

IV.

A NEW ANALYSIS OF THE EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. BY MARGARET E. CRICHTON MITCHELL, M.A., PH.D., F.S.A.Scot.

This paper aims at a new analysis of the Early Bronze Age Beaker Pottery found in Scotland. A typological study of the pottery will be combined with the geographical distribution of all known examples. The problem for elucidation is to determine the nature and direction of the invasion which introduced this foreign pottery to Scotland, and the lines of penetration whereby it was disseminated over the country.

The late Lord Abercromby was a pioneer in the study of the beaker pottery of Great Britain.¹ It will be necessary to summarise briefly his conclusions as representing the orthodox opinion on the subject. Abercromby recognised three distinct varieties of beaker. Type A is characterised by a low globular body separated from the high upstanding neck by a marked constriction. The lip is not recurved and the base is flat. In general the constriction between body and neck cuts the vessel at half its total height. The salient features of Type B are radically different. There is no marked constriction between body and neck, the profile of the vessel from lip to base presenting a continuous curve. The globular portion is well-rounded and low-set, while the lip is strongly recurved. Compared with Type A, vessels of this category are superior in quality, the clay is fine, often bright red in colour, and well-fired. A third, Type C, is derived by a process of degeneration from the original Type A. The marked constriction is lost, the globular portion tends to rise relatively to the total height of the vessel, and the neck, no longer nearly vertical, begins to develop a tendency to recurve at the lip. In Scotland, Type A is scarcely represented; Type B is rare; while Type C is predominant.

Abercromby indicated the Rhineland as the immediate source of all British beaker ware, and designated the particular Rhenish pot which formed the prototype of the British series as itself a hybrid. This hybridisation was due to the amalgamation of two distinct ceramic traditions; those of the bell-beaker and of the late neolithic corded ware of northern Europe. The former, originating in Spain,² was disseminated

¹ Abercromby, *Bronze Age Pottery of Great Britain and Ireland*, Oxford, 1912, vol. i.

² Following the argument of Castillo, *La Cultura del Vaso Campaniforme*, Barcelona, 1928, rather than the hypothesis of Peake and Fleure, *Journ. Roy. Anthro. Inst.*, vol. ix. (1930).

throughout Europe by a brachycephalic and warlike people who had a rudimentary knowledge of metallurgy; the latter was the property of an equally warlike but dolichocephalic race who made stone battle-axes and probably emigrated from the South Russian steppes. As to the invasion itself, Abercromby visualised a single landing or series of landings at some point on the southern or southeastern coast of Britain. Thence the invaders and their pottery gradually permeated the whole island. With regard to Scotland, the beaker invasion entered the country from northern England by way of the coastal margins. On the east the way is obvious. On the west Abercromby was ready to postulate three possible lines of advance. The Lancashire and Cumberland coasts formed one route leading to southwestern Scotland, and even the sea route from North Wales may have been followed. A third possibility was an east to west movement through the Tyne Gap from Northumberland to the head of the Solway Firth. It is of interest to note that Abercromby regarded the western penetration as chronologically earlier than the eastern movement.¹

Since the publication of Abercromby's work much new material has accumulated, and this renders inevitable the criticism of his conclusions. In particular, his typology calls for revision. Types A and B remain, but Type C and the several subtypes must be abandoned. Theoretically the degeneration processes of Type A may have been as follows. The first feature to suffer in the event of careless manufacture would be the sharp constriction between body and neck. In place of a definite angle there would develop a curve. Thereafter the globular portion tends to diminish and at the same time to rise; it being technically more difficult to make a pot with a swelling near the base than to elevate the globular portion to the middle height. But such an outline calls for a recurved lip in order to balance the profile. By the time this is achieved the resultant pot is very similar to Abercromby's Type C. But Abercromby reckoned without the possibility of a degeneration of Type B. Here the first stage would probably take the form of diminishing and simultaneously raising the globular portion for the same technical reasons as in Type A. But the lower and wider the globular portion of the pot the more accentuated must be the recurved lip. Accordingly, when the globular portion is diminished and elevated the lip begins to straighten. In short, the degeneration processes of both A and B tend to produce similar results. Thus, Abercromby's Type C beaker could in theory be derived from either A or B. Excluding for a moment a few anomalous hybrids, the investigator who handles a large number of examples gradually reaches a tolerably firm conviction as to the origin,

¹ Abercromby, *loc. cit.*, p. 83.

A or B, of each degenerate type. This conclusion being partly of a subjective character cannot be more emphatic, but of its final validity there can be no doubt. In this connection a new nomenclature is suggested for British beaker pottery. Abercromby's two fundamental categories should remain, but in place of his Type C and the other secondary varieties, those not falling under the head of either A or B should be designated C_A or C_B , the original source being indicated by the suffix. Incidentally the designation B should apply only to such beakers as are similar in profile with the example found in Aberdeenshire, Abercromby, No. 225. Likewise A should be retained for beakers having a profile similar to Abercromby's No. 57 from Rusden Low, Derbyshire. Yet there remains an almost insurmountable difficulty. A and B are distinguishable; likewise the degenerations from each which tend to merge into a third type C. But in theory a crossing of the two pure strains A and B would produce a hybrid extremely difficult to distinguish within the composite category of C. And what of the other cross-breeds $A(C_B)$, $B(C_A)$, and $(C_A)(C_B)$? From a biological point of view the mixing of a pure with a degenerate strain is sterile, while the crossing of two degenerate strains would produce a freakish anomaly. Without stressing the above argument it may be stated that the divergences between A and C_B are so great that it would be extremely difficult for a potter to blend their characteristics, and the same applies to a possible amalgamation of B and C_A . As for $(C_A)(C_B)$ the biological argument is probably adequate explanation.

From the evidence detailed below it will be found that Abercromby's hypothesis with regard to a single landing or single point of disembarkation must now be abandoned. As long ago as 1915 Sir Arthur Keith wrote:¹ "The southeast of England was apparently only one of the landing-places, Eastern Yorkshire was another. The counties which bound the Firth of Forth formed another centre of the invasion." It is now recognised that the whole of the east coast of Britain from the Thames to the Dee was subjected to a series of incursions.

Abercromby dealt with 109 examples of beaker pottery from Scotland. The present paper includes the consideration, not only of these, but also of 160 additional examples not mentioned by Abercromby. It is to be noted, however, that the provenance of the additional urns is not significantly different from that of Abercromby's examples. Thus, while the distribution problems which have now to be attacked are similar and parallel to those investigated by Abercromby, the data at our disposal are much more ample. A general survey emphasises the markedly coastal and valleyward distribution of the pottery, and this,

¹ Keith, *Journ. Roy. Anthro. Inst.*, vol. xvi. (1915).

taken as an isolated phenomenon, tends to indicate penetration from the sea.

In the extreme southeast of Scotland there are two notable groups of beakers, those clustering along the banks of the Blackadder and the Whiteadder and the scattered group extending from Edgerston to Kelso at the junction of the Teviot and the Tweed. No. 135¹ from Edington Mill, Chirnside, is represented by a mere fragment of fine red comb-ornamented ware. It was recovered from a cist which also contained a food-vessel. Such an association argues a relatively late date for the beaker sherd did the evidence not argue that the cist had originally contained a beaker burial which had been disturbed by the intrusive food-vessel. The cairn which had once covered the cist had been broken down and dispersed, while the inhumed body of the primary interment had been scattered and was incomplete. It is worthy of note that the feathered edging seen on the ornamentation of this sherd occurs again on the beaker, No. 129, found near the gate of Manderston House. The fragments, No. 133, from Grueldykes, near Duns, were found in a cist together with the unburnt skeleton of a male whose cephalic index was 82.6. The ware is very similar to that of the Edington Mill fragment. The remaining urns of this group, with the possible exception of No. 132 from Macksmill, Gordon, belong to the C_A category. The urn from the gate of Manderston House has an ornamental motif in the form of the zigzag with an abnormally long middle stroke which recalls similar decoration on the very fine C_A beaker, No. 136, from Harelaw Hill, Chirnside. No. 134 from Broomdykes, Edrom, has an entirely anomalous decoration, whose tendency to metopic arrangement finds no immediate parallels. The urn from Macksmill, Gordon, may be a C_B beaker, but is an outlier to this group in both form and ornament. Though the evidence cannot be claimed as conclusive, this group along the banks of the two main tributaries of the Tweed does appear to be homogeneous. Furthermore, from the character of the distribution it would seem to owe its origin to penetration inland from the mouth of the river.

The more southerly group comprises seven examples. No. 263 consists of five fragments from a cairn on Edgerston Moor. The ware is buff-coloured and the long zigzags may bear some relation to similar ornament on a C_B beaker, No. 261, from Littleton Castle at Kelso. No. 267 from Lanton Tower, near Jedburgh, is a fine specimen of a C_A beaker which was found in a short cist together with an unburnt skeleton, flint scrapers, and some white quartz pebbles. The ornamentation, however, is not significant with the exception of the triple outlined triangles near the base, which occur again on No. 260 from

¹ Numbers refer to the appended Catalogue.

Eckford, and in a degenerate form on the urns, Nos. 265 and 266, from Friars and Edenmouth, both near Kelso. The combination of comb technique with plain incision which is such a feature of the Eckford beaker can be likewise paralleled on the urn from Friars, Kelso.

In the two Scottish groups just described there are certain characteristics of which some are individual traits, while others are common to both. It is thus necessary to search for significant parallels to the more prominent motifs of these two groups, with a view to tracing the source of the beaker pottery in southeastern Scotland, and at the same time determining whether the features in common indicate direct contact between the two areas or simply a single derivation. From a geographical point of view, while the Edgerston-Kelso group surely penetrated directly across the border by way of Carter Bar, the Blackadder group seems to owe its origin to penetration from the mouth of the Tweed. Immigrants entering Scotland at Carter Bar would naturally follow the valleys of the Jed Water, the Teviot, and the Kale as far as Kelso; but there is no apparent reason why, having reached Kelso, they should not continue their way down the Tweed rather than cross the watershed to gain the unknown headwaters of the Blackadder on the bleak moorlands of the Merse. On the other hand, immigration by the estuary of the Tweed might easily be drawn to the exploration of the first tributary on the northern bank. Accordingly, geographical distribution does not support any direct contact between the two groups under consideration; but there are several ornamental motifs common to both areas. The zigzag with the abnormally long middle stroke occurs not only on the Manderston and Harelaw urns in the northerly group, but also on No. 262 from Wester Wooden Farm, Eckford. The feathered edging on the Manderston urn and on the Edington Mill fragment occurs again on the beaker from Edenmouth. Finally, the hanging triangle, which is found on four examples from the southern group, occurs in the north on the beaker from Harelaw Hill, Chirnside. It seems most reasonable to conclude that the two groups have a common source in northeastern England. The Manderston urn might have been made by the same potter as fashioned the example from Amble in Northumberland, Abercromby, No. 161A. The curious beaker from Eckford, though not completely paralleled by any English example, finds possible prototypes among the numerous Yorkshire beakers which show hatched and open triangles. Meanwhile the origin of the feathered edging is to be found on certain Northumberland urns, particularly Abercromby, No. 183, from Norham. No convincing parallels are forthcoming in support of the idea that the

southeast Scottish beakers are in any way the result of direct communication with continental Europe.

Though a double line of approach has been suggested for south-eastern Scotland, other explanations of the distribution as known at present are equally possible. Penetration by land along the coastal margin is as reasonable as mariners sailing up the Tweed. Similarly, the valley of the Till was probably utilised as an avenue of approach in conjunction with the route over Carter Bar. But if every possible line of approach were explored the result would be a confused and erroneous conception, since the distribution is certainly not complete. It appears safer to indicate the most rational explanation of the grouping of examples in any given area, to point out the fallacies of routes which run counter to reason or geographical features, and to leave other possible avenues of approach open until a more complete distribution is available for investigation.

From the moorland above Pease Bay, near the modern village of Cockburnspath, two beaker urns were recovered from the same cist which had been buried at the base of a pit excavated beneath a cairn. The ornamentation on the C_B example, No. 131, is exactly paralleled for five bands by that on a beaker of the same type from Woodhorn, Northumberland, Abercromby, No. 160. Even the profiles are remarkably similar. But if this Cockburnspath beaker has associations with Northumberland it also bears some relationship to the northern group in Berwickshire. The fragment from Grueldykes, near Duns, exhibits a five-lined chevron, five horizontal bars, and a heavy band of cross-hatching in exactly the same sequence as on the Cockburnspath beaker. But the problem of contact is complicated by the fact that the multiple lined chevron is also a marked feature of certain Dutch beakers.¹ It is difficult to give an adequate interpretation of this parallelism, though it seems possible that the Grueldykes and Cockburnspath beakers themselves originate from a Dutch penetration of northeastern England.

One of the most remarkable concentrations of beaker ceramic in Scotland is to be found along the southern margin of the Firth of Forth. Three domestic stations are known within 10 miles of each other; at Hedderwick on the estuary of the Tyne, at North Berwick, and at Gullane. Both the latter are situated on the projecting headland of East Lothian. Sir Arthur Keith suggested that from this area there was direct communication with the continent of Europe, and the possibility of establishing such contact on the evidence of the ornament displayed by the Scottish beaker sherds is a question of great interest. From Gullane and North Berwick string-marked fragments of pure B

¹ Bursch, *Die Becherkultur in den Niederlanden*, Marburg, 1933, Tafel II, 6, 8.

type have been found, while from a sand-pit near Bathgate in the valley of the Almond two complete and beautiful examples, Nos. 274 and 275, of this category were recovered. As far as can be ascertained no such ceramic has yet been found in northeastern England. Even farther south only debased examples appear,¹ with the exception of a notable group within the area covered by the modern counties of Wilts, Dorset, and Somerset. The lack of any immediate prototype for the East and West Lothian B ware strengthens the theory that it is evidence of a new penetration direct from the Continent. But the beaker ceramic from the Netherlands and the Central Rhineland does not afford any very close analogies. Wholly string-marked beakers are rare, and the fine texture and brick-red colouring of our Lothian sherds are not easily paralleled abroad. Moreover, with a few notable exceptions in Holland, the striking contour of the British B beaker is not to be found elsewhere in Europe unless among the pure bell beaker ceramic of Spain and Portugal.

It is even more difficult to indicate the origin of the C_A sherds from the burials and domestic stations of the Lothians. If they too were deposited by continental invaders, did the latter achieve any amalgamation with the southeastern lines of beaker penetration? At the domestic site of Gullane it is interesting to note that B and C_A sherds may have been segregated; but, as the segregation takes the form of two kitchen-middens in the same ravine and only fifty yards apart, the respective potters, provided they synchronised, must have been on at least friendly terms. On the other hand, there is no B ware from Hedderwick where the C_A sherds were mixed with neolithic Type B pottery; a combination which may be significant in view of the finds at Peterborough and West Keal in Lincolnshire. Continental analogies to the C_A ornament of the Lothians are not very helpful. Horizontally filled triangles occur on the sherds from Gullane. On beakers from the Central Rhineland examples of similar decoration can be cited. In particular, on two beakers, one from Andernach and the other from Urmitz, both in the museum at Bonn,² there appears immediately below the lip a double row of horizontally filled triangles whose apices coincide but are oppositely directed. These triangles are separated by a double horizontal line encircling the pot. An exactly similar scheme is found immediately below the lip of the C_A beaker, No. 231, from

¹ In *Proc. Prehist. Soc. East Anglia*, vol. vi, p. 356, J. G. D. Clark has published the beaker pottery in the Ipswich Museum. Among the urns illustrated is an example from Brantham Farm, Suffolk, pl. xxviii, fig. 5. Though the swelling on this vessel lies relatively high compared with the total height, and though the ornamentation is not in the best tradition, the profile approximates very closely to that of a pure B beaker.

² Castillo, *loc. cit.*, pl. excii. 1, pl. exciii. 3.

Cakemuir Hill, near Borthwick. Several parallelisms can be quoted from among the Dutch beaker ornament, though the absence there of the broad horizontally filled triangle is worthy of note. On the beaker, No. 152, from East Barns, a prominent motif is the band of dashes arranged alternately. This is found recurring on several beakers from Holland, notably on an example from Hillegom in the northwest province,¹ and also on a beaker from Houtdorper Veld in the Veluwe district.² In profile, the former of these two urns approximates closely to certain southeast Scottish types. Rows of chevron ornament have already been noted on the Cockburnspath beaker; they recur on No. 153 from Windy Mains, near Humbie, and on No. 232 from Cakemuir Hill, Borthwick. In Holland the ornament is a favourite one and is seen on many beakers, notably on two beakers from Uddelermeer³ and on one from Oostereng.⁴ But having respect to the ultimate criterion of form the Netherland parallels are manifestly of little value.

There remains the possibility that the Lothian beaker ornament can be derived from the penetration which colonised southeastern Scotland. The horizontally filled triangles on the fragments from Gullane, on the beaker, No. 155, from West Links, North Berwick, and on the C_A urns from Juniper Green, No. 230, and Cakemuir Hill, Borthwick, No. 231, might conceivably be traced to the similar ornamentation on the urn from Harelaw Hill, Chirnside. Still, it must be admitted that the Berwickshire example is just as likely to be the result of a reflex movement from the shores of the Firth of Forth; in which case the problem of the origin of the ornament is no nearer solution. Exactly the same argument applies to the metopic decoration on the West Links beaker already mentioned. It might be related to the curious vertical columns on the Edrom beaker in Berwickshire; while either or both may be a debased reflection of the heavily ornamented metopes of the Dutch and Rhenish beakers. The occurrence of feathered edging, however, helps towards a solution of the problem. This distinctive motif occurs on the beaker from East Barns, on the fragment from Windy Mains, Humbie, and on the two beakers from Cakemuir Hill, Borthwick. It has already been noted how frequently the feathered edging is found on the Roxburgh and Berwickshire beakers. Similarly, the zigzag with the abnormally long centre stroke is found on the Windy Mains urn and on the fragmentary beaker, No. 188, from Broxmouth Waird, near Dunbar. It is just possible, however, that this ornament has a continental origin. It is a motif which is not likely to be original; it is not the immediate creation of the artist; it

¹ Bursch, *loc. cit.*, Tafel III. 10.

² *Ibid.*, *loc. cit.*, Tafel II. 5, 6.

³ *Ibid.*, *loc. cit.*, Tafel III. 3.

⁴ *Ibid.*, *loc. cit.*, Tafel II. 8.

is a step in the degeneration or misunderstanding of a straightforward design. Among the Dutch beakers there is an example from Winterwijk on the eastern border of Gelderland¹ which is ornamented by bands of herring-bone incision separated by long vertical strokes. It is an easy transition to combine these two ideas and evolve the zigzag with the abnormal centre line. But the closest contact between the Lothians and the southeastern Scottish groups is shown on the fragment of the second urn from Windy Mains. The quintuple outlining of the hanging triangle combined with the feathered edging is the duplicate of the ornament close to the base of the urn from Edenmouth, near Kelso.

