THE DISTRIBUTION OF EARLY BRONZE AGE TYPES IN SCOTLAND

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I

INTRODUCTION

The subject matter of this thesis is Scottish Early Bronze Age pottery: its typological classification, its distribution in space and time and its associated relics.

The material upon which the enquiry has been based consists of all the examples of urns which have been placed on record up to date. A complete list of these examples, with details and bibliographical references for each is given in two Appendices. Distribution maps have been prepared and the numbers on them and in the Appendices correspond.

In order to provide a sufficient foundation on which to base a thorough discussion of the subject it has been found necessary to preface the whole by a description of the general conditions forming the Neolithic background to the Earliest Bronze Age. (*)

In dealing with the ceramic the following are taken for granted:-

(1) The assumption that the Beaker penetration of Scotland came from the south whether by land or sea.

(2) A working knowledge of Abercromby's pioneer study of the subject.

II

THE NEOLITHIC BACKGROUND

1. Climate.

The investigation of ancient climates is a comparatively recent study which has yet to attain some degree of scientific exactitude. It has nevertheless proved itself an indispensable adjunct to archeology and more especially to the prehistoric archeology of Britain. Insularity invites trade as well as immigration and Britain was open to both these influences from the moment of her participation in the prehistory of Western Europe. Sea traf-
ficking at all times is a hazardous undertaking on account of the vagaries of the weather, but what must it have been five thousand years ago when the arts and industries of civilization were as yet in a primitive condition? The archeologist may therefore suggest trade between Scotland, Ireland and Portugal or postulate invasions from the Rhineland impinging upon our eastern coasts but he must ultimately bring his hypotheses to the touchstone of contemporary climatic conditions. Climate has not been uniform throughout the ages and in immediately post-glacial Britain various oscillations were taking place.

Before embarking upon a study of the Late Stone and Earliest Metal Ages in Scotland meteorology must contribute some statement as to the weather conditions prevalent at that time in Northern Britain. According to C.E.P. Brooks the second half of the third millenium, generally accepted as the limits of the period under consideration, coincided with the peak of a climatic optimum in Northern and Western Europe. It was a period of anticyclonic weather with minimum wind and rainfall. A suggestion has been made that the consequent warm summers and mild winters may have been due to a southward extension of the Arctic anticyclone; a phenomenon which in turn would force our westerly gales to follow a path far to the south of that which they pursue to-day. Certainly the Atlantic depressions must have been diverted from their normal course through Iceland, Britain and Norway. But warm dry weather along the western seaboard of Northern Europe would produce very different conditions over the North Sea. A cold current of air from the Arctic circle acting as a wedge between Britain and Scandinavia would bring wet stormy conditions to our eastern coasts. In support of this latter phenomenon Brooks quotes a spit of shingle south of Thanet, formed in pre-Roman times, which must owe its existence to easterly winds. More or less anticyclonic conditions were prevalent over Scandinavia and even penetrated Central Europe as far south as the Swiss Lakes. There is archeological evidence that during the period 2200-2000 B.C. a marked diminution in rainfall took place over this area while the levels
of certain of the lakes, Lake Constance in particular, were considerably lowered.

What proofs does Brooks adduce in support of his North-West European and Scandanavian climatic optimum and what grounds has he, granted his proofs are valid, for equating this ideal climatic phase with the second half of the third millenium B.C.? According to Brooks the universal criterion for a climatic optimum is to be found in the disintegration of peat bogs and their replacement by extensive areas of forest.

At the end of last century James Geikie divided the post-glacial vegetation of Scotland into four periods during which forest and peat were alternately dominant: Lower Forestian, Lower Turbarian, Upper Forestian and Upper Turbarian. This scheme has not yet been seriously challenged and indeed it was supplemented by the work of Lewis on the Scottish peat bogs. The latter stated that the Lower Forest Bed was characterised by a predominance of birch while the constituent of the Upper Forest Bed was almost entirely pine. For reasons to be given later it is this Upper Forest Bed which Brooks would equate to his third millenium anticyclone. Wind and excessive rainfall upon a badly drained soil are the principal enemies of forest growth. If therefore tree remains of the Upper Forest Bed horizon can be recognised in areas which to-day are water-logged, windswept and consequently barren then according to Brooks that is sufficient proof of a climatic optimum during Upper Forestian times. In parts of Scotland this ancient tree line can be traced as high as 3000 feet above sea level. On the island of Lewis Erdtman found a thick Lower Forest Bed, whose main constituent was birch, covered by a layer of peat which he equated to the Upper Forest zone. Samuellsson however found two birch maximums in Lewis and possibly Erdtman's peat layer is really equivalent to an Upper Turbarian level. The second birch maximum would then represent the Upper Forest Bed. To-day Lewis is treeless, being open to the full sweep of the Atlantic gales. In peat sections taken from the eastern slopes of the Pennines Dr Woodhead failed to distinguish an Upper Forest horizon and
it was argued that this absence might be attributed to the same
easterly winds as had formed the spit of shingle south of Thanet.
But though the Upper Forest Bed was not found in the Eastern Pennines
it has been recognised at several points along our east Scottish
coasts more especially in Fife, Forfar and Aberdeenshire and possibly even further north. These facts are significant in that they
show how the cold Arctic air current over the North Sea affected
only the southern parts of the east coast of Britain. Incidentally
this also proves that the centre of the western anticyclone was situ-
ated in the Hebrides.

So far Brooks' equation of the Upper Forest Bed with anti-
cyclonic conditions seems justified. Critics however have been
made. It has been pointed out that the change from forest to peat
and vice versa need not necessarily involve a radical alteration in
climate. Leaching of the soil may kill a forest with remarkable ra-
pidity while Woodhead himself has shown how a slight change in the
drainage line of a given area may disintegrate a peat bog. Such
arguments however do not cover the tree stools in Lewis or vestiges
of forest on the 3000 foot contour. Their presence does indicate
climatic conditions very different from those prevailing at the
present time.

In Scandinavia a sequence of post-glacial vegetation has
been worked out by Blytt and Sernander. As in Scotland there are
four periods of alternating forest and peat predominance: Boreal, Atlantic, Sub-Boreal and Sub-Atlantic. These periods it is claimed
are also indicative of climatic changes from anticyclonic to cyc-
lonic conditions. Brooks would equate Geikie's system in Scotland
with that propounded by Blytt and Sernander for Scandinavia. Thus:

Lower Forestian = Boreal.
Lower Turbarian = Atlantic.
Upper Forestian = Sub-Boreal.
Upper Turbarian = Sub-Atlantic.

The Scandinavian scheme has recently been correlated with De Geer's
geochronology as based upon the Swedish laminated clays. Brooks,
finding De Geer's absolute dating for the dry Sub-Boreal period falls into the second half of the third millennium B.C. thus completes his argument for the triple equation of Climatic Optimum = Upper Forest Bed = Later Stone and Earliest Metal Ages in Scotland.

Detailed criticism of Brooks' hypothesis would be out of place here but some comment may show that his meteorological sequence is not so straightforward as it would appear. Erdtman, though he accepts Brooks' equation of the Scottish and Scandinavian systems places the post-glacial climatic optimum in North Western Europe not during the Sub-Boreal phase but at the commencement of the preceding Atlantic phase which according to De Geer dates back to 5000 B.C. Again, Erdtman's interpretation of De Geer's geochronology gives the absolute dating for the Scandinavian Sub-Boreal phase as 2000-1000 B.C.; figures which incidentally seem rather too late for our Scottish chambered cairn and beaker periods. But Brooks' insistence on a climatic optimum in North Western Europe based upon floristic evidence which he has already employed as a criterion for climatic change is a case of argument post hoc ergo propter hoc. Further it is well known that anticyclonic conditions over Scandinavia generally imply abnormally wet weather in Western Scotland. Moreover the further south the Baltic anticyclone spreads the more intense become the reverse conditions. A diminution of rainfall over Lake Constance is therefore not likely to support warm dry weather along the Atlantic seaboard. There remains the paradoxical conclusion that a forest period on the shores of the Baltic would be the equivalent of intensive peat formation in Western Scotland. Yet there is no doubt that Brooks' theory has much to commend it. It has been accepted by Woodhead and Erdtman and it provides the most rational explanation of the intensive maritime activities which were seemingly undertaken by the Neolithic and Earliest Bronze Age inhabitants of Western Europe. For the sake of subsequent argument it will be adopted here. Yet it behoves archeologists to be sceptical until meteorologists have satisfied themselves that anticyclonic conditions can extend simultaneously from Scandinavia to the Alps.
on the one hand and from Scotland to Portugal on the other.

2. Vegetation.

With the close of the Wurm glaciation the ice finally retreated from Northern Britain and the land was free to receive forms of vegetation. Erdtman has shown that the first trees to immigrate to Scotland were not primarily influenced by the general climatic amelioration since post-glacial lacustrine deposits in the Hebrides, indicative of temperate conditions, are devoid of tree pollen grains. The primary afforestation of this country was controlled by the existence of continental forest belts which had survived outside the limits of the last glaciation. The first immigrants were the willow and the birch. The birch in particular flourished exceedingly and formed, as Lewis has shown, the principal constituent of the Lower Forest Bed or first Forest maximum in Scotland. Other trees represented in this horizon are the hazel and the pine. Lewis excluded the pine from his lowest stratum but Erdtman after recent studies in the Scottish peat mosses has proved its presence at this early stage. The Lower Forest Bed therefore, flourishing in Scandinavian Boreal times, was predominantly a birch forest but hazel woods probably covered large tracts of the more mountainous parts and were especially concentrated along the extreme north western coasts. But as rapidly as they had developed so the hazel woods degenerated and their passing was a signal for the advent of the oak. In England and the Central Irish plain the oaks seem to have been the dominant factor but in Scotland their pollen horizon is by no means so well defined. No doubt they clustered over ill-drained areas of boulder-clay such as Ayrshire, but they can never have constituted such a menace to prehistoric settlement as they did in England. The Sub-Boreal second forest maximum in Scotland is undoubtedly dominated by the pine. In England on the other hand the pine diminishes, degenerates and finally disappears. According to Erdtman the Upper Forest pine horizon in Scotland is equivalent to a mixed growth of
birch, hazel, alder, elm, oak, holly, beech and hornbeam across the border. The following percentages, worked out for Scotland, may be of significance:

- Betula (Birch) 70%
- Pinus (Pine) 14.6%
- Alnus (Alder) 11.8%
- Quercus (Oak) 2.4%
- Ulmus (Elm) 1.2%

The remarkably low percentage of oak is noteworthy since according to Fox the possibility of damp oakwood is one of the most serious obstacles to the prehistoric settlement of any given area.

In forming an estimate of the vegetation in Scotland during the Late Stone and Earliest Metal Ages too much emphasis must not be laid upon the significance of the Upper Forest Bed. An extreme view of the situation would imply an impenetrable pine and birch forest covering the higher ground up to the 3000 foot contour; while in the lower-lying areas there would be oak and hazel scrub with belts of alder and willow clustering along the banks of the rivers. Indeed the only habitable sites would be the rare patches of alluvial gravel, the raised beaches or the sea shore itself.

Such a view is untenable. The Neolithic population in Scotland were certainly pastoralists and some of them may also have been agriculturists. The Early Bronze Age folk assuredly practised cultivation. But sheep cannot be reared in a forest and cattle would die of liver fluke. Wheat would be an impossibility unless tracts were cleared; for this there is no evidence and in any case it would be difficult with the tools available. No definite statement can of course be given regarding the exact extent and character of the forest in Scotland during the second half of the third millennium B.C. but a tentative suggestion can at least be made. On the water-logged clays and along the edges of rivers, except on patches of alluvial gravel, there would be a dense forest principally of Fox's damp oakwood category with an appreciable admixture of alder and willow. On the better drained slopes, immediately above, pine and birch and
possibly a light oakwood would be dominant. On poor sandy soils there would be only a very thin tree covering possibly of birch which might rapidly degenerate into heath and grassland according to the soil conditions. Such areas as the latter together with the open moor on exposed upland sites must have afforded excellent grazing ground. Within such a framework the Chambered cairn builders and the Beaker Folk would move and have their being.

