Towie, Aberdeenshire)
- FIG 2 1 NMA AS 78 (Aberdeenshire), 2 NMA AS 206, 3 AUM 135/1 (New Deer, Aberdeenshire), 4 AUM 159/23, 5 ARM
- FIG 3 1 Hunt B1914 357 (Orkney), 2 NMA L.1973.1 (Knock Hill, Fordoun, Kincardine), 3 AUM 159/41, 4 NMA AS 143 (Buchan, Aberdeenshire), 5 GAGM 55.96 (Alford, Aberdeenshire)
- FIG 4 1 GAGM 55.96 (Alford, Aberdeenshire), 2 GAGM 55.96 (Aberdeenshire), 3 Montrose 21 (Glasterlaw, Angus), 4 NMA AS 29 (Fordoun, Kincardine), 5 Hunt B1914 356 (Hillhead, St Ola, Orkney)
- FIG 5 1 AUM 159/27, 2 NMA AS 105 (Aberdeenshire), 3 RSM 1905 950 (nr Dunfermline, Fife), 4 AUM 143/7
- FIG 6 1 NMA AS 122 (Urrlar, Lawers, Perthshire), 2 NMA AS 42 (Newburgh, Fife), 3 Hawick, 4 NMA AS 13 (Argyll), 5 NMA AS 208 (Dalriach, Cromdale, Moray), 6 NMA AS 137 (Islay), 7 BM 1930 4.12 (Old Deer, Aberdeenshire)
- FIG 7 1 Perth 1290 (nr New Scone, Perthshire), 2 NMA AS 166 (Nochnarie, Strathmiglo, Fife), 3 NMA AS 12 (Loch Lochy, Inverness), 4 AUM 159/24, 5 ARM (Kemnay, Aberdeenshire)
- FIG 8 1 RSM 1905.979 (prob Fife), 2 AUM 159/4 (Fyvie, Aberdeenshire), 3 Stirling AG 3 (Aberdeenshire), 4 NMA HA 703 (Skara Brae, Orkney)
- FIG 9 1 AUM 159/44, 2 Perth 1290 (River Tay, Perthshire), 3 Inverurie AS 16 (nr Inverurie, Aberdeenshire), 4 NMA AS 3 (Fordoun, Kincardine)