The Blackadder group, the Edgerston-Kelso group, and the Pease Bay urns have their roots in northeastern England. The B ware from the Lothians is a foreign intrusion which cannot for the moment be interpreted. The C_A beakers of East and West Lothian have continental affinities which, allied to the character of the distribution in this area, make direct contact with the Continent more than a possibility. On the other hand, influence from the primary southeastern groups is well attested. Yet the extent of this influence is difficult to gauge, and an intimate study of the pottery and its associations leads to the conclusion that it was quickly dissipated and had little part in the florescence of the Lothian beaker culture. The urns from East Barns, Boglehillwood Longniddry, and Humbie appear to be the final productions of a movement whose force is spent, rather than the vanguard of an energetic penetration.

Before leaving the Lothian beakers it is questionable whether they owe their provenance, provided they have connections with the southeastern groups, to beaker folk crossing the watershed of the Lammermuirs and following the valleys of the Water of Leith, the Tyne, and the Esk; or whether the immigrants came by way of the coast and the sea. The watershed of the Lammermuirs is not a formidable barrier to penetration, but taking into consideration the obvious simplicity of the coastal route this latter seems the more likely.

The Forth and Clyde isthmus has now been reached and the problem of the beaker distribution becomes complicated by the possibilities of contact with the west; geographical reasons having so far, with the exception of the Tyne gap in northern England, rendered unlikely any intercommunication. Before proceeding farther north therefore the southwest Scottish group calls for interpretation.

The modern counties of Wigtown, Kirkcudbright, and Dumfries are curiously barren of beaker finds. With the exception of an extensive

¹ Bursch., *loc. cit.*, Tafel I. 4.

domestic site on Glenluce Sands at the head of Luce Bay, only four beakers are known from the area. From the very inadequate description it is impossible to identify either the type or the character of the ornament on No. 284 from near the ruins of Carsecreugh Castle; this is the more unfortunate as the burial, that of an infant with a brachycephalic adult female, was one of particular interest. No. 224 from Woodfield, Highbanks, though in good preservation does not possess very characteristic decoration; the alternation of oblique and horizontal lines being of such frequent occurrence as to lack significance. It is interesting to note, however, that a beaker in many respects similar was found at Moel Hebog, Snowdonia, Carnarvon.¹ The lozenge pattern on No. 151 from Auchencairn, Closeburn, in the valley of the Nith, is difficult to parallel outside the area. The nearest analogy is Abercromby's example, No. 152, from Folkton in the East Riding of Yorkshire. But the resemblance is misleading since the profiles of the respective vessels are totally different, while the size and disposition of the lozenge pattern are quite dissimilar. From Stoneykirk, near the settlement site at Glenluce, the lip of a beaker, No. 278, was found protruding from a patch of sandy gravel. On removal the pot was found to contain small perforated disc-shaped beads of lignite. The urn itself fell to pieces with the exception of the rim, but it appears to have been ornamented with an elongated lozenge pattern which possesses a striking parallel in a pseudo-cinerary urn from near Oban.² Finally, from Glenluce, besides fragments of both types of neolithic ware, much B beaker ceramic has been recovered. Like the similar pottery from East Lothian it is string-marked, while the clay is bright red, well-fired and thin.

There are three possible avenues of approach to the southwest: from the east by the Tyne Gap in northern England; from the north; or directly by land or sea from the south. Abercromby favoured the first of these alternatives, and from a purely geographical standpoint his argument is difficult to combat. But if the Tyne Gap is the line towards the colonisation of the Solway Firth and its adjacent coasts, why should the beaker distribution in that area be so markedly western in its provenance? There are no beakers from Dumfriesshire with the exception of the Auchencairn urn. In a map, prepared by the late Professor Boyd Dawkins,³ of conjectural prehistoric woodlands in southwest Scotland the whole length of the Tyne Gap is marked as densely afforested. Moreover, the head of the Solway Firth must have

¹ *Bulletin of the Board of Celtic Studies*, vol. i. part 2, May 1922.

² *Proc. Soc. Ant. Scot.*, vol. lxvi. p. 407.

³ Fleure and Whitehouse, *Arch. Camb.*, vol. xvi. (1916) p. 101.

been surrounded by marsh-land which would prove an effective barrier to prehistoric migration.

The route from the north is an interesting possibility and deserves most careful consideration. Nos. 246 and 247 are two beakers from a cairn near Drummelzier. No. 247 was a scarcely distinguishable fragment, but No. 246 was a well-made urn of a degenerate B form. The ware is reddish brown and fine in texture, while the ornamentation is that of continuous string-markings from lip to base. Though the swelling of the vessel is placed low in relation to the total height, the lip is straighter than in vessels of the pure B category, while the small size of the Drummelzier pot indicates inferior taste and workmanship. The nearest prototype to this vessel is the B ware of either East Lothian or Glenluce. In view of this suggestion it is interesting that type B neolithic ware also occurred at Drummelzier. But if the Drummelzier beaker is related to Glenluce the problem of the origin of the southwest Type B beaker ceramic is no nearer solution. On the other hand, if the Drummelzier example were somehow derived from East Lothian then it might represent an intermediate link between East Lothian and Glenluce. A northern connection for the beakers at the headwaters of the Tweed is made possible by the ornament of a C_A beaker, No. 245, found at Oliver, Tweedsmuir. This vessel bears two zones of incised diamond design, which in one instance has a quadruple outline. The lowest band consists of wide triangles filled by vertical lines.¹ The triangular ornament also occurs on No. 228 from Crawford, where the horizontal filling is identical with similar decoration on the East Lothian C_A beakers. Finally, the bronze ring discovered with the Crawford urn is paralleled by a ring whose provenance at Stobo, near Peebles, lies on the direct route northwards *via* the Tweed valley and the pass through the Moorfoot Hills by Eddleston.

If, then, the group of beakers at the headwaters of the Tweed is the result of penetration from the shores of the Forth, and if they indeed form an intermediate link with the southwest, then the diamond pattern on the Auchencairn beaker may be derived from Oliver, Tweedsmuir. The idea of any movement in the opposite direction—that is to say, the idea of deriving the group around the headwaters of the Tweed from the southwest—is negatived by the parallelisms just quoted from East Lothian.

The route from the south is supported by two facts: the similarity

¹ There is no fundamental difference between filling a triangle with vertical or horizontal lines. The direction is dependent upon the position of the pot during the process of ornamentation.

between the Woodfield and the Moel Hebog urns, and the disposition of the southwest Scottish finds. The latter seem to have belonged to a maritime folk who, coasting along the southern shores of Galloway, explored in turn such rivers as the Nith and the Dee whose broad estuaries would tempt that spirit of curiosity which seems to have been one of the characteristics of beaker man. This southwestern line of approach will receive further consideration when the more northerly parts of the west Scottish coast come under discussion.

From a geographical point of view the southern avenue of approach to southwestern Scotland seems the most feasible. From a typological study of the pottery involved there is every reason to support the theory of a penetration from the north. The question must remain open.

Along the western shores of Scotland from Ayrshire to the island of Lewis, beaker ceramic is found sporadically. Yet, however scattered, the several examples have a certain homogeneity which makes it desirable to consider them as a single series. Within the composite whole, however, isolated groups such as those from Muirkirk and Poltalloch must receive individual consideration.

From the northwest of Ayrshire, practically opposite to the island of Bute, come two beakers of great interest. At the Court Hill, Dalry, there was found an urn, No. 99, of C_B variety ornamented by an anomalous series of oblique, vertical, and horizontal strokes. From the point of view of typology its derivation from a pure B prototype is quite evident. About 20 miles farther north along the coast on the estate of Haylee, near Largs, a beaker, No. 110, of pure B type was recovered from a cist. Though typologically this urn falls within the B category its ornament is unique and without parallel in this class. The closest analogy to the decoration is to be found on a beaker of C_B form from near Glen yr afon House, Llanblodwell, Denbighshire, North Wales.¹ This resemblance strengthens the theory already suggested by the finds in Galloway of a southern beaker penetration into southwestern Scotland.

In 1923 there was discovered within the Roman fort of Old Kilpatrick, near Dumbarton, a curious stone-lined grave which contained fragments of three different vessels. Two fell within the category of neolithic pottery, one of them bearing a strong resemblance to the sherds of neolithic Type B ware from Glenluce and Hedderwick; the third was similar to beaker ceramic. On account, however, of the different quality of the clay and the rather straighter line of the wall Dr Callander has assigned this sherd to the Overlap Period. Though the Old Kilpatrick

¹ *Bulletin of the Board of Celtic Studies*, vol. i, part 2, May 1922.

fragment is thus disappointing from the point of view of an analysis of beaker distribution, the mouth of the Clyde must have been very tempting to a pioneer folk with a penchant for exploration. Whatever urns may still await discovery in the lower reaches, there is no lack of beaker evidence from the upper reaches of the river. From Mossplat, near Carluke, there comes a beaker. No. 225, whose profile would have placed it within the A category were it not so carelessly made. Its ornament, however, is of great importance since the same sequence of cross-hatched and vertical lines can be traced through Fife and Angus as far north as Aberdeenshire. South of Lanarkshire there is no parallel to the ornamentation. Is there here the birth of a spontaneous motif or is it due to the penetration south of the Forth of a foreign motif, which became the vogue north of the estuary? Among certain Dutch beakers¹ alternating bands of vertical lines and cross-hatching, bounded above and below by a single horizontal line encircling the vessel, are frequent. Though this scheme bears a certain similarity to the sequence on the Mossplat beaker the intervening plain zones constitute a difference which may be fundamental. For the moment the decoration on the Mossplat beaker must be regarded as genuine native artistry which had the good fortune to become popular beyond the confines of Lanarkshire.

Two beakers, Nos. 226 and 227, found in a sand-pit on Lanarkmoor are of particular interest. The principal decorative motifs of the former are the horizontally filled triangles and the feathered edging, both of which are so characteristic of the urns from the eastern counties south of the Firth of Forth. Geographically, penetration of this Clydesdale area from the north would be feasible *via* the valleys of the Medwyn and the Lyne. The second beaker from Lanarkmoor is totally unlike the first and displays affinities which point west rather than north or east. The potter who made this vessel had a confused idea of two radically different ornamental schemes. The first was a series of horizontal bands encircling the pot and forming zones; the second was the division of a zone into a number of metopes by vertical lines placed at intervals. The zonal ornament used was the same type of cross-hatching as occurs on the Mossplat beaker. But for the decoration of the metopes the potter had only a very rudimentary idea, for she packed the divisions with motives suited primarily to a zonal scheme: herring-bone, cross-hatching, chevrons, and oblique strokes. The result may be an interesting study in psychology, but it is not an artistic production. Whence could the metopic ornament have penetrated to the mid-reaches of the Clyde? Possibly it may have filtered through from East Lothian, but considering the lack of intermediate examples

¹ Bursch, *loc. cit.*, Tafel II. 1, Tafel III. 2, 6.

and the fact that in East Lothian only a single occurrence is known, such a derivation is improbable. But a debased form of the metope occurs on the Haylee beaker from Largs. The probability of contact between the upper reaches of the Clyde and the coastal margin of Ayrshire is supported by the fact that the cup- and ring-markings which adorned the cover of the cist containing the fragments of No. 229 from Wester Yird Houses, Carnwath, can be closely paralleled with similar markings on the cover-stone of a cist at Coilsfield, near Tarbolton. The Coilsfield cist contained an early example of a food-vessel.

Two forces were operative near the headwaters of the Clyde. Influence from the Firth of Forth is established and may have been part of the movement which affected the group of beakers at the source of the Tweed. In a like manner influence from the west was active and it is probable that some at least of the folk who made this Clyde group of beakers had penetrated inland from the mouth of the river.

There remains to be considered the beaker settlement site at Muirkirk, in the uplands of central Ayrshire, Nos. 100-109. The primary importance of Muirkirk is the fact that excavation on the site proved the association of a developed form of hut-circle with not only beaker but Overlap pottery. Unfortunately the true beaker ware is represented only by fragments, among which there occurred string-marked pieces of fine reddish ware which are very similar to pure B ceramic. The Overlap pottery exhibits influence from Type B neolithic wares as is shown by the presence of characteristic pinched finger-tip ornament and the impressions of a hollow reed. It is unreasonable to suggest that Muirkirk was colonised from any other direction than the west. The following quotation is taken from the excavator's account of the prehistoric sites given to the *Proceedings of the Society of Antiquaries of Scotland* during the session 1926-7: "The district of Muirkirk is situated within the uplands of the central division of Ayrshire and on the upper reaches of the river Ayr. . . . It is surrounded on the north, south and east by hills rising, at their highest, to nearly 2000 feet. To the west the prospect is wide and open across the whole width of the county to the sea."

From the neolithic cairns of Glecknabae in Bute, Nos. 141-144, Dunan Beg, No. 137, and Giants' Graves, Nos. 138-140, at Whiting Bay on the east coast of Arran, fragments of fine red ware were recovered which, while analogous to beaker ceramic, has belonged to vessels somewhat smaller than the normal beaker urn. Some fragments are string-marked and bear a strong resemblance to B ceramic, while others, bright red in colour, exhibit cross-hatching which could only have been executed by beaker immigrants. Professor Bryce, in describing this pseudo-beaker

ware, remarked that it "represented a terminal phase in the Stone culture of Scotland, and provides a link . . . between the chamber culture and the short cist culture." Yet the fragments show all the characteristics of pure beaker pottery, with the exception of appearing to belong to urns rather smaller than a normal example. But the discovery from Drummelzier has shown how very small B beakers can become. There seems no reason, therefore, to object to these sherds being assigned to an Early Bronze Age context instead of placing them in an Overlap Period for which there is as yet very little evidence. The finding of a perforated stone hammer in the chamber at Tormore is proof, were such required, that the beaker folk had no objection to utilising the older sepulchres.

The beaker, No. 92, from a secondary cist in a segmented, chambered cairn at Balnabraid, south of Campbeltown, Kintyre, is a degenerate and clumsily fashioned urn of C_A type. The ornament has no significance beyond the fact that bands of cross-hatched lines are a prominent feature.

On the western shores of Coll and Tiree and at Sanna Bay, on Ardnamurchan Point, lie three important domestic stations. The fragments from Coll and Tiree are in the collection of Mr Ludovic Mann, at the Kelvingrove Museum, Glasgow. They are of a brilliant red colour decorated with string-markings, incised cross-hatchings, and pits made by the impression of a hollow reed. The latter ornament is of great interest, as it also occurs on pseudo-beaker pottery from Muirkirk, and is known on the fragments of neolithic Type B ware from Glenluce and Hedderwick. It is not a form of ornament in the beaker tradition. At Sanna Bay the kitchen-midden yielded fragments of string-marked beakers ornamented by a continuous spiral from lip to base.

Stretching from Corran Ferry down Loch Linnhe to Salen Bay, on the northeastern shore of Mull, is a group of four beakers now to be considered. From Callachally, Glenforsa, Mull, come two associated beakers. The first, No. 89, is a badly made urn of C_B type ornamented, however, by two important motifs. The first consists of horizontal, cross-hatched and vertical bands, set at intervals from lip to base; the other takes the form of triangles filled by a chevron design. Two rows of triangles set apex to apex encircle the pot at its widest diameter. The second urn, No. 90, is only known from a fragment. It is said to have been of "similar character but different in its ornamentation, which consists of angular scorings all over the surface and towards the top a band of triangular spaces alternately plain and filled with parallel lines." The bands of cross-hatched lines on No. 89 find analogies on other beaker urns from the west coast, notably those from Mossplat and

Balnabraid. The chevron hatched triangles on No. 89 and those filled by parallel lines on No. 90 are, however, a new feature in the west coast series. Their due significance will become apparent later, but at the moment attention should be directed to the filled triangle ornament on the following group of Glamorgan beakers:¹ (1) Newholm Farm, near St Fagan's Castle; (2) at Cwm Gar Farm, near Dolygaer Station north of Merthyr Tydfil; (3) at Merthyr Mawr Warren, near Porthcawl. No. 91 is represented by some fragments of horizontally string-marked beaker ware found in a cist deposited in gravelly soil by the shores of Salen Bay. Though the fragments are very small they are strongly suggestive of B ceramic. No. 203 from Corran Ferry beyond being a degenerate example of the C_B variety has unfortunately no distinctive ornament. The markedly broad band of cross-hatching, combined with the horizontally lined neck, and the general profile of the pot suggest, however, that its maker, originally wedded to B ceramic, was endeavouring to introduce the cross-hatched bands typical of the south-west Scottish C_A group. In any case the breadth of the cross-hatched area on the Corran Ferry beaker indicates that the potter had no realisation of the artistic value of such an ornament.

A most remarkable group of beaker urns is confined to a small area in the immediate vicinity of Poltalloch, a few miles southwest of the southern extremity of Loch Awe. Of seven different vessels represented, four are of unknown type, two belong to the C_A group and one is a C_B beaker. Of the C_A examples, Nos. 82 and 83 are well-made pots with quite dissimilar ornament. No. 82 has two bands of double outlined triangles horizontally shaded, while No. 83 is characterised by a band of horizontal zigzags joined by longer or shorter vertical strokes. The motif on No. 82 has already occurred in East Lothian and is known to have penetrated as far south as Crawford in Lanarkshire. Parallels have been suggested from northeastern England, and in particular Abercromby cited an example from Cursed Field, Ancroft, Northumberland. But the Poltalloch beaker has double outlined triangles. Such an ornament is not spontaneous nor is it related to the simple triangle. It is part of a degeneration process. The initial stage of that process must be sought amongst the south Welsh beakers already quoted in connection with the Glenforsa urn. Among the Glamorgan beakers it is clear that the potter is intent on achieving a plain chevron band which she seeks to emphasise by hatching the triangular spaces on either side. Naturally the apices of the triangles do not coincide. But unless the reason for this curious disposition of ornament is realised, the idea of the open chevron is immediately lost and the plain band

¹ *Bulletin of the Board of Celtic Studies*, vol. i, part 2, May 1922.

degenerates into an edging for the filled triangles. The initial step can be seen in the beaker from Newholm Farm, near St Fagan's Castle. In the Poltalloch pot the triangles have so dominated the decorative scheme that the upper row has been left vacant so as to accentuate the horizontal lining of the lower row.

There seems therefore no doubt that many of the west Scottish beakers owe their provenance to maritime enterprise bearing Welsh influence. The Woodfield and Haylee urns are witness to such intercourse. Accordingly, there is no reason why the triangle with single or double outline should not have originated in the same quarter. In further support of this southwest route there may be mentioned a beautiful example of a C_A beaker from a cist at Baroose Farm, Lonan, Isle of Man.¹ The under part of this urn is decorated by pendant triangles not, it is true, double outlined, but horizontally filled. Furthermore, like No. 82 from Poltalloch, the margin of the triangular spaces is not a continuous line but a series of short dashes. It seems therefore that in accounting for the filled triangle ornament in west Scotland there is no necessity to invoke influence from East Lothian. But all possibility of such influence should not be entirely overlooked, for the C_B beaker, No. 86, from Poltalloch exhibits rows of alternate dashes, a sequence of decoration which can be paralleled on the urn from East Barns and even farther afield in Holland. Meanwhile the vertical strokes between zigzag borders seen on the second C_A beaker from Poltalloch is a form of ornament which can be traced from Stafford and the East Riding of Yorkshire as far north as Fyrish, Evanton, Ross-shire.