3. **Mode of life of the inhabitants.**

The cultivation of grain was certainly known in Scotland during the Neolithic regime. The evidence comes from one inhabited site at Rothesay in Bute. Here wheat, saddle querns and typical Windmill Hill (Type A) pottery were found in a gravel pit associated with hut foundations and hearths. It is curious that not a single shred of evidence for the practice of agriculture has been discovered so far in the long chambered cairns; a fact which forces the conclusion that the burial customs of Neolithic man in Scotland were introduced independently of certain of his domestic arts. On the other hand the long chambered cairn builders certainly practised and probably also introduced the domestication of animals. In the cairns of Caithness bones of horse, swine and sheep or goat have been found. It has been suggested that the marked absence of chambered cairns from the low-lying fertile plain of Caithness and their concentration on the higher ground between the 200 foot and 600 foot contours would be explicable were their builders essentially pastoralists. Hunting was probably a popular pastime by which to eke out the artificially produced supplies of food. The bones of a large dog and the antlers of red deer are of frequent occurrence among the animal remains of the Caithness and Orkney cairns.

The degree of nomadism among the neolithic population of Scotland is a subject of great interest which cannot be entered upon fully in this introductory note. It is obvious however that the solidity and permanence of the long chambered cairns, the concentration of different types of burial chamber within a prescribed area, and the scanty evidence of agriculture are indicative of a more or
less settled mode of life. Yet pastoralists tend to be nomadic. The flimsy character of the few dwellings which have so far been examined, the fact that these Neolithic folk were immigrants and therefore probably under some influence of "wanderlust" supports the opposite opinion. The safest deduction is a relative one. In comparison with the Earliest Metal Age inhabitants Neolithic man in Scotland was nomadic.

With regard to the numerical strength of our Neolithic population only a lower limit can be given. It has been calculated that under primitive conditions in Britain hunting alone would support a population of 7000.

4. Extent of social organisation.

The people who built the chambered cairns of Scotland and who presumably are buried within them were an aristocracy. Though the burial chambers were collective sepulchres they were not designed for all and sundry as the paucity of the remains eloquently testifies. They were apparently the burial vaults of a single noble family or tribe. The social organisation was therefore tribal and probably patriarchal. Beneath this however there may have been a lower stratum of society which provided the man power for the erection of the collective sepulchres but whose members were not deemed worthy of burial in them.

Some forms of communal organisation were certainly in existence. Among the pit dwellings in the neolithic village at the Mye plantation in Wigtownshire there was one which had obviously belonged to the flint worker of the community; a fact which indicates a degree of specialization in industry tolerably advanced for such an early stage in civilization.

5. Fixed and movable relics.

The insignia of Neolithic man in Scotland is his burial place. From a geographical point of view the chambered cairns are concentrated in six areas; Orkney, Caithness, Sutherland, The Hebrides and Outer Isles, Arran and Bute and the South West mainland of Scotland.
From a typological point of view there are only three forms; those of Orkney, Caithness, and Arran. Of these the first is practically confined to the islands; the second spreads into Sutherland and the third expands in two directions, Northwards to the Hebrides and Eastward to the mainland.

The habitation sites of Neolithic man in Scotland are the simplest of pit dwellings. Encampments on the open sand dunes were however also erected as is shown by finds from Hedderwick and Glenluce. Yet all the sites, no matter their type, exhibit one feature in common. They were not designed for permanence. Unlike the latter and more substantial hut circle they were rudimentary and must rapidly have become dilapidated.

So far none of the characteristic causewayed camps have been located in Scotland though the Brown Cathertun in Angus may be an exception.

Among the typical Neolithic movable relics found in Scotland are exquisitely worked lozenge shaped arrowheads of flint and chert. Other contemporary European types such as those with a single barb, a concave or a hollow base, occur only as stray finds.

Both types of British Neolithic pottery are found. Type A. (Windmill Hill) is predominant and includes all the known examples of Late Stone Age pottery in Scotland, with the exception of sherds from Hedderwick, near Dunbar, certain fragments from the Glenluce sands in Wigtownshire, pieces from an oval grave at Old Kilpatrick, Dumbartonshire, and some sherds from a Bronze Age cairn at Drummalzier in Peeblesshire, all of which belong to Type B. (Peterborough ware). Piggott has shown that though the latter is so far confined to Southern Scotland its influence, particularly upon the A group, is very marked. Even the pottery from the chambered cairn of Unstan in Orkney exhibits certain affinities to Peterborough ceramic particularly in its stab and drag hatched triangle ornament.

6. **Racial characteristics.**

Anthropological data concerning the Neolithic inhabitants of
Scotland is derived from the skeletal remains recovered in the chambered cairns. Such evidence points to an apparently dolichocephalic race; to people of relatively short stature with long narrow faces and rather delicately formed features. Their pigmentation is more difficult to determine. But since modern statistics show that dolicocephaly in Scotland is co-extensive with dark hair and eyes, Neolithic man was probably of the same type. It is reasonable to associate these dolicocephals with the Mediterranean stock. Moreover if our long chambered cairns are to find their immediate prototype somewhere in South Western Europe then it is a pertinent fact that dolicocephaly is characteristic of the megalith builders of the Iberian peninsula. Recently however, the theory of an immigrant dolicocephalic people entering Scotland from Spain, bringing the idea of the chambered tomb and forming the basis of our Neolithic population has been challenged by Professor Fleure. While not denying the possibility of such an immigration he would lessen its magnitude and uphold the view that the basis of the Neolithic population in Britain has been simply evolved in situ from an indigenous long-headed palaeolithic stock. Such a theory is plausible since the archeological evidence all goes to show that our chambered cairn builders were an aristocratic minority ruling over a collection of poverty stricken natives.

7. Existing trade and migration routes.

In prehistoric times external influences reached Scotland from three directions; from South Western and Western Europe, from North Eastern Europe and Scandinavia, and from England. Of these the first two routes are entirely dependent on maritime activities. During the Neolithic era in Scotland links with the west and the south west are strongest though intercourse with the Baltic countries is well attested. Curiously enough contact with neighbouring England is weakest although in that direction lay the line of least resistance.

Recent research has established the fact that our Neolithic chambered cairns are not indigenous products. They represent the
ultimate degeneration of a type of sepulchre which originated in Mesopotamia or Portugal, according as the Orientalist or Occidentalist point of view is adopted. Yet wherever the *fons et origo* of the chambered tomb idea may be ultimately located, there is no doubt that the Iberian peninsula formed the immediate centre whence the Scottish forms were derived.

The Arran type of chambered cairn can be related to the segmented cist of Puig Rodo in Catalonia, while there has been a suggestion that the curious long covering mound, horned at its entrance extremity, may have significant parallels with certain prehistoric sepulchres in Sardinia. The ceramic from the Arran chambered cairns, and more especially the pottery from the degenerate segmented cist of Seachnarrach in Kintyre, has marked affinities with the pottery from certain Breton megalithic graves. Brittany in turn bartered *callais* with the Southern French and Pyrenaeic region. A line of communication is thus established between the two extremities of structural parallelism.

The Caithness type of chambered cairn, on the other hand, is derived from certain Almerian forms. The external horns in front of the passage entry, the tripartite chamber divided by slabs set at right angles to the wall, the presence of a subsidiary cell and the technique of roof corbelling, are all reproduced in the northeastern corner of Scotland. One problem, however, remains. Whence did the Caithness cairn builders obtain the idea of the long covering mound? Such a feature is not characteristic of their Almerian prototype. Presuming that the Caithness type must also have travelled from the southwest by way of the sea, there seems no cogent reason why its builders should have avoided the entire west coast of Scotland from the Solway to Cape Wrath were they attempted settlement. Yet if the Arran variety was already in possession of the southwest Scottish region and was already expanding northward and eastward, the neglect of that area by the bearers of the Caithness type is immediately understood. Furthermore, may they not have borrowed from their Arran forerunners the idea of the long cairn in preference to the round?
The Orkney type of chambered cairn is radically different from either of the foregoing examples. Its chamber is an elongated oval from which branch off numerous secondary cells, while the entrance passage cuts the chamber at right angles to its main axis. Analogies with the Orcadian group have been cited from the rock-cut tombs in the necropolis of Anghelu Ruju on the island of Sardinia where the same essentials of ground plan are to be found. But the tombs of Anghelu Ruju were filled with bell beaker ceramic, West European daggers of copper, and stone bracers. The culture displayed indicates an eastward extension of the full chalcolithic period in Spain. If then Anghelu Ruju is to provide the prototype of the Orkney Chambered Cairns there must have been a reflex action westward through the Mediterranean at a period slightly later than the movement which brought the Almerian type of chambered cairn to Caithness. Meanwhile in Scandinavia the fully developed passage grave presents several striking parallels to the Orkney group. The significance of this parallelism cannot be entered into here but it opens up the possibility of contact between the north of Scotland and Scandinavia at a period when the foreign relationships of our country seemed concentrated in South Western Europe.

The Windmill Hill (Type A) class of Neolithic pottery has continental affinities which lie immediately across the Channel and it seems possible that Scotland adopted this ceramic through the medium of England. The curvilinear ornament of the pottery from Beacharra however has Armorican parallels which may connote direct contact along the western seaboard. Class B. ware must be related to the pre-Dolmen "dwelling place" ceramic of the East Baltic recently published by Rosenberg. Exactly how it penetrated Scotland is uncertain though there is no reason why the sherds from Hedderwick should not be the result of an immediate connection. The fragments from Glenluce are more difficult to explain and their interpretation must await further discoveries in the North West of England.

The leaf-shaped arrowhead is foreign to both the Breton and the Baltic regions but is at home in North Eastern France. It was
probably diffused through England and Scotland by the makers of Class A pottery.

On the eve of the introduction of metal therefore the external relations of Scotland may be said to lie primarily with South Western Europe though secondary attachments existed with both Scandinavia and England.

8. Absolute Chronology.

The absolute chronology for the Latest Stone and Earliest Metal periods in Scotland must depend ultimately upon the absolute chronology of the several periods in the Iberian peninsula. Here the problem is simplified by the presence of datable objects imported from the East Mediterranean. A segmented stone bead of Early Minoan II type was found in a rock-out tomb at Palmella in Portugal belonging to the chalcolithic period; while segmented blue paste beads of Middle Minoan III type occurred in a grave from a necropolis of the Early Bronze Age at Fuente Alamo in Almeria. The first gives an upper dating of 2800-2400 B.C. according to the chronology of Meyer and Evans while the latter places a lower limit of 1700 B.C. for the duration of the megalithic period in Iberia. Likewise the Scandinavian passage graves can be correlated with the Danubian culture sequence whose absolute dating is dependent upon Troy. Collared flasks of the Scandinavian dolmen period at Jordansmühl make it evident that the earliest megalithic building in the North is equivalent to the period of Danubian II or 2500-2200 B.C. Similarly socketed ladles of Danubian II type in the earliest passage graves and bone imitations of Aunjetitz pins in the later examples show that the Scandinavian passage graves were in use from the end of Danubian II to the beginning of Danubian IV, i.e., 2200-1800 B.C. But types from the earlier furniture of the Danish passage graves occur in Britain with an Early Bronze Age context. Correlating the Iberian and Scandinavian evidence an approximate dating of 2500-2200 B.C. is therefore arrived at for the duration of the Later Stone Age in Scotland.
III

THE DISTRIBUTION OF BEAKER TYPES
AND ORNAMENT IN SCOTLAND.


A survey of the Beaker ceramic of Great Britain leaves no
doubt that two main categories can be distinguished. They were
designated by Thurnam and Abercromby as Type A and Type B. The
first is characterised by a low globular body separated from the
high upstanding neck by a marked constriction. The lip is not re-
curved and the base is flat. As a general rule 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 globu-
lar 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. The relative degeneration of these two types is
a problem beset with difficulty. Theoretically the following
stages are suggested. In Type A. 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 two changes may have taken place.
The globular portion tends to diminish in diameter 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 naturally 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 take the form of diminish-
ing, and simultaneously raising, the globular portion for the same
technical reason 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 belly 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 C type of beaker could in theory be derived from either A or B. In actual practice however, with the exception of a few anomalous hybrids it is fairly obvious from which source the degenerate examples have been ultimately derived. In this connection a new nomenclature is suggested for the British Beaker ceramic. Abercromby's two initial categories should remain but in place of his numerous 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, No.1. (Abercromby No.225). Likewise A should be retained for beakers having a profile similar to Abercromby's No.57 from Marton Hall, East Riding, Yorkshire. 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.