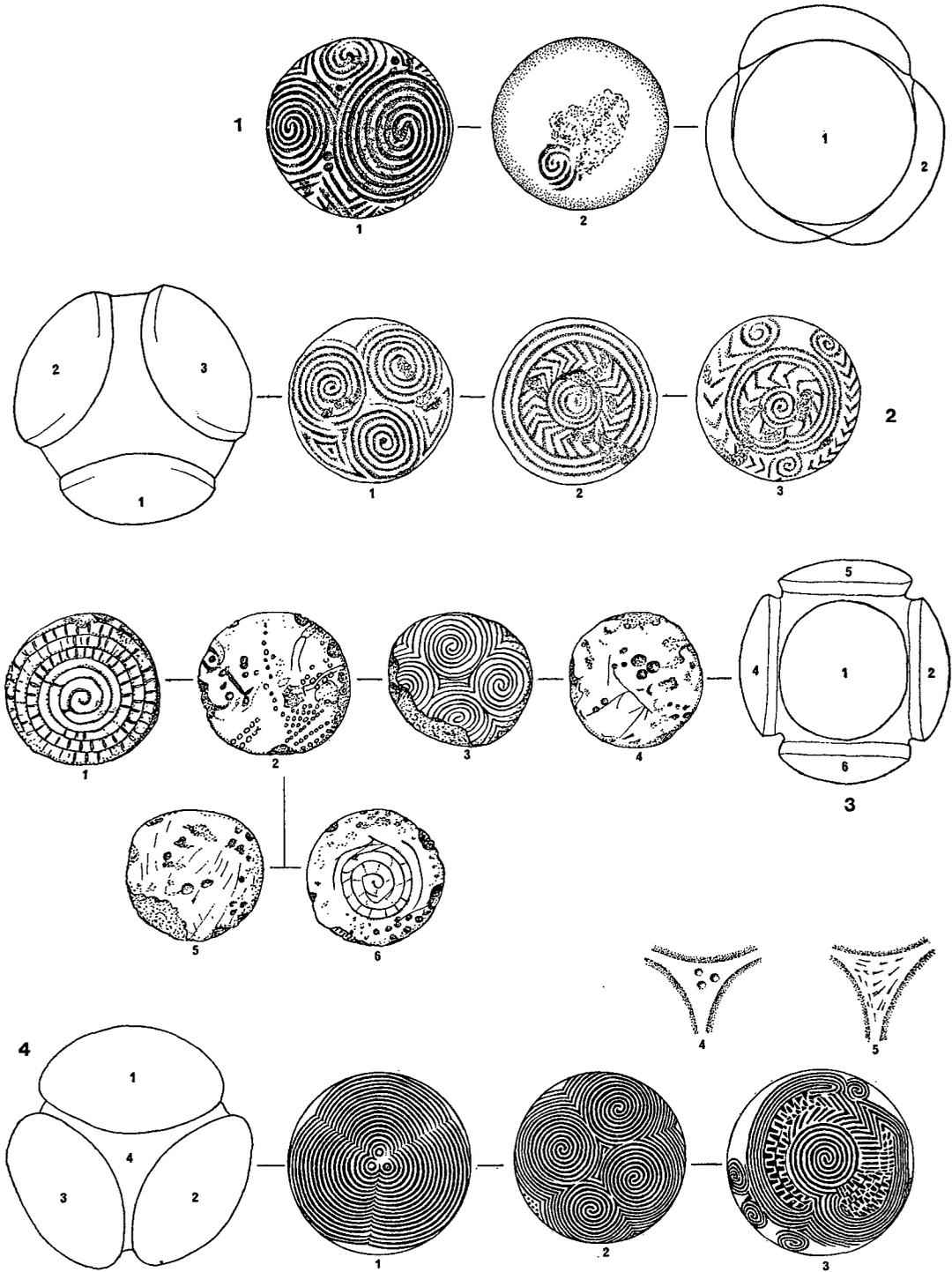


FIG 1

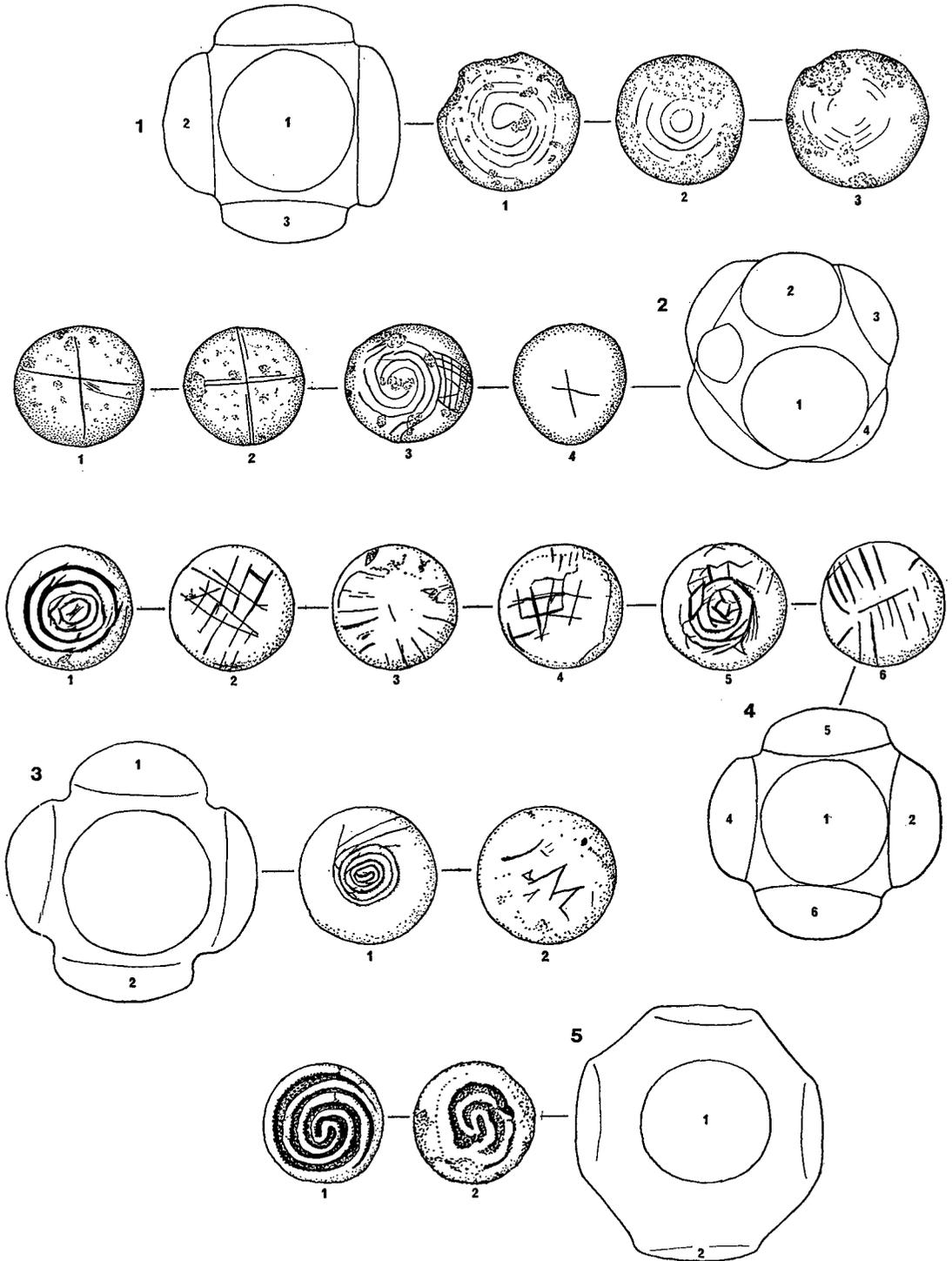


FIG 2

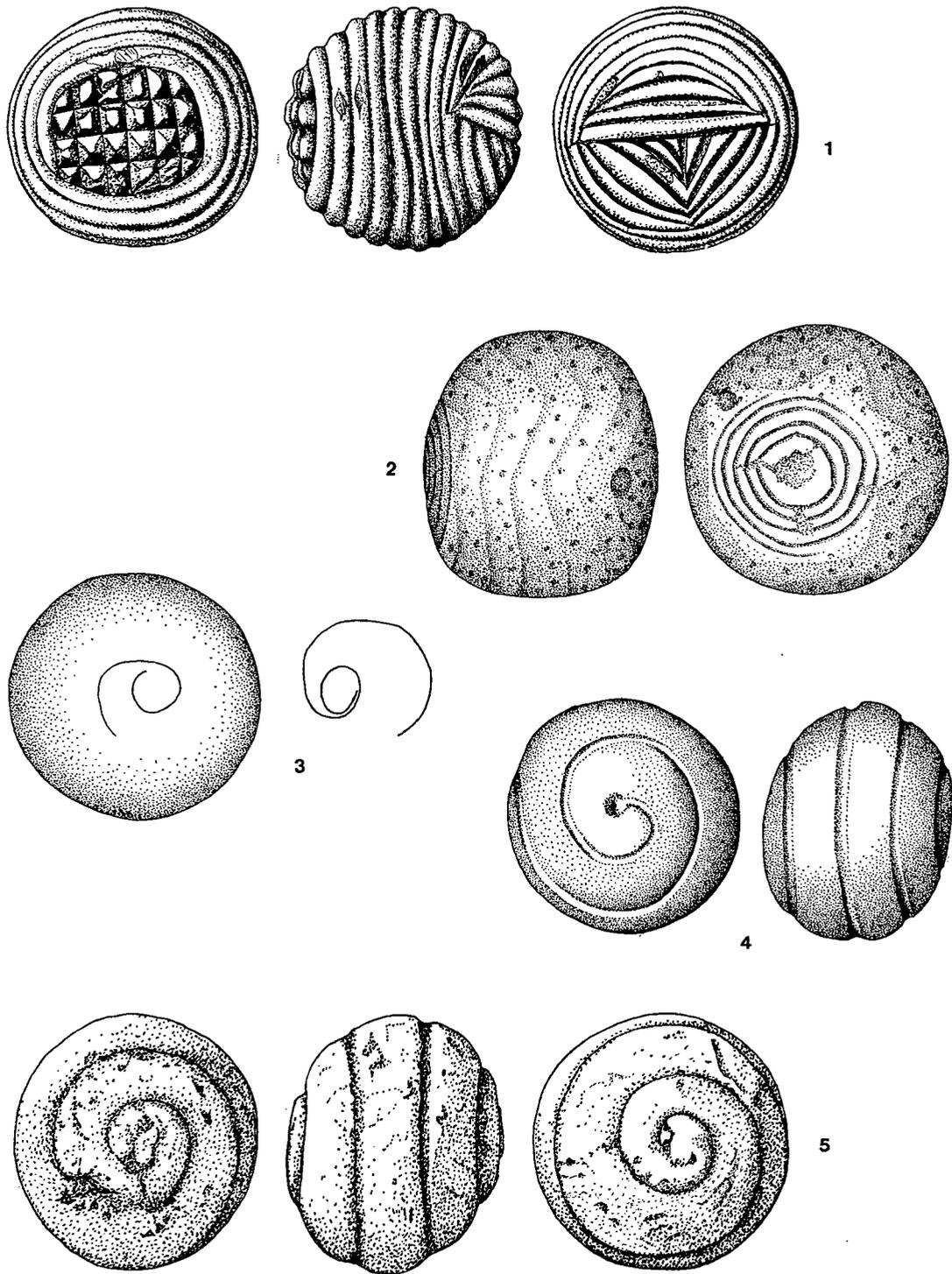


FIG 3

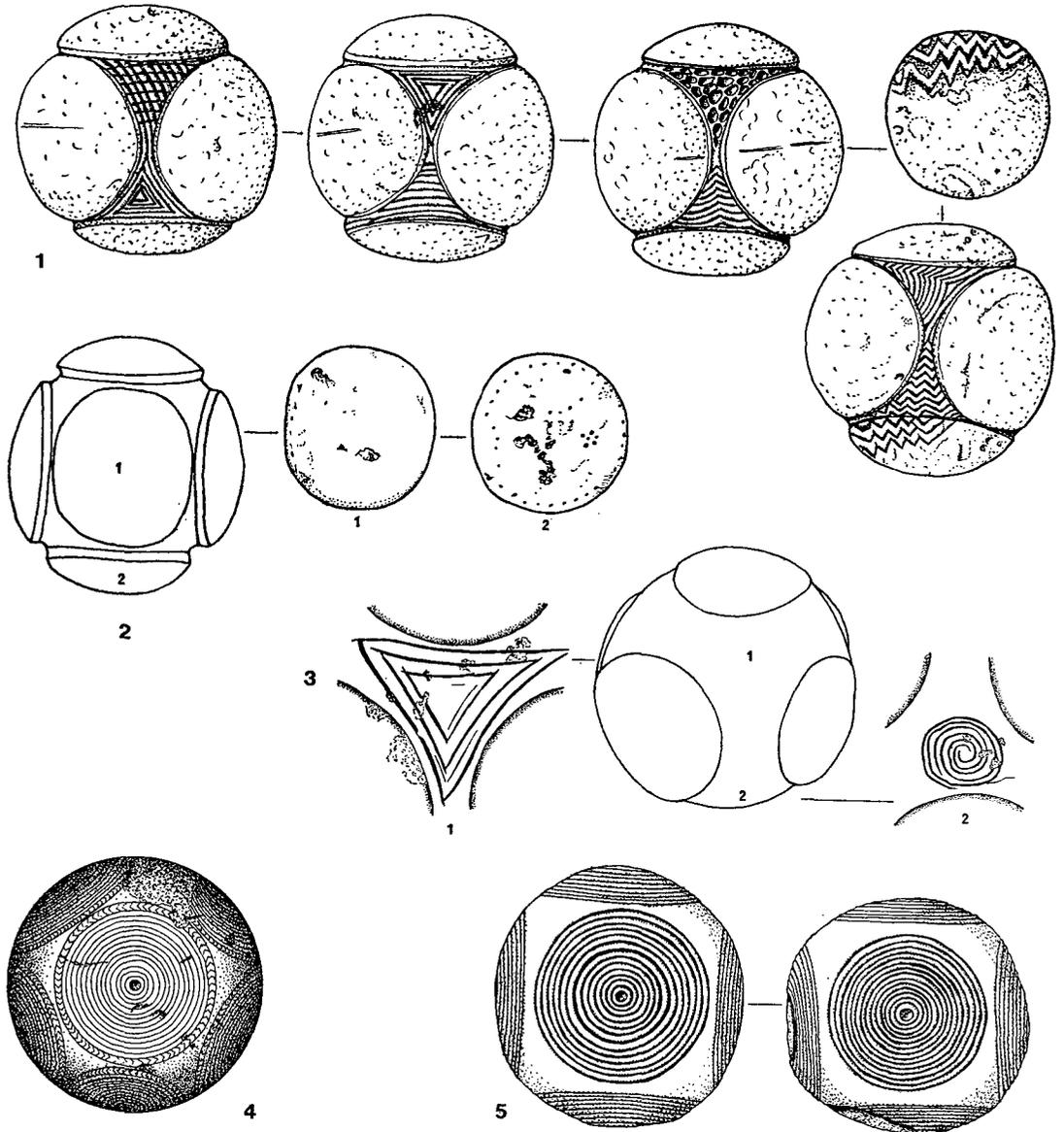


FIG 4

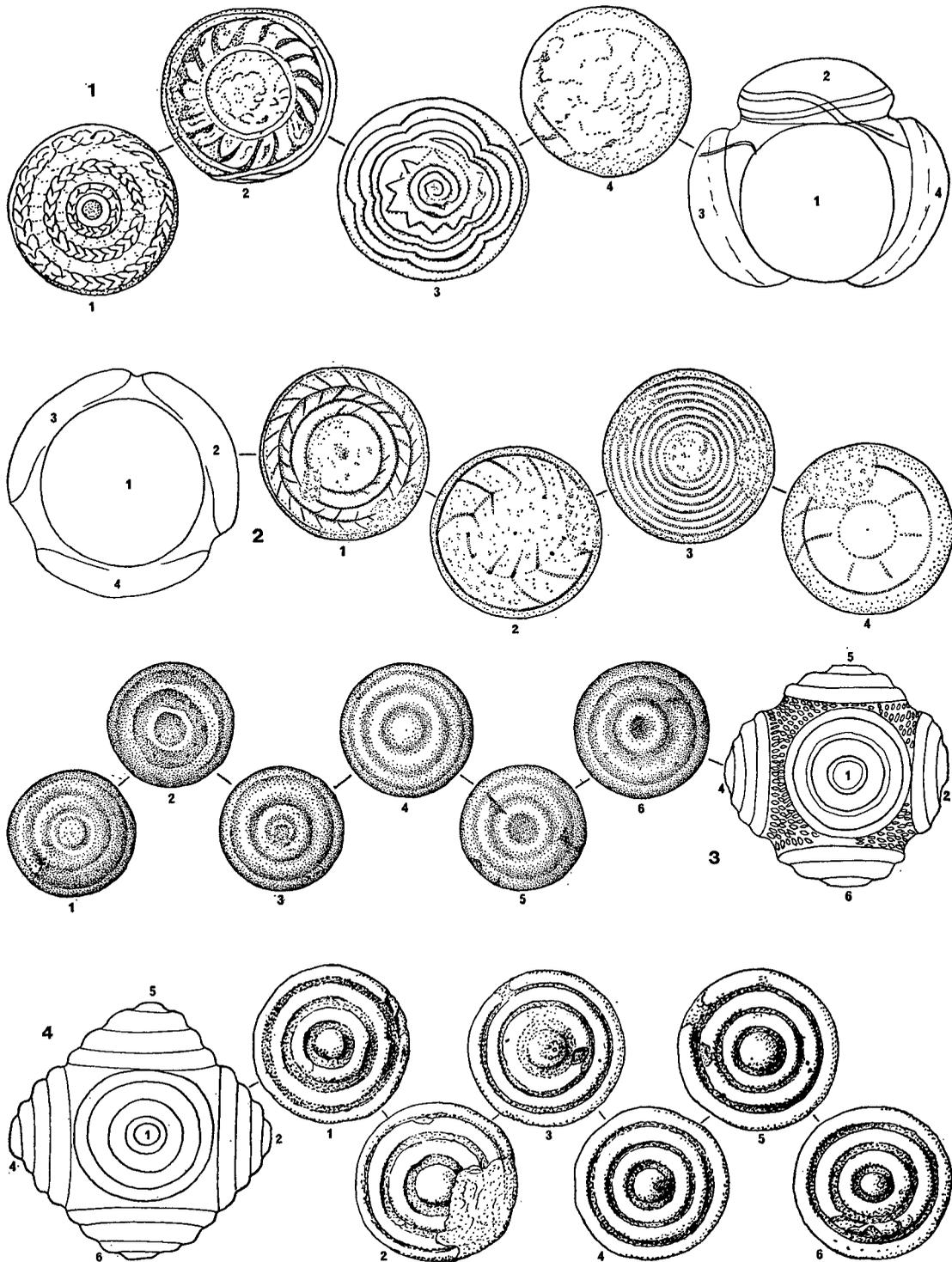


FIG 5
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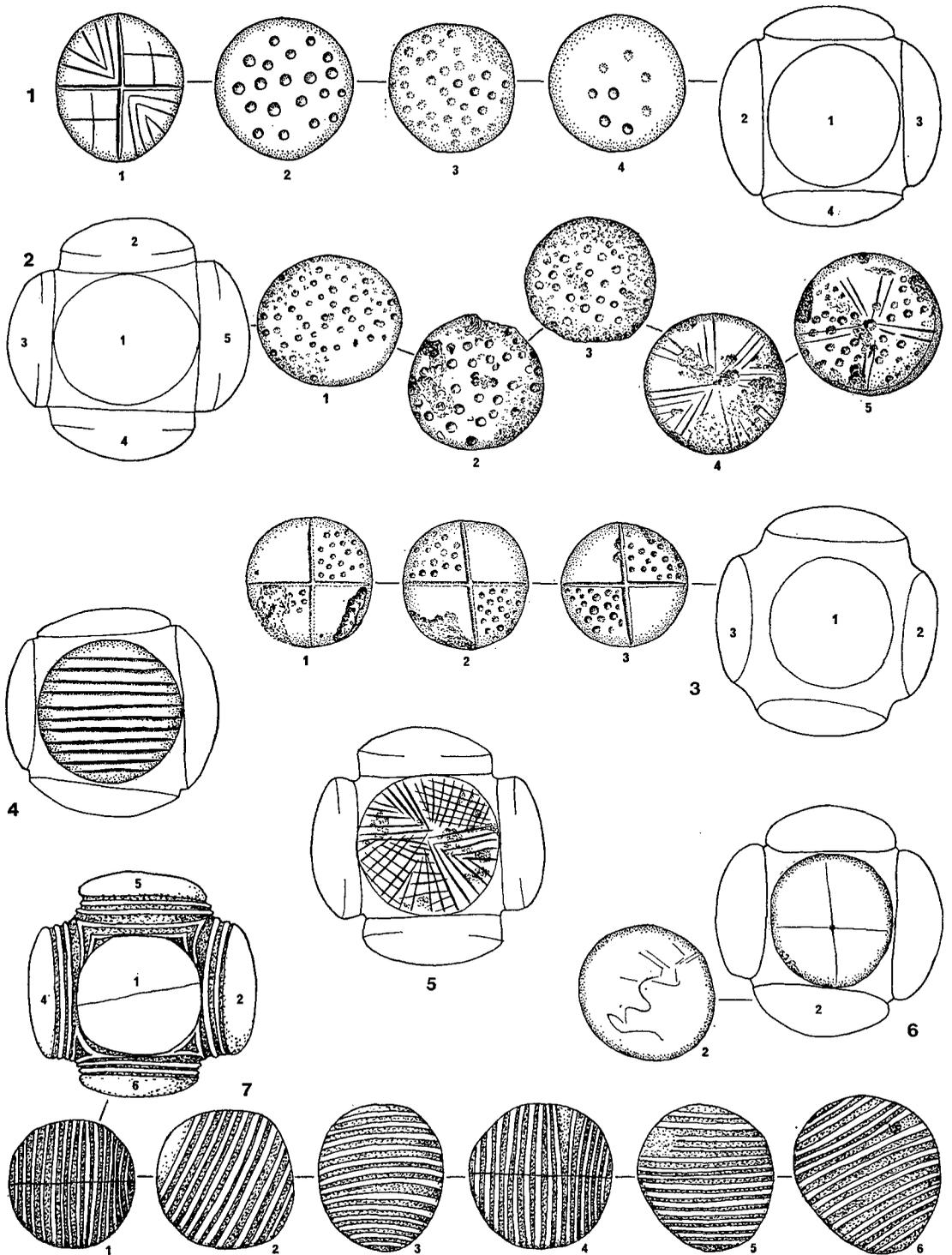