Recently four discoveries of beaker urns have been made on the southwestern coast of Skye. In 1929 Mr Lindsay Scott recovered fragments of two beakers, Nos. 204 and 205, from Kraiknish, on the shores of Loch Eynort. One beaker belongs to the C_A variety. The best-preserved example is covered by a very striking lozenge pattern, each figure possessing a double-edged outline. The character of the ornamentation and the profile of the vessel leave no doubt as to its derivation. Almost exact parallels are to be found among the Wiltshire beakers.² The ornament also occurs on beakers from Derby and Stafford, Norfolk and Suffolk. But in these areas, as well as farther north in Yorkshire, degeneration has set in. Attention has been diverted from the lozenge to the plain chevron bars which serve to outline it. The process is the reverse of that which took place in the case of the double-outlined triangle. It is a far cry from Skye to Wiltshire, but there is

¹ *Proc. Camb. Ant. Soc.*, vol. xxiv. (1921-2) p. 82.

² Particularly Abercromby, No. 8.

no ambiguity about the reality of the parallelism, and, in view of the possible Welsh contacts in western Scotland, finds from intermediate localities may be confidently expected.

In 1927 Dr Callander examined a short cist occurring as a secondary burial within a long cairn situated on the western shore of Loch Slapin, near Kilmarnie Lodge. The cist yielded a C_A beaker, No. 209. The ornamentation is of extraordinary interest. Above the constriction lies a row of triple-edged chevrons, their apices pointing towards the lip. The space around them is filled by horizontal lines. The same ornamental scheme occurs close to the base. Encircling the pot at its greatest diameter is a row of open lozenges edged by two, sometimes three, lines, and, like the chevrons, surrounded by horizontal incisions. Analogous decoration occurs on the Glamorgan beaker from Merthyr Mawr, Warren, near Porthcawl; while the lozenges find a distant echo in the Oban "Cinerary" urn, the Stoneykirk beaker lip, and the Auchencairn vessel.

In the autumn of 1931 Mr Lindsay Scott excavated another neolithic chambered cairn at Rudh' an Dunain on the shores of Loch Brittle. From the chamber he recovered fragments of a beaker, No. 211, which upon restoration was found to belong to the C_A category. The ornamentation is curious. The following description is from Mr Scott's account: "The waist and foot are plain; two similar bands of decoration cover the neck and body. These bands are defined by three parallel lines above and below, four lines at the lower edge of the upper band, and divided into a series of panels by sets of four to six vertical lines. Each panel is decorated by a series of short diagonal lines extending inwards and downwards from its right and left side. A series of similar diagonal lines hangs from the lower edge of the lower band of decoration." The essential feature is the metopic arrangement of the ornament. The profile of the vessel can be paralleled elsewhere on the west coast of Scotland, but not the decoration. The metopes on the Haylee and Lanarkmoor urns are totally different. Mr Scott suggests that the urn, No. 258, from Ross-shire affords the closest analogy so far as decorative motive is concerned. But he lessens the value of his suggestion by affirming that the maker of the Rudh' an Dunain beaker reached Skye from the mainland. A staunch believer in Abercromby's hypothesis of an east coast derivation for all Scottish C_A beakers, he will not countenance the possibility of a west coast penetration. But where on the immediate mainland of Scotland does Mr Scott find a prototype for his Skye beaker? The nearest beaker ceramic is between 40 and 50 miles distant, and even then neither the Sanna Bay ware nor the Corran Ferry urn are in the least analogous. But what of the

Ross-shire beaker? Though he does not state it as a fact, it is obvious that Mr Scott is toying with the possibility of deriving the Rudh' an Dunain ornament from the northeast of Scotland. But the Ross-shire potter is applying a typically A form of decoration to a degenerate example of B variety. It is improbable that the Rudh' an Dunain potter would stoop to copy a debased traditional ornament from a beaker of a totally different type. The ornamentation of the Rudh' an Dunain urn must therefore for the moment remain unique.

From the neolithic chambered cairns of Langass Barp and Geirislett in North Uist there were recovered sherds, Nos. 206-208, of fine greyish ware which, on account of its texture and ornament strongly resembling beaker ceramic, has been designated Overlap pottery. Instances of such pseudo-beaker ceramic in neolithic sepulchres of the west coast of Scotland are so frequent as to render comment unnecessary.

No. 255, from the parish of Lochs, Lewis, is a beaker of unknown type and ornament from a short cist.

The pure B sherds from East Lothian and the complete urns of the same type from Bathgate are probably witness to an individual beaker element entering Scotland *via* the estuary of the Firth of Forth. There is evidence of the same movement at St Andrews, where a B beaker, No. 194, was found in a cist, on the settlement site at Tents Muir which has yielded many sherds of the same type, and near the head of the Earn valley where a fragment of this ware was recovered from beneath a cairn. Apart, however, from pure examples of the type, the influence of the B tradition on the beaker ceramic in the area bounded by the Firths of Forth and Tay is very marked. No. 276 from Tartraven has undoubtedly been influenced in this way. No. 250 from Pendreich, Bridge of Allan, has a debased B profile and the horizontal rows of incised lines at the neck are a poor imitation of the impressions of continuous string-markings. The curious metopic decoration on the body of this urn can be exactly paralleled on a beaker from Uddelermeer,¹ Holland, while the feathered edging at the junction of body and neck is worthy of note. B influence can likewise be traced in the horizontal incisions on the neck of No. 249 from Bailielands, Auchterarder; in the same feature on No. 251 from Kincardine Castle, and in the profile of No. 201 from Dunshelt.

The remaining beakers from this area, although they belong to the C_A category, do not form a homogeneous group. From a geographical point of view the beakers in the valley of the Eden were deposited by a seafaring folk exploring inland from the coast. Yet none of the four examples bears the slightest resemblance one to another. No. 193 from

¹ Bursch, *loc. cit.*, Tafel III. 5.

Dairsie has been decorated by a potter who was thoroughly conversant with the artistic value of the metope. Furthermore, the incised ornament on this beaker has been deliberately enhanced by a white filling. Neither the ornamental style nor the technique employed on this urn can be paralleled at present from either the English or the Scottish east coast series. From a large cairn at Collessie Nos. 199 and 200 were recovered; the first from a cist at the centre of the cairn and the second from the bottom of an oval pit sunk in the subsoil. No. 199 is a C_B beaker whose only claim to attention lies in the possession of feathered edging on either side of the lower series of horizontal lines. No. 200 has a markedly C_A profile and its ornamental scheme is of outstanding significance. If this urn is closely compared with No. 232 from Cakemuir, Borthwick, the following arrangement of zonal decoration can be followed on both urns. Six bars of incised chevrons (five only on the Collessie urn); twelve horizontal lines (ten on the Collessie urn); feathered edging to this group; six horizontal lines feathered above and below; seven horizontal lines feathered above; and finally a band of long oblique strokes bounded by a single horizontal line below. Such parallelism is of the greatest significance. At another part of the Collessie cairn a second pit was found. This contained, among other objects, a bronze riveted knife-dagger. Such a relic properly belongs to the Scottish food-vessel complex, and its presence at Collessie must indicate one or two things. If the cairn represents a single burial ceremony, then the knife-dagger makes the urns relatively late in the Scottish beaker period. In support of this a similar pit was found at the Hagg Wood, Foulden, Berwickshire, beneath a cairn whose primary interment was associated with a food-vessel. On the other hand, the pits at Collessie may have been intrusive and later, but in view of the feathered edging on both urns this seems unlikely.

No. 223, the C_A beaker from Tillyochie, Kinross, might have been made by the same potter as fashioned the beaker from Mossplat in Lanarkshire, so identical are the respective ornamental schemes. Yet the profile of each vessel is so individual that contact, if it took place, can only have been indirect. No. 270 from near Stirling cannot be related to any example farther south, although its filled triangles may bear some relationship to similar ornament on the East Lothian and Midlothian beakers. The remaining C_A beaker from Fife, No. 202 from Kinghorn, is an anomalous pot rudely ornamented by a triple incised chevron. It has no immediate parallel.

It has already been pointed out that the B beaker ware in the area under consideration is part of the B penetration of the Firth of Forth. It has further been suggested that this penetration was so virile in

Fife that it was able to influence the C_A beakers in the immediate vicinity. The corollary is that the makers of B ceramic were affecting an already existent population manufacturing C_A beakers. There remains to be determined the source of this C_A ware. The beaker from Dairsie is in the continental tradition, as is shown by the deliberate white filling and the character of the incised design. False metopic decoration achieved by the alternation of groups of vertical and horizontal lines occurs among the beaker ceramic of the Netherlands. It is seen on a fragment of the upper part of a particularly fine urn from Uddelermeer¹ and on another urn from Speuld.² There is every reason therefore for regarding the Dairsie urn as intimately associated with the continental series. But if overseas contact between Fife and the Netherlands is a necessary inference from the Dairsie and the Pendreich urns other forces were at work in the beaker colonisation of the area between the Firths of Forth and Tay. The remarkable similarity between the C_A urns from Collessie and Cakemuir, together with the feathered edging on the C_B beaker from Collessie, shows influence from the opposite shores of the Forth. Without intermediate examples it is at the moment impossible to say whether this movement came across the water or by land round the head of the estuary. If by the latter route the triangles on the Stirling beaker would gain a meaning. But the Tillyochie urn finds an echo in Lanarkshire, and if that parallelism really betokens contact the route probably lay across the head of the Forth estuary.

The B sherd from Balmuick, near Comrie, is proof that the Tay valley was included in the penetration of southeastern Scotland by the makers of B ceramic. From another tumulus at Balmuick a handled beaker, No. 254, was recovered. Its profile, exclusive of the handle, is a poor imitation of a B beaker, while the broad horizontally incised lines which encircle the vessel from lip to base are an imitation of the characteristic spiral string-markings. Only one other example of a handled urn, No. 62, is known from Scotland. It was recovered from a pit beneath a cairn at Cairnhill, Monquhitter, Aberdeenshire. The distribution, typology, and significance of English handled beakers has been worked out;³ but the conclusions reached are difficult to reconcile with the two Scottish outliers.

The urn from Tippermallo, near Methven, bears a slight resemblance to the curiously ornamented C_A beaker from Lanarkmoor in that the potter has filled a series of metopes with designs pre-eminently suited to zonal decoration.

¹ Bursch., *loc. cit.*, Tafel III. 1.

² *Ibid.*, *loc. cit.*, Tafel II. 3.

³ Fox, *Arch. Camb.*, vol. v. (1925) p. 1.

The beakers in the area between the Firth of Tay and the mouth of the Dee are widely scattered, and, with the exception of two examples in the southwest of the area, Nos. 72 and 80, and four examples in the northeast of the area, Nos. 74, 221, 217, and 220 from Edzell, Kinneff, Dunnottar, and Pityot, all the known beakers belong to the C_A category. The six urns which exhibit the influence of a B tradition afford an interesting study. The beaker from Fletcherfield is a very beautiful urn which seems to have been made, not by a careless B potter, but rather by a C_A potter who was attempting to copy the graceful profile of a rival ceramic. In part she has succeeded, although the great height of the vessel is not in keeping with the recurved lip and gently swelling body. The ornament is not significant. No. 221 from Kinneff is a well-made urn which in both profile and ornament exhibits traces of B influence. But the rows of alternating dashes are reminiscent of the beaker from East Barns and they will recur on a C_A beaker, No. 76, from Fallows, Monikie, in Angus. The urn, No. 218, from Kinneff is more difficult to analyse. Traces of possible B influence are slight, and the bands of vertical strokes are in the best C_A tradition. A somewhat analogous arrangement can be seen on beakers from Priest-town, Edzell, and Banchory-Ternan, Nos. 74 and 219. The beaker from Resting Hill, Dunnottar, is unornamented, but the low-set bulge indicates a B technique in manufacture. The urn from Pityot is an excellent example of a thoroughly degenerated B beaker. Here in actual fact is what has already been expounded in theory; for there is no indication that this urn has been in any way contaminated by C_A tradition. Its degeneracy is innate. The lip has shortened and is no longer recurved. The swelling has risen with disastrous effects on the profile; for in raising the bulge the potter has neglected to contract the base and the consequent heaviness of the under part gives a clumsy appearance to the vessel. The horizontal lines of stab decoration are a poor travesty of the continuous string-markings seen on pure examples of the type. A brief survey of these beakers has shown that any tendency to deviate from a B tradition results, with one exception, not in degeneracy but in the prominence of characteristics which belong to the C_A beakers in the same area. This fact is important. It tends to the deduction that here a B force is reacting upon a pre-existent C_A tradition. Both are virile movements and neither can perfectly assimilate the other.

There are seven C_A beakers. The profile of No. 75, from Wellgrove, Lochee, shows remarkably few symptoms of degeneration. The vertical strokes, though they have several parallels in the area between the Tay and the Dee, are notably scarce farther north, and wholly absent to the

south of that area. No. 77 from Linlathen is extraordinarily degenerate; a fact which is in keeping with its associated riveted knife-dagger. No. 76 is from Kingswells, Fallows, Monikie. The rows of alternate dashes have already been noted, but their importance gains enormously when taken into association with the feathered edging of the groups of horizontal lines. Both motifs belong to East Lothian. No. 72 is a squat urn from Kirkbuddo in Angus. This really anomalous beaker is interesting since it exhibits a heavy band of chevron decoration, a feature which is very frequent on Rhenish and Dutch beakers, and which also tends to characterise the beaker ceramic of the counties bordering the Moray Firth. No. 78 from Idvies shows certain non-beaker traits. The clay is very dark and coarse, the lip is steeply bevelled, and the wall is relatively thick. The sole ornament consists of short maggot impressions arranged in a haphazard manner all over the external surface. This urn has either been made by a neolithic potter under the influence of beaker traditions or else by beaker folk dominated in spite of themselves by the later Scottish food-vessel ceramic. Since the urn was associated with burnt human remains, amongst which were found traces of bronze, the latter hypothesis has the greater probability. No. 79 from Collieston Mill, Arbroath, lacks significance in both form and ornament. The same is true of No. 73 from Noranside, Fern, whose ornamental motifs could be paralleled on several other beakers from the modern counties of Angus and Kincardine. There are, however, certain significant features in the ornamental scheme of this urn. The feathered edging to the horizontal lines should be noted, as also the heavy band of chevrons whose analogies have already been discussed. No. 74 from Priest-town, Edzell, has already been mentioned in connection with the group of C_B urns.

From the geographical standpoint a study of the distribution in the areas covered by the modern counties of Angus and Kincardine leads to important deductions. The coastal margin has been studiously avoided if the provenance of urns in Kinneff and Catterline is excepted. Another negative feature is the neglect of navigable estuaries such as those of the North and South Esk. In short, the distribution here is disseminated, it is in keeping with a slow permeation of the country from north or south rather than with penetration from the sea, which tends to focus upon a few outstanding areas. Though the possibility of penetration from Aberdeenshire where, as will be seen later, the sea-borne invasion was dominant, is slight on account of the many ornamental parallelisms in the country south and east of the Tay, the contingency must be borne in mind. The group of beakers in north-east Kincardine are geographically part of the Aberdeenshire unit,

though there is no very convincing proof that in ornament their affinities lie north of the Dee. The remaining urns of the area are witness to a slow penetration from the south. The Collessie and Cakemuir beakers have already shown how successfully East Lothian influence had crossed the Forth. The prevalence of rows of alternate dashes and feathered edging on the Angus and Kincardine urns is proof that the same influence was still at work north of the Tay. A close parallelism can be traced between the beakers from Noranside, Fern, Hoprig, Cockburnspath, and Grueldykes, Duns. The horizontal lines with feathered edging followed by deep bands of chevrons and cross-hatching can be seen on all three examples. But there are certain negative qualities about the beakers lying between the Tay and the Dee which are equally instructive. For none can any significant continental parallel be quoted. They are essentially native products. Furthermore, the triangle motif is wholly absent. This is important. The triangle appears in East Lothian and Aberdeenshire and there are apparently no intermediate examples. It seems therefore that the motif in each area has either two independent sources of origin or else a single source lying outwith Scotland. Finally, the influence of the B tradition in Angus and Kincardine is a legacy from the B penetration of the Firths of Forth and Tay. It is certainly not due to a fresh influx of the makers of pure B ceramic.

The beaker finds in Aberdeenshire are so numerous that a detailed study of the individual urns would only lead to a confused idea of the situation. Accordingly the problem will be dealt with primarily from a geographical aspect, but associations indicated by outstanding ornamental motifs will be treated as exhaustively as possible. A cursory glance at the map will show that the penetration of Aberdeenshire has been effected from the sea and that the newcomers had thereafter pushed inland along the lines of the principal river valleys. Excellent witnesses to this movement are the Dee and the Don, and to a lesser extent the Ythan, the Ugie, and the Deveron. A commentary upon the valleyward spread is the marked lack of beaker finds from the moors of the intervening watersheds.

The number of beakers in Aberdeenshire is more than five times the recorded number in Angus and Kincardine. It seems therefore illogical to derive the numerically large beaker population in the one area from the manifestly sparse occupation of the other. But despite the discrepancy in numbers and the fact that Aberdeenshire was a focus point of beaker invasion on the east coast of Britain, some effort at internal colonisation over the northern boundary of Kincardine was inevitable. Rows of alternating dashes enjoy a widespread vogue in

Aberdeenshire, and as there is every reason to derive this motif from south of the Forth the assumption is that it reached Aberdeenshire *via* the intermediary examples in Angus and Kincardine. In Aberdeenshire this particular design occurs on Nos. 3, 9, 17, 19, 22, 27, 34, 48, and 57 from Broomend, Inverurie; Ardifney, Cruden; Parkhill, Aberdeen; Ord, Auchendoir; Inveramsay, Chapel of Garioch; Mains of Leslie, Premnay; Parish of Glass, and Keir, Belhelvie. The distribution is interesting. Starting from No. 17 at Parkhill, near the mouth of the Don, No. 3 is found some miles up the valley at Broomend, Inverurie. From Inverurie the penetration struck the valley of the Ury and No. 22 is found at Inveramsay, Chapel of Garioch. At this juncture the route turned aside to follow the Gady, as is shown by the two examples Nos. 34 and 19 from Mains of Leslie, Premnay, and Ord, Auchendoir. In the same manner the examples from Belhelvie and Cruden, Nos. 57 and 9, are witness to a northward coastal penetration of the same motif starting as before from Parkhill.