10. **Inferences to be drawn from the general distribution.**

The accompanying map records the discovery of approximately 280 beaker urns or fragments thereof in Scotland. A general survey
of the distribution emphasises two outstanding facts. They are the markedly coastal and valleyward distribution of the pottery and its astonishing concentration in the fertile plain of Aberdeenshire. It has been argued that the absence of the beaker ceramic from the hinterland and more inaccessible regions may be due to the lack in those areas at the present time of extensive agricultural operations, the usual means of discovery. The magnificent yield of beaker urns from Aberdeenshire would therefore be no criterion of the numerical strength of the Early Bronze Age population of the area but simply due to the intensity of modern cultivation. In like manner the lack of beaker ceramic from the north western mainland would be solely accounted for by the scarcity of the present population and the small scale of their agricultural operations upon the restricted areas of cultivable land.

In short the map tends to give an erroneous conception of the beaker ceramic distribution throughout Scotland. Such an argument is forceful and difficult to combat. It can only be pointed out that despite the intensive cultivation of areas such as the plain of Caithness, the Lothians, and the counties of Ayr and Galloway the yield of beakers from these parts is comparatively low. Moreover the present number of beaker finds recorded, added to the unknown number destroyed by ignorant forbears, can surely be no mean percentage of the total. Despite all that can be said to the contrary Aberdeenshire does present an area of beaker concentration whose significance must be considered in due course. The markedly coastal character of the distribution and its corollary, the valleyward spread into the interior of the country, is noteworthy. Taken as an isolated phenomenon this would seem to indicate penetration from the sea.

Beaker ware has been found as far north as Shetland and as far west as Lewis. Thus whatever the degree of its degeneration or the brevity of its predominance it may be said to have permeated Scotland.

11. Detailed analysis of the map.

In the extreme south east of Scotland there are two notable
groups of beakers, those clustering along the banks of the Blackadder and Whiteadder and the scattered group extending from Egerston to Kelso at the junction of the Teviot and the Tweed. Among the former there are unfortunately two of unknown type, No.133 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 suggests a late date for the beaker snarl 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. The fragments from Grueldykes, near Duns, No.131, 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 No.133 and there are parallels between their ornamental schemes. The remaining urns of this group all belong to the C_A category. The urn from the gate of Manderston House No.127, has an incised ornamentation whose arrangement is very similar to the decorative scheme seen on the fragment from Edington Mill, No.133. No.134 from Harelaw Hill, Chirnside, has certain ornamental motifs which recall the decoration on the urn from Manderston. In particular the zigzag pattern with an abnormally long middle stroke occurs on both examples. Though the evidence cannot be claimed as conclusive this group along the banks of the two main northern tributaries of the Tweed does appear to be homogeneous. Furthermore from the character of its distribution it would seem to owe its origin to penetration inland from the mouth of the Tweed.

The more southerly group comprises four examples. No.264 is represented by five fragments from a cairn on Egerston Moor. The ware is buff coloured and the scheme of ornament is closely paralleled by that on the fragment from Edington Mill, Chirnside. No.263 from Wester Wooden Farm at Eckford, is very similar in form and ornament to No.127 from Manderston. No.261 from Eckford is totally unlike No.263 from the same vicinity. Its open triangles
occasionally filled with broken hatching and its combination of plain incision with comb technique render it outstanding. The two groups just defined have undoubtedly certain features in common but do these indicate direct contact between the two areas or simply a common source? While the Egerston-Kelso group seems to have penetrated directly across the Border by way of Carter Bar the Blackadder group would seem to owe their 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 Herse. On the other hand travellers by the estuary of the Tweed might easily be tempted to explore the first tributary on the northern bank. It seems more feasible that the two groups have a common source in North Eastern England.

The Manderston urn might have been fashioned by the same potter who made the example from Amble in Northumberland (Abercromby No.161A). The beaker from Eckford though not completely paralleled by any English examples finds possible prototypes among the numerous Yorkshire examples with hatched and open triangles. Meanwhile the origin of the parallelism between examples from Edington Mill, Chirnside, Grueldykes, and Egerston is to be found in an ornamental scheme prevalent amongst Northumberland beakers and more particularly one from Norham (Abercromby No.183). Though a double line of approach has been suggested for south eastern Scotland other explanations of the distribution as known at present are equally feasible. Penetration by land along the coastal margin is reasonable as the idea of beaker folk sailing up the estuary of the Tweed. But if every possible avenue of approach were explored the result would be a confused and erroneous conception since the distribution is not certainly complete.

It appears safer to indicate the most rational explanation of the grouping of examples in any given area, to point out the fallacies
ABERCROMBY No: 160.
of routes which run counter to reason or geographical features and to leave other possible avenues 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 beneath a cairn. The ornamentation on the \( C_B \) example, No:189, is paralleled for five bands by that on a beaker of the same type from Woodhorn, Northumberland. (Abercromby No:180)\(^7\).

Even the profiles of the two pots are remarkably similar. Such conformity seems to indicate direct contact. If so, then the suggestion that one line of penetration into south eastern Scotland was by way of the sea is strongly supported.

As long ago as 1915 Sir Arthur Keith, in criticising Abercromby's theory of a single landing of Beaker folk in Britain stated: - "The south east 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". The concentration of beaker ceramic around the shores of the Firth of Forth fully justifies Sir Arthur's prediction. Three domestic stations are known within ten miles of each other; No:193 at Hedderwick, on the estuary of the Tyne near Dunbar; No:187 at North Berwick and No:181 at Gullane, both the latter being situated on the projecting headland of East Lothian. The problem of direct contact between this area and the continent is one of great interest. From Gullane and North Berwick sherds of pure B. type have been recovered. As far as can be ascertained no such ceramic has as yet been found in north eastern England. Even further south only debased types appear 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 Lothian B. ware strengthens the theory that it is evidence of a new penetration direct from the continent. It is more difficult to indicate the origin of the \( C_A \) sherds from the East Lothian domestic stations. If they too were deposited by continental invaders what were the relations of the latter with the...
makers of the beautiful B. pottery and furthermore did they achieve any amalgamation with the south eastern lines of penetration? At Gullane it is possible that the B. and the C_A sherds were segregated; but as the segregation takes the form of two kitchen middens in the same ravine and only fifty yards apart the respective potters must have been on at least friendly terms. On the other hand there are no continental analogies for the majority of the ornamental schemes on the East Lothian C_A sherds while the nearest parallel to the horizontally filled triangles on domestic fragments from Gullane and the beaker from West Links North Berwick, No:153, is found on the urn from Harelaw Chirnside. Furthermore the metopic decoration on the West Links urn might conceivably be related to the curious vertical columns on the Edrom beaker without invoking any continental analogy. Yet urns such as No:191 from North Berwick, No:150 from East Barns, No:189 from Boglehill Wood Longniddry, or Nos:151 and 152 from Windy Mains Humble certainly appear to be rather the final productions of a movement whose force is spent; while the fragments from Broxmouth Waird near Dunbar, No:188 exhibit a form of ornament which has already been noted on the Manderston and Western Wooden urns. On the other hand No:239 from Caikmuir-Hill Borthwick with its horizontally shaded triangles has something in common with the East Lothian group. The same is true of No:237 from Juniper Green which exhibits the same form of ornamentation while the two beakers of pure B. type from a sandpit near Bathgate (Nos.:272,273) must be related to those from Gullane and North Berwick. It is scarcely necessary to add that the last four examples were obviously deposited by immigrants who had entered the valleys of the Almond, the Water of Leith and the Esk from the shores of the Firth of Forth. There could be no question of crossing the watershed of the Lammermuirs.

The interrelation of the several beaker groups in south eastern Scotland must therefore for the present remain uncertain. The two lines of penetration in Berwickshire, one by land over Carter Bar, the other almost certainly by sea, must be a starting point. But the extent of this penetration northwards is indefinite. In East Lothian
the B. ceramic undoubtedly represents a new foreign element but whether the $C_A$ group there is related to Berwickshire, whether the Berwickshire strain was there reinforced by arrivals from abroad or whether the $C_A$ group on the shores of the Firth of Forth represent, like the B. ceramic, a new penetration must remain an open question. Opinion however is influenced by the marked difference between Nos: 237, 239 and Nos:150, 151, 152, 189, 191.

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 considerations having so far rendered unlikely any intercommunication between the two coasts. Before proceeding further north however the south west 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 domestic site, No.298, on Glenluce Sands at the head of Luce Bay, only three beakers are known from the area under consideration. From the very inadequate description it is unfortunately impossible to identify either the type or the character of the ornament on No.277, near the ruins of Carsoreagh Castle. No.231 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 of interest to note, however, that a beaker in many respects similar was found at Noel Hebog, Snowdonia, Carnarvon. The lozenge ornament on No.149, from Auchencairn, Closeburn, in the valley of the Nith, is difficult to parallel elsewhere. The nearest analogy is Abercoromby's example No.152, from Folkton, in the East Riding of Yorkshire. But the resemblance in ornament is misleading, since the profile of the respective vessels is totally different, while the size and disposition of the lozenge pattern is quite dissimilar. From Stoneykirk, near the settlement site at Glenluce, the lip of a beaker, No.276, was found protruding from a patch of sandy gravel. On removal, the pot was found to contain 188 perforated disc-shaped lignite beads.
The urn itself fell to pieces, but from the account it would appear to have been ornamented by a lozenge pattern similar to that on the urn from Auchencairn. Finally, from Glenluce Sands fragments of pure B. ware, No:285, have been recovered. Like the similar fragments from East Lothian, they are string marked, while the clay is bright red, well fired and thin.

But none of the ornamentation on the beakers found so far in this area gives any reliable clue to the origin of the South West Scottish group. There are however three avenues of approach: directly by land or sea from the south west: from the east up the tortuous windings of the Tweed and across the watersheds of the Central Scottish lowlands: or, lastly, from the north. Inexpediency rules out the second possibility, apart from the fact of few beaker finds from the middle reaches of the Tweed. Even in historic times the east to west route has always been inconvenient, and prehistoric man must have appreciated the line of least resistance where migratory movement was in question. The route from the south west is substantiated by two facts: The similarity between the Woodfield and the Noel Hobeg urns, and the disposition of the south west 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 south western line of approach will receive further consideration when the more northerly parts of the West Scottish coast come up for discussion. The route from the north is an interesting possibility. The present distribution of beakers however, shows that if there were such a line of penetration it lay across the pass from Clydesdale into Annandale and not by way of Ayrshire which is effectively cut off from the south west by the mountain barrier of north western Galloway. Beakers Nos:246d and 247 mark the site of a cairn near Drummelzier on the Tweed. No.247 was an indistinguishable fragment but No:246d was a well made urn of a
degenerate B. form. The ware is reddish brown and fine in texture while the ornamentation consists 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 is to be found amongst the B. ware from East Lothian. Geographically penetration from such a quarter would be quite feasible. Other examples of possible contact with the Firth of Forth are afforded by the ornamentation on No:246 from a cist at Oliver, Tweedsmuir, and on No:235 from Crawford just within the boundaries of Lanarkshire. The lined triangles on the first are difficult to account for unless they have affinities with those on No:239 from Gaikmuir Hill near Borthwick. On the other hand the horizontally filled triangles bordered by a line of cross hatching on the Crawford urn are exactly paralleled by the ornament on the upper part of the beaker fragment from West Links, North Berwick, No:153. An intermediate link between these two vicinities is probably afforded by the beaker from Juniper Green, Midlothian, which possessed not only horizontally filled triangles but also a profile very similar to that of the Crawford urn. In any case the group of beakers around the headwaters of the Tweed have no connection with either the Egerston-Kelso or Blackadder groups. But have they any real connection with the south west Scottish series? The only analogies are those of the lozenge pattern, (which appeared on the Stoneykirk urn and which was also present on the beaker from Oliver, Tweedsmuir) and the C_b beaker from Drummelzier which may have had connections with the B. ware from Glenluce. But the distance between the points of contact is so great, and the nature of the intervening country so difficult, that until the parallelisms are corroborated by subsequent intermediate discoveries they must be meanwhile abandoned. 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 south west is negated by the parallelisms just quoted from the Lothians.
GLEN YR AFON LLANYBLODWELL
Along the western coasts of Scotland from Ayrshire to the island of Lewis the 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 north west of Ayrshire practically opposite to the island of Bute come two beakers of great interest. At the Court Hill Dairy, there was found an urn of $U_B$ variety, No:97, ornamented by an anomalous series of oblique, vertical and horizontal strokes. Its derivation from a pure B. prototype is only too evident. About twenty miles further north along the coast on the estate of Haylee near Largs, a beaker No:109, probably of pure B. type was recovered from a stone oist. The closest parallel to its rather unique ornament is to be found on a beaker of $U_B$ form from near Glen yr afon House, Lanyblodwell, Denbighshire, North Wales. The resemblance strengthens the theory, already suggested by the finds in Galloway, of a beaker penetration into Scotland from the south west.