FIG 6

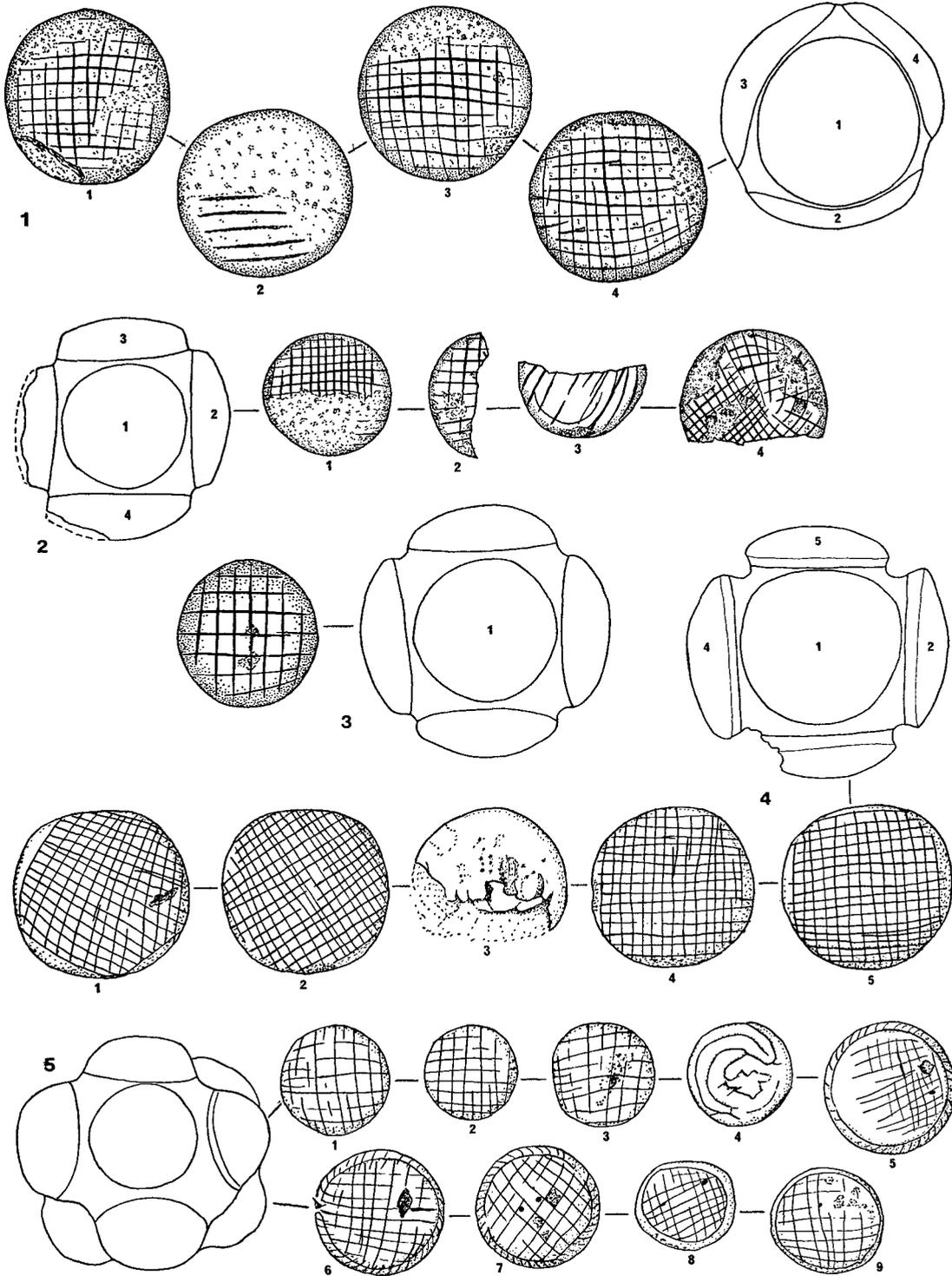


FIG 7

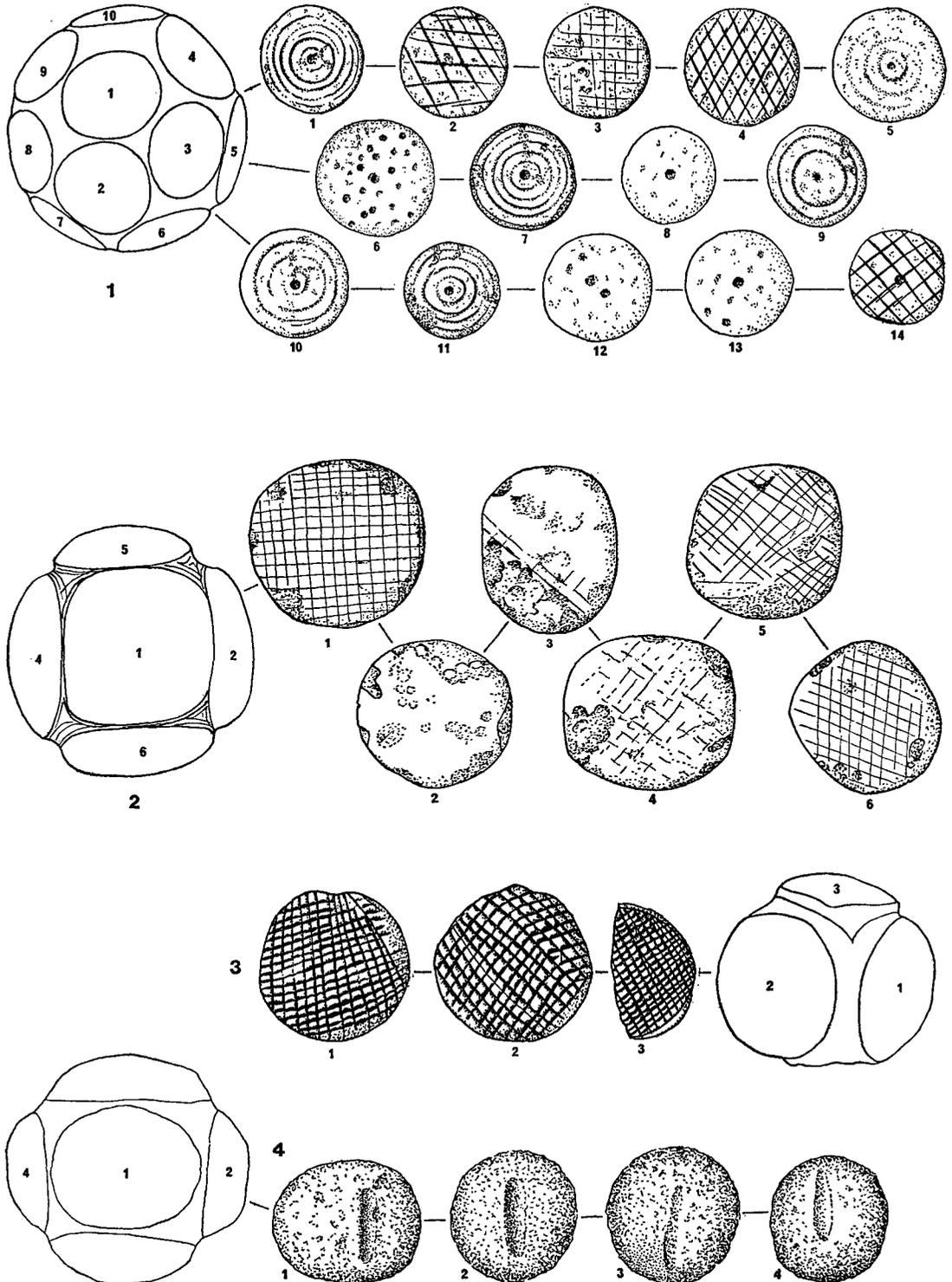


FIG 8

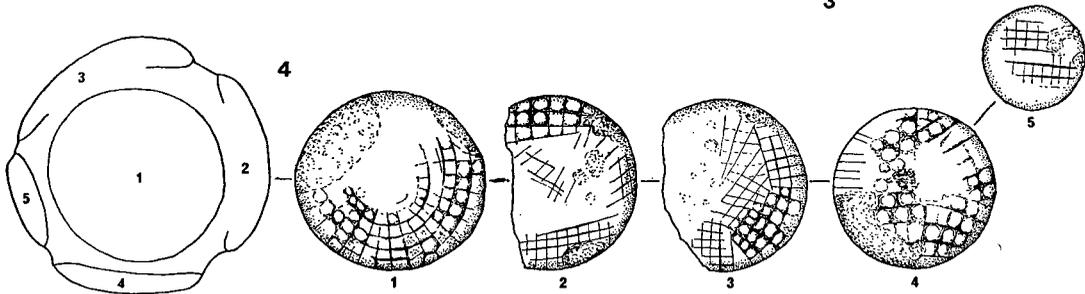
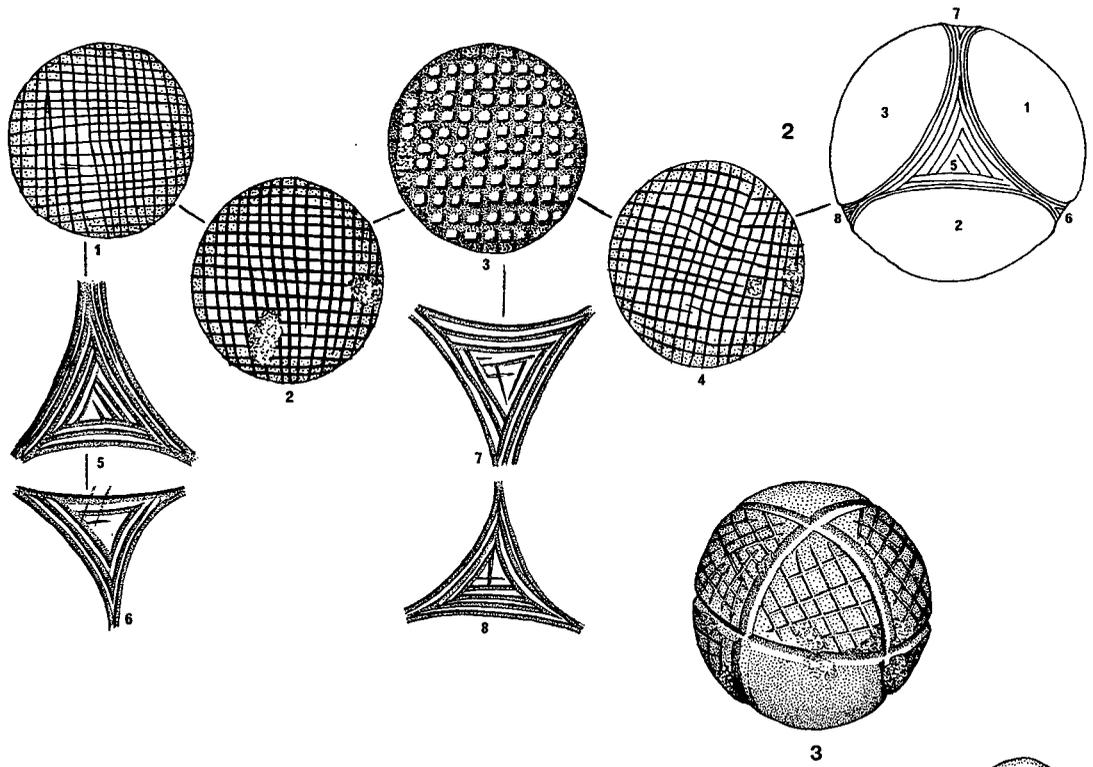
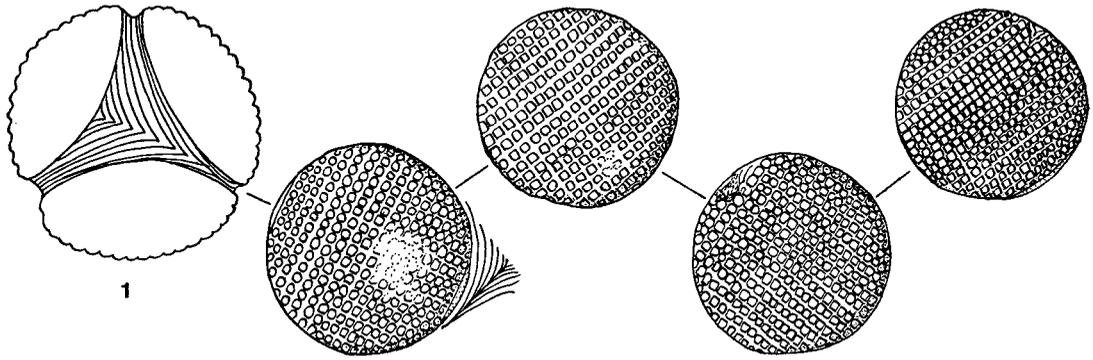


FIG 9

Materials

A great variety of stone was used in the making of these balls, and a description of the type of stone is given for only about half of them. Not being capable myself of identifying stone I have accepted the material as recorded previously. Coles and Bulmer disagree about the stone of the same ball so that statistics of material can only be used in the very broadest way. Many are described as being made from greenstone, an old term used for all varieties of dark, greenish igneous rocks, which nowadays would be described as diorites, dolerites and altered basalts. Forty-three are listed as being made of sandstone, 26 as greenstone and 12 of quartzite. Mr Addison of the Hunterian Museum examined the nine decorated balls from the AUM when they were in Glasgow being drawn. They were all of serpentine, one of them peridotite serpentine. These rocks he described as being rather indeterminate, being soft and talcose, usually the product of the alteration of ultrabasic or basic rocks. Serpentine is easily carved. One from the ARM was made of gabbro, a material which would be very tough to work. He also examined the 27 carved stone balls in the Hunterian Museum which, while the collection is only a small sample, give a good cross-section of all the types found. There were five of sandstone which would be fairly easily worked especially as sandstone can be found in natural shapes, round and oval. One of the examples from Orkney was identified as the Old Red Sandstone of Orkney. B1914 356 (fig 4.5) is very finely worked with concentric circles; it is possibly a natural nodule of micaceous limonitic sandstone with a hard limonitic skin (hydrated iron oxide): such nodules can be formed by chemical processes in sedimentary rocks, but it is not impossible that the ball was made and fired artificially. Three balls were made of gabbro, a basic rock of basaltic composition which would be a difficult material to work. A 144 had such very sharply defined knobs that Mr Addison thought metal might have been used to fashion them. The knobs themselves were shaped and trimmed by percussion. The clear-cut knobs of 1951.1 he also thought might have been worked by metal.