The triangle motif is widespread in Aberdeenshire and an analysis of its distribution on the lines of the foregoing will be equally instructive. Triangular ornamentation in one form or another occurs on the following beakers: Nos. 5, 10, 11, 12, 20, 22, 24, 25, 36, 39, 53, 55, 57, 60, and 65. They are from Broomend, Inverurie; Ellon; Whitestone, Skene; Freefield; Inveramsay, Chapel of Garioch; Savoeh, Longside; Persley Quarry, Old Machar; Glasterberry, Peterculter; Upper Mains of Muireisk, Turriff; Mains of Leslie, Premnay; Hillhead, Ellon; Keir, Belhelvie; Avondow, Milltimber; and Newlands, Oyne. Of these localities six lie within a small area enclosed in the spit of land between the mouths of the Dee and the Don. Of the remaining nine, seven lie on the natural route of expansion from this area, *i.e.* Ellon and Belhelvie to the north; Inveramsay, Premnay, and Oyne to the northwest. It has been noted that the triangle motif occurs in East Lothian, but not in the intervening counties of Angus and Kincardine. Its distribution in Aberdeenshire is in harmony with a sea-borne invasion and subsequent landward diffusion. It seems curious that southeast and northeast Scotland should show direct communication in this manner. But the inference is not based entirely upon beaker ornamentation. It is supported by a parallelism in burial rites which is otherwise unique. From Keir, Belhelvie, on the low-lying coastal plain to the north of Aberdeen a cist was found which contained the contracted skeleton of a young female, together with no fewer than three beaker urns. In 1862 a cist was found at North Sunderland.¹ It contained three elaborately ornamented beakers and a female skeleton between twelve and eighteen years of age.

¹ *Proceedings Berwickshire Naturalists' Club* (1857-62), p. 428.

Much has already been said of the alternation of cross-hatched and vertical lines. Its origin has been suggested in Lanarkshire, while the developed form with intervening plain zones may possibly be an importation from Holland. Assuming for the sake of argument that all examples are to be derived from Lanarkshire, then the distribution of the ornament has great interest. Mossplat and Tillyochie have already been mentioned. The example from Balbridie, Durris, No. 215, provides the stepping-stone to the many instances in Aberdeenshire where the motif enjoys great popularity. In the north it occurs on Nos. 13, 18, 23, 30, 47, 51, 63, and 64. On Nos. 13, 18, 23, 47, and 64 the ornament appears in its original form. On Nos. 30, 51, and 63 it is divided by plain zones as in the urn from Balbridie, Durris. The Aberdeenshire localities are the following: Whitestone, Skene; Parkhill, Aberdeen; Clashfarquhar, Banchory; King Street Road, Aberdeen; Kinaldy, Dyce; Mains of Leslie, Premnay; Leggats Den, Chapel of Garioch; and Memisie. It requires no commentary that, with the exception of three, all these urns lie close to the northern boundary of Kincardine. The fact that the Clashfarquhar example was associated with a fully developed form of food-vessel gives a relative time scale for the northward penetration of the motif.

The statement has been made that Aberdeenshire was a focal point of beaker invasion. What evidence is there to support this assertion? A general comparative survey of the beaker ceramic of the Rhineland and Holland with those of Aberdeenshire at once establishes the fact that underlying both groups there is a common artistic sense. Artistic values are the same. For instance, similar parts of a vessel are ornamented not necessarily by the same motif but in the same manner. Thus, a metopic arrangement is applied to the neck; and hanging triangles or a fringe of chevrons is placed immediately above the base in order to accentuate the effect of height; while a fundamental tradition is that of leaving an open band between the zones of ornament in order to emphasise their character. As to parallelism between individual motifs two instances may be mentioned. On one fragment, No. 46 from Kinaldy, Dyce, there occurs the juxtaposition of a five-lined chevron with a group of vertical lines. This combination should be compared with a similar motif on an urn from Uddelermeer, Holland.¹ In dealing with the association of alternating cross-hatched and vertical lines, it was suggested that the insertion of plain zones in this scheme might constitute a radical difference which would mark off those urns ornamented in this way from examples with decoration exactly similar to that on the prototype from Mossplat. The former decoration

¹ Bursch, *loc. cit.*, Tafel III. 5.

has already been mentioned as frequent upon certain Dutch beakers; especially on examples from Houtdorper Veld, Stroe, and Uddelermeer.¹ It is just possible that the urns from King Street Road, Aberdeen; Mains of Leslie, Premnay; and Leggats Den, Chapel of Garioch, should be related to these continental parallels rather than to any prototype in southern Scotland. Their provenance, however, does not tally with such a supposition and further examples must be awaited.

These facts are not the result of a primary settlement of beaker folk in two different areas; they are the result of intimate and secondary contact between those areas. It may seem bold to invoke the beaker folk across 400 odd miles of open sea from the estuary of the Rhine to the mouths of the Dee and the Don, but it is a necessary inference. Finally, if additional proof were needed for an intrusive element in Aberdeenshire it is afforded by two beautiful examples of pure B ceramic. One has unfortunately no locality; the other is from Torphins in the valley of the Dee.

Beaker finds occur sporadically along the shores of the Moray Firth. From the point of view of typology and decoration they are part of the main Aberdeenshire movement and represent the final products of its radiative diffusion. Such analogies occur in No. 112 from Buckie, where the rows of dashes and heavily outlined chevrons are reminiscent of certain Aberdeenshire beakers, notably No. 12 from White-stone, Skene. Rows of dashes are seen on No. 114 from Boharm, Achroisk, and a multiple-lined chevron occurs on No. 113 from Cares-town, Deskford. No. 122 from Lesmurdie exhibits the alternation of rows of chevrons with a group of vertical lines; a combination already noted with all its due significance on a fragment from Kinaldy, Dyce. No. 125 from Buckie has around the lower portion groups of three short vertical lines divided by long groups of four horizontal lines. The fundamental idea is analogous to that behind the metopes on the urn from Dairsie in Fife, and is surely related to the many continental examples with a similar scheme. The triangle motif is fairly frequent in this area. It occurs on Nos. 124 from Gardenstown, 126 from Auchmore, Portsoy, 128 from Nether Buckie, on the Lesmurdie urn No. 122, and on No. 238 from Nairn. Evidence of direct continental connection, however, is not lacking. On several Moray Firth beakers there occurs a band of chevrons set close together. This arrangement is especially prominent on No. 239 from Cawdor Castle and on No. 237, probably from near Elgin. Indeed, both the profile and disposition of design on the latter urn are paralleled in a remarkable manner by a beaker from Helfta in the Halle Museum.² Close set lines of chevron ornament

¹ Bursch, *loc. cit.*, Tafel III. 2, 6.

² Castillo, *loc. cit.*, pl. clxxviii. 3.

are typical of the decoration on beaker ceramic from the Central Rhineland. There is a beaker from Oostereng in Holland figured by Bursch¹ which, were its provenance not known, could easily be mistaken for a typical Morayshire example.

Beyond the Moray Firth the beaker ceramic no longer forms a homogeneous group. The sporadic finds are witness rather to a spirit of enterprising exploration than to systematic colonisation and settlement. No. 256 from Fyrish, Evanton, is decorated by a metopic design on the short upstanding neck. No. 257 from Edderton has bands of close set chevrons. No. 272 from Dunrobin has no outstanding decoration, while No. 271 from Cambusmore might have resulted from the careless manufacture of a typical Rhenish form. No. 259 from Tarradale in the Black Isle is the only example of outstanding interest. This beaker has an almost perfect B profile. Yet the swelling has been placed too high relative to the total height to permit of it being placed alongside pure examples of the type. In outline it should be compared with some Dutch beakers figured by Bursch.² The ornament on the Tarradale urn includes alternating cross-hatched and vertical strokes. Sometimes these lie in juxtaposition, sometimes they are divided by a plain zone. This is the only example so far in Scotland where both forms of this ornament occur on the same vessel. The fragments of pure B ware from Garrywhin and Yarrows are stray finds. The Shetland pieces are too small for profitable discussion, as are also those found in the chambered cairn at Lower Dounreay.

From the foregoing analysis of the Scottish beaker ceramic it is possible to put forward the following suggestions. These cannot be given the status of conclusions, for, though much additional material has accumulated within the last few years, it is impossible to guess how much more may await discovery and whether what remains to be found will support or invalidate existing hypotheses.

On the southeastern borders of Scotland the beaker ceramic is located in two very definite groups. The most southerly, extending from Edgerston to Kelso, has been deposited by a migratory movement across the Cheviots which penetrated down the valleys of the Jed Water, the Teviot, the Kale, and the Till. The more northern group along the banks of the Blackadder and Whiteadder indicates exploration by the Tweed and its northern tributaries. There are ornamental motifs in common between these two groups, but geographical reasons discourage any immediate contact. The similarity seems due to a common source in northeastern England.

North of Berwickshire it becomes necessary to invoke continental

¹ Bursch, *loc. cit.*, Tafel II. 8.

² *Ibid.*, *loc. cit.*, Tafel I. 14.

analogies in explanation of several ornamental motifs which appear on the beaker ceramic of that area. The influence which colonised Berwickshire is quickly dissipated, and sea-borne invasion from Holland must be inferred. The pure B ware from East Lothian raises problems which cannot for the moment be resolved.

In southwestern Scotland an entirely different set of forces is at work. Here maritime movements from Wales are in progress coupled with possible penetration from the Firth of Forth *via* the headwaters of the Tweed, the upper reaches of the Clyde, and the valley of the Nith. Though geographical barriers to the latter route are formidable the beaker ceramic and the neolithic B fragment at Drummelzier must admit of some explanation of which a northern derivation seems the most reasonable.

The remaining beakers of the Scottish west coast are all part of the sea-borne exploratory movement from south of the Solway. Muirkirk is an important domestic station where the pseudo-beaker pottery was no doubt the product of an enslaved native attempting to copy the ceramic of a beaker master. The concentration around Poltalloch may be a commentary upon the surface copper lodes which were evidently exhausted during prehistoric times. The group of beakers from Skye support the Welsh parallels already quoted.

Communication between east and west, if it took place, was along the line of the Forth and Clyde. The alternate dashes on the C_B beaker from Poltalloch bear comparison with those on the urn from East Barns; while the Mossplat and Tillyochie urns testify to communication across the head of the Forth estuary.

The beakers between the Forth and the Tay have been influenced by the B penetration of East Lothian. Consequently C_B beakers predominate. Some exhibit inherent degeneration processes, others diverge from the pure type through endeavouring to assimilate C_A characteristics. Important evidence for direct communication across the North Sea is afforded by the ornament on the Pendreich urn from Bridge of Allan and by that on the beaker from Dairsie. Influence from south of the Forth is seen in the striking parallelism between the Collessie and Cakemuir beakers, while the settlement site at Tents Muir should be compared with those at Gullane and North Berwick.

The beakers from Angus and Kincardine are related on the one hand to examples farther south, and on the other hand to the group in Aberdeenshire. Certain genuinely native decoration, however, can be traced to the former area, while the absence of triangular motifs is a warning against a too facile use in explanation of the internal spread of a motif. There is no evidence that communication was established

between this area and the Continent; a fact which may have been due to the dangerous character of the rocky coast-line.

Aberdeenshire has undoubtedly been colonised from Holland and the Rhineland. Here is a focal point of the east coast invasion, while subsequent inland penetration has manifestly been by way of the principal river valleys. Some penetration from Kincardine must have taken place, and no doubt coastwise exploration from northeastern England was prosecuted. The similarity in burial rites between North Sunderland and Belhelvie point to contact which was probably indirect.

Along the Moray Firth the Aberdeenshire movement radiates and loses vigour. Yet the close-set chevron ornament which is such a feature of this area may have been introduced by seamen from Holland.

Farther north still, the beaker finds are sporadic and contribute nothing to a general estimate of the character of the invasion.

The foregoing analysis of the Early Bronze Age Beaker Pottery from Scotland has led to certain deductions. It must now be recognised that the distribution on the east and on the west raises problems which are neither identical nor related. Abercromby had been tempted to adopt a similar line of reasoning, but the material at his disposal twenty years ago was too limited to justify any such conclusion. To-day there can be no ambiguity. Contact between east and west must be reduced to a minimum, and the problems of each coast reduced to separate solutions.

The beaker ceramic on the west owes its provenance to maritime enterprise. The small number of the examples and their sporadic distribution over a relatively wide area are additional proof of the character of this movement. On the west the beaker folk were explorers. They did not come to colonise or settle, they came in a spirit of curiosity which, though it meant no cultural supremacy, is a notable commentary upon a type of migratory spread which is almost unique in prehistory. On the west the beaker folk had no individuality. They are quickly assimilated by the chambered cairn culture which, though by this time stagnant, was by no means defunct. The very fact that their ceramic is found in the older sepulchres is proof that their impression was evanescent. The immediate origin of the west coast beakers must be sought in Wales, but possibly the ultimate source will be found in Brittany or even Portugal itself.

On the east coast there is no evidence of contact with a pre-existing neolithic population, and beaker cultural supremacy is firmly established. Here there has been penetration by land from the north of England and invasion from the sea. Part of this latter movement has come

directly from the Continent, part of it has come coastwise from south-eastern Britain. But the analysis of distribution on the east is complicated by the possibilities of internal spread. These movements ought rightly to be shown by similarities in ornament and technique, but such criteria are dangerous when universally applied and can only become reliable as material increases. All possible internal contacts, however, have been mentioned in the hope that future finds may corroborate one or other of the theories put forward.

It remains to acknowledge my indebtedness for assistance in the compilation of this paper; especially to Professor Gordon Childe who suggested the subject of research and who throughout has been an unfailing source of inspiration and encouragement; and to Dr Graham Callander for much information and most valuable guidance in respect to individual beakers at the Museum of Antiquities, where I received every facility for study.

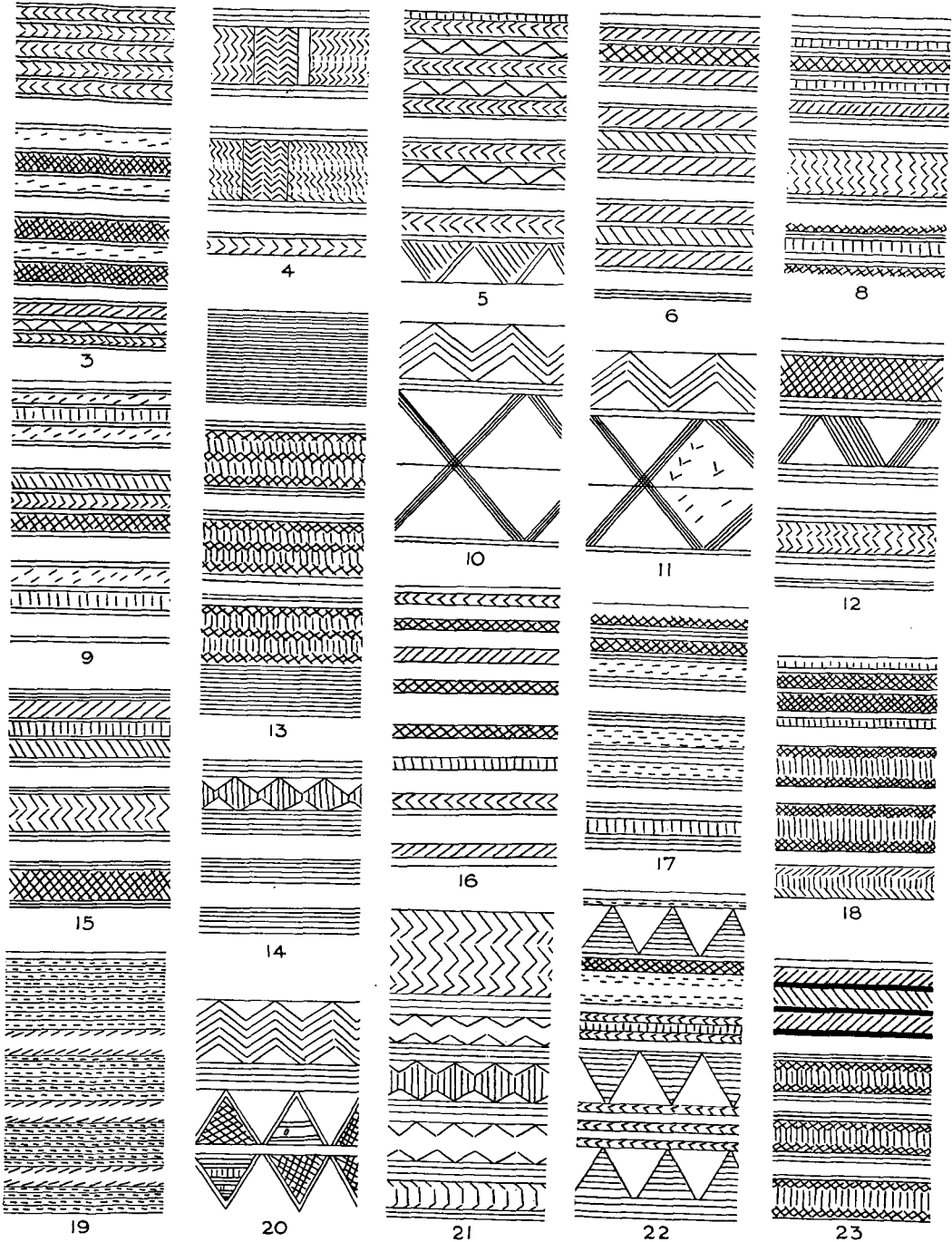


Fig. 1. Ornamentation on Scottish Beakers.