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 bearing a strong resemblance to the sherds of Type B. Peterborough ware from Glenluce and Hedderwick, the third, No:148, was like beaker ceramic. Dr Gallander however assigns it to the Overlap period on account of the rather different quality of the clay and the straighter line of the wall. Though the Old Kilpatrick sherd 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 Clyde. From Mossplat near Carluke, there comes a beaker No:232, whose profile would have placed it within the A. category were
it not so badly 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 and the conclusion is necessary that here is a new and spontaneous motif. The two beakers from the same cist on Lanark moor are very dissimilar. No:233 belongs undoubtedly to the U_B category while the sharp constriction on No:234 places it as certainly among the U_A series. The ornamentation on the first is not significant but the profusion of motifs on the second must surely indicate the source of its inspiration. The potter who made this vessel had the memory of two ornamental schemes in her head. One was a series of horizontal bands encircling the pot and forming zones; the other was to divide a zone into a number of metopes by vertical lines at intervals. The zonal ornament used was, curiously enough, the same type of cross hatching as occurs on the Mossplat beaker. But when it comes to decorating the metopes it is obvious she had not even the most rudimentary idea of metopic ornament for she filled the divisions with motifs suited only to a zonal scheme: herring-bone, cross hatching, chevrons and oblique strokes. The result is an interesting study in psychology but not an artistic production. The metope is not characteristic of the beaker decoration of Northern England; in fact its occurrence in Britain at all is extremely rare. Though nothing should be deduced therefrom it may be significant that a debased form of it occurs on the beaker from Haylee. The fragment of a beaker No:236 from Wester Yird Houses near Carmath, is interesting because its ornament copies some of the more simple motifs displayed on No:234. This group of beakers in the upper reaches of the Clyde is thus very compact. They do not seem to be related to the group around the source of the Tweed which lies just across the watershed, nor can they be said to have affinities with the group along the southern boundary of the Firth of Forth. It does seem as though the folk who made the 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 Ayrshire, No:98 - 107. 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 also Overlap pottery. Unfortunately the true beaker ware is represented only by fragments among which there occurred string marked pieces of fine reddish ware which is very similar to pure B. pottery. The Overlap ceramic exhibits Peterborough influence 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 from the excavator's account of the prehistoric sites given to the Proceedings of the Society of Antiquaries of Scotland during the session 1926-27. "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:139 - 142, Dunan Beg, No:155, and Giants Graves, Nos:136-138, at Whiting Bay on the east coast of Arran, there were recovered fragments of fine red ware which, while analagous 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 made 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 ware with the exception of appearing to belong to urns rather smaller than a normal example. But the discovery from Drumelzier has shown
how very small a beaker can become. There seems no reason, therefore, to cavil at assigning these sherds 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 objections to utilising the older sepulchres.

The beaker, No. 88 from a cist in a large 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.

Three important domestic sites, Nos. 89 and 91 on the western shores of Coll and Tiree, and No. 94 at Sanna Bay on Ardnamurchan Point, have yielded beaker fragments. Those from Coll and Tiree are in Mr Ludovic Mann's collection at the Kelvingrove Museum, Glasgow. They are principally of a brilliant red ceramic decorated with string markings, incised cross-hatchings and pits made with 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 Peterborough Ware from Glenluce and Hedderwick. It is not a form of ornament in the beaker tradition, and has probably been borrowed from the older Neolithic wares. On the shore of Sanna Bay there is a kitchen midden deposit which yielded fragments of string marked beakers ornamented by a continuous spiral from lip to base. Here is yet another example of B ware in a domestic context.

Stretching from Corran Ferry down Loch Linnhe to Salen Bay on the northeastern shore of Mull is a group of four beakers which must now be considered. From Callachally, Glenforsa, Mull, two beakers were found in association with one another. The first, No. 85, is a badly made example of U_B type, ornamented, however, by two important motifs. One consists of horizontal, cross-hatched vertical bands set at intervals from lip to base; the other takes the form of triangles filled in with a chevron design. Two rows of triangles set apex to apex encircle the pot at its widest diameter. The second urn, No. 83, is only known from a fragment. It is said to have been of "similar
ST FAGANS NEWHOLME FARM.

CWM GAR FARM DOLYGAER.

MERThYR MAWR PORTHCawl.
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.85 can be paralleled by other examples of the same on the west coast of Scotland, notably No.88 from Balnabraid, and on the urn from Mossplat, Carlisle, Lanark. The chevron hatched triangles on No.85 and those filled by parallel lines on No.88 are, however, a new feature among the west coast series. Their due significance will become apparent later, but at the moment it is sufficient to call attention to the fact that the filled triangle can be clearly derived from the following group of Welsh beakers:-(1) Newholme Farm, near St Fagan's Castle, Glamorgan: (2) at Cwm Gar Farm, near Dolygaer Station, north of Merthyr Tydfil, Glamorgan: (3) From Merthyr Mawr, Warren, near Porthcawl, Glamorgan: from the same cairn as No.5. No.87 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.205, 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 West Scottish C_A group. In any case, the breadth of the cross-hatched area in the Corran Ferry beaker shows that the potter had no realisation of the artistic value of such an ornament.

A most remarkable group of beaker urns are confined within a small area immediately round Poltalloch, which lies 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, and one to the C_B group. Of the former, Nos.78 and 79 are well made pots of quite dissimilar ornament. No.78 has two bands of double outlined triangles horizontally shaded, while No.79 is characterised
by a band of horizontal zig-zags formed by longer or shorter vertical strokes. The motif on No.78 has already occurred in East Lothian, and is known to have penetrated even as far south as Crawford in Lanarkshire. Parallels have been suggested from northeastern England, and more particularly Abercromby's No.180 from Cursed Field, Anoroft, Northumberland. But the Poltalloch beaker had double outlined triangles, a feature which is unlikely to have arisen in a spontaneous manner. Among English beakers there occur several parallels. Abercromby No.21 from Roundway, Wiltshire, has no significance on account of its $\Omega$ profile and completely different disposition of ornament. Abercromby No.49 from Smerrill Moor, Derby, has more in common with the Poltalloch beaker and on account of its westerly provenance it may be retained for reference. Abercromby No.56, from Stanshope, Stafford, again lying near the Welsh border, has importance, since below the double lined triangles there occurs the vertical ornament seen on the second Poltalloch beaker, No.79. Finally, Abercromby No.158, from Rothbury, affords the seemingly closest parallel of all, though the Scottish example is infinitely better made. But what of the South Wales series already quoted in connection with the Glenforsa beakers? In Glamorgan lies the origin of the double lined triangle. At the outset, the potter achieves a plain chevron band by two rows of hatched triangles whose apices do not coincide. But unless the reason for the curious disposition of these triangles is realised, the idea of the open chevron is immediately lost, and the plain band degenerates into an edging for the filled triangles. The first step in the process is seen in the beaker from Newholm Farm, near St Fagan's Castle. In the Poltalloch pot, the triangles have so dominated the ornamental scheme that the upper row has been left vacant so as to emphasise the horizontal lining of the lower row. As has already been pointed out, the ramifications of ornamental parallelisms should not be treated as being final or exhaustive, for at any moment a new discovery might lend increased weight to another line of argument. Geographical considerations however rule out the possibility of any cross country route from Northumberland to Poltalloch. On the other hand, the
provenance of the West Scottish group seems to indicate maritime enterprise, while urns like those from Woodfield and Haylee show that intercourse with Wales did take place. There is no reason why the triangle ornament, whether with single or double outline, should not have come from the same locality. In support of this southwest route there may be mentioned a beautiful example of a \( \text{U}_\text{A} \) beaker from a cist at Baroose Farm, Lorn, in Isle of Man. The under part of this urn is decorated by pendant triangles, not double outlined, but horizontally filled. Furthermore, like No. 78 from Poltalloch, the margin of the triangular spaces is not a continuous line but a series of short dashes. The possibility of influence from East Lothian should not, however, be overlooked. The \( \text{U}_\text{B} \) beaker, No. 32, from Poltalloch exhibits a sequence of decoration which can be paralleled by No. 150 from East Barns, East Lothian. Vertical strokes between zigzag borders as seen on the second \( \text{U}_\text{A} \) beaker from Poltalloch is a type of ornament which can be traced from Stafford and the East Riding of Yorkshire as far north as Fyrish, Evanton, Rossshire.

Recently, four discoveries of beaker urns have been made on the southwestern coast of Skye. In 1939, Mr Lindsay Scott recovered fragments of two beakers, Nos. 206, 207, from a chambered cairn at Kraiknish on Loch Eynort. Both beakers belong to the \( \text{U}_\text{A} \) 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 found amongst the Wiltshire beaker group. The ornament also occurs on the beakers from Derby and Stafford, as well as on examples from Norfolk and Suffolk. But in the latter areas as well as further north in Yorkshire where the ornament recurs, 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. In the one instance, the open chevron was an original motif; in the other it was a
secondary development by means of a degeneration process. It is a far cry from Skye to Wiltshire, but there is no ambiguity about the reality of the parallelism, and finds from intermediate localities may be confidently expected.

In 1927, Dr. Callander examined a short cist which occurred as a secondary burial within a long cairn situated on the western shore of Loch Slapin near Kilmarie Lodge. In the cist there was found a C_A beaker, No. 216. Its ornamentation is of extraordinary interest. Above the constriction is 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 recurs near the base of the pot. Around the greatest diameter there is a row of open lozenges edged with two, sometimes three, lines. Like the chevrons, they were surrounded by horizontal incisions. The lozenge pattern is related to the similar device on the Kraiknish beaker, and finds a distant echo in the small lozenges on the Auchencairn urn. But the surrounding filling of horizontal lines is reminiscent of the beaker decoration in Glamorgan. The example from Merthyr Mawr Warren, near Porthcawl, is especially noteworthy.

In the autumn of 1931, Mr. Lindsay Scott excavated another Neolithic chambered cairn at Rudh an Durnain on the shores of Loch Brittle. From the chamber he recovered the fragments of a beaker, No. 217, which upon restoration was found to belong to the C_A variety. Its ornamentation is curious. The following description is from Mr. Scott's own account: "The waist and foot are plain; two similar bands of decoration cover the neck and the 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 from the Haylee and Lanarkmoor urns are totally different. Mr Scott suggests that the urn, No. 259, from Ross-shire affords the closest analogy so far as mere decorative motif 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 the 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 forty and fifty miles distant, and even then the Sanna Bay ware is of type B, while the Corran Ferry example is of the degenerate \( C_B \) variety. Neither have the remotest connection with Rudh an Dunain. But what of the Ross-shire beaker? Though he does not state it as a fact, it is obvious Mr Scott is toying with the possibility of deriving his beaker ornamentation from the northeast of Scotland. But surely if there is any connection it is directed the other way. 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. Though the exact locality of the Ross-shire beaker is not known, there are east coast parallels to its metopic ornament which are sufficiently similar without invoking western analogies. The ornamentation on the Rudh an Dunain urn is therefore for the moment unique.

From the Neolithic chambered cairns of Langass Barp, No. 208, and Geirisolett in North Uist, Nos. 209, 210, there were recovered sherds of fine greyish ware which, on account of its texture and ornament strongly resembling beaker ceramic, has been designated Overlap pottery. Instances of pseudo-beaker ceramic in Neolithic sepulchres of the west coast of Scotland are so frequent as to be unworthy of comment.