Three balls were made of Hornblende gneiss, a very tough rock to work. The material is more common to the W of Aberdeenshire than in Aberdeenshire itself. The only ball of the three which had a location came from Dunnottar. Another tough rock used for two examples is granitic gneiss. Two very elaborately carved ones, B1914 355 with 30 cube-like knobs and one with cube-like knobs and deep grooves (fig 3.1), both from Orkney, are made of serpentine which is easy to work. Mr Addison detected saw marks on the straight sides of the cubes of B1914 355. Quartzite was used for two balls, again a difficult material to work but 245 might have been easier as the feldspar in it had weathered out. Four balls were made from granitic rock all probably from Aberdeenshire. One was of the grey granite typical of the stone used in Aberdeen buildings, particularly well shaped (A 143) and made of medium grained grano-diorite. Dolerite, a medium grained basaltic intrusive igneous rock from sills rather than from traps, was used for two balls, one of them with numerous knobs from Kirkton, Hawick. This stone is more likely to be found S of the Highland Boundary Fault than in Aberdeenshire.

Mr G H Collins of the Institute of Geological Sciences examined the Towie Ball (fig 1.4), surely the most intricately carved of them all with three of the four knobs decorated with spirals, discs and circles. He reported that 'the rock is so fine-grained and dark that it is difficult to say what it is from a macroscopic examination. My belief is that it is an ultra-basic igneous rock – probably picrite which has been partly serpentinised. Serpentinisation would account for the softness of the rock and would make it very easy to decorate.' The same type of stone was probably used for the one in a private collection (fig 1.1) (Cast NMA AS 11).

The diorite of the seven-knobbed ball found at Hillhead, St Ola, Orkney has been identified as coming from Hillswick in Shetland.

As would be expected, only two of the 15 balls in the Inverurie Museum, which is in the heart of the granite area, are not made of granite (one is of serpentine and the other sandstone).

Hardness of stone does not seem to have deterred the makers of the carved stone balls but where they wished to decorate with spirals or concentric circles they often chose serpentine or sandstone. The type of stone did not seem so important when designs of hatchings and incised lines were used; only 13 balls among the 22 examples of this type of decoration have the stone identified, of which only four are of the more easily worked rocks. It would be of great interest and value if more work could be done on the materials of these carved stone balls.

Distribution

All but five of the balls have been found in Scotland, the majority between the Moray Firth and the River Tay in the fertile lands E of the Grampians. In fact, the distribution is much the same as that of the Pictish symbol stones which led to the idea that the balls were of Pictish origin. A few have been found in the W, on Skye, Iona, Lewis, Harris, Uist, Arran; two came from Hawick, a few from Wigtownshire and 13 from Orkney. Those found outwith Scotland came from Ballymena (Ireland), Durham and Cumberland, Lowick and Bridlington. The one in Trondheim Museum was found at Lindas in the Parish of Aure. These carved stone balls are attractive objects, easy to take from one place to another, and this must have been as true in antiquity as in more recent times. Especially was this so in the last century when collectors prized such objects as curiosities, not realising their value as archaeological evidence.

Of the 387 balls only 240 have a recorded locality but there is no guarantee that this is the true find-spot. Sixty-five have the county only recorded, and 70 have no information as to where they were found. In all 169 were found in Aberdeenshire. Few have been found in archaeological sites.

The group of 15 balls found in Orkney is curious in that they are all decorated or unusual in form and that none of the type with six plain knobs was found there. The one ball with six knobs has grooves cut across four of the knobs.

The group of large balls, 90 mm diameter and over, all come from Aberdeenshire with one exception from Newburgh, Fife. The five examples with six knobs are in Elgin Museum.

Fyvie, Kemnay and Methlick are given as the find spots of 11, 7 and 6 balls. Eleven were found near Inverurie. But most of these are given as being from the private collections of Rae, Bishop, Sturrock, Thom and Christie, so that one wonders if indeed the balls were actually found in these parishes.

The distribution maps do not give a true picture, as only about half can be plotted accurately. But even this sample plotting shows the Laigh of Moray, Aberdeenshire, and Kincardine as the areas where most were found. Of course, this is also the area of good land which today, as well as in antiquity, can support the largest population.

Plotting the different types of balls does not bring out any pattern of distribution. Of the examples with five knobs, two which are very similar come from Laurencekirk. No six-knobbed balls with interspaces come from S of the Dee. Two balls very similar to each other come from Fyvie. The two oval balls from Kimmudry are very like each other although one is better made. Only two balls were found in Deeside, but there are remarkably few archaeological sites in Deeside. Of the 19 balls with seven knobs, one comes from Orkney and the rest from S of the Moray Firth. The group of balls with 12-25 knobs is fairly tightly grouped in Aberdeenshire.

Balls found in archaeological contexts

Not very many balls have been found in firm association with archaeological sites. The best documented are those found between 'two stone divisions or boxes among ashes in an

underground dwelling at Skara Brae' (Petrie 1868, 209) (NMA HA 657; HA 658). Three other balls were found during excavations at Skara Brae (NMA HA 661, HA 703, HA 169).

Two eight-knobbed balls are reported (*The Reliquary*, III (1897), 45) as having been taken out of a cist at Ardkeilling, Strypes, Moray. One of the balls (AS 178) is in the NMA, but the other is lost. A note in the acquisition book questions the statement of finding them in a cist, but the ball was acquired by the Museum at a time when they were firmly placed in Pictish times.

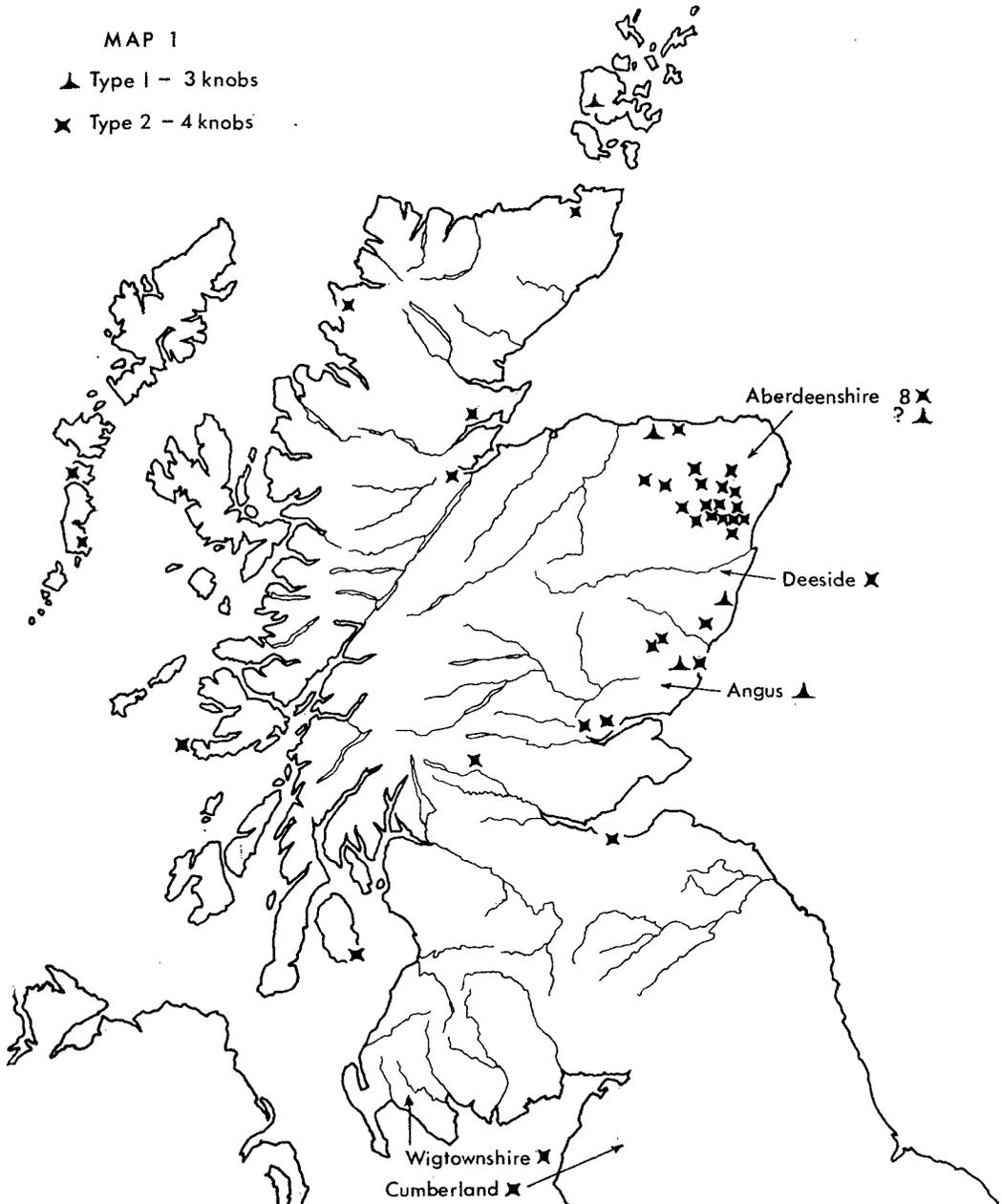


FIG 10 Carved stone balls

Alexander Smith (1876) records eight balls from in or near cists, cairns or tumuli. One with six low-cut knobs and bosses grouped in an interspace was found 1 ft from a cist, one of a group of three short cists each surrounded by a circle of stones possibly forming a kerb, at Craigbeg, Lochnagar Distillery, Ballater (NMA AS 6). Three were found in cairns, one with four knobs at Braikie, Montrose Museum 22, one with six decorated knobs from Old Deer. The third, once in the UF Church College Museum, Aberdeen, was found at Cairn Robin, Kincardine. Smith's