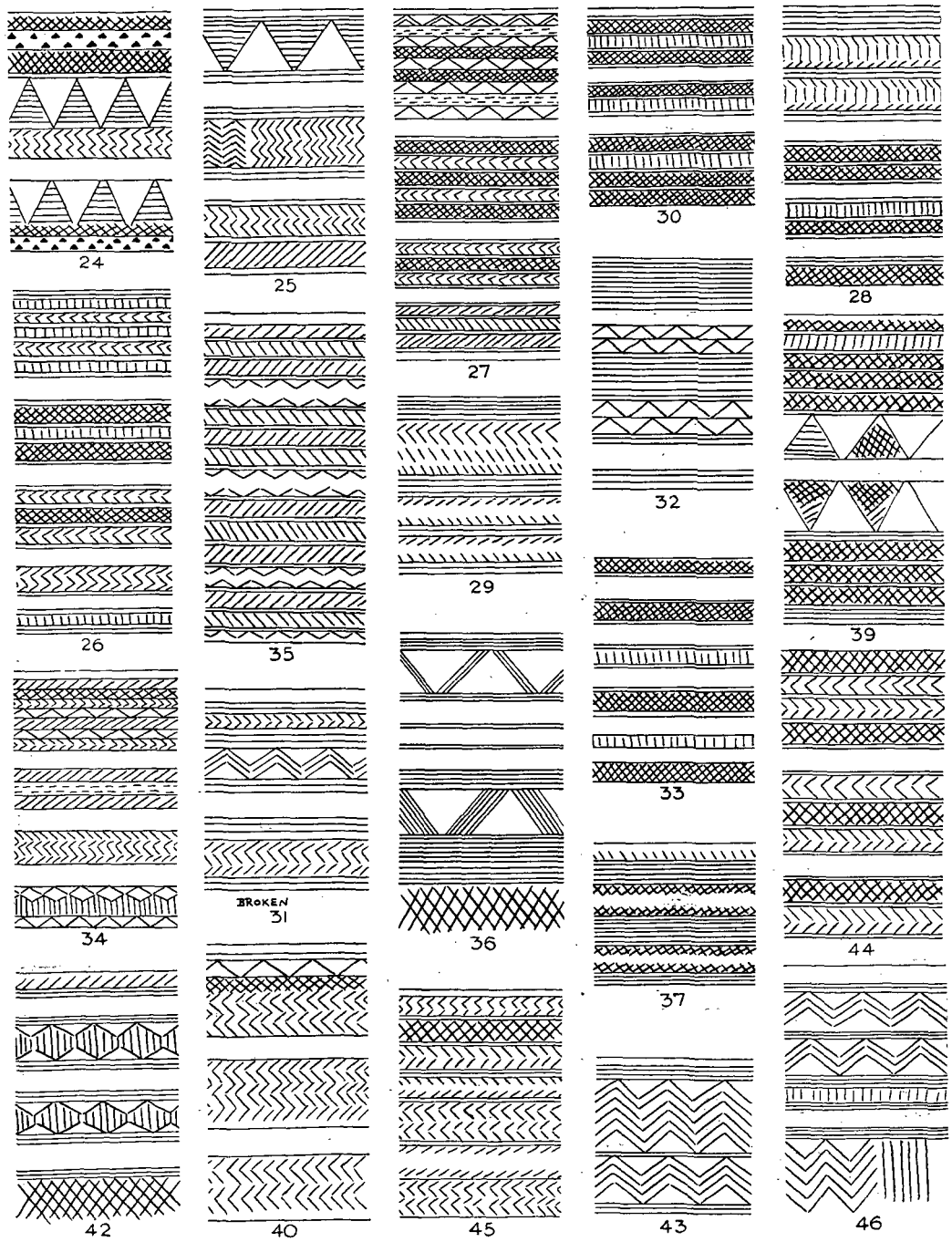


Fig. 2. Ornamentation on Scottish Beakers.

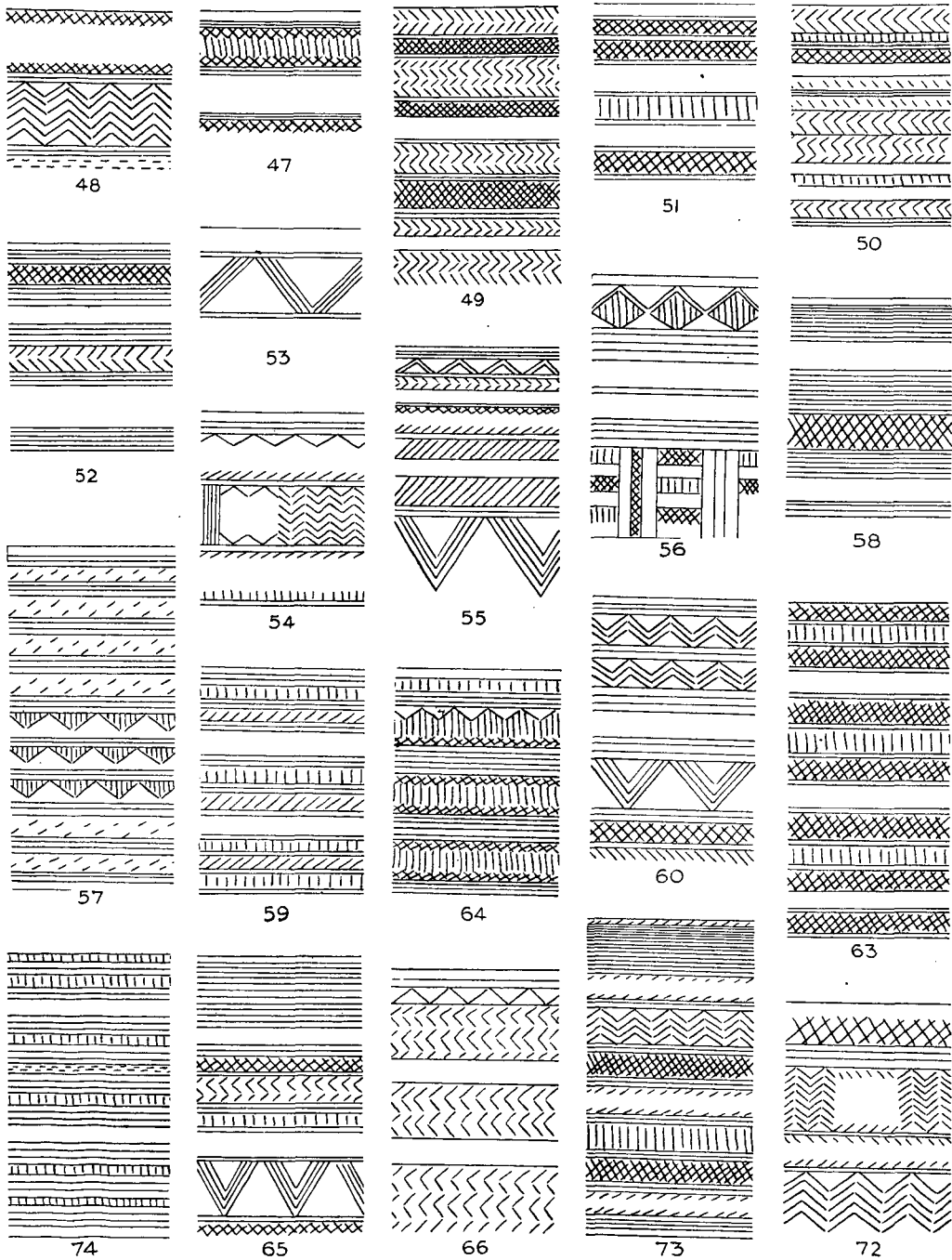


Fig. 3. Ornamentation on Scottish Beakers.

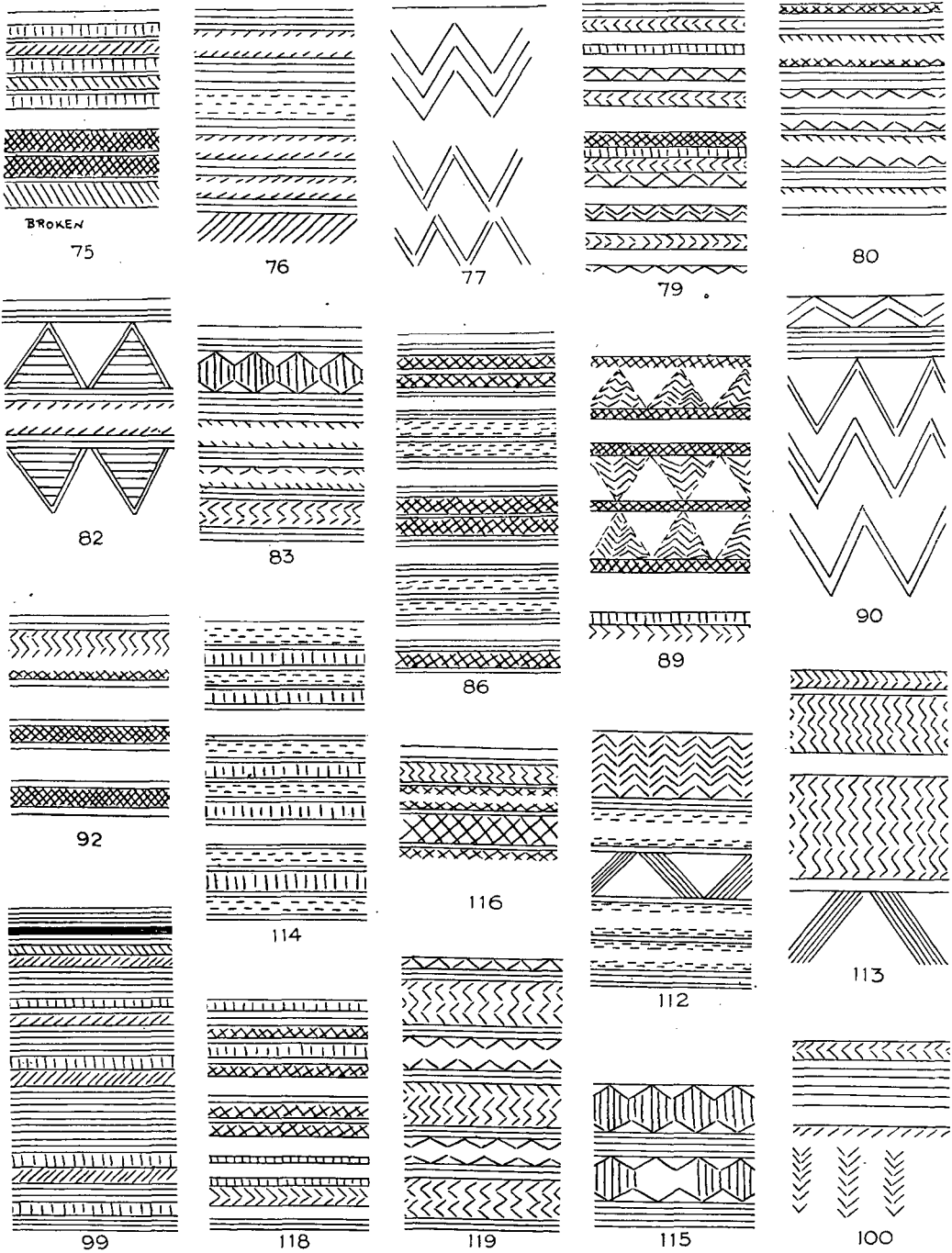


Fig. 4. Ornamentation on Scottish Beakers.

EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. 167

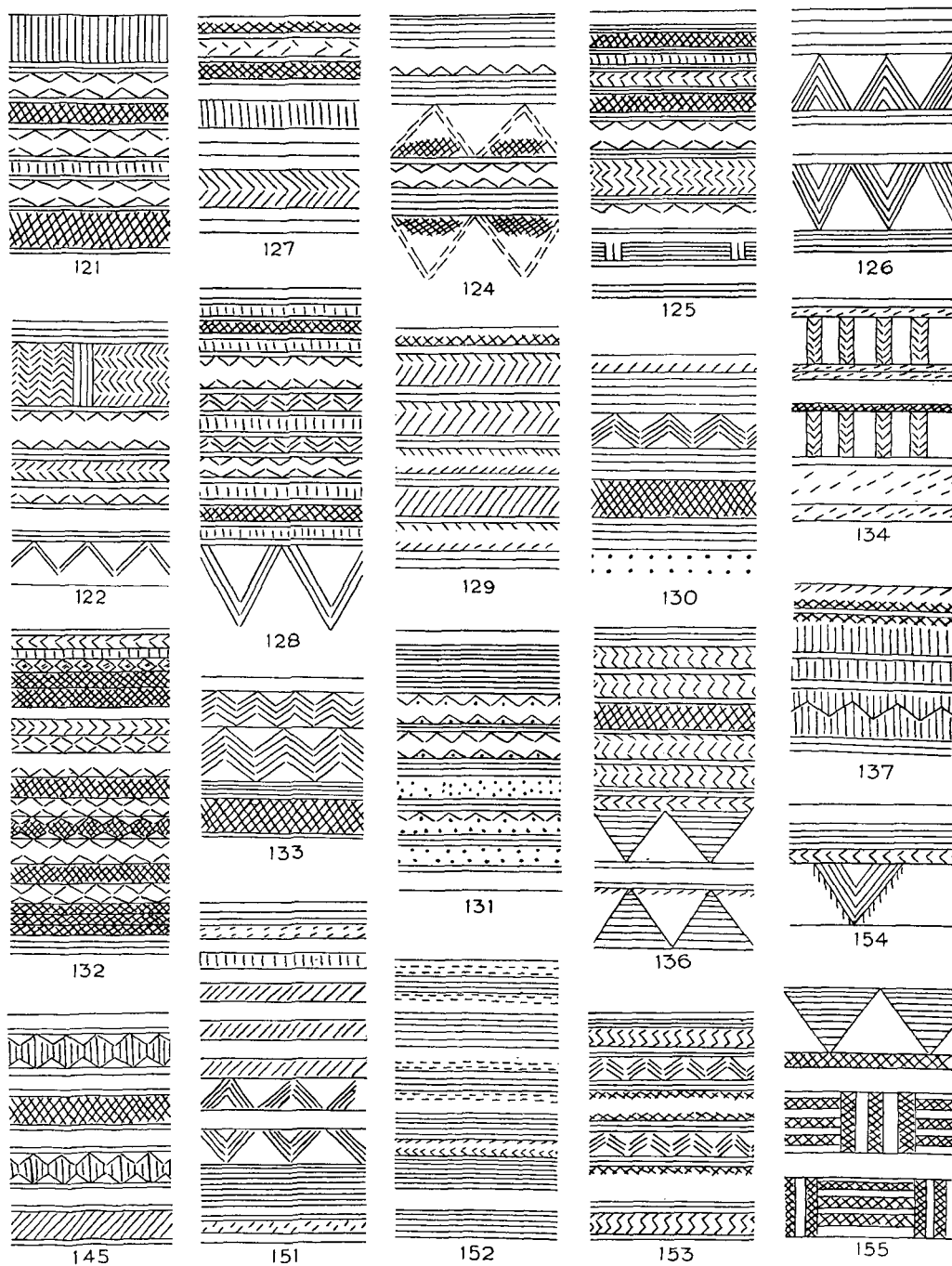


Fig. 5. Ornamentation on Scottish Beakers.

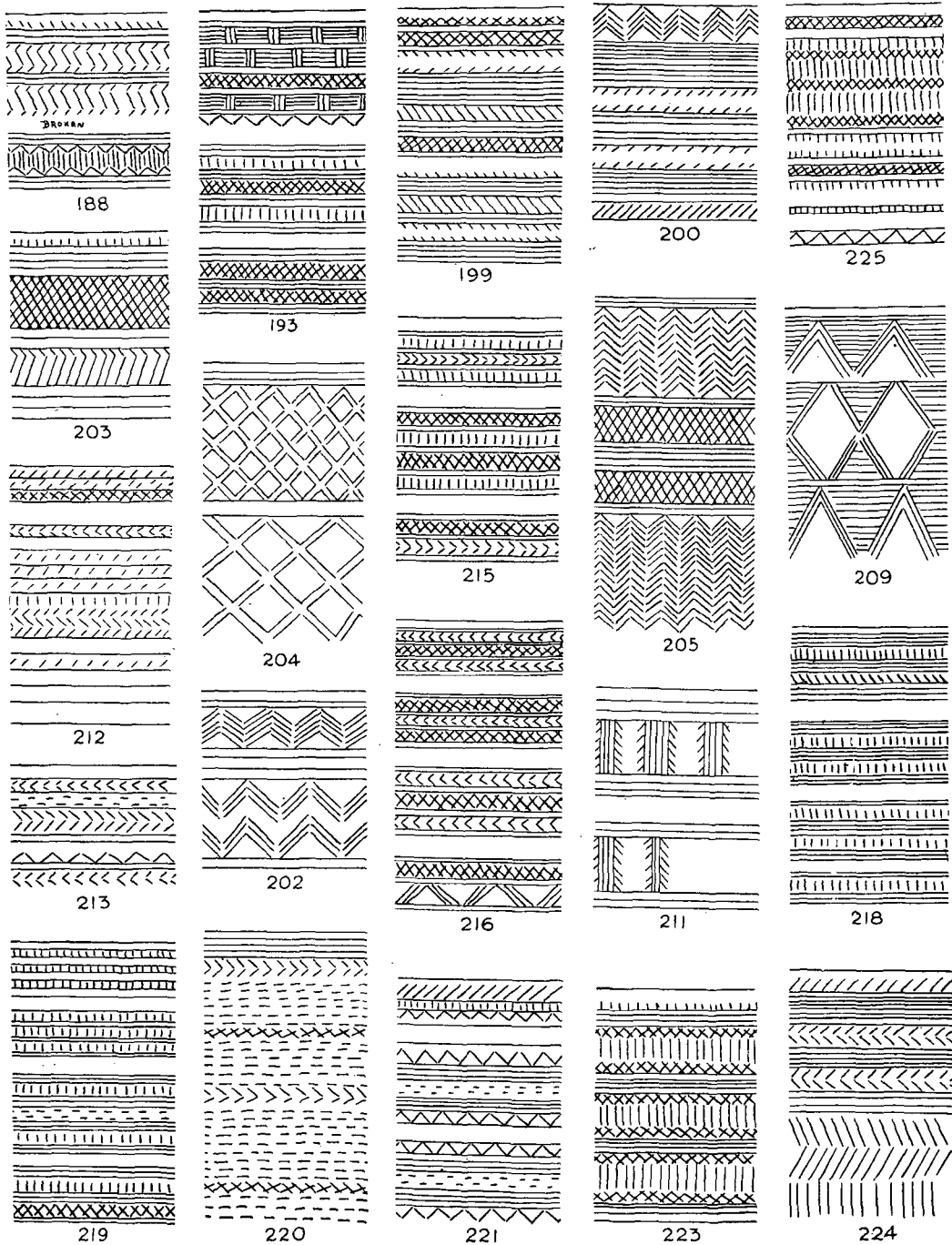


Fig. 6. Ornamentation on Scottish Beakers.