No. 258 from the Parish of Lochs in Lewis is a beaker of unknown type and ornament from a short cist.
The pure B sherds from East Lothian and the complete urns from Bathgate are witness to a new beaker element entering Scotland via the estuary of the Firth of Forth. Evidence of the same movement is found near St Andrews, where a beaker, No. 195, of pure B type was recovered from a cist. On the settlement site at Tents Muir, sherds of B ware have been picked up, and near the head of the Barn valley the fragment of another B beaker was found. 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. 274 from Tartraven has undoubtedly been influenced in this way, and it is interesting that the two Bathgate beakers lie less than ten miles apart. No. 251 from Pendreich, near Bridge of Allan, has a debased B profile, and though the lower portion of the vessel exhibits a curious metopic decoration, the neck, with its horizontal rows of incised lines, has been decorated by a potter who had at least seen a pure B beaker. A similar phenomenon is observed in the ornamentation of No. 250 from Bailielands, near Auchterarder. In this case, however, the similarity in profile is even more marked. No. 252 from Kincardine Castle in the same vicinity as No. 250, is only known from a poor illustration. Its profile, and the horizontal lines encircling the neck, are evidence, however, of the influence of a B tradition. No. 203 from Drumshelt also belongs to this class, though the encircling lines have been executed by a cogwheel. The remaining beakers from this area, although they all belong to the \( C_\lambda \) 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 sea-faring folk exploring inland from the coast. Yet none of the four examples bear the slightest resemblance to each other. No. 194 from Dairsie has been decorated by a potter thoroughly conversant with the artistic value of the metope. Furthermore, the ornament has been enhanced by a deliberate white filling. Both these facts place the origin of the Dairsie beaker in Central Europe, since neither the ornamental style nor the technique can be paralleled, so far as is known at present, from the English or Scottish east coast series. From a
large cairn at Collessie Nos. 201, 202 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. The respective decorations are in no way significant. At another part of the cairn a second pit was found which contained, among other objects, a bronze rivetted knife dagger. Such a relic properly belongs to the Scottish food-vessel complex and its presence at Collessie must indicate one of two things. If the cairn represents a single burial ceremony, then the knife dagger makes the urns relatively late in the Scottish beaker period. But on the other hand the cist may have been the primary interment and the pit intrusive and later. As the cairn was excavated many years ago there is no certain method of judging whether indeed there had been a secondary use of the monument. There can therefore be no conclusion; yet the divergent tradition of the two beakers renders it probable that they were not deposited at the same time.

It is perhaps relevant that a similar pit was found beneath a cairn at Hagg Wood, Foulden, Berwickshire, which covered two central cists each of which contained a food-vessel.

It has been shown how marked was the influence of the B. tradition on the beaker ceramic of the area under consideration. But this influence must have been exerted upon a pre-existent beaker population, since every tendency to diverge from a pure B. form invariably entails the introduction of elements peculiar to the C_A tradition. But whence were derived the C_A beakers found between the Forth and the Tay? No.230 from Tillyocheie, Kinross, might have been made by the same potter as fashioned the beaker from Mossplat in Lanarkshire, so identical are the respective ornamental schemes. And yet the profile of the vessels is so different that the contact can only have been indirect. No.288 from near Stirling cannot be related to any example further south although its filled triangles may be connected with similar ornament on the East Lothian beakers. The remaining C_A beaker from Fife, No.204 from Kinghorn, is an anomalous pot rudely ornamented by a triple incised chevron design. It has no immediate parallel. From the available evidence therefore it is impossible to
indicate the source of this $U_A$ group. Geographical considerations however strengthen the possibility of a penetration from Lanarkshire rather than from across the Firth of Forth.

The B. sherd from Balmuick, near Comrie, is proof that the Tay valley was included in the penetration of south eastern Scotland by the makers of the B. ceramic. From another tumulus at Balmuick there was recovered a handled beaker, No.253, ornamented from lip to base by horizontally incised lines. In both profile and ornament, exclusive of the handle, the pot is a poor imitation of a B. beaker. 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 two urns, Nos.248, 249, from Tippermallo, near Methven, both exhibit a curious metopic arrangement of motifs suited primarily to a zonal scheme. The same is true to a lesser extent of No.69 from Kirkbuddo in Angus, although in this case the potter has attempted to give the vessel the profile of a pure B. beaker.

The beakers in the area between the Firth of Tay and the mouth of the Dee are widely scattered, and with the exception of one example in the extreme south west of the area, No.77 from Fletcherfield, and four examples in the extreme north east of the area, Nos.225, 229, 224, and 227, from Kineff, Dunottar, and Pityot, all the known beakers belonged to the $U_A$ category. The five 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 $U_A$ potter who was attempting to copy the graceful profile of a rival ceramic. In part she has succeeded, though the great height of the vessel is not in keeping with the recurved lip and gently swelling bulge. The ornament is not significant. No.225 from Kineff is a well made urn which in both profile and ornament exhibits traces of B. influence. The rows of alternating dashes recur on the $U_A$ beaker, No.73. from Kingswells, Fallows, Monikie. The second urn from Kineff is more difficult to analyse. Traces of B. influence are slight and the bands of vertical
strokes are in the best $\mathcal{G}_A$ tradition. The beaker from Resting Hill, Dunottar, 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 $S$ beaker. Here in actual fact is what has already been expounded only in theory. The lip is short and no longer strongly 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 recall the continuous string markings seen on pure examples of the type.

There remain ten examples of $\mathcal{G}_A$ type. The profile of the beaker, No.72 from Wellgrove, Lochee, shows practically no symptoms of degeneration and the bands of vertical strokes are reminiscent of the bands of vertical strokes on No.228 from Kineff. No.74 from Linlathen is a most degenerate example of a beaker, a fact which is in keeping with its associated bronze rivetted knife-dagger. No.75, from Kingswells, Monikie, has a profile like No.228 from Kineff but combines in its ornamental scheme the rows of alternating dashes which have already been noted on the second urn, No.225, from Kineff. No.69 from Kirkbuddo has already been discussed. Its hybrid character renders it of no significance in any analysis of the local beaker distribution. No.75 from Idvies shows certain non-beaker characteristics. 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 exterior surface. This urn has either been made by a neolithic potter under the influence of the Beaker tradition, or else it has been made by beaker folk imitating the later Scottish foodvessel ceramic. Since the urn was associated with burnt human remains, amongst which were found traces of bronze, the latter has the greater probability. No.76 from Collieston Mill, Arbroath, lacks significance in both profile and ornament. The same is true of No.70 from Noranside, Fern, whose ornamental motifs could be paralleled on several other beakers from
the modern counties of Angus and Kincardine. No. 71 from Priest-town near Edzell, includes in its decorative scheme a band of alternating dashes. This motif has already been noted on several beakers further south and will frequently recur among the beaker ceramic of Aberdeenshire. There are no significant remarks to be made about No. 223 from Kernoon Farm, near Duncottar.

From the geographical standpoint a study of the beaker distribution in the areas covered by the modern counties of Angus and Kincardine leads to several important deductions. The first is the neglect of the coastal margin with the exception of the area around Kineff and Catterline. Another curious feature is the apparent avoidance of navigable river estuaries such as those of the North and South Esk. In short the character of the distribution is more in keeping with a slow permeation of the country from the south by land rather than with penetration from the sea. Unfortunately as far as ornament is concerned there are no striking parallels to be found in either Fife or Southern Perthshire. But 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.

Kincardine is the starting point for the colonisation of the valleys of the Dee and the Don. The beaker distribution in Aberdeenshire however is so concentrated that a detailed study of the individual urns would only lead to a confused conception of the phenomenon. Accordingly the problem will be treated primarily from a geographical aspect, but associations indicated by outstanding ornamental motifs will be treated as exhaustively as is 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 Deveron. A commentary upon this valleyward spread is the marked lack of beaker finds from the moors of the intervening watersheds. The recorded number of beakers in Aberdeens-
shire is five times the number found in Angus and Kincardine; therefore it seems illogical to derive the numerically large beaker population in the one area from the manifestly sparse occupation of the other. Aberdeenshire therefore represents a second centre of beaker invasion on the east coast of Scotland. However, a study of certain of the Aberdeenshire ornamental motifs shows that colonisation did take place from the northern boundary of Kincardine. When discussing the beaker ornament of Angus and Kincardine attention was drawn to rows of alternating dashes. This same motif enjoys a widespread vogue in Aberdeenshire and since it cannot be traced to either an English or a continental source it must be regarded as a spontaneous motif originating in the area between the Tay and the Dee. It is true that something very similar occurs on a beaker from East Barns, East Lothian, and also on a $C_B$ urn from Poltalloch, while it is known on two examples from north eastern England. (Abercromby, Nos. 134 and 174). But these outliers do not militate against the interpretation of the ornament in Aberdeenshire. In all it is known to occur on eight beakers which lie principally along the valleys of the Don and the Shavock. It is curious that the triangle motif is found along a practically identical route. Another proof of associations with the more southerly parts of Scotland is to be found in the occurrence of alternating bands of cross hatched and vertical lines. In Aberdeenshire this ornament occurs on three beakers of $C_A$ type. No. 23 from Clashfarquhar, Banchory, lies far up the valley of the Dee. No 19 from Parkhill is close to the mouth of the Don, while No. 13 from Whitestone, Skene, is situated on the intervening watershed. South of Aberdeenshire the same ornament is found on the urn from Tillyochie in Kinross, and on the beaker from Mossplat in Lanarkshire. In discussing the latter example it was pointed out that the motif probably originated in southern Scotland since no more southerly parallels to it were known. The fact that the Clashfarquhar example was associated with a fully developed form of foodvessel gives a relative time scale for the northward penetration of the motif.
Incidentally it also offers a late date within the Beaker period for the three Aberdeenshire examples.

The statement has been made that Aberdeenshire was a focal point of beaker invasion. What evidence is there to authenticate this assertion? An attempt to isolate particular motifs in order to find their counterpart on the continent is doomed to failure. On the other hand a comparative study of the beaker ceramics of Aberdeenshire and the Rhineland 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. These facts are not simply the result of a primary settlement of beaker folk in two different areas; they are the result of intimate and secondary contact between these areas.

It may seem a bold statement that the beaker people crossed some 400 odd miles of open sea from the estuary of the Rhine to the mouths of the Dee and the Don but it is nevertheless a necessary inference. Finally if additional proof were needed for an intrusive element in Aberdeenshire it is afforded by the presence of 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 shape and decoration they belong to the main Aberdeenshire movement and represent the final products of its radiative diffusion. Yet whether Banff, Moray and Nairn were colonised by coastal penetration from Aberdeenshire or whether they were occupied directly by beaker folk from the Rhine is difficult to determine. There is evidence which points in both directions. On No. 110 from Buckie, No. 344 from Elgin and No. 118 from
4.1. Boharm, Achroisk, there occurs a band of alternate dashes. This motif is a native product and its immediate origin lies in Aberdeenshire. In like manner the abnormally elongated triangles seen on No. 124 from Auchmore, Portsoy, and No. 122 from Gardenstown are simply degenerate copies of the triangular motif as found in the valley of the Don. Evidence of direct continental connection, however, is abundant. On several Morayshire beakers there occurs a band of chevrons set close together. This ornament is especially prominent on No. 246 from Cawdor Castle, add on No. 244 from 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. Close set lines of chevron ornament are typical of the decoration on beaker ceramic from the Central Rhineland. On No. 123 from Buckie a band of alternately horizontal and vertical lines, forming a metopic design, encircles the urn close to the base. Rhenish parallels to this arrangement are innumerable, while it is interesting that an exactly similar motif occurs on the beaker from Dairsie in Fife.

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. 257 from Fyrish, Evantown, is decorated by a metopic design on the short upstanding neck. No. 258 from Eddertoun has bands of close set chevrons. No. 270 from Dunrobin has no outstanding decoration, while No. 269 from Cambusmore might have resulted from the careless manufacture of a typical Rhenish form. The fragment of pure B type from Garrywhin is a stray find. The Shetland pieces are too small for profitable discussion, as are also those found in the cumbered cairn at Lower Dounreay.


(A) The Eastern problem: an English or a Continental invasion.