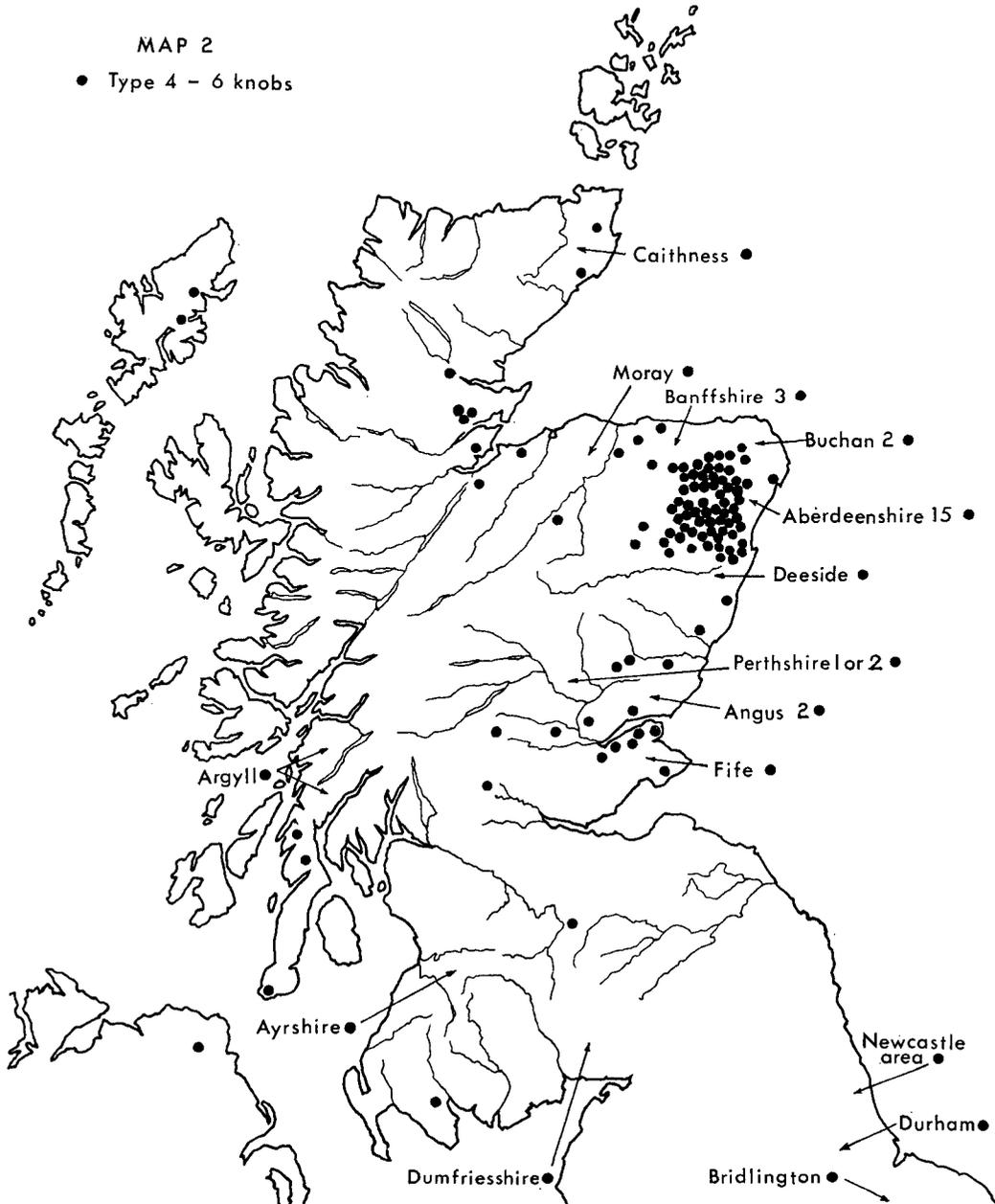


FIG 11 Carved stone balls

illustration of the six-knobbed ball with projecting concentric circles and reticulated interspaces is very like RSM 950 which is said to come from Dunfermline (fig 5.3). A six-knobbed ball with flat-topped bosses, slightly oval, once in the Nairn Museum, was found in a field with a boar's tusk near a tumulus at Muckle Geddes, Nairn. At Budfield, Leochel-Cushnie, a ball with seven knobs was found in a tumulus. A well-made six-knobbed ball from Buckhall, near the Lyne of Muick was found 'embedded in black mould, about 3 ft under the surface. The mould was

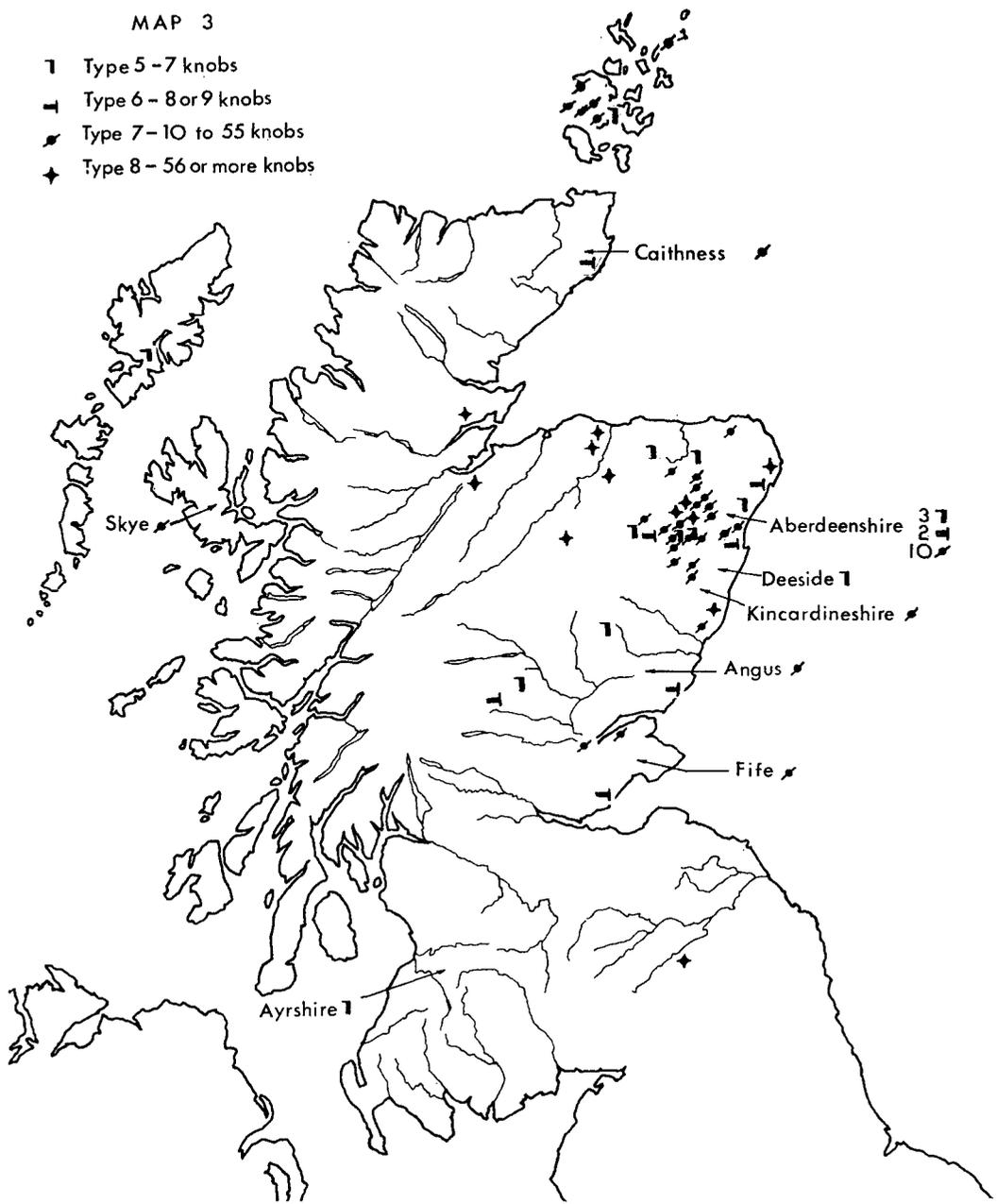


FIG 12 Carved stone balls

contained in a scooped out hollow in the rock, from 6-7 ft in lenth and about 3 ft in width, having the appearance of a grave, but no bones . . . were observed' (Smith 1876, 39-40).

Smith also records one found 'in the old British camp or fort . . . on the picturesque crag of Clachard . . . which almost overhangs the ruins of Lindores Abbey' (1876, 48). He did not see the ball but from the description of it he compared it to the one in Perth, 1290B (fig 9.2).

A ball with six knobs was found near the Druid's Circle, Lochearnhead (GAGM 38.57).

MAP 4 Decorated

- ⊙ Type 9a - spirals
- ⊗ Type 9b - concentric circles
- # Type 9c - crosses & hatching
- ∇ Type 9d - other

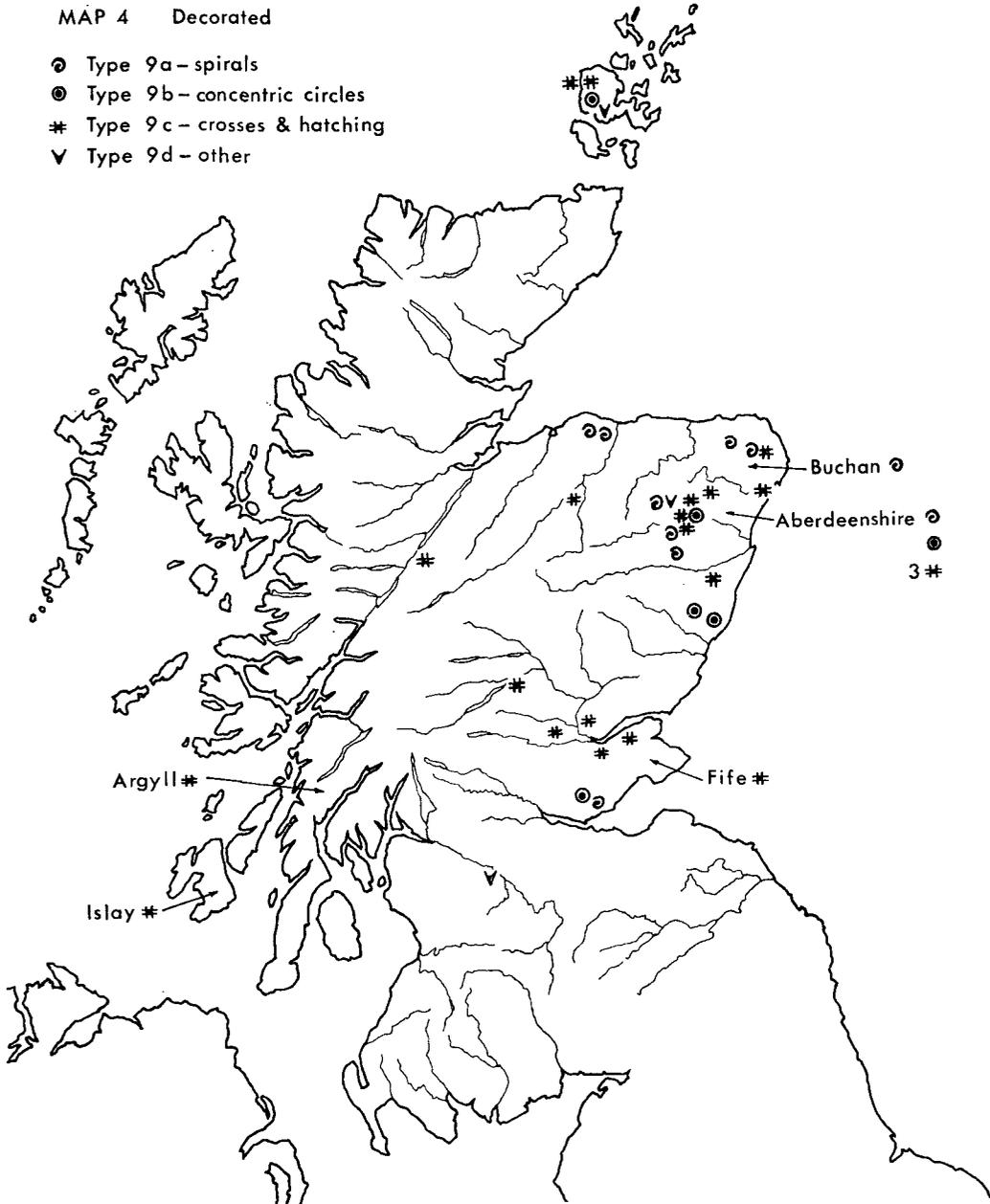


FIG 13 Carved stone balls

One with 100 knobs was found at Tomintoul in association with a perforated axe head; it is now in the Banff Museum.

One ball was found 1 ft below the surface during excavations at Dunadd (NMA GP 220). The one found on the pavement of the courtyard at Castle Sween (NMA AS 191) is possibly a carried find, as may be the ball reported from a broch site at St Thomas's Kirk, Orkney (NMA AS 67).