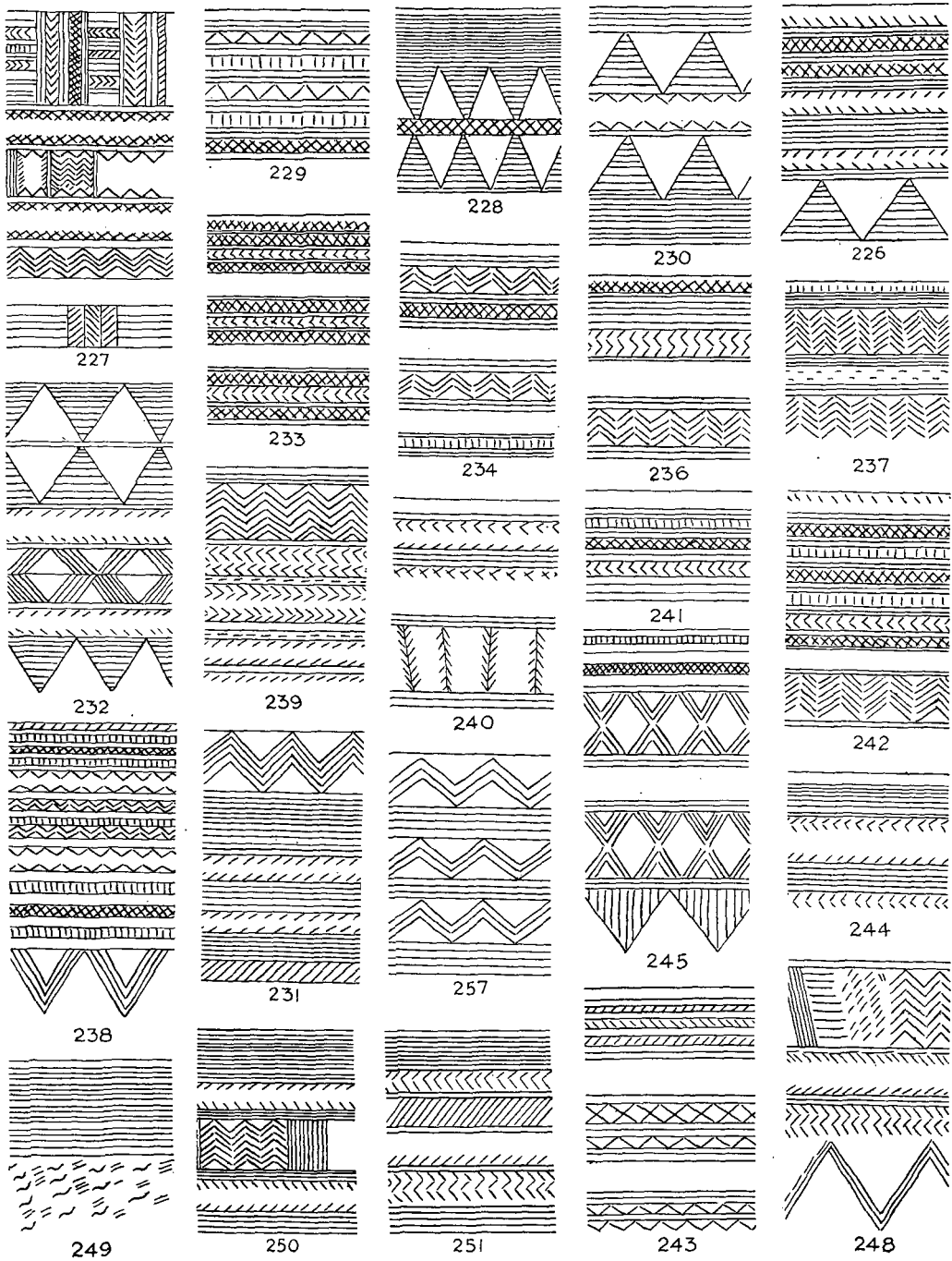


Fig. 7. Ornamentation on Scottish Beakers.

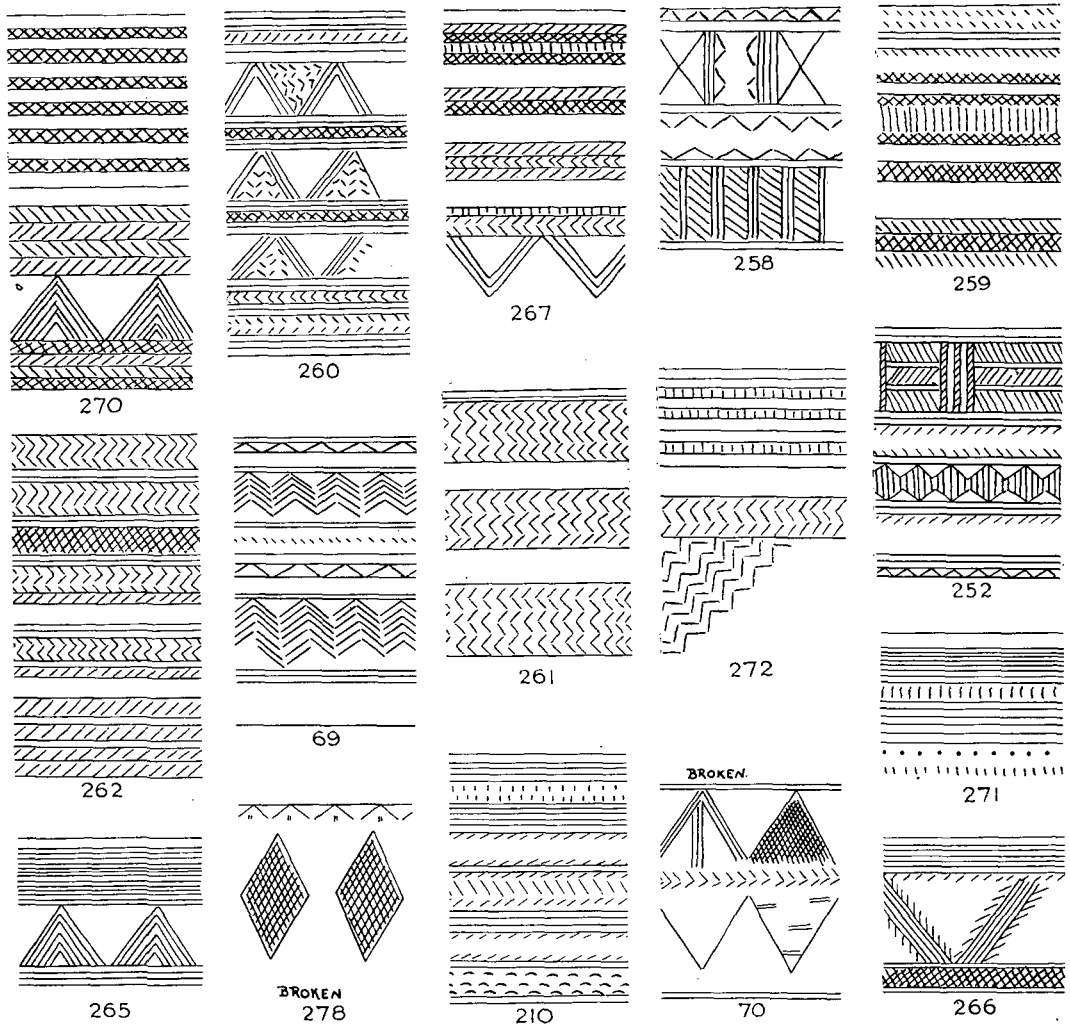


Fig. 8. Ornamentation on Scottish Beakers.

CORRIGENDA.

Ornamentation Figures.

- No. 21. Last row of oblique strokes should run from left to right downwards.
 No. 28. Second and fourth rows of oblique strokes in the two upper ornamental bands should run from left to right downwards.
 No. 82. Outline of triangles not continuous but formed by a series of dashes.
 No. 90. First row of triangles below group of horizontal lines should be horizontally shaded.
 Nos. 130, 131 to be interchanged.
 No. 219. Ought to have row of short vertical strokes at lowest edge.
 Nos. 231, 232 to be interchanged.
 No. 252. Ought to be No. 256.

Distribution Map.

- No. 31. Bankhead, Pitsligo, to be No. 37.
 No. 210. Should be a black dot.
 No. 216. Ditto.
 No. 269. Should be an open circle.

NOTES TO THE TABLE.

1. Ornamented from lip to base with a continuous spiral made by the pressure of a twisted cord.
2. Ornamented from lip to base with a continuous spiral made by the pressure of a twisted cord.
3. The account given by Reid differs slightly from that given by Low and *P.S.A.S.* In particular, Reid omits reference to the beaker.
4. Reid gives the cephalic index as 85.0. In Reid and Morant's paper, *Biom.*, xx. B, 3 and 4, December 1928, the index is given as 85.6. The more recent statement has been preferred.
5. Formerly in Freefield House.
6. In the National Museum *Catalogue* E.G. 28 and E.G. 29 are registered as two urns from Kinaldy, Dyce, presented by Alexander Watt. The *Catalogue* also registers E.T. 35 as a skull from Kinaldy, Kintore, presented by A. Watt in 1856. The fragment E.G. 28 has a note attached: "Found in a cist near Kinaldy with skull." The account in *C.B.* mentions four cists at Kinaldy, each of which contained human remains and "a vase." The skull E.T. 35, furthermore, is registered here as that of a male at least 40 years of age.
7. The incised ornament has a white filling.
8. Ornamented from lip to base with a continuous spiral made by the pressure of a twisted cord.
9. One fragment of this clay luting retains the impression of a thumb.
10. The account given by Canon Greenwell differs somewhat from that given by Mr Craw. The more recent statement has been preferred.
11. The cairn was enclosed at one corner of a roughly rectangular tumulus within whose margin were rows of wooden stakes. There is doubt whether cairn and tumulus are contemporary. The evidence argues for a disturbance of the cairn during the formation of the tumulus.
12. It has been suggested that the large area to be roofed over would require a central roof-tree. This may explain the central pit, the oak, the packing stones, and the "ceremonial" beaker.

13. The skull is preserved in the Edinburgh University Museum of Anatomy and is labelled B 237. The account in *Arch.* contains an extract from the report on the skeleton by Professor Cunningham, who gives the cephalic index as 84.5. The former figure is from Reid and Morant's paper in *Biom.*, xx. B, 3 and 4, December 1928.

14. This may prove to be another domestic station of the type of Glenluce.

15. In *B.N.C.*, xxiv., Mr Craw evidently regarded these two beaker fragments as part of the same urn. It is suggested that they represent two urns. There is, however, no evidence for a second short cist near Duns railway station, and the question must therefore remain open. E.G. 56, which was presented in 1923, is only thought to belong to the Grueldykes burial. This uncertainty may contain the solution of the problem.

16. The food-vessel represented a secondary and intrusive burial disturbing a primary beaker interment.

17. The beaker fragments and the jet toggle, at the least, represent a secondary intrusive burial.

18. See *A.J.*, April 1932—Graham Clarke.

19. Under 286 *bis* Abercromby figures a complete urn, E.G. 43, and the lip and wall of another beaker. No mention is made in the text of this second urn, and from all accounts only one was found in the Acherole cist. The *P.S.A.S.* account gives the cephalic index as 85.8. The other value is taken from Reid and Morant's paper in *Biom.*, xx. B, 3 and 4, December 1928.

20. In the paper by Reid and Morant, *Biom.*, xx. B, 3 and 4, December 1928, the skeleton found at Windy Mains in 1857 is registered as that of a female. But there is no evidence as to the cist from which this skeleton came.

21. Which should be compared to similar finds from the *Oban* and *Oransay* shell-mounds.

22. The original burial had been very much disturbed, as pieces of burnt bone, fragments of four cinerary urns, and five mediæval vessels were recovered.

23. Two sherds.

24. The cup- and ring-markings should be compared with similar ornamentation on the cover-stone of the Carnwath cist No. 229.

25. Part of the ornamentation has a white filling.

26. The accounts given in *A.A.J.*, vols. x. and xvii., differ very materially from that given by Anderson. The latter account has been preferred.

27. Which should be compared with the example from Stobo, *Anderson*, i. 58.

28. The ring-markings have analogies with those on the cover-stone of the Coilsfield cist, which contained a food-vessel of Type B.

29. The cephalic index is taken from *Biom.*, xx. B, 3 and 4, December 1928. *P.S.A.S.* gives it as 82.0. The more recent statement has been preferred.

30. Abercromby figures two urns from Tippermallo, Methven, Nos. 192, 194. It is suggested that they are one and the same urn. No. 194 is only known from a rude sketch exhibited before the Society of Antiquaries of Scotland. It may well have been a rough sketch of No. 192, which is housed at Stirling. Abercromby reproduces the sketch as that of a second urn from Tippermallo. If they are indeed distinct examples the parallelism in ornamental motif is remarkable.

31. Several food-vessels are recorded as having been found at Friars, Kelso. Whether they were in any way connected with the beaker is not known.

32. In *J.R.A.I.* the cephalic index is given as 82.4. The present figure is taken from *Biom.*, xx. B, 3 and 4, December 1928, and has been preferred as the most recent statement.

ABBREVIATIONS.

A = Abercromby, *Bronze Age Pottery of Great Britain and Ireland*, vol. i., Oxford, 1912.

A.A.J. = *Archæological Association Journal*.

A.J. = *Antiquaries Journal*.

Anderson = Anderson, *Scotland in Pagan Times*, vol. i., Edinburgh, 1886.

EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. 173

- Arch. = *Archæologia*.
 Arch. Hist. Coll. = *Archæological and Historical Collections*.
 Biom. = *Biometrika*.
 B.F.C. = *Trans. Banffshire Field Club*.
 B.M. = British Museum.
 B.N.C. = *Proceedings of the Berwickshire Naturalists' Club*.
 Cat. Ant. Edin. = *Catalogue of Antiquities . . .* exhibited in the Museum of the Archaeological Institute of Great Britain and Ireland during their annual meeting held in Edinburgh, July 1856.
 Cat. M. Coll. = Reid, *Illustrated Catalogue of Specimens from Prehistoric Interments found in the North-east of Scotland*. Anthropological Museum, Marischal College, Aberdeen, 1924.
 C.B. = Davies and Thurnam, *Crania Britannica*, London, 1865.
 Coll. Soc. Ant. Lond. = Collection of the Society of Antiquaries of London.
 Cordiner = Cordiner, *Remarkable Ruins and Romantic Prospects of North Britain*, London, 1795. (No pagination.)
 F. = Fragmentary.
 (H) = Handled urn.
 Illus. L.N. = *Graphic, and Illustrated London News*.
 I.S.S.F.C. = *Proc. Inverness Scientific Society and Field Club*.
 J.R.A.I. = *Journal of the Royal Anthropological Institute*.
 N.M.A. = National Museum of Antiquities of Scotland.
 N.U. = Erskine Beveridge, *North Uist, its Archæology and Topography*, Edinburgh, 1911.
 P.A.A.S.A.U. = *Proceedings of the Anatomical and Anthropological Society of Aberdeen University*.
 Proc. D.G.A.S. = *Proceedings of the Dumfriesshire and Galloway Natural History and Antiquarian Society*.
 Proc. R.S.E. = *Proceedings of the Royal Society of Edinburgh*.
 P.S.A.L. = *Proceedings of the Society of Antiquaries of London*.
 P.S.A.S. = *Proceedings of the Society of Antiquaries of Scotland*.
 T.G.A.S. = *Transactions of the Glasgow Archæological Society*.
 T.P.P.S. = *Transactions and Proceedings of the Perthshire Society of Natural Science*.
 T.S.A.S. = *Transactions of the Stirling Natural History and Archæological Society*.
 Wilson = Daniel Wilson, *Prehistoric Annals of Scotland*, London and Cambridge, 1863.
 ∞ = Unknown quantity.

LIST OF EARLY BRONZE AGE BEAKERS FOUND IN SCOTLAND.

Aberdeenshire.*

No.	Type.	Locality.	Preserved.	References.	Remarks.
1	B ¹	Not known.	N.M.A., E.G. 39.	<i>P.S.A.S.</i> , xl. 313; A. 225.	Within ring of stones at centre of cairn.
2	B ²	Sundayswells Hill, Torphins.	Learney House.	<i>P.S.A.S.</i> , xl. 312; A. 225a.	
3	C _A	Broomend,	N.M.A., E.Q. 23, 24.	<i>P.S.A.S.</i> , vii. 110; xvii. 455; xl. 27;	Cist with two male skeletons covered by matted substance; willow, oak, charcoal, three flint flakes and object of clay or bone. Slabs cemented with clay, and floor strewn with pebbles. One cephalic index 78.9.
4	C _B	Inverurie.		liv. 155; A. 226, 227.	
5	C _B	Do.	Inverurie.	<i>P.S.A.S.</i> , vii. 115; xvii. 455; xl. 27;	Cist, E.-W., with skeletons of adult female and infant covered with fibrous substance; two flint flakes, charcoal and object of twisted oxhorn. Floor strewn with pebbles.
6	C _A	Do.	Do.	<i>P.S.A.S.</i> , vii. 115; liv. 155.	Cist with skeleton of young person.
7	F.	Do.	Peterhead.	<i>Ibid.</i> , xxii. 366; <i>Wilson</i> , i. 75;	Beneath tumulus in cist with skeletons of adult male, boy aged 12, and dog; also necklace of jet and amber, flint axe, bracer, seven barbed and stemmed arrow-heads, knife and flake of flint.
8	C _A	Ardiffney? (Ardiffery),		<i>Cat. Ant. Edin.</i> , 11; A. 228, 229.	With four flint arrow-heads.
9	C _A	Cruden.		<i>P.S.A.S.</i> , xxvi. 262; A. 230, 231.	
10	C _B	Ellon.	N.M.A., E.G. 36, 37.	<i>P.S.A.S.</i> , xl. 28;	
11	C _A	Whitestone,	Aberdeen.	<i>P.A.A.S.A.U.</i> , 1904-6, 128; <i>Cat.</i> <i>M. Coll.</i> , No. 3;	Cist, E.-W., with three flint scrapers, charcoal and skeleton of adult male. Cephalic index 86.2.
12	C _B	Skene.		A. 232, 233.	
13	C _A			<i>P.S.A.S.</i> , xl. 23; A. 233a, 233b.	Cist, E.-W.
14	C _A	Pittodrie, Oyne.	Hunterian.	<i>P.S.A.S.</i> , xi. 408; A. 237.	Cist.
15	C _B	Cruden.	N.M.A., E.G. 20.	<i>P.A.A.S.A.U.</i> , 1902-4, 9; <i>Cat.</i> <i>M. Coll.</i> , No. 4;	Cist with skeleton of male aged 60 covered by matted substance. Cephalic index 85.0.
16	C _A	Cruden.	Aberdeen.	A. 238.	
17	C _A	Parkhill.	Aberdeen.	<i>P.S.A.S.</i> , xvi. 70; <i>P.A.A.S.A.U.</i> , 1902-4, 11; <i>Cat.</i> <i>M. Coll.</i> , No. 14; ³ A. 253.	Cist with charcoal, bones of young boar and skeleton of male aged 25-30. Cephalic index 87.0.
18	C _A	Do.	N.M.A., E.G. 2.		

EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. 175

19	CA	Ord, Anchen- doir.	Aberdeen.	P.A.A.S.A.U., 1902-4, 17; <i>Cat.</i> <i>M. Coll.</i> , No. 7; 4 A. 239.	Cist with skeleton of male aged 50. Cephalic index 85.6.
20	CA	Freefield.	Unknown. ⁵	P.S.A.S., xv. 193; A. 241.	Near pedestal of stone embedded in conical clay mound covering small cairn.
21	CA	Clinterty, Kinellar.	Aberdeen.	J.R.A.I., 1902, 383; P.A.A.S.A.U., 1902-4, 15; <i>Cat.</i> <i>M. Coll.</i> , No. 10; A. 243.	Cist with skeleton of male aged 60. Cephalic index 84.3; axe-head of mica schist, knife, five scrapers and two barbed and stemmed arrow-heads of flint, crystal of topaz, and ring and needle of bone (?).
22	CA	Inveramsay, Chapel of Garioch.	N.M.A., E.G. 16.	P.S.A.S., iv. 165; A. 244.	With skeleton of male aged 30.
23	CA	Clashtarquhar, Banchory.	Free Church College, Aberdeen.	<i>Wilson</i> , i. 419; P.S.A.S., xxii. 363; A. 245.	Cist with food-vessel and skeleton of adult.
24	CB	Savoch, Longside.	Peterhead.	P.S.A.S., xxiii. 366; <i>Cat. Ant. Edin.</i> , 11; A. 246.	In tumulus.
25	CB	Persley Quarry, Old Machar.	Aberdeen.	P.A.A.S.A.U., 1902-4, 13; <i>Cat.</i> <i>M. Coll.</i> , No. 12; A. 247.	Cist with skeleton of male aged 60. Cephalic index 86.5; arrow-head and knife of flint.
26	CA	Parish of Leslie.	Unknown.	<i>Reliquary</i> , iii. 49; A. 248.	Cist with male skeleton and at least three flint arrow-heads.
27	CB	Not known.	B.M.	A. 251.	
28	CA	Do.	N.M.A., E.G. 21.	A. 258.	
29	CB	Do.	B.M.	A. 263.	
30	CA	King Street Road, Aber- deen.	N.M.A., E.G. 35.	P.S.A.S., xxiv. 446.	
31	CA	Near Aberdeen.	Unknown.	A. 261.	
32	CB	Stoneywood.	Aberdeen.	P.A.A.S.A.U., 1902-4, 12; <i>Cat.</i> <i>M. Coll.</i> , No. 9; A. 254.	Cist with skeleton of male aged 40. Cephalic index 92.3. Slabs cemented with clay.
33	CB	Cairnie, Huntly.	Elgin.	P.S.A.S., xxii. 342; A. 255.	
34	CA	Mains of Leslie, Premnay.	Aberdeen.	P.S.A.S., xii. 116; P.A.A.S.A.U., 1906-8, 54; A. 256.	Cist, E.-W., with quartz pebbles and skeleton of adult male. Cephalic index 87.0.
35	CA	Tifty, Fyvie.	Do.	<i>Cat. M. Coll.</i> , No. 26; A. 257.	Cist with ashes.