The foregoing detailed analysis of the beaker distribution in Scotland has been undertaken with a view to defining the main lines of invasion. The East coast group has resulted primarily from direct association with the continent. This is especially true of the
area bounded by the Firths of Forth and Moray. Reid and Morant have shown how the short Gist skulls from Northeastern Scotland are really equivalent, not to English beaker skulls, but to those of modern Czechs and Finns. Indeed, the bullet head and the massive features of the Aberdeenshire beaker folk are characteristics of the modern German. The East Scottish group owes comparatively little to the beaker ceramic of Northumberland and Yorkshire. Penetration from this quarter came either via Carter Bar or along the coast, though the former route was probably never used for more than a casual reconnaissance. But the force of the English invasion was dissipated by the time it had reached the shores of the Forth. It would, however, be an error to affirm that every beaker north of the Firth of Forth owes its origin to continental invaders. There was doubtless contact between the east and the west along the line of the Forth and Clyde isthmus; and the Mossplat and Tillyochie urns have a scheme of ornament which recurs in Aberdeenshire. But since there is no certain means of gauging the extent of this internal spread, it is useless to speculate upon its possible significance.

(B) The West Coast problem: relationships with Ireland, Western and Southwestern England.

The beaker distribution on the west coast of Scotland presents a set of problems which are clearly distinguished from those on the East Coast. The line of invasion here has been from the southwest by sea. The Welsh beaker ceramic, the Lonan beaker, the urns from Mount Stuart, County Down, and the Scottish West Coast group, are all part of the same movement. That there was possible contact with the East has already been discussed, but that this connection is in any way responsible for the West Coast beaker distribution is improbable both in fact and in theory.
IV
THE BEAKER INVASION OF BRITAIN
WITH
SPECIAL REFERENCE TO SCOTLAND

13. The origin and movements of the bell-beaker complex.

A detailed study of the continental beaker ceramic is out-with the scope of this paper but a brief review of the beaker movement in Europe is necessary for a complete understanding of the ultimate invasion of Britain. The traditional idea may be summarised as follows:—First, that the immediate source of all British beaker ware is to be found in the Rhineland. Second, that the particular Rhenish pot which forms the prototype of the British beaker is itself a hybrid, being the result of an amalgamation of two distinct ceramic traditions; those of the bell beaker and of the corded ware. Third, that the former originated in Spain and was disseminated through Europe by a brachycephalic and warlike people who had a rudimentary knowledge of metallurgy; the latter being the property of an equally warlike but dolichocephalic race who made stone battle axes and probably originated on the South Russian steppes.

But not all the British beaker ceramic is derived from the Rhineland, and Nordman even suggested that some of the Rhenish beakers may have come from England. That the Rhenish ceramic however is a hybrid is quite certain and there need be no cavil about its parentage. Similarly it cannot be denied that whenever it appears in Europe the bell beaker and its associated objects constitute, as Professor Childe has said: “a closed group in marked contrast to all the other neolithic and early bronze age cultures of Central and Northern Europe”. Outside of the Iberian peninsula the bell beakers are always intrusive. Del Castillo has a plausible development theory whereby the origin of the bell beakers is to be found amongst the cave ceramic in the valley of the Guadalquivir. But there seems to be too great a difference in artistic perception between the rudely
incised ceramic of stations like Boquique and the perfection of a bell beaker such as the well known example from Carmona. Furthermore, in Europe the bell beaker is everywhere associated with a brachycephalic race who are at once distinguishable within any wider group. But there is no anthropological evidence for a concentration of brachycephals in Spain towards the end of the third millenium B.C.; though a skull associated with a bell beaker at Ciempozuelos had a cephalic index of 84.0. Finally, Sir Arthur Keith declared that on grounds of racial characteristics alone the brachycephals of the south Russian steppes were the closest in type to the beaker invaders of Britain. But the corded ware folk were dolicocephalic. There is no real alternative to Castillo's analysis of the European bell beaker movement, the hypothesis of Messrs Peake and Fleure being rather an exhibition of ingenious argument than a scientific interpretation of fact. Accordingly, in essentials, Castillo's theory will be accepted here.

14. Typical form and decoration of the bell beaker.

The ware is always fine and is often slipped, while the profile of the vessel takes the form of a graceful undulation from lip to base. In form therefore the Scottish B. ceramic approximates very closely to the pure bell beaker. Ornamentation is essentially zonal, plain intervening bands being left in order to emphasise the decoration. Technique is that of the roulette or cogwheel. Such is the typical bell beaker. In the Iberian peninsula a profusion of shapes occurs but these do not penetrate beyond the Pyrenees. On the other hand, the metopic decoration seen so frequently on Central European bell beakers is not in the pure bell beaker tradition.

15. The meeting with Corded Ware and the resultant hybrids.

The main feature of Central European Corded ware is a high standing cylindrical neck set on a globular body. The lip is often slightly recurved and the base is flat. Ornamentation is chiefly executed by means of a twisted cord or thong and is confined to the
upper part of the vessel. The range of motifs is restricted and apart from continuous string markings includes herring bone and occasional triangles which are sometimes filled by parallel lines. The divergence from the main features of bell beaker ceramic is very great. Yet from the meeting of these strains there originated the tolerably artistic hybrid found in Britain. In the evolution of the secondary type there may have been various stages. A bell beaker potter attracted by the inherent possibilities of impressed cord technique may have begun by decorating her pot with a continuous spiral from lip to base. The result would have been an urn like No.1 from Aberdeenshire. But the most important change would take place in the profile of the vessel. Instead of the incongruous conjunction of a cylindrical neck and a globular body the beaker potter, who was undoubtedly the superior craftsman, would teach the makers of Corded ware to unite these two features by a constriction and to widen the cylindrical into a funnel neck; this being both more artistic and more easily formed. There thus arose the prototype of the British $C_A$ category. But many bell beakers must have degenerated not necessarily through contact with other ceramic traditions but simply through the inherent processes of decay. Such beakers would belong to the British $C_B$ class.

Thus on the eve of the Beaker invasion of Britain the three main types of British beaker ceramic are already evolved in the Rhine-land and the adjacent coasts of Holland and Denmark.

16. The double invasion.

In a paper contributed to Antiquity, December 1931, J.G.D. Clark has expanded the theory already put forward by Professor Childe that the beaker invasion of Britain partook of a dual character; in effect, that the $A + C_A$ complex is distinct from that of the $B + C_B$. These groups will therefore be treated individually.

From a study of the relics associated with typical beakers it is obvious that the authors of the $A + C_A$ complex were dominated by the Central European Corded Ware and Battle Axe cultures. Abercromby's theory that they effected a single landing somewhere on the
south eastern coast of England is now no longer accepted; indeed when he wrote Abercromby himself partly realised the inherent impro-
babilities of his hypothesis. But as has already been shown the whole of the east coast of Britain from the Thames to the Dee was subjected to a series of incursions. It is invariably taken for granted that this A + \( \mathcal{C}_A \) invasion came to Britain from the Rhineland. It would be gross heterodoxy to suggest otherwise. Yet there are a few, a very few, scraps of evidence which makes the unqualified ac-
ceptance of this theory difficult. These were set forth by Dr Nordman of Helsingfors, during a lecture which he delivered in Edinburgh last winter. They are here briefly reviewed, not for any inherent value which they may possess but in order that every side of the question may be exposed.

Nordman took as his initial argument the apparent contempor-
aneity of typical A + \( \mathcal{C}_A \) beakers and type B Neolithic ware at Peter-
borough. From the work of Rosenberg and Professor Childe it is cer-
tain that the Neolithic type B ceramic at Peterborough is related to the Baltic "dwelling place" pottery. Continental analogies to the British ornament have been quoted from sites in Denmark and Finland. But the Danish examples date back to a pre-dolmen period while the pottery from Finland cannot be later than the very end of the Early Passage Grave period. In both cases the evidence belongs to a pre-beaker date. There is however one A + \( \mathcal{C}_A \) sherd from Peterborough which is ornamented by a double chevron filled with vertical lines. Nordman drew attention to the fact that such a motif was common to the "Grand Style" in the ceramic of both the Danish pass-
age graves and the early bell beakers of Palmella. A possible con-
temporaneity of the Grand Styles in the Iberian peninsula and Denmark would greatly assist the relative chronology of these two areas, but for England the possible contemporaneity is even more significant. Nordman put forward the hypothesis that the chevron ornamented A + \( \mathcal{C}_A \) sherd from Peterborough was perhaps related to a south west invasion from the Iberian peninsula which brought the Grand Style to the fully developed passage graves of Denmark. Such a theory would
coincide with the relatively early character of the Neolithic type B ware from Peterborough; it would explain the sudden appearance of the magnificent ceramic in the Danish passage graves but it necessitates the revolutionary suggestion that there was already in southern Britain the prototype of the later A \( \uparrow \) C \(_A\) beaker complex. Yet it is quite possible that the typical British A \( \uparrow \) C \(_A\) beaker profile was derived from the fundamental characteristics in the Grand Style of both the Palmella bell beakers and the Danish passage grave pottery. Common to both these ceramics is the angled constriction uniting the funnel neck and the globular body. But there can be no question of the fact that the great invasion of the A \( \uparrow \) C \(_A\) beaker complex which attacked the eastern coasts of Britain was directly derived from the Rhenish beaker culture. If the prototype is indeed to be found at an earlier date in southern England and even if a reverse movement across the Channel to the mouths of the Rhine is an essential preliminary these facts do not affect the main beaker penetration of Britain. Nordman's hypothesis therefore remains only an interesting possibility.

The invasion of the B \( \uparrow \) C \(_B\) complex raises a set of problems distinct from any of the foregoing. In Britain the pure type B beaker is extremely rare and it has been suggested that Abercromby reviewed the British beaker ceramic without countenancing the possible degenerations of this type. The corollary is that many English and Scottish C \(_B\) beakers must in reality be simply degenerate form of B. But in the Rhenish beaker culture it has already been shown how the pure Spanish bell form was already in the process of degeneration and that this was not necessarily due to contact with other ceramic traditions. Accordingly there must be considered the possibility not only of a pure B but also of a degenerate C \(_B\) invasion of Britain. However there must be borne in mind the impossibility of separating native British degenerations of type B from degenerate continental C \(_B\) imports.

Bell beakers ornamented by continuous string markings are not found in the Iberian peninsula though in two examples from the north west the line defining a zone of ornament has been made by the
pressure of a twisted cord. The first true corded bell beaker comes from the angled gallery of Pouy de la Halliade on the plateau of Ger. But the greatest number of corded bell beakers in western Europe is to be found in Brittany and according to Forde the Breton peninsula is the source of the West European examples since the tomb form of La Halliade is typically Armorican. This concentration of corded B. and U_B beakers in Brittany raises the possibility that some of the British beaker ceramic was not derived from the Rhineland. Among the Rhenish examples there are comparatively few continuously string marked beakers and the nearest analogy to the British type B. is an urn from Drenthe in Holland figured by Abercromby as 9*. Is the Breton group then part of a south west beaker movement which is responsible for the B. sherds on the west coast of Scotland? It has already been shown how the A + C_A complex along the west Scottish seaboard was derived from the Welsh and south west of England beakers. Whether the latter also possess affinities in ornament with certain Armorican beakers is a matter for Welsh and English archeologists to decide. In support of a south west beaker movement however, it may be worth while drawing attention to Castille's comparison between the beaker fragments from Hoytirra in Ireland and certain Portuguese and Breton examples. But a south west corded beaker movement is not likely to account for string marked B. sherds in East Lothian, Fife and Aberdeenshire. They must indeed have come from the Rhineland, though the history of their manufacture is obscure. Despite an acceptance of Graham Clark's theory that the beaker invasion of Britain had a dual character there is no doubt that the East Scottish evidence, particularly from East Lothian, tends to suggest that both complexes arrived there simultaneously and were perhaps amalgamated.

From the foregoing analysis of the beaker invasion of Britain the following deductions appear legitimate:- (A) The A + C_A invasion was launched from the Rhineland and entailed a series of incursions along the east coast of Britain. In Scotland there were two areas of invasion, namely, the Firth of Forth and Aberdeenshire. The A + C_A
complex on the west of Scotland is not part of this east coast movement but was derived from the $A + C_A$ beakers of Wales and south western England. According to Fox the origin of the $A + C_A$ complex in the west of England lies in eastern England, but from a geographical point of view the argument is unsatisfactory. It seems possible that the former group may be derived from Brittany or may even be linked up with Nordman's hypothesis.