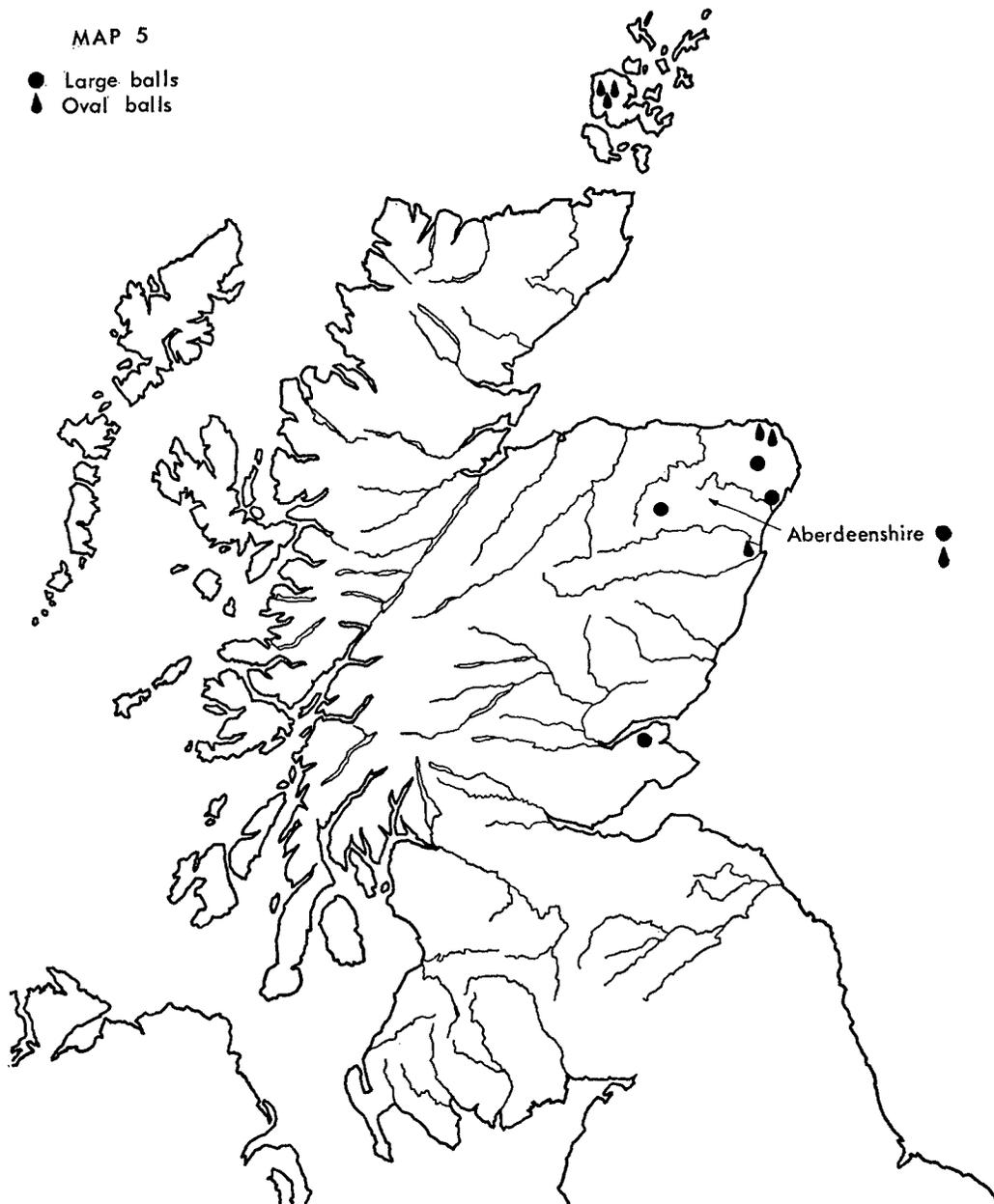


FIG 14 Carved stone balls

The balls reported from early sites, except for the two from Ardkeilling, are all different one from the other, four knobs, six knobs plain and decorated, seven knobs, eight knobs, 33 knobs, numerous knobs and oval. The decorations too are varied.

Decoration

The craftsmanship required to fashion the carved stone balls was considerable. Sandstone can be found naturally in nodules but otherwise the stone would have to be rounded before the making of the knobs or the decoration could be started. Presumably sand and water would be used. Percussion chipping can be detected in some as Hunt. A144. Flint would have been used for the sharper edges though Mr Addison felt that metal must have been used in the final sharp edging to the six-knobbed ball, Hunt. A144. AUM 140, 159/29, NMA AS 66, AS 119 and AS 202 also show very sharply defined knobs. The makers of the balls had enough knowledge of the nature of rock to choose serpentine or other easily worked stone for the more intricately carved ones, the Towie ball for example, or the one from Orkney with 33 evenly cut, cube-like knobs. But they were not daunted by the harder tougher rocks using quartzite, gabbro and hornblende gneiss among them. None of the balls is polished, perhaps for some specific reason as the people who made them could also make fine polished axes. Nor did the speckled stone attract them as it did the makers of mace-heads.

The variety of decoration used is great, the best are beautifully executed, others have just vague scratchings. The spirals (fig 1.1–4), none of them flowing from one spiral to the next making a continuous pattern, can be paralleled by those carved on the stone at the entrance to the tomb passage at New Grange and in other neolithic tombs. The close double spirals on the Towie ball, NMA AS 10 (fig 1.4), remind one of the designs on the decorated chalk cylinders from Folkton Wold, Yorkshire. These objects are also from grooved-ware context and, like the carved stone balls, seem to be non-functional. The single spirals which are more like coils on AUM 159/6, 159/23 NMA AS 206 and ARM (fig 1.3; fig 2.2, 4, 5) are very similar to the spirals seen on sherds from Skara Brae (Piggott 1954, 332). Especially is this so with the ball AUM 159/6 (fig 1.3) and the design of sherd SB 1 32 found recently at Skara Brae where lines are incised across the coils.

The ball AUM 159/41 (fig 3.3) is plain with no knobs and has sketchily executed spirals on opposite sides which are very different in character from the others so far described. The spiral idea is also seen in three examples where the whole ball becomes a spiral (NMA AS 143, GAGM 55 96 (fig 3.4, 5), and one, also from Aberdeenshire, in the Kingussie Museum). It seems strange that none of the carved stone balls found in Orkney have spiral designs on them. Elements of grooved-ware design can be seen in the chevrons, zig-zags and concentric triangles on GAGM 55 96 and Montrose 21 (fig 4.1, 3). The series of close grooves on NMA AS 13 and BM 1930 4.12 (fig 6.4, 7) may be derived from pottery such as was found at Carnaby Temple (Manby 1974) and the single grooves on the six-knobbed ball from Skara Brae, NMA HA 703 (fig 8.4), may also be a pottery derivative.

The designs of concentric circles may come more from the bronze age although the Folkton cylinder has a set of close concentric circles as have two very finely worked balls, one from Fordoun (NMA AS 29), the other from Orkney (Hunt, 356) (fig 4.5, 5). The motifs in single grave art (Simpson and Thawley 1972, fig 3) have much in common with the concentric circles on six of the 14 knobs on RSM 970 (fig 8.1) and the simple incised cross on NMA AS 206 and AS 137 (fig 2.2; fig 6.6). The ball AUM 135/1 (fig 2.3) has a spiral on one knob and a pattern like the letter M on another knob which is also found in the rock carvings where of course the design is very much larger. The idea of the concentric circles is further developed, somewhat as with the spiralled balls (fig 3.4, 5) in that the knobs project in three tiered rings on RSM 950 and AUM

143/7 (fig 5.3, 4). Three balls in particular have a variety of elements of design on them; NMA AS 105 (fig 5.2) has a chevron pattern that can be found on beaker pottery. The patterns on AUM 159/37 and NMA AS 65 (fig 5.1; fig 1.2) do not look as though they were designed to be executed in stone; one feels that wood would be a more comfortable medium. They too show motifs of beaker design, chevrons and small arrows.

Hatchings and incised lines making vague patterns are used on some of the knobs of several balls where spirals and concentric circles are on other knobs: NMA AS 78 and AS 206, AUM 135/1 and 159/23 (fig 2.1, 2, 3, 4) RSM 979 (fig 8.1). Except for RSM 979, where the patterns are executed with some precision, the hatchings do not seem to have been incised with much care. More care seems to have been used on NMA AS 122, 42 and 208 (fig 6.1, 2, 5), where a design of incised lines raying out from the centre of the knob is used with, on the other knobs, fairly neat small pitted hollows reminiscent of the stabbed patterns in beaker pottery. The element of small holes is seen in the ball in the Hawick Museum (fig. 6.3) where three of the knobs are quartered, having small stab-holes on two opposing quadrants. This design is well executed.

Great precision has been used to fashion the 'golf ball' type of decoration especially on AUM 159/44 and Perth 1290b (fig 9.1, 2), where the interspaces are carefully worked in chevrons and concentric triangles. Less well executed balls showing the same design and idea are Stirling AG 3, Perth 1290 and AUM 159/24 (fig 8.3 and fig 7.1, 4). Different in design but with the same background idea is the precisely carved one from Inverurie, AS 16 (fig 9.3). These designs with their straight lines and tiny cubes with triangles in the interspaces, almost iron age in concept, seem far removed from the intricate spirals characteristic of the neolithic culture. Yet in the ball from Montrose (fig 4.3), both a spiral and triangles within triangles are used. The balls were made by craftsmen so some of the designs on them must surely be due to the individual initiative and whim of the artist.

Discussion

The carved stone balls found in the excavations at Skara Brae place them in the later neolithic period. The spiral decorations on other balls are so closely allied to the neolithic tomb carvings at New Grange and elsewhere and to the designs on grooved ware that they also must be neolithic in date. While none have been found during controlled excavations of bronze-age cairns and cists there are reports of nine balls having been found in these contexts last century. This seems evidence enough to suppose that they continued in use in bronze-age times. The fact that the decoration on some of the balls can be paralleled with patterns on beaker pottery and in the British 'single grave art' also shows that they persisted into the later period. Metal seems to have been used in fashioning some of them. The six-knobbed ball from Carnwath (GAGM 55.96) has a design of precisely incised dots round one knob which is reminiscent of metal working. There is no real evidence of their having continued in use to the iron age though some of the patterns of bold triangles and definite criss-cross incisions seem more iron age in character than neolithic (Joffroy 1975).

Apart from one from near Tomintoul found with a perforated stone axe and one found with a boar's tusk in a field near a tumulus by Nairn, carved stone balls have not been found in association with any other artefact. They must, however, be considered along with mace-heads (Roe 1968), also late neolithic and bronze age in date. The two groups of objects have a somewhat similar distribution in Scotland, especially when one considered the concentration in Orkney, the few found in Caithness and Sutherland and the concentration again in Aberdeenshire. Few are found in the west. The mace-heads however have a wider distribution, having been found all down the E side of England to the English Channel. Both must have been prestige objects made

with great care. Mace-heads were both weapons and used ceremonially (of 210 listed, by Roe, 62 broken ones are noted).

The perforations, of course, make them more easily broken than carved stone balls. Only 29 of the latter are chipped or broken, a pointer that the balls were not functional. Both types of object have been found in cairns and cists. Three mace-heads are reported from chambered cairns but, so far, no balls have been found in such sites.

There is so little hard fact to be extracted from the evidence available about the carved stone balls that postulation as to their evolution and use is very difficult.

Does the variety of design of the balls found in late neolithic and bronze-age contexts indicate that the idea of using stone balls had already been there for some time? The diversity of design of the balls found in Orkney led Childe (1962, 25) to suggest that it was there where they were first used and that it was from there that the idea or cult spread. If so, it is strange that so relatively few are found on the way S in Caithness and Sutherland. Can one argue that they began diverse in design and that later the six-knobbed ball became the accepted form, with perhaps a local preference for large ones or for those with 10–25 knobs?

Various suggestions have been put forward as to their use. Smith (1876) thought that they had been attached to sticks and used as weapons, but it would be well-nigh impossible to fix the balls to a stick firmly enough for them to be used as weapons. Very few balls are perforated and of these only the one from Skara Brae (NMA HA 658) and one from Fordoun (NMA AS 3) have holes which seem functional. Two of the missing balls are described as having holes, one from Elgin, the other from Keith. The balls with clear cut, medium sized knobs are the ones which seem to be made for thongs to be fitted round and to be used as bolas. This is especially so when the grooves around the knobs are the smoothest part of the ball, as in examples in Manchester, St Andrew's and AUM 159/31. But no thong or cord would fit round those with very shallow grooves and they would slip off the ball with rounded prominent knobs. When one appreciates the skill and time which has been used in the fashioning of these balls, it does not seem possible that the owner would have risked their loss or damage in war or chase.

Ludovic Mann (1914, 412–20), discarding their use as weapons, said that they were best explained as movable poises on primitive weighing machines (when he wrote it was considered that the balls were Pictish in origin). Their use as weights has been suggested to me on several occasions; they are uniform in size and do not differ greatly in weight. Discussing this idea, Major Colville, who farmed in Kenya, said that his Kikuyu, intelligent farm workers, were suspicious of weighing, preferring to have their meal issued to them by measure. He felt that people living in neolithic and bronze-age times, skilled as their elite were, might feel the same.

Another idea was that they may have been used in some game, perhaps similar to that described by Evans (1957) where balls were thrown competitively from one place to another, sometimes one village to another. The winner was the one with the fewest throws. If this had been the case surely more balls would have been chipped. Another suggestion is that they may have been used as oracles, being rolled along the ground and the future read from the way they rolled and from the position of the knobs when the ball came to rest. This is a possibility, although the diversity of shape in the balls would make interpretation of the signs different too.

There is the question, too, of how and where the balls were kept. Were they hung in bags from their owner's belts? Were they hung on the wall of the hut as the perforated neolithic bowls are assumed to have been, or were they kept in stone boxes, such as are seen at Skara Brae, or in wooden boxes which have disappeared?

So few of the balls have been found in graves that it seems to me that they must have been family or clan possessions rather than personal ones. The balls must have been prestige objects.

MacKie (1976) suggests that the people who lived at Skara Brae were the elite of the times living in better houses and eating better food. If that is so then it is appropriate that so many prestige objects were found in Orkney. If they are not for use as weapons or for a game one is left with the idea of ritual use.

Could a ball have been used at a clan conference, the chief handling it as he considered a judgement, or perhaps being handed round, the one holding it having the right to speak? Perhaps it is better to say as Piggott and Daniel (1951, 14) said, 'Their use is wholly unknown'.