* For notes to the Table, see p. 171.

Aberdeenshire—continued.

No.	Type.	Locality.	Preserved.	References.	Remarks.
36	C _A	Glasterberry, Peterculter.	Mr Skene, Avondow, Peterhead.	<i>P.S.A.S.</i> , xxxvi. 627; <i>A.</i> 259a.	Cist, E.-W., with brachycephalic skeleton. Floor paved with pebbles packed in clay.
37	C _B	Bankhead, Pitsligo.		<i>P.S.A.S.</i> , xxii. 367; <i>A.</i> 260.	
38	C _B	Slap, Turriff.	N.M.A., E.Q. 140.	<i>P.S.A.S.</i> , x. 740; <i>A.</i> 264.	Cist, E.-W., with skeleton of adult and worked flint.
39	C _A	Upper Mains of Munresk, Turriff.	Do. E.G. 31.	<i>P.S.A.S.</i> , xx. 98.	Cist, E.-W., with skeleton of child. Floor paved.
40	C _A	Upper Boynd- lie, Tyrie.	Do. E.Q. 295.	<i>Ibid.</i> , xliii. 79.	Cist, N.E.-S.W., with skeleton, charcoal and semicircular flint knife.
41	C _B	Do. do.	Do. E.Q. 296.	<i>Ibid.</i>	Cist.
42	C _B	Do. do.	Aberdeen.	<i>Ibid.</i>	Cist, N.E.-S.W., with charcoal, wood and skeleton of old man with brachycephalic skull. Floor paved with pebbles and slabs dressed.
43	C _B	Blackhills, Tyrie.	N.M.A., E.G. 48.	<i>Ibid.</i> , xliii. 87.	Cist.
44	C _B	Broomhill, Tough.	Do. E.G. 58.	<i>Ibid.</i> , lx. 18.	In sand-pit.
45	C _A	Bruckleseat, Fyvie.	Do. E.G. 59.	<i>Ibid.</i> , lx. 98.	
46	F.	Kinaldy, Dyce.	Do. E.G. 29.	<i>Cat. Ant. Soc. Scot.</i> , 36; <i>C.B.</i> , ii. 25.	Cist with female skeleton.
47	F.	Do. do. ⁶	Do. E.G. 28.	<i>C.B.</i> , ii. 25.	Cist with skeleton.
48	F.	Parish of Glass. ⁷	Do. E.G. 42.	<i>P.S.A.S.</i> , xxxvi. 67.	
49	C _B	Erick, Newhills.	Aberdeen.	<i>Ibid.</i> , lx. 208; <i>Cat.</i> <i>M. Coll.</i> , No. 29.	Cist.
50	C _A	Johnstone, Leslie.	Do.	<i>P.S.A.S.</i> , lxiv. 218.	Cist, N.E.-S.W., with two flint scrapers and bone fragments.
51	C _A	Mains of Leslie, Premmay.	Leith Hall.	<i>Ibid.</i> , xliii. 76.	Cist, N.E.-S.W., with charcoal and unburnt bone.
52	C _B	Do. do.	Mr Reid, Inverurie.	<i>Ibid.</i> , xli. 344.	Cist.
53	F.	Do. do.	Aberdeen.	<i>Cat. M. Coll.</i> , No. 27.	Cist with bones.
54	C _A	Parish of Strichen.		<i>Ibid.</i> , No. 8.	
55	C _A	Hillhead, Ellon.	Do.		Cist with skeletons of male aged 50 and person aged 14; also pebble, flint knife and fir cone.

EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. 177

56	C _A	Keir, Belhelvie.	Do.	<i>Ibid.</i> , No. 5.	Cist with skeleton of female aged 22. Cephalic index 82.5.
57	C _A		Do.	<i>Ibid.</i> , No. 25.	
58	C _A		Do.	<i>Ibid.</i> , No. 30.	Cist.
59	C _B	Stoneywood. Avondow, Milltimber.	Do.		
60	C _A		Do.		
61	F.	Belmeadie,	N.M.A., E.E. 54.	<i>P.S.A.S.</i> ; i. 137.	In tumulus.
62	C _B (H)	Belhelvie, Cairnhill, Monquibitter.	Do.	<i>Ibid.</i> , xxxvi. 675.	Beneath cairn in pit with burnt bones.
63	C _A	Leggats Den, Chapel of Garioch.	Do.	<i>Ibid.</i> , lx. 17.	
64	C _B	Mensie.	Unknown.		
65	C _A	Newlands, Oyne.	N.M.A., E.G. 65.	<i>Wilson</i> , i. 426; ii. 120. <i>P.S.A.S.</i> , lxvii. 228.	Under tumulus. Cist, N.E.-S.W., with skeleton of male aged 25. Cephalic index 81.5.
66	C _A	Upper Boynd- lie, Tyrie.	Aberdeen.	<i>Ibid.</i> , lxvii. 176.	Cist, N.E.-S.W., with quartz pebbles.
67	F.	Old Keig, Alford.	N.M.A.	<i>Ibid.</i> , lxvii. 37	On original surface within recumbent stone circle.
68	B?	Cuning Hill, Inverurie.	Unknown.	<i>Ibid.</i> , xxxvii. 230.	With charcoal near summit of natural mound.
69	C _B	Mid Clova, Kildrumny.	Clova.		
70	C _A	Hill of Foulzie, King Edward.	Banff.	<i>B.F.C.</i> , 1901-5, April 1902, 25.	In tumulus containing stone cists yielding encrusted cinerary urns.
<i>Angus.</i>					
71	B?	Castle Huntly. Kirkbuddo.	Dundee.	<i>P.S.A.S.</i> , xxii. 346.	
72	C _B		Coll. Soc. Ant. Lond.	<i>Arch.</i> , xliii. pt. ii. 6; A. 236.	
73	C _A	Noranside, Fern.	N.M.A., E.G. 61.	<i>P.S.A.S.</i> , xxvii. 66; A. 240.	With skeleton in cist, E.-W.
74	C _B	Priest-town, Edzell.	Do.	E.G. 5.	
75	C _A	Wellgrove, Lochee.	Do.	E.G. 46. A. 250.	Cist, E.-W., with skeleton of young person.
76	C _A	Kingswells, Fallowes, Monkie.	Do.	E.G. 17. A. 259.	Cist with flint implements and rubbing-stone.
77	C _A	Limlathen.	Unknown.		Beneath cairn in cist, E.-W., with bronze riveted knife-dagger. Floor paved with pebbles and slabs cemented with clay. ⁹

Angus—continued.

No.	Type.	Locality.	Preserved.	References.	Remarks.
78	C _A	Idvies, Kirkden.	N.M.A.	<i>P.S.A.S.</i> , lviii. 24.	Cist, E.N.E.-W.S.W., with charcoal and incinerated adult bones. Piece of bone bears green stain indicative of bronze.
79	C _A	Collieston Mill, Arbroath.	Do.	<i>Ibid.</i> , xlix. 15.	Cist with skeleton.
80	C _B	Fletcherfield.	Fletcherfield.	<i>Ibid.</i> , lxxv. 418.	
81	?	Kame Hillock, Hill of Tealing.	Dundee.	<i>Ibid.</i> , xxii. 346.	Cist, E.-W.
<i>Argyll.</i>					
82	C _A	Ballymenach, Kilmartin.	B.M.	<i>Ibid.</i> , vi. 348; lxxv. 278; <i>A.</i> 185.	Cist, E.N.E.-W.S.W., under bell cairn with three skeletons. ¹⁰
83	C _A	Poftalloch.	N.M.A., L.P. 13.	<i>P.S.A.S.</i> , xxxix. 242; <i>A.</i> 191.	
84	F.	Do.	Do. L.P. 15.	<i>P.S.A.S.</i> , xxxix. 242.	
85	F.	Do.	Do.		
86	C _B	Largie.	Do.	<i>Ibid.</i> , vi. 344; <i>A.</i> 198.	In segmented chamber of neolithic cairn.
87	F.	Poftalloch.	B.M.		
88	F.	Callachally,	N.M.A., E.Q. 137,	<i>P.S.A.S.</i> , ix. 537;	
89	C _B	Glenforsa,	135.	xi. 586; <i>A.</i> 217.	Cist with bracer and bronze riveted knife-dagger.
90	F.	Mull.			
91	B?	Salen, Mull.	Do. E.Q. 269.	<i>P.S.A.S.</i> , xvii. 84.	Cist with flint flake and two ornamented fragments of bronze.
92	C _A	Balnabraid, Campbeltown.	Campbeltown.	<i>Ibid.</i> , liv. 172.	Cist, one of several secondary interments in round segmented chambered cairn, with flint knife, inhumation and discoid lignite bead.
93	∞	Tiree.	Kelvingrove.	..	Domestic context.
94	∞	Coll.	Do.	..	Do.
95	B?	Sanna Bay, Ardnamurchan.	Unknown.	<i>Man</i> , 1927, No. 115.	Kitchen-midden with flakes of flint and basalt, limpet shells and bone.
96	∞	Do.	Do.	<i>Ibid.</i>	Kitchen-midden.

97	F.	Coll.	N.M.A., B.N. 14-18.	..	In gravel-pit.
98	F.	Glebe Street, Campbeltown.	Campbeltown.	..	
<i>Ayrshire.</i>					
99	C _B	Court Hill, Dalry.	N.M.A., E.G. 11.	P.S.A.S., x. 281; <i>Arch. Hist. Coll., Ayr and Wigton</i> , i. 53, 55; A. 199.	Under cairn. ¹¹
100	C _A	Muirkirk.	Do. E.G.A. 1.	P.S.A.S., xlviii. 373.	In pit at centre of hut-circle No. 2. Carbonised oak lay at bottom of pit, which was packed with stones. ¹²
101	F.	Do.	Do. E.G.A. 10-14.	<i>Ibid.</i> , xlviii. 373; lxi. 269.	On floor of hut-circle No. 2.
102					
103	F.	Do.	Do.	<i>Ibid.</i>	Near hearth in hut-circle No. 1.
104					
105	F.	Do.	Do.	<i>Ibid.</i> , liv. 210.	In hut-circle No. 3.
106					
107	F.	Do.	Do.	<i>Ibid.</i> , lvi. 131.	Among scattered fragments of pottery at base of cairn.
108					
109	F.	Wellwood, Muirkirk.	Unknown.	<i>Proc. R.S.E.</i> , xxvi. 279; <i>Arch.</i> , 62, pt.i. 246; A. p. 37.	Cist with skeleton of adult male. Cephalic index 84.6. ¹³
110	B	Haylee, Largs.	Greenock.	..	On sand-dune area.
111	F.	Shewalton Sands. ¹⁴		..	
<i>Banffshire.</i>					
112	C _A	Buekie.	Unknown.	<i>Reliquary</i> , i. 229; A. 267.	Cist with partially incinerated skeleton.
113	C _A	Carestown, Deskford.	Banff.	P.S.A.S., xxii. 369; A. 270.	
114	C _A	Boharn, Achroisk.	N.M.A., E.G. 1.	P.S.A.S., viii. 341; A. 272.	With skeleton in cist, N.-S.
115	C _B	Cullen.	Banff.	P.S.A.S., xxii. 369; A. 274.	
116	C _B	Burnside of Whitefield, Aberchirdir.	Forglen House.	P.S.A.S., xl. 306; A. 276.	Cist with skeleton of child.

Banffshire—continued.

No.	Type.	Locality.	Preserved.	References.	Remarks.
117	C _B	Forglen.	Forglen House.	<i>P.S.A.S.</i> , xl. 279;	In tumulus containing two pavements of pebbles at different levels. Nos. 117, 118 below second, and each rested on charcoal deposit. No. 119 in another charcoal deposit, beneath which was skeleton and barbed and stemmed arrow-head lying in scooped-out grave.
118	C _A		Unknown.	<i>A.</i> 277-279.	
119	C _A				
120	?	Lesmurdie.	Unknown.	<i>P.S.A.S.</i> ; i. 205; <i>C.B.</i> , ii. 16.	Cist with bones.
121	C _B	Do.	N.M.A., E.Q. 30.	<i>P.S.A.S.</i> , i. 205; <i>C.B.</i> , ii. 16; <i>A.</i> 280.	Cist, N.N.E.-S.S.W., with three flint chips, oxide of iron and skeleton of male. Cephalic index 85.6. Slabs cemented with loam and floor paved with pebbles.
122	C _A	Do.	Do. E.Q. 32.	<i>P.S.A.S.</i> , i. 205; <i>C.B.</i> , ii. 16; <i>A.</i> 281.	Cist, N.E.-S.W., with inhumed skeleton. Slabs cemented with loam and floor paved with pebbles.
123	C _B	Do.	Do. E.Q. 31.	<i>P.S.A.S.</i> , i. 205; <i>C.B.</i> , ii. 16; <i>A.</i> 282.	Cist, N.E.-S.W.
124	C _B	Gardenstown.	Unknown.	<i>Reliquary</i> , ii. 178;	Cist.
125	C _A	Buckie.	N.M.A., E.G. 4.	<i>A.</i> 283, <i>P.S.A.S.</i> , xvi. 415;	With skeleton in cist.
126	C _B	Anchmore, Portsoy.	Banff.	<i>A.</i> 287, <i>P.S.A.S.</i> , xxii. 369;	
127	C _A	Findlater Castle.	Unknown.	<i>A.</i> 291.	
128	C _A	Nether Buckie.	B.M.	<i>Cordéner</i> , vol. iii.	Filled with ashes in cist, one of several beneath tumulus.
<i>Berwickshire.</i>					
129	C _A	Manderston.	Unknown.	<i>B.N.C.</i> , x. 305; xxiv. 184; <i>A.</i> 187.	With skeleton in cist, E.-W.
130	C _A	Hoprig, Cockburnspath.	Mr Cowe.	<i>B.N.C.</i> , xii. 131;	Cist, E.-W., at bottom of pit beneath cairn; pit filled with charcoal and burnt bones. Floor of cist paved with slab.
131	C _B		Oldcastles.	xxiv. 163; <i>A.</i> 210, 211.	
132	C _A	Mackmill, Gordon.	Mr Renton, Greenlaw.	<i>B.N.C.</i> , xi. 194; xxiv. 186; <i>P.S.A.S.</i> , xx. 100; <i>A.</i> 212a.	In sand-pit.

133	F.	Gruedykes, Duns. ¹⁶	N.M.A., E.C. 27, 56.	<i>B.N.C.</i> , v. 60; xxiv. 184; <i>P.S.A.S.</i> , lviii. 19.	Cist with male skeleton. Cephalic index 82.6.	
134	C _A	Broomdykes, Edrom.	Unknown.	<i>B.N.C.</i> , xxiv. 185; <i>P.S.A.S.</i> , xlvi. 172.	Cist, E.-W., with bones and ochreous stone. Floor paved with pebbles.	
135	F.	Edington Mill, Chirnside.	N.M.A., E.Q. 324.	<i>P.S.A.S.</i> , xlviii. 330.	Cist, E.-W., beneath cairn with skeleton, charcoal and food-vessel. ¹⁶	
136	C _A	Harelaw Hill, Chirnside.	Mr Mitchell-Immes, Whitehall.	<i>B.N.C.</i> , xix. 340.	Cist, E.-W., under cairn with bones and unworked flint.	
<i>Bute.</i>						
137	F.	Dunan Beg, Lamlash, Arran.	N.M.A., E.P. 309.	<i>P.S.A.S.</i> , xliii. 343.	In compartment of long segmented chambered cairn with charcoal, inhumation, flint flake, two worked and one unworked fragment of Corriegills pitchstone, piece of neolithic Type A and jet toggle. ¹⁷	
138	F.	Giants' Graves, Whiting Bay, Arran.	Do. E.O. 265-	<i>Ibid.</i> , xxxvii. 44; lxiii. 29.	In segmented chamber of long cairn with fragment of neolithic Type A, four leaf-shaped arrow-heads and three knife scrapers of flint, one of which is plano convex. ¹⁸	
142			267.			
141	F.	Glecknabae, Bute.	N.M.A., E.P. 283,	<i>Ibid.</i> , xxxviii. 37.	In chamber of long cairn with burnt bones, skeleton, flint flakes, flake of pitchstone and piece of quartz.	
143			284, 286, 287.			
144						
<i>Caitness.</i>						
145	C _A ¹⁹	Acherole, West Watten.	N.M.A., E.G. 43.	<i>Ibid.</i> , xxxix. 418; A. 286 <i>bis</i> .	Cist with skeleton of young adult male whose cephalic index is 85.7.	
146	F.	Lower Dounreay.	Do. E.O. 357,	<i>P.S.A.S.</i> , lxiii. 140; lxiv. 12.	No. 146 found in cist, N.N.E.-S.S.W., in chamber of round-horned cairn. Cist paved and contained skeleton of dolichocephalic man aged 20-25, covered with beach shingle. Nos. 147, 148 embedded in layer of clay between uprights of chamber with human and animal bones, charcoal, stone axe and fragments of neolithic Type A.	
147						Cist under cairn with two flint scrapers. Cairn associated with line of standing stones diverging in irregularly parallel rows from S.W. side.
148						
149	B?	Garrywhin, Bruan.	Unknown.	<i>Ibid.</i> , vii. 503.		
149a	B?	Yarrows.	Unknown.	<i>Ibid.</i> , vii. 497.		

Dumbartonshire.