(B) The $B + C_B$ invasion of Britain is also to be derived in part from the Rhineland though there is no denying the lack of suitable prototypes. This is however the only possible explanation of the string-marked $B$ sherds in eastern Scotland. The English pure $B$ group which is scattered over the modern counties of Somerset, Dorset and Wilts, is reminiscent of the Breton corded bell beaker group although most of the English examples are ornamented by a cog-wheel. Certainly Brittany is the centre whence the west Scottish $B + C_B$ ware was derived. There is nothing to support the idea that the west of Scotland pure $B$ sherds are in any way connected with either East Lothian or Aberdeenshire.

V

THE BEAKER COMPLEX IN SCOTLAND

17. The habitation sites.

The beaker folk in Scotland occupied two distinct types of habitation. The first is the open settlement on the sea shore, the second is the fully developed hut circle. Eight habitation sites of the first class have so far been recorded. On the east coast there are four; Hedderwick Bay, No.193, North Berwick, No.187, Archerfield, Gullane, No.181, and Tents Muir, near Leuchars, in Fife, No.200. On the west there are also four; Glenluce Sands No.286, the western shores of Coll and Tiree, Nos.90 and 91a, and Samna Bay No.94.

At North Berwick, Archerfield and Samna Bay actual kitchen middens were located but elsewhere the sherds were strewn indiscriminately over the area. The only site where hut circles have been definitely
associated with beaker pottery is at Muirkirk in Ayrshire, No. 107. This settlement must originally have been fairly extensive. Stones rather than turf and earth were utilised for the enclosing walls of the hut circle but the floor was in several cases paved with water-worn pebbles while built hearths and refuse pits were found. In No. 2 hut circle there were partition walls and a small external annexe but there is no satisfactory evidence that these were not secondary. The hut circles were never entirely roofed, (the size of the diameter rendering this impossible) though the excavators of Muirkirk suggested that the central pit in No. 2 hut circle may have been intended as the socket for a roof tree.

The habitations of the beaker folk have therefore nothing in common with the Neolithic pit-dwelling.

18. Burials.

The beaker folk buried their dead within short stone cists which they generally placed beneath a circular cairn of stones or tumulus of earth. In many cases however there is no covering mound of either description. The normal cist is oblong with a view to receiving a flexed skeleton and the sides and ends are formed of single slabs. In a few abnormal cases built walls are known. The floor is either paved with a single slab or else with water-worn pebbles. Sometimes a sprinkling of sand, gravel or clay is laid down. At Lower Dowreay the skeleton of the young man in the cist was covered with beach shingle. In a very few cases the joints of the cist have been cemented with clay or loam. This phenomenon occurs in No. 34 from Leslie, Premnay, on No. 73 from Linlathen, and on Nos. 119, and 120 from Lesmurdie. Sometimes the slabs which form the cist are not of local stone and must in many cases have been brought a considerable distance. The excavators of the tumulus at Forglen made the astonishing statement that the earth of which the mound was formed was not of local character. The prevailing direction of the cists is E. - W.

In view of Mr Ludovic Mann's assertion that the prehistoric inhabitants of Europe and more especially of Scotland used a unit of
measurement for everything which they made, a table was prepared showing the frequency of given lengths of the cists in which the recorded beakers were found. The data obtained establishes two conclusions. First, that a not inconsiderable proportion of cist measurements have been mere rough approximations, most probably eye estimates. Secondly, that there is no periodic increase of frequency such as would indicate the recurrence of a given unit or its integral multiples.

The normal form of interment is a single flexed unburnt skeleton accompanied by an urn. Exceptions to this rule are however very numerous, especially in Aberdeenshire. Partial incineration is fairly frequent far north, in Banff and Moray, and may be due to contact with the Neolithic population.

19. Racial characteristics.

These have already in part been discussed so need only be summarised here. Typical beaker man is of relatively short stature, with an accentuated brachycephalic skull, heavy supra-orbital ridges and massive features. Physically he is in marked contrast to the slender, delicately built dolicocephalic Stone Age native. According to Reid and Morant the beaker skulls from north east Scotland are not similar to the typical Early Bronze Age skulls of England, and approximate more closely to the present day German. Modern statistics show that brachycephalism is concentrated along the eastern seaboard, and Turner calculated that 25 percent of the population of the Lothians were round headed. Finally, according to Professor Bryce, brachycephalism is to-day co-extensive with fair hair and eyes, but whether this has any significant bearing on the pigmentation of the beaker folk is open to question.


On the east coast of Scotland the beaker folk have effected conquest and settlement; on the west they were an intrusive element which was absorbed by the native population. Throughout history and prehistory the west has been the refuge of an older culture retreating
before the invasion of newer influences. It was so in the Early Bronze Age. On the west coast the number of beaker sherds recovered from Neolithic chambered cairns bespeaks a degree of absorption for which there is no evidence on the east. The pottery from Muirkirk shows an amalgamation of the older and the newer tradition which is never found on any of the east coast sites. When it is realised how great a hold the Neolithic regime established along the western seaboard, when it is remembered that the continental connections of Scotland during the Later Stone Age were concentrated in south western Europe, it must remain a matter for surprise that the beaker folk on the west coast of Scotland established themselves as an individual unit.


Like their Neolithic predecessors the beaker folk cultivated grain. The only evidence for this so far consists of the impression of an ear of wheat on the base of a domestic vessel from the habitation site at North Berwick. Indirect evidence is afforded by the character of the distribution of the beakers themselves. Their concentration on the fertile plain of Aberdeenshire and their absence from above the 600 foot contour indicate that their makers were essentially a race of agriculturists. Pastoralism leads men to the open moorlands where good grazing is available. Since the proper rotation of crops and the manuring of the ground were as yet unknown"garden" agriculture was probably practised. This in turn would necessitate a certain degree of restlessness, of migration from place to place in search of new and fresh soil. It would also be adequate explanation for the internal spread within the country which is so well attested by parallelisms in beaker ornament and which becomes unintelligible without some such motive.

Beaker man probably domesticated certain animals. The dog which had been buried with the man and the boy at Ardiffney was surely a prehistoric household pet! Furthermore hunting was certainly indulged in, witness the remains of a young boar in the cist at
Parkhill, Aberdeenshire, and for this a dog was probably trained.

Communal organisation was probably tribal and patriarchal. This is a legitimate inference when it is realised that the number of known cisted burials can in no way be representative of the total population; they are the graves of only the chief members and the majority of them contained adult male skeletons. Yet women were obviously held in honour. The adult female who was buried with three beakers at Keir, Belhelvie, Aberdeenshire, must have held a position of rank in her lifetime to be thus esteemed after death. Final proof of a tribal organisation is afforded by the settlement at Muirkirk. The collection of hut circles there connotes a fairly large community and it is possible that the pseudo beaker pottery was made by enslaved Neolithic women who were attempting to copy the ceramic of a beaker master.

22. **Associated relics.**

(A) **The disc knife.** In a valuable paper which he contributed to the *Prehistoric Society of East Anglia*, J.G.D. Clark reviewed the typology and distribution in Britain of the discoidal polished flint knife. The type is thus described:—"A flake of roughly discoidal form flaked on both faces so as to remove both bulb and striking platform, the edges being further bevelled by polishing. The faces were also smoothed down to remove sharp intersections of flake scars. One edge was usually blunted either by flaking or polishing to allow of a grip." For reasons adduced in his paper Clark regards this relic as a knife used by women in the preparation of skins. But the most important part of his argument lies in the evidence afforded by a distribution map. The distribution of the flint discoid knives coincides with that of beakers and the inference is that the beaker folk were the users and possibly also the inventors of the tool. In Scotland three examples come from Earleton, Coldstream and Lauder in Berwickshire; two come from Fordoun in Kincardine; three from Leslie, Kintore and Pitdoulzie, Turriff in Aberdeenshire; one from Marnoch.
in Banff; one from the Culbin Sands, Morayshire, and one from Ardross in the eastern parts of Ross and Cromarty. Towards the west only two examples are known; one has no locality in Lanarkshire, and the other comes from the Glenluce Sands in Wigtownshire, where there is an extensive beaker settlement. To this list there ought to be added an extremely fine specimen found on Tents Muir, near Leuchars in Fife and now preserved in Tay Street Museum, Perth; also an example from near Milton Loch, Urr, Kirkcudbright, which was donated to the National Museum in 1950. There is no doubt that this Scottish distribution coincides in a remarkable way with the beaker distribution along the East Coast. Clark suggests that the type was evolved in Britain since he could gather only negative evidence from the continent. While appreciating the value of this suggestion, it is noteworthy that the technique in both the flaking and polishing of these implements is of a very high standard and early examples or even prototypes are so far unknown in Britain. Furthermore, if the type is to originate in East Anglia as Clark suggests and is to spread thence to Ross-shire and Ireland, the period required for such a penetration of the country is not in keeping with the assertion that "the type flourished for a very short space of time". One more criticism may be made. It is inferred that the dissemination of this type was from S.-N. but the distribution map clearly shows three well defined provinces and these "provinces are each separated by 100 mile sterile belts running diagonally across the country". Such a phenomenon, on geographical grounds alone, suggests an E.-W penetration with an initial and local origin for each of the three main areas of concentration.

(B) Bracers. The bracer, or archer's wrist guard, is a rectangular plaque of stone, concave on the under surface and convex on top, with perforations at each of the four corners. On the Continent, the bracer is invariably associated with the bell beaker, and like the latter, its origin lies in Southwestern Europe, and the Western Mediterranean. So far, eleven examples have been found in Scotland, though the list appended cannot claim to be exhaustive. The greater number of them
come from Aberdeenshire; but on the west coast bracers are known from Glenluce, from Callachally in Mull and from Broadford in Skye where two were found. Direct association with beaker ceramic is afforded at Callachally and at Fyrish, Evanton, while one of the examples from Broadford was found in a neolithic chambered cairn which had evidently contained a secondary short cist burial. The example from Tents Muir in Fife accords with the extensive beaker settlement in that area. According to Clark the bracer is an integral part of the B+UB beaker complex in Britain. The Scottish west coast series therefore are probably to be derived from Brittany and northwestern France, and may even be utilised to substantiate the theory of a B+UB invasion from that area. The number in Aberdeenshire is in accordance with the B+UB ceramic in that district and like the pottery can be derived from the Rhine. But there is so far no evidence that the east and the west coast series are in any way connected. It is possible that the example from Fyrish may have reached its destination by way of the Great Glen from either Skye or Mull but there is no possibility that the movement was the other way. The conclusion therefore remains that the bracers on the east and the west of Scotland represent two distinct lines of penetration and since they are an integral part of the B+UB complex then they only serve further to emphasise the cleavage between the east and the west coast examples of that ceramic.

(c) The rivetted knife dagger. At Callachally in Mull, Collessie in Fife and Linlathen in Angus beakers were associated with rivetted knife daggers of bronze. The inference is that these metal objects form an integral part of the beaker complex in Scotland. But at Blochirn near Baldernock in Stirlingshire an example was found with a foodvessel and it should be remembered that the gold fillet associated with the foodvessel at Monikie in Angus is very similar to the fillets from Collessie, Skateraw and Blackwaterfoot and probably belonged to a dagger that had entirely disintegrated. The Scottish
knife daggers would therefore seem to belong to two cultures as displayed by the two distinct ceramic traditions of the beaker and the foodvessel. But it is obvious that in only one of these cultures could it have formed an integral part. According to Fox the rivetted knife dagger was introduced into Britain from southwestern Europe and more particularly from Spain. But in Spain this dagger belongs to the full chalcolithic period; i.e., to a period slightly later than that of the Iberian bell beaker. It must therefore have reached Scotland at or about the same time as the main beaker invasion from the Rhine. But whereas the later impinged upon the east Scottish coast the former came first to the western seaboard.

On the Continent, the Beaker folk were metallurgists. But coming as they did to the East Coast of Scotland, where natural deposits of tin and copper are virtually unknown, they were unable to practice metallurgy for lack of the necessary raw materials.

The rivetted knife dagger in Scotland is therefore not part of the beaker complex. It belongs to that southwestern impulse which also brought the flat axe, the false relief technique in pottery, a knowledge of working in metals, and which in Scotland acted as a stimulus to the local Stone Age tradition, and gave it the energy and impetus to develop into a native Bronze Age culture.

A list of Scottish rivetted knife daggers will be found in an Appendix. They have not been given detailed analysis in the text, since to do full justice to the Scottish food vessel complex would expand this thesis to unwieldy proportions.

No cultural phase is a self-contained phenomenon. There comes a stage where progress is shared simultaneously between it and a newer tradition. The beaker complex merges into a strong and virile native cultural renaissance. The knife dagger, the V perforated jet button, and the plano-convex flint knife are relics which belong to both periods; but it is only right that their analysis should be included in the study of that complex with which they have primary associations.
NOTES

1. Ceramic. This term is employed in the singular in its generic sense.


11. Childe, V. (3)


15. Thurman, Archaeologia, XLIII, 391.


19. V. (18).

20. V. (18).


22. Reid & Morant, Biometrika, XX B, Nos. 3 & 4, Dec. 1928.


30. Shewalton Sands, Ayrshire, is possibly another site.
33. Fox, Arch. Camb. VIII, 7th series, 1928.
LIST OF EARLY BRONZE AGE BEAKERS FOUND IN SCOTLAND.
Arranged according to Counties, in alphabetical order.

ABBRVIATIONS:
Arch. = Archaeologia.
Biom. = Biometrika.
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.
Cordiner = Cordiner, Remarkable Ruins and Romantic Prospects of North Britain. London, 1795. (No pagination)
I.S.S.F.C. = Inverness Scientific Society and Field Club.
N.U. = Erskine Beveridge, North Uist, its Archaeology and Topography, Edinburgh, 1911.


P.S.A.S. = Proceedings of the Society of Antiquaries of Scotland.


Tortola = Collection of Young of Tortola, Nairn.


T.S.A.S. = Transactions of the Stirling Natural History and Archaeological Society.

APPENDIX I

LIST OF EARLY BRONZE AGE BEAKERS FOUND IN SCOTLAND

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ABERDEENSIREH

   Aberdeenshire. Ornamented by a continuous spiral from lip to base, made by the pressure of a twisted cord.

2. Type B. A, No.225a. At Learney House, Aberdeenshire. P.S.A.S.
   XL,312-313,(1905-06).
   Sundayswells Hill, Torphins. Found in a circular setting of stones within the centre of a cairn. The decoration consists of one long spiral line, covering the whole of the exterior surface, and made by the pressure of a twisted cord.

   (1919-20).
   Broomend, Inverurie. Found in a cist situated in a natural bank of sand and gravel. The cist contained two flexed male skeletons which had been covered by some matted substance. Both skulls are sub-brachycephalic. The cephalic index of one is 78.9. A beaker had been placed at the back of the neck of each skeleton. The cist also contained willow twigs, a small piece of oak, charcoal, three flint flakes, and an object of clay or bone, "which may have been a rude ornament." The cist was formed of granite slabs cemented with fine clay, and the floor was strewn with waterworn pebbles. Cist measurements, 5' 3" x 2' 8" x 2' 6".

4. Types C_A, C_B. A, No.249 (for No.5). Inverurie Museum.
   (1919-20).
   Broomend, Inverurie. Found in a cist lying 2' N. of that which contained Nos.3 and 4. The cist was orientated E-W, and measured 4' 2" x 2' 3" x 1' 7". The floor was covered with waterworn pebbles. The cist contained the skeletons of an
adult female and an infant, both covered with a coating of brown fibrous substance. The cist also contained two flint flakes, and some charcoal. The larger urn contained an implement of ox horn split into laminae and bent by the processes of decay.


Broomend, Inverurie. Found in a small cist 2' to the east of that which contained Nos.5 and 6. The cist measured 16" x 14" x 11", and contained the remains of a human skull and some half formed teeth.


Ardiffney, Cruden. Found in a cist within a tumulus, together with the skeletons of an adult male, a boy of 12 or 13 years, and a dog. The cist also contained a necklace of jet and amber beads, an axe of grey flint, a bracer of polished felstone, 7 barbed and stemmed arrowheads, a flint knife, and an unworked flint flake.


Ellon. Found together with four flint arrowheads.


Whitestone, Skene. Both found in a cist together with the skeleton of an adult male, 3 flint scrapers, and much charcoal. The cist measured 3' 10" x 2' x 1' 9", and lay E-W. The cephalic index of the skull is 86.2.

Pittodrie, Oyne. Both found in a cist lying E-W, measuring 6' x 2' 10" x 1' 8".


Parkhill, Aberdeen. Found in a cist with the skeleton of an adult male. The bones had been covered by a matted substance, probably an ox-hide. The man was aged about 60, and his cephalic index was 85.0.


Parkhill, Aberdeen. Found together with a flexed skeleton and some charcoal, in a cist measuring 3' 9" x 2' 3" x 1' 6". The skeleton was that of a male, 25 to 30 years old, and 5' 9" in height. Cephalic index of the skull was 87.0. The cist also contained fragmentary bones of a young boar. (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.)


Ord, Auchendoir. Found in a cist together with a male skeleton. The age of the man was about 50, and his cephalic index was 85.6. (Reid gives the cephalic index as 85.0. In Reid and Morant's paper, Biom. XXB, 3 & 4, December 1928, the index is given as 85.6. The more recent statement has been preferred.)


Freefield. Found on a pedestal of thin stone embedded in clay which formed a conical mound covering a small stone cairn. The clay of the mound was puddled, and mixed with bones and ashes. In the cairn at the centre there was found a rusted piece of iron like a chisel, a smooth stone like a whetstone, and
"masses of coloured conglomerate of great tenacity, which radiated from the cairn on all sides".


*Clinterty*. Kinellar. Found in a cist together with the skeleton of an adult male, an imperfect axehead of mica schist, a knife, five scrapers and two barbed and stemmed arrowheads of flint, a crystal of topaz, a ring and a needle (?) of bone. The skeleton was that of a man at least 60 years old, 5' 3" in height, and with a cephalic index of 84.3


*Inveramsay, Chapel of Garioch*. Found together with the skeletal remains of a man about 50 years of age.


*Clashfarquhar, Banchory*. Found in a cist together with a flexed skeleton and the greater part of a food-vessel. The skeleton was that of an adult.


*Savoch, Longside*. Found in a tumulus.


*Persley Quarry, Old Machar*. Found in a short cist together with the skeleton of an adult male, an arrowhead and a knife of flint. The man was about 60 years of age and had a cephalic index of 86.5.


*Parish of Leslie*. Found in a cist together with the skeleton
of a very tall man and "a few more" than three flint arrowheads


32. Type $C_B$. A, No. 254. Aberdeen University. P. A. A. S. A. U. (1902-04), p. 12. Cat. Marischal Coll. No. 9, p. 37. Stoneywood, Aberdeen. Found in a cist together with the remains of a male skeleton. The man was at least 40 years of age, 5' 1" in height, and had a cephalic index of 92.3.


34. Type $C_A$. A, No. 256. Aberdeen University. P. S. A. S. XLI, 116. (1906-07) P. A. A. S. A. U. (1906-08), p. 54. Mains of Leslie, Premnay. Found in a cist which measured 3' 5" x 2' 4" x 1' 6" and lay nearly E-W. The slabs forming the cist had been brought some considerable distance. Small stones set in clay forming a kind of mortar were used to heighten the wall at the east end, while all crevices and joints had been cemented with yellow clay. The floor of the cist was of clay resting on a thin layer of charcoal. Some white quartz pebbles were noticed on the floor of the cist. The cist also contained the flexed skeleton of an adult male who was 5' 4" in height and had a cephalic index of 87.0
35. Type $C_A$. A, No. 257. Aberdeen University. Cat. Marischal Coll. no. 28, p. 46.

Tifty, Fyvie. Found in a cist, together with some "ashes".


Glastertberry, Peterculter. Found in a cist lying E-W, 3' x 2' x 1' and buried in a gravel pit. The floor was paved with round pebbles packed in clay. The cist also contained the unburnt remains of a skeleton. The skull was brachycephalic and had received a sharp blow on one side.


Bankhead, Pitsligo. No particulars available.


Slap, Turriff. Found in a cist lying E-W and measuring 3' x 2' x 1' 8". The cist contained the flexed skeleton of a person over 50 years of age, together with a piece of worked flint.


Upper Mains of Muireesk, Turriff. Found in a cist lying E-W, and measuring 3' x 1' 10". The floor was formed by a slab. There were also in the cist the skeletal remains of a young person under 15 years of age.


Upper Boyndlie, Tyrie. Found in a cist in a sandpit, together with an unburnt human jaw, a semicircular flint knife, and charcoal. The axis of the cist was NE-SW.


Upper Boyndlie, Tyrie. Found in a cist in the same sandpit as No. 40. The cist measured 15" x 15" x 12".
42. Type C_B. P.S.A.S.XLIII,79,(1908-09).

Upper Boyndlie,Tyrie. Found in a cist together with the skeleton of an old man, some charcoal, and a small piece of wood. The cist lay NE-SW, and measured 3' 9" x 3' 3" x 1' 6". The floor was paved with waterworn pebbles, and the side slabs had been carefully dressed. The old man had suffered from rheumatism, and had a brachycephalic skull.


Blackhills,Tyrie. Found in a cist.


Broomhill,Tough. Found in a sandpit.


Brucklessieat,Fyvie. No particulars available.


Kinaldy,Dyce. Found in a cist together with the remains of a female skeleton.

(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,near Kintore, presented by A.Watt in 1856. The fragment E.G.28 has a note attached: "Found in a cist with skull and thigh bone". E.G.29 has a note: "Found in a cist near Kinaldy with skull". It is uncertain whether both urns came from one cist which contained an unburnt burial, or whether two separate cists are represented. The account in C.B.further confuses the issue by mentioning four cists from Kinaldy, each of which contained human remains and a "vase". The skull E.T.35,furthermore is registered as that of a male at least 40 years of age.)


Kinaldy,Dyce. Found in a cist together with a human skull and
thigh bone. (See note under No.46.)


Parish of Glass. The incised ornament has white encrustation.


Near Elrick Farm, Parish of Newhills. Found in a cist.

50. Type Q_A. Aberdeen University. P.S.A.S.LXIV,218,(1929-30)

Johnstone, Leslie. Found in a cist which lay NE-SW, and measured 26" x 18 ½". The cist also contained two small flint scrapers and some particles of bone.

51. Type Q_A. At the Laird's House, Leith Hall. P.S.A.S.XLIII,76, (1908-09).

Mains of Leslie, Premnay. Found in a cist together with char-
occoal and a few fragments of unburnt bone. The cist lay nearly NE-SW.

52. Type Q_B and (Y fragmentary). P.S.A.S.XLVI,344,(1911-12). With

53. Mr John Reid, Shoemaker, Inverurie.

Mains of Leslie, Premnay. Both found in one cist.

54. Type Q_A (Y anomalous). Aberdeen University. Cat. Marischal Coll No.27, p.47.

Parish of Strichen. Found in a cist together with some bones (presumably human).

55. Type Q_A. Aberdeen University. Cat. Marischal Coll. No.8, p.37.

Hillhead, Ellon. Found in a cist together with the skeletons of an adult male aged about 50, and a young person about 14 years of age. The cist also contained a round waterworn pebble, a flint knife, and a fir cone.
56. Types C_A, C_A, C_A. Aberdeen University. Cat. Marischal Coll. No.5.
58. Stoneywood, Aberdeen. No particulars available.
60. Avondale, Milltimber. Found in a cist.
62. Balmeadie, Belhelvie. Found with "other urns" in a large tumulus.
63. Cairnhill, Monquhitter. Found in a pit beneath a cairn 28 yards in diameter. The periphery of the cairn had been marked by boulders. The pit, which was not in the centre of the cairn, measured 6' x 2'6" x 4', and was filled with a black deposit of ashes and burnt bones. The cairn had been much disturbed by secondary interments. The beaker is a handled urn, similar to