ACKNOWLEDGMENTS

I would like to record my thanks to the many people who have helped with the preparation of this paper, to the owners of the carved stone balls, the Curators of the Museums who gave me access to the balls in their keeping and especially to Mr R B K Stevenson of the National Museum of Antiquities for his advice and encouragement. Professor R D Lockhart of the Anthropological Museum, University of Aberdeen, was most co-operative in giving me access to the many balls in his Museum and for allowing me to borrow the decorated specimens for drawing. He also arranged for a selection of the balls to be photographed in his department. The help Miss Philip of the Anthropological Museum and Dr J Close-Brooks of NMAS gave me was invaluable. I would also like to thank Miss A Henshall and Mrs M E Scott who have drawn the balls so skilfully and with such meticulous care. Mr Addison of the Hunterian Museum spent much time examining and commenting on the balls in Glasgow and from Aberdeen. Mr G H Collins of the Institute of Geological Sciences identified the stone of the Towie ball. To these geologists I am most grateful for their specialised help. I am also indebted to Dr Ian Rolfe of the Hunterian and Mr Ian Cameron of the Institute of Geological Sciences for their help in identifying the stone of other balls.

There must be more carved stone balls than I have on my cards. There are balls described by Smith, Bulmer and Coles and reported in the early volumes of *Proc Soc Antiq Scot* which are now in no known Museum. I would be most grateful for information about balls in private collections or in Museums not on my list; if anyone wishes to consult the Card Index I have compiled they are, of course, very welcome to do so.

CATALOGUE

TYPE 1. 3 Knobs

NMA BG 138	Swallowhouse, Forfar, Angus
AS 174	Stonehaven, Kincardine
AS 91	Buchrumb, Banff
Dunrobin	—
Montrose 23 = Cast NMA AS/162	Tulloch of Garvoch, Kincardine
Info Mr Milne, Aberdeen	—

TYPE 2. 4 Knobs

NMA AS 16	Water of Leith, Midlothian
AS 46	Dyce, Aberdeenshire
AS 61	New Keig, Aberdeenshire
AS 71	Aberdeenshire
AS 73	Stelloch, Wigtown
AS 76	Herschel Hill, Fordoun, Kincardine
AS 90	Aberdeenshire
AS 93	Aberdeenshire

AS 95	Deeside
AS 99	Olrig, Castleton, Caithness
AS 100	Aberdeenshire
AS 101	Aberdeenshire
AS 153	Ben Tharson, Ardross, Ross and Cromarty
AS 171	Fyvie, Aberdeenshire
AS 172	Stoer, Sutherland
AS 182	—
AS 184	Premnay (Parish), Aberdeenshire
AS 200	Benbecula
AS 205	Loch Boisdale, South Uist
AS 209	River Forth, Gargunnock, Stirling
AUM 143/3 = Cast NMA AS 67	Udny, Aberdeenshire
143/5	Aberdeenshire
159/17	—
159/37a	Glass, Huntly, Aberdeenshire
159/40	—
349/2	Reidhall, Brechin, Angus
ARM 67.6.18	Kemnay, Aberdeenshire
Ashmolean 1927.2729	Auchterless, Aberdeenshire
Banff	Hill of Altmore, Aberdeenshire
Brechin	Caterthun, by Brechin, Angus
BM WG 2349	Stanwix, Cumberland
Kingussie	Harlow Farm, Inveramsay, Aberdeenshire
Montrose 22	Braikie, Angus
Perth 1290 A	New Scone, Perthshire
Peterhead	—
Info Prof A C Thomas	Iona
Miss Jenkins	Dippen, Arran
Mr R Graham	Keith Hall, Inverurie
<i>TYPE 2a. 4 Knobs wjth worked interspaces</i>	
NMA AS 92	Aberdeenshire
AS 131	Aberdeenshire
AS 156	Udny, Aberdeenshire
AS 176 = Cast AS 53	Methlick, Aberdeenshire
AS 177	Huntly, Aberdeenshire
AUM 159/36	—
<i>TYPE 3. 5 Knobs</i>	
NMA AS 185 also in Type 9d	Bogmill
AS 3 also in Type 9c	Fordoun, Kincardine
AS 52 also in Type 10	New Hills, Aberdeenshire
<i>TYPE 4a. 6 Knobs, not very prominent</i>	
NMA AS 2	Wester Kinleith, Fife
AS 4	Migvie, Aberdeenshire
AS 14	Dumfriesshire
AS 15	Benachielt, Latheron, Caithness
AS 18 (Half ball)	—
AS 19	Kinkell, Inverurie, Aberdeenshire
AS 27	Grange, Lindores, Fife
AS 31	Biggar, Lanark
Cast AS 48	Red Moss, Belhelvie, Aberdeenshire
Cast AS 49	Kinellar, Aberdeenshire

Cast AS 51	Fyvie, Aberdeenshire
AS 60	Banff
Cast AS 66	Kemnay, Aberdeenshire
AS 72	Mill of Cromdale, Morayshire
AS 74	Mugdrum Island, Abernethy, Perthshire
AS 104	Aberdeenshire
NMA AS 106	Aberdeenshire
AS 107	Aberdeenshire
AS 114	Aberdeenshire (prob)
AS 115	Aberdeenshire (prob)
AS 119	Achness churchyard, Creich, Sutherland
AS 121	Abernethy, Perthshire
AS 123	—
AS 124	—
AS 130	Aberdeenshire
AS 138	—
AS 141	Buchan, Aberdeenshire
AS 158	Contullich, Alness, Ross and Cromarty
AS 167 = Cast AS 163	Wester Cairnie, Forteviot, Perthshire
AS 168	Perthshire
AS 183	Perthshire (prob)
As 190	—
AS 191	Castle Sween, Argyll
AS 192	Greenlonachs, Culbokie, Black Isle, Ross and Cromarty
AS 193	Ruskie Burn, Port of Monteith, Perthshire
AS 194	—
AS 197	Aberdeenshire (prob)
AS 202	Crieff Farm, Kirriemuir, Angus
AS 203	—
Info Mr Nesbit	Hetton North Farm, Lowick, Berwick-on-Tweed,
Hetton North Farm	Northumberland
ARM	Kemnay (prob), Aberdeenshire
AUM 135	Kildrummy, Aberdeenshire
135/2	Banffshire
138	Banffshire
139	Kemnay, Aberdeenshire
140	Kemnay, Aberdeenshire
143/1	Leochel Cushnie, Alford, Aberdeenshire
143/2 = Cast NMA AS 47	Leslie, Aberdeenshire
159/11	Drummond Hill, nr Aberdeen
159/18	—
159/19	Bourtie, Old Meldrum, Aberdeenshire
159/20	—
159/21	—
159/31	Fyvie, Aberdeenshire
159/33	—
159/39	Blairs, Fintry, Aberdeenshire
159/42	—
159/46	—
159/48	Aberdeenshire (prob)
159/49	Haddow House, Tarves, Aberdeenshire
349/2	Reidhall, nr Brechin, Angus
BM 1906 4.12.2.	Hill of Barra, Bourtie, Aberdeenshire
WG 1250 2350	Banffshire
1906 4.21.1	Fetternear, Kemnay, Aberdeenshire
Campbeltown	Dunaverty, Argyll

Dumfries	Cree Moss, Wigtown
Dunblane	Kilbryde Parish, Perthshire
Dundee	Angus
Dunrobin Cast	Clephanton, Nairn
Elgin × 2	—
× 3	—
GAGM 38.87	Lochearnhead, Perthshire
GAGM = Cast NMA AS 65	Leochel-Cushnie, Alford, Aberdeenshire
Hunt. B 1951 120	Andrewsford, Fyvie, Aberdeenshire
A 143	—
A 144	—
B 1951 245c	Aberdeenshire
B 1914 348	Cruden, Aberdeenshire
B 1914 351	—
B 1914 352	—
B 1914 353	—
B 1914 354	—
A 1912 6	—
Inchcolm Site Museum	—
Inverewe House	—
Inverurie AS 1	Maiden Stone, Garioch, Aberdeenshire
AS 2	—
AS 3	Lumphanan, Aberdeenshire
AS 17	Inverurie district, Aberdeenshire
AS 19	Fyvie, Aberdeenshire
Inverurie AS 23	Shadowside, Bourtie, Aberdeenshire
Kilmarnock	Jock Thom's Farm? Kilmarnock
Kingston upon Hull 147	Bridlington? Yorks?
Kirkcaldy	Carnbee, Pittenweem, Fife
Newcastle-upon-Tyne Museum of Antiquities	Houghton-le-Side, Durham
Perth 17/59	Balbeggie, Perthshire
Peterhead	Aberdeenshire
St Andrews Univ N 223	Leuchars, Fife
Info Mr David Levie	Fyvie, Aberdeenshire
Mrs McIvor	Bernera, Lewis
 <i>TYPE 4b. 6 Prominent Knobs</i>	
NMA Cast AS 8	Methlick, Aberdeenshire
AS 9	Mountblairy, Banff
Cast AS 21	Kintore, Aberdeenshire
Cast AS 57	Moray
Cast AS 64	Aboyne, Aberdeenshire
Cast AS 68	Turriff, Aberdeenshire
Cast AS 69	Turriff, Aberdeenshire
AS 79	Auchterless, Aberdeenshire
AS 82	Methven Wood, Perthshire
AS 83	West Ferry, Dundee
AS 84	Kirriemuir, Angus
AS 97	Oyne, Aberdeenshire
AS 112	Watten, Caithness
AS 129	Aberdeenshire
AS 140	Buchan, Aberdeenshire
AS 142	Braes of Biffie, Buchan, Aberdeenshire
AS 154	Methlick, Aberdeenshire
AS 155 = Cast AS 50	Methlick, Aberdeenshire

AS 179 = Cast AS 167 (Reb)	River Earn, Perthshire
AS 195	Tar Caride, (Aberdeenshire, poss)
AS 198	Aberdeenshire (prob)
AS - in care of	Ballalan, Lewis
GP 220	Dunadd, Argyll
AUM 141	Aberdeenshire
144	Pitcaple, Aberdeenshire
159/8	Inverkeithny, Forgue, Aberdeenshire
159/13	—
159/14	—
159/16	—
159/22	—
159/29a	Keith, Banffshire
159/30	Methlick, Aberdeenshire
159/32	Kinkell, Aberdeenshire
159/37	Croy Wood, Inverness
159/43	—
159/47	—
143/6	Aberdeenshire
BM 53 11.23.8	Ballymena, Ireland
78 9.2.1	Nr Novar House, Ross & Cromarty
1930 4.12.2	Old Deer, Aberdeenshire
Dundee 1968	St Ford Quarry, Wormit, Fife
Dundee —	Angus
Hunt. B 1951 861	Bogarty Head, Dunnottar, Kincardine
B 1951 2152	—
Montrose 75	Garvoch, Marykirk, Kincardine
Newburgh	Springfield Asylum, Newburgh, Fife
Paisley 255/1955	—
Stirling AG 28 6067	—
Stornoway, Council Offices	Loch Standish, Lewis
RSM 1905 948	Fife (prob)
Thurso	—
Trondheim	Lindas, Parish of Aure, Norway
Info Mr W Glen Aitken	Craigdam, Aberdeenshire
Info Miss D N Marshall	—
Miss D Colthaugh	—

TYPE 4c. 6 Knobs with worked interspaces

NMA AS 22 Cast	Fyvie, Aberdeenshire
AS 86	Tarves, Aberdeenshire
AS 94	Caithness
AS 96	Deeside, Aberdeenshire
AS 111	Aberdeenshire
AS 120	Alness, Ross and Cromarty
AS 188	—
Cast X 36	—
Ashmolean 1927.2730	Nr Aberdeen
1927.2731	Fyvie, Aberdeenshire
GAGM 55/96	Inverurie, Aberdeenshire
Hunt 1951.1 = Cast NMA AS 87	Belhelvie Hill, Tarves, Aberdeenshire

TYPE 4d. Knobs with decorated interspaces

NMA AS 6	Craig Beg, Ballater, Aberdeenshire
GAGM 55/96 = Cast NMA AS 164	Alford, Aberdeenshire

TYPE 5. 7 Knobs

NMA AS 5	Urlar, Aberfeldy, Perthshire
AS 7	Inverkeithing, Turriff, Aberdeenshire
AS 77	Aberdeenshire
Cast AS 85	Turriff, Aberdeenshire
AS 108	Aberdeenshire
AS 118	Aberdeenshire
Cast AS 161	Deeside, Aberdeenshire
AS 186	Nr Clova, Angus
Ashmolean 1927.2728	Marnock, Banff
AUM 136	Kildrummy, Aberdeenshire
159/38	—
159/45	Kintore, Aberdeenshire
Hunt B 1951 245d	—
B 1951 112	Ellon, Aberdeenshire
Inverurie AS 20	Inverurie, Aberdeenshire
Kilmarnock	Ayrshire (prob)
Manchester	—
—	Hillhead, St Ola, Orkney