No.	Type.	Locality.	Preserved.	References.	Remarks.
150	F.	Old Kilpatrick.	Hunterian.	<i>P.S.A.S.</i> , lxiii. 37; <i>T.G.A.S.</i> (N.S.), vii. pt. ii. 55.	In oval grave, N.E.-S.W., with two neolithic vessels, one of Type B.
<i>Dumfriesshire.</i>					
151	C _A	Auchencairn, Closeburn.	N.M.A., E.G. 51.	<i>P.S.A.S.</i> , i. 152; <i>Cot. Ant. Soc.</i> <i>Scot.</i> , 1863.	In cairn with bones and two flint flakes.
<i>East Lothian.</i>					
152	C _B	East Barns.	N.M.A., E.G. 41.	<i>P.S.A.S.</i> , xxxv. 277; <i>A.</i> 197.	Cist with skeleton.
153	C _A	Windy Mains, Humbie.	Do. E.G. 8.	<i>P.S.A.S.</i> , iii. 51; <i>A.</i> 216.	Cist with bones.
154	F.	Do. do.	Do. E.G. 9.	<i>P.S.A.S.</i> , iii. 51.	Cist, E.-W., with male skeleton. ²⁰
155	C _A	West Links, North Berwick.	Do.	<i>Ibid.</i> , xxxiv. 123; <i>A.</i> 218.	Cist with skeleton of young person.
156					
157					
158	B or	Archerfield,	Do. H.R. 552-	<i>A.</i> 220 (string-mark-	Nos. 156, 157 in kitchen-midden No. 1, with whelk and
159	C _B	Gullane.	569 (selection of	ed fragment);	limpet shells, coarse pottery and animal bones including
160			fragments of all	<i>P.S.A.S.</i> , xlii. 308.	red-deer horns. Nos. 158-161 in kitchen-midden No. 3,
161			three types).		with fewer shells and bone, but C _A sherds, charcoal and
162-	C _A	Do. do.	Do. do.	<i>A.</i> 219-221 (except	flint scrapers and flakes.
182				string - marked	Nos. 162-179 in kitchen-midden No. 2, with bone pin and
				fragment);	chisel, ²¹ knife, two scrapers and flakes of flint. Nos. 180-
				<i>P.S.A.S.</i> , xlii. 308.	182 in kitchen-midden No. 3.
183	B	North Berwick.	Unknown.	<i>Ibid.</i> , xlii. 270; <i>A.</i> 222.	At base of pillar of pebbles embedded in kitchen-midden
184	∞	Do.	N.M.A.	<i>P.S.A.S.</i> , xlii. 270.	No. 1, with flint, whelk, limpet and oyster shells, animal
	B or				bones and fragments of neolithic pottery.
	C _B				Kitchen-midden No. 1.
185	∞	Do.	Do.	<i>Ibid.</i>	Do.
	C _A				

186	∞	Do.	Do.	Ibid.	Kitchen-midden No. 2. One fragment bore impress of three grains of wheat. No roe-deer, but pieces of lignite.
187	C _A				
188	C _B				
189	F.	Broxmouth Waird, Oxwell Mains, Dunbar.	Do.	E.G. 44.	
190	CA	Boglehillwood, Longniddry.	Do.	E.G. 50.	With charcoal in cist, E.N.E.-W.S.W.
191	CA	Drem.	Do.	E.G. 14.	With skeleton in cist. Floor paved with slab.
192	CB	West Links, North Berwick.	Do.	E.E. 97.	With skeleton of mesaticephalic middle-aged female in cist, E.-W., on margin of kitchen-midden.
193	∞	Hedderwick, Dunbar.	..	Ibid., lxiii. 29.	Domestic site yielding neolithic Type B, stone axes and both types of flint arrow-head.
194	?				
<i>Fife.</i>					
193	CA	Dairsie.	N.M.A., E.G. 193.	Ibid., xxi. 132; A. 190.	Cist, N.-S., with skeleton and four barbed and stemmed arrow-heads. Floor paved with pebbles.
194	B	Parklaw, St Andrews.	Unknown.	P.S.A.S., xli. 401; A. 196 (for No. 194).	In cist, E.-W., with jet necklace, burnt bone and two pieces of flint. ²²
195	F.		St Andrews.	P.S.A.S., xvii. 384; A. 201.	Domestic context on sand-dune area.
196	CB	Tents Muir, Leuchars.	Perth.	T.P.P.S., viii. 257.	Domestic site with kitchen-middens of cockle, mussel and whelk shells; also both types of flint arrow-head.
197	CA	Do.		J.R.A.I., 1902, 382; P.S.A.S., xii. 439; A. 205, 204.	No. 199 found with skeleton in cist at centre of cairn. No. 200 at bottom of pit, 12 feet from centre, with ashes and charcoal. Another pit contained burnt adult bones and bronze riveted knife-dagger with gold mounting.
198	CB	Collessie.	N.M.A., E.Q. 50, 58.	P.S.A.S., lxvi. 14.	In sand-pit.
199	CB	Dunshelt Fort, Auchtermuchty.	Do.	E.G. 64.	
200	CB	Grangehill Farm, Kinghorn.	Do.	E.G. 24.	
201	CA				
202	CB	Corran Ferry.	Ardgour House.	Ibid., xxiv. 437; A. 288.	Cist, N.E.-S.W., at bottom of pit.
203	CB				
204	CA	Kraiknish, Loch Eynort, Skye.	N.M.A., E.G. 62, 63.	Man, Oct. 1929, No. 126.	In chamber of round cairn. No. 204 wedged with pebbles and close to button scraper of flint.
205	CB				
<i>Inverness-shire.</i>					

Inverness-shire—continued.

No.	Type.	Locality.	Preserved.	References.	Remarks.
206	F.	Langass Barp, North Uist.	N.M.A., E.O. 348-350.	<i>P.S.A.S.</i> , lxiii. 96; <i>N.U.</i> 247.	In chamber of round cairn with barbed arrow-head, scraper and five flakes of flint, charcoal, burnt bones and perforated disc of mica.
207	} F. ^{2a}	Geirisclett, North Uist.	N.M.A., G.T. 49, 51-53, 231.	<i>P.S.A.S.</i> , lxiii. 96; <i>N.U.</i> 255.	In chamber of round cairn with flint scraper and fragment of neolithic ware.
209		Ca	Kilmorie, Loch Slapin, Skye.	<i>P.S.A.S.</i> , lxii. 22.	With incinerated human bones in cist, N.E.-S.W., within margin of long cairn.
210	Ca	Kirkhill.	Aberdeen.	<i>Ibid.</i> , lxviii.	Cist, N.E.-S.W., with male skeleton.
211	Ca	Kiltarilty. Rudh' an Durnain, Skye.	N.M.A., E.O. 382.	<i>Ibid.</i> , lxvi. 183.	In chamber of round cairn with quartz pebbles, pieces of green chert and pumice, charcoal and skeletons of young man, brachycephalic male aged 30-35 and two young adults, one aged 18-20.
<i>Kincardineshire.</i>					
212	C _B	Balbridie, Durriss.	Durriss House.	<i>P.S.A.S.</i> , xl. 304; <i>P.A.A.S.A.U.</i> , 1902-4, 22; <i>Cat.</i> <i>M. Coll.</i> , No. 20; <i>A.</i> 234.	Cist, E.-W., with skeleton and charcoal.
213	} F.	Do.	N.M.A., E.G. 45 (for No. 213).	<i>P.S.A.S.</i> , xl. 304; <i>P.A.A.S.A.U.</i> , 1902-4, 22; <i>Cat.</i> <i>M. Coll.</i> , No. 20.	Cist, E.-W., with bone and charcoal.
214		Do.	Do.	Do.	Do.
215	Ca	Do.	Durriss House.	<i>P.S.A.S.</i> , xl. 304; <i>P.A.A.S.A.U.</i> , 1902-4, 22; <i>Cat.</i> <i>M. Coll.</i> , No. 20; <i>A.</i> 235.	Do.
216	Ca	Kernoon Farm, Dunnottar.	N.M.A., E.G. 54.	<i>P.S.A.S.</i> , lvi. 17.	Cist.
217	C _B	Resting Hill, Dunnottar.	Do.	<i>Ibid.</i> , vi. 89.	Cist.
218	Ca	Upper Mains of Catterline.	Aberdeen.	<i>Ibid.</i> , lviii. 27; <i>Cat.</i> <i>M. Coll.</i> , No. 1.	Cist, N.E.-S.W., showing cup- and ring-markings ²⁴ on coverstone, with quartzite implement and skeleton of male over 40. Cephalic index 85.0. Slabs dressed and floor paved with pebbles.

219	CA	Banchory-Ternan.	Do.	<i>Cat. M. Coll.</i> , No. 24.	
220	CB	Pityot.	Do.	<i>Ibid.</i> , No. 11.	With skeleton in cist beneath cairn.
221	CB ²⁵	Fetteresso. Parish of Kinneff and Catterline.	Do.	<i>Ibid.</i> , No. 28.	Cist.
222	?	Longhillock, Portlathen.	Unknown.	<i>P.S.A.S.</i> , x. 195.	Cist.
<i>Kinross-shire.</i>					
223	CA	Tillyochie.	N.M.A., E.G. 7.	<i>A.</i> 214; <i>Cat. Ant. Soc. Scot.</i> , 1863.	Under cairn.
<i>Kirkcudbright.</i>					
224	CB	Woodfield, Highbanks.	Kirkcudbright.	<i>P.S.A.S.</i> , xxv. 24; <i>Proc. D.G.A.S.</i> , 1926-8, 288.	With skeleton in cist. Floor paved.
<i>Lanarkshire.</i>					
225	CA	Mossplat, Carluke.	N.M.A., E.G. 25.	<i>A.</i> 186; <i>P.S.A.S.</i> , iv. 551.	Under cairn.
226	CB	Lanarkmoor,	Do. E.G. 18,	<i>A.</i> 208, 209;	In sand-pit.
227	CA	Lanark.	19.	<i>P.S.A.S.</i> , v. 214.	
228	CA	Crawfurd.	N.M.A., E.Q. 138.	<i>Anderson</i> , i. 58; ²⁶ <i>A.</i> 213; <i>A.A.J.</i> , x. 7; xvii. 111; <i>J.R.A.I.</i> , 1902, 383.	With skeleton and bronze ring ²⁷ in cist at centre of cairn.
229	F.	Wester Yird Houses, Carnwath.	Do. E.Q. 165.	<i>Anderson</i> , i. 88; <i>P.S.A.S.</i> , x. 61.	Cist, N.-S., beneath cairn. Cover-stone exhibited cup- and ring-markings. ²⁸
<i>Midlothian.</i>					
230	CA	Juniper Green.	N.M.A., E.G. 3.	<i>Arch.</i> , iv. 50; <i>A.</i> 189; <i>C.B.</i> , ii. 15; <i>P.S.A.S.</i> , xxxix. 431.	Cist with skeleton of male over 50. Cephalic index 83.2. ²⁹ Slabs cemented with loam.
231	CA	Cakemuir Hill,	Do. E.G. 12,	<i>A.</i> 206, 207;	Cists.
232	CA	Borthwick.	13.	<i>P.S.A.S.</i> , ii. 482.	

Morayshire.

No.	Type.	Locality.	Preserved.	References.	Remarks.
233	C _B	Acres, Knocktando.	Elgin.	A. 268; <i>P.S.A.S.</i> , xxii. 342.	Cist.
234	C _B	Near Elgin.	N.M.A., E.G. 26.	A. 271.	
235	C _A	Sleepie's Hill, Urquhart.	Elgin.	A. 275.	
236	C _B	Gordonstown.	Do.	A. 284; <i>P.S.A.S.</i> , xxii. 343.	
237	C _B	Elgin (?).	Do.	A. 285.	
<i>Nairnshire.</i>					
238	C _A	Nairn.	Unknown.	A. 266.	
239	C _A	Cawdor Castle.	B.M.	A. 273; <i>P.S.A.L.</i> , i. (2nd series), 396.	Cist, E.-W., with skeleton, two awls and chisel of bone.
240	C _A	Auchindoune, Cawdor.	Inverness.	<i>I.S.S.F.C.</i> , i. 187; <i>P.S.A.S.</i> , lxxvii. 232.	Cists with skeletons.
241	C _A				
242	C _B				
243	C _A	Cawdor.	Cambridge.	..	Cist with skeleton.
244	C _B				
<i>Peeblesshire.</i>					
245	C _A	Oliver, Tweedmuir.	N.M.A., E.G. 55.	<i>P.S.A.S.</i> , lviii. 13.	Cist.
246	B F.	Drummelzier.	Do. E.Q. 394 (for No. 246).	<i>Ibid.</i> , lxx. 357.	Cist, N.E.-S.W., beneath cairn with fragments of neolithic Type B, flint saw and thirteen flakes of flint and chert. Cairn with peripheral boulders yielded several secondary interments.
247					
<i>Perthshire.</i>					
248	C _A	Tippermallo, ³⁰ Methven.	Stirling.	A. 192; <i>P.S.A.S.</i> , xxxiii. 145.	With skeleton, two scrapers, knife and flake of flint in cist. Floor paved with two slabs.
249	C _B	Balliclands, Auchterarder.	N.M.A., E.G. 40.	A. 200; <i>P.S.A.S.</i> , xxxii. 314.	With skeleton in cist. Floor paved with slab.

250	C _B	Fairies Knowe, Pendreich, Bridge of Allan.	Lost.	<i>Ibid.</i> , vii. 519; <i>T.S.A.S.</i> , 1926-7, 94; <i>A.</i> 203.	At top of tumulus covering fire-injured cairn. At centre was cist containing charcoal and partially incinerated skeleton.
251	C _B	Kincardine Castle.	N.M.A., E.G. 6.	<i>P.S.A.S.</i> , xii. 682; <i>A.</i> 215.	With skeleton in cist. Floor paved with slab, beneath which was second skeleton.
252	?	Belmont Castle, Meikle.	Unknown.	<i>C.B.</i> , ii. 25 (foot-note).	Cist with skeleton of brachycephalic female aged 17.
253	C _B	Balmuick, Cornrie.	Do.	<i>P.S.A.S.</i> , xviii. 306.	Cist beneath mound.
254	C _B (H)	Do. do.	N.M.A., E.H. 8.	<i>Ibid.</i> , xviii. 306; <i>Anderson</i> , i. 82.	Cist, E.-W., at centre of mound.
<i>Ross and Cromarty.</i>					
255	?	Lochs, Lewis.	Unknown.	<i>P.S.A.S.</i> , lxii. 25.	With skeleton in cist.
256	C _B	Fyrish, Evanton.	N.M.A., E.Q. 131.	<i>Ibid.</i> , vi. 233; <i>A.</i> 269; <i>Anderson</i> , i. 16.	Cist with bracer and skeleton. Cephalic index 82.3.
257	C _B	Eddertoun.	Unknown.	<i>Anderson</i> , i. 90; <i>P.S.A.S.</i> , vii. 268; <i>A.</i> 289.	Cist No. 3, one of six beneath tumulus with skeleton of aged brachycephalic individual.
258	C _B	Ross (?)	N.M.A., E.G. 22.	<i>A.</i> 290.	In tumulus.
259	C _B	Tarradale.	Victoria and Albert.	<i>P.S.A.S.</i> , xxvii. 358.	
<i>Roxburghshire.</i>					
260	C _A	Eckford.	N.M.A., E.G. 38.	<i>P.S.A.S.</i> , xxv. 29; <i>B.N.C.</i> , xiv. 123; <i>J.R.A.I.</i> , 1902, 379; <i>A.</i> 188.	Cist, E.-W., floor paved.
261	C _B	Near Littleton Castle, Kelso.	Do. E.G. 23.		
262	C _A	Wester Wooden, Eckford.	Do. E.G. 30.	<i>B.N.C.</i> , xi. 186.	Cist, N.E.-S.W., with charcoal, two flints and two pieces of chipped stone.
263	F.	Knock Hills, Edgerston.	Do. E.Q. 393.	<i>P.S.A.S.</i> , lxiii. 372.	Beneath cairn with skeleton.
264	F.	Not known.	Do.		
265	C _B	Friars, Kelso. ³¹	Do. L. 1933, 2116.		
266	C _A	Edenmouth.	Do. do.		With skeleton.
267	C _A	Lanton Tower, Jedburgh.	Unknown.	<i>Illus. L.N.</i> , 14th January 1871.	Cist beneath tumulus with skeleton, flint scrapers and quartz pebbles.

Shetland.

No.	Type.	Locality.	Preserved.	References.	Remarks.
268	C _B	Unst.	N.M.A., E.G. 33.	<i>J.R.A.I.</i> , 1902, 386.	With skeleton of male aged 21-25 in cist, E.-W., beneath cairn.
269	F.	Fraga, Skatness.	Do.	<i>P.S.A.S.</i> , lxvii, 34.	
270	C _A	Cambusbarron.	Stirling.	A. 193.	In sand-pit.
<i>Stirlingshire.</i>					
<i>Sutherland.</i>					
271	B	Cambusmore, Dornoch.	Dunrobin.	A. 265.	Cist with eighteen quartzose pebbles, 118 shale discs, six perforated, and skeleton of female aged 18. Cephalic index 82.0. ³² Cist.
272	C _B	Dunrobin.	Do.	A. 286; <i>J.R.A.I.</i> , 1902, 380; <i>Ré-liquary</i> , 1904, 61.	
273	F.	Bettyhill.	Unknown.	<i>A.</i> p. 43, footnote 2.	
<i>West Lothian.</i>					
274	B	Bathgate.	N.M.A., E.G. 47.	<i>P.S.A.S.</i> , xl, 369, 371; <i>A.</i> 195.	In sand-pit.
275	B	Do.	Do. E.G. 53.	<i>P.S.A.S.</i> , lv, 12.	Do. (same).
276	C _B	Tartraven.	Do. E.G. 32.	<i>Ibid.</i> , xxi, 199; <i>A.</i> 202.	Cist.
<i>Wigtownshire.</i>					
277	F.	Glenluce Sands.	N.M.A., B.H. 527.	<i>P.S.A.S.</i> , lxiv, 291.	Domestic context on sand-dunes.
278	C _A	Do.	Kelvingrove.	<i>Ibid.</i> , xxxvi, 584; <i>A.</i> p. 36.	Do. Contained three pieces of charcoal and necklace of 188 discs and triangular toggle of lignite.
279	F.	Do.	N.M.A., E.E. 49.	..	Domestic context on sand-dunes.
280					
281					
282					

EARLY BRONZE AGE BEAKER POTTERY OF SCOTLAND. 189

283	C _B or B	Do.	Kelvingrove.	..	In bark-lined grave.
284	F.	Carsecreugh Castle.	Unknown.	<i>Arch. Hist. Coll. Ayrshire and Galloway</i> , vi. 103; <i>P.S.A.S.</i> , ix. 517.	Cist, N.E.-S.W., with skeletons of brachycephalic female aged 30 and infant.
285	} F.	Glenluce Sands.	Do.	<i>Ibid.</i> , vi. 104.	Buried in sand with stone axe and broken whetstone.
286					
287	∞				
288	B or C _B	Do.	N.M.A., B.H. 8614-8683 (selection of unspecified Bronze Age pottery).	..	Domestic context on sand-dunes.
289	} F.	Do.	Kelvingrove.		
290					