TYPE 6. 8 Knobs

NMA AS 30	St Vigeans, Angus
AS 117	Aberdeenshire (prob)
AS 152	Balnasuim, Lawers, Perthshire
AS 176	—
AS 178	Ardkeeling, Strypes, Moray
AS 181	Yarhouse, Caithness
AUM 137	Kildrummy, Aberdeenshire
GAGM 90.49a	Belhelvie, Aberdeenshire
Hunt. B 1951 245f	Aberdeenshire
Paisley 8/1952	Kyles Parish, Harris
<i>TYPE 6a. 9 Knobs</i>	
Hunt. B 1914 349	Cruden, Aberdeenshire
Inverurie AS 26	—
Kirkcaldy 1 1974	Kilmox Farm, Kennoway, Fife

TYPE 7. 10–55 Knobs

10K AUM 159/15	—
Hunt. B 1951 876	Wyndford, Laurencekirk, Kincardine
Kilmarnock	Aberdeenshire
RSM 1805 947	Fife (prob)
11K AUM 159/28	—
12K NMA AS 103	Aberdeenshire
AS 109	Aberdeenshire
AS 116	Aberdeenshire (prob)
AUM 159/9	Lambhill Farm, Fyvie, Aberdeenshire
Dundee	Dyce, Aberdeenshire
GAGM 55.96	Aberdeenshire
Montrose = Cast NMA AS 26	Freelands, Glasterlaw, Angus
Peterhead	Aberdeenshire
Info Miss D Colthaugh	—
(14+9 small ones)	
14K Ashmolean 1927–2727	Kincardine
Dundee	Dyce, Aberdeenshire
GAGM 92.106m	Leochel-Cushnie, Alford, Aberdeenshire
Hunt. B 1951 245a	Aberdeenshire

15K NMA AS 81	Fyvie, Aberdeenshire
16K NMA Cast AS 54	Countesswells, Aberdeenshire
18K AUM 159/35	—
Inverurie AS 25	Learney, Torphins, Aberdeenshire
19K Inverurie AS 21	Tolla, Inverkeithny, Aberdeenshire
20K NMA AS 110	Aberdeenshire
GAGM 92 106.1.	Countesswells, Aberdeenshire
21K AUM 159/25	—
22K NMA AS 89 Cast	Aberdeenshire
Hunt. B 1914 245g	—
B 1951 245e	Aberdeenshire
23K NMA AS 150	Caithness
24K NMA AS 20 Cast	Monymusk, Aberdeenshire
AS 23	Isle of Skye
RSM U-C 54-16	—
25K NMA AS 98	—
27K NMA HA 659	Skara Brae, Orkney
27K AUM 159/39a	Monymusk, Aberdeenshire
159/29	Foudland, Aberdeenshire
Hunt. B 1941 816	Sanday, Orkney
28K Inverurie AS 22	—
30K NMA Cast AS 59	Bignor, Stenness, Orkney
Hunt. B 1914 355	—
33K —	Orphir, Orkney
34K NMA AS 169 (Half ball)	Bridge or Earn, Perthshire
36K AUM 159/26	—
ARM	?Bennachie, Aberdeenshire
42K AUM 143	Kildrummy, Aberdeenshire
143/1a	Monquhitter, Aberdeenshire
50K NMA HA 657	Skara Brae, Orkney
Loan 1952.4	—
AS 80	Fyvie, Aberdeenshire
55K GAGM 55.96	Aboyne, Aberdeenshire
55.96	—

TYPE 8. Numerous Knobs

70 NMA AS 88	Peterhead, Aberdeenshire
76 Elgin 1888 12	—
80 BM 18 9.2.2	Novar, Ross and Cromarty
86 Hunt. B 1911 245b	Aberdeenshire
87 AUM 142	Buchan, Aberdeenshire
89 NMA 189	Newmills, Moray
100 Inverurie AS 24	Shadowside, Bourtie, Aberdeenshire
135 NMA AS 187	Ardoyne, Oyne, Aberdeenshire
Num. Inverurie AS 18	Meikle Whartle, Aberdeenshire
NMA AS 28	Waterlair, Garvock Hill, Kincardine
AS 160	Tom-na-Hurich, Inverness
AS 175	—
Banff	Nr Tomintoul, Banff
Hunt. 145	Kirkton, Hawick, Roxburgh

TYPE 9a. Decorated with spirals

4K NMA AS 10	Glass Hill, Towie, Aberdeenshire
4K AS 11 Cast – info	Elgin, Moray
Mrs Madill	
6K AS 78	Aberdeenshire

AS 143	Buchan, Aberdeenshire
4K AS 165a = Cast AS 165	Lumphanan, Aberdeenshire
7K AS 206	—
6K ARM	—
6K AUM 135/1	New Deer, Aberdeenshire
6K 159/6	Gaucey Hillock, New Machar, Aberdeenshire
6K 159/23	—
159/41	—
GAGM 55.96	Alford, Aberdeenshire
Kingussie	Kimmudy, Aberdeenshire
6K Montrose 21 = NMA Cast 25	Glasterlaw, Angus

TYPE 9b. Decorated with concentric circles

NMA AS 29	Fordoun, Kincardine
4K AS 105	Aberdeenshire
Loan 1973.1	Knock Hill, Fordoun, Kincardine
6K AUM 143/7	—
4K 159/27	—
159/34	Inverurie, Aberdeenshire
6K Hunt. B 1914 356	Hillhead, St Ola, Orkney
RSM 1905 950 = Cast NMA AS 24	Nr Dunfermline, Fife

TYPE 9c. Decorated with hatchings and incised lines

5K NMA AS 3	Fordoun, Kincardine
6K AS 12	Loch Lochy, Inverness
6K AS 13	Argyll
6K AS 42	Clatchard, Newburgh, Fife
6K AS 122	Urlar, Lawers, Perthshire
6K AS 137 = Cast AS 75	Islay
6K AS 166	Nochnarie, Strathmiglo, Fife
6K AS 208	Dalriach, Cromdale, Grantown, Moray
HA 169	Skara Brae, Orkney
6K HA 703	Skara Brae, Orkney
9K ARM	Kemnay, Aberdeenshire
6K AUM 159/4	Fyvie, Aberdeenshire
6K 159/24	—
4K 159/44	—
6K BM 1930 4.12	Old Deer, Aberdeenshire
6K GAGM 92.106n	Slains, Aberdeenshire
6K 55.96	Aberdeenshire
6K Hawick = Cast NMA AS 207	—
8K Inverurie AS 16	Nr Inverurie, Aberdeenshire
4K Perth 1290	Nr New Scone, Perthshire
4K 1290 = Cast NMA AS 17	River Tay, Perthshire
14K RSM 1905 979	Fife (prob)
6K Stirling AG 3	Aberdeenshire

TYPE 9d. Various types of decoration

NMA AS 185	Bogmill
AUM 143/1b = Cast NMA AS 56	Insch, Aberdeenshire
GAGM 55.96	Carnwath, Lanark
Hunt. B 1914 357 = Cast NMA AS 38	St Ola, Orkney

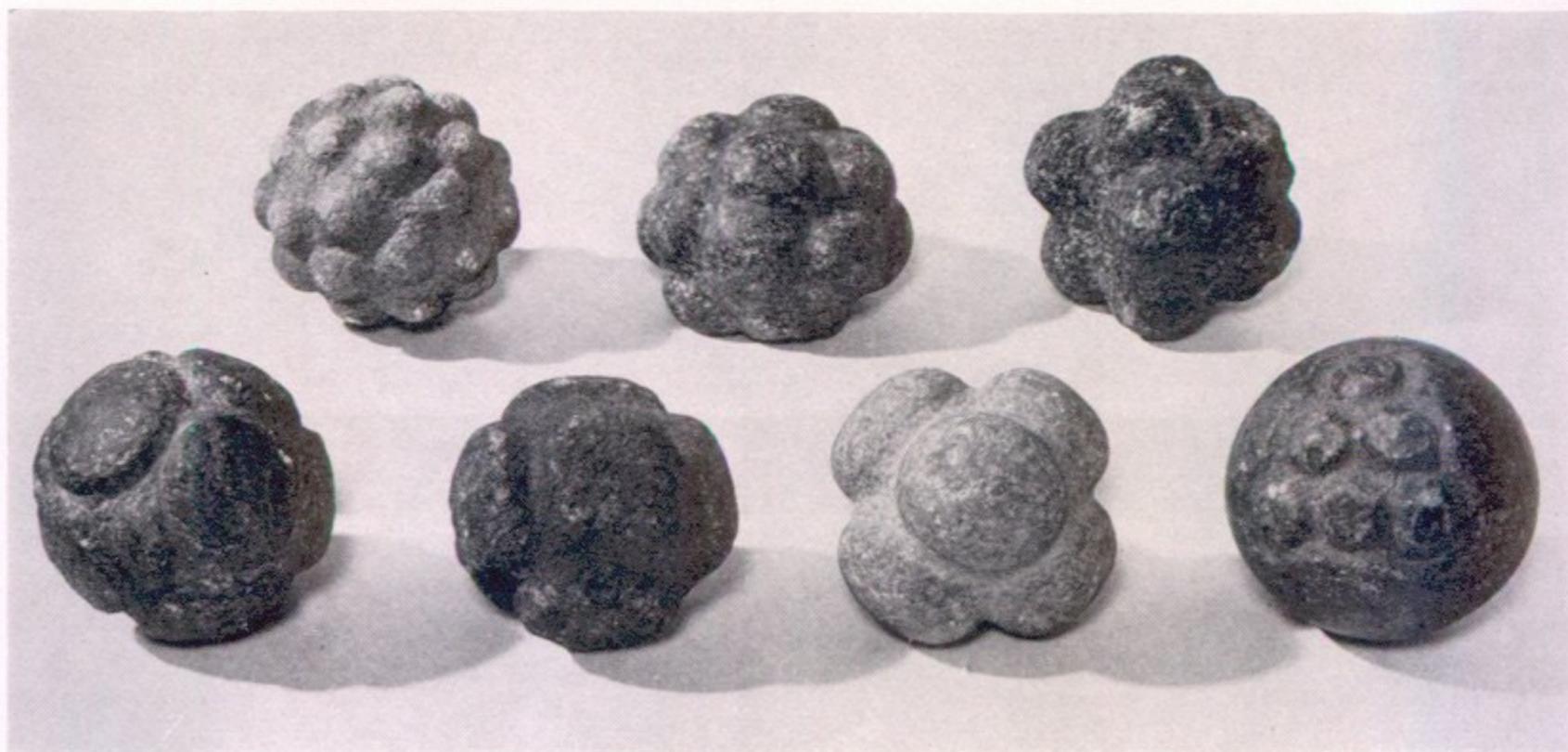
TYPE 10. Oval

NMA HA 658	Skara Brae, Orkney
HA 660	Skara Brae, Orkney

AS 52	New Hills, Aberdeenshire
AS 180	St Thomas's Kirk, Hall of Rendall, Orkney
AS 199	—
HA 661	Skara Brae, Orkney
Kingussie	Kimmud, Aberdeenshire
Kingussie	Kimmud, Aberdeenshire
<i>TYPE 11. Large</i>	
NMA AS 204 = Cast AS 55	Rhynie, Aberdeenshire
AS 201	Newburgh, Fife
on loan 1954.6	—
AUM 159/7	Old Deer, Aberdeenshire
GAGM 55.96	Aberdeenshire
Elgin × 5	Cruden, Aberdeenshire
× 6	—
× 7	—
× 8	—
Info Mr David Levie	Buchan, Aberdeenshire

REFERENCES

- Childe, V G 1962 'The Earliest Inhabitants', in Wainwright, F T (ed), *The Northern Isles*, Edinburgh, 9-25.
- Evans, E E 1957 *Irish Folk Ways*. London and Boston.
- Joffroy, R 1975 'Artists who Reshaped Reality', in 'The Celts', *The Unesco Courier*, December 1975, 32-40.
- MacKie, E 1976 'The Glasgow Conference on Ceremonial and Science in Prehistoric Britain', *Antiquity*, 50 (1976), 136-8.
- Manby, T G 1974 'Grooved Ware Sites in Yorkshire and the North of England', *Brit Archaeol Rep*, 9 (1974).
- Mann, L M 1914 'The Carved Stone Balls of Scotland: A New Theory as to their Use', *Proc Soc Antiq Scot*, 48 (1913-14), 407-20.
- Petrie, G 1868 'Notice of Ruins of Ancient Dwellings at Skara, Bay of Skail, . . .', *Proc Soc Antiq Scot*, 7 (1866-8), 201-19.
- Piggott, S 1954 *The Neolithic Cultures of the British Isles*. Cambridge.
- Piggott, S and Daniel, G E 1951 *Ancient British Art*. Cambridge.
- Roe, F 1968 'Stone mace-heads and the latest neolithic cultures of the British Isles', in Coles, J M and Simpson, D D A (eds), *Studies in Ancient Europe*, Leicester, 145-72.
- Simpson, D D A and Thawley, J E 1972 'Single Grave Art in Britain', *Scot Archaeol Forum*, 4 (1972), 81-104.
- Smith, J A 1876 'Notes of Small Ornamented Stone Balls found in Different Parts of Scotland . . .', *Proc Soc Antiq Scot*, 11 (1874-6), 29-62.



a



b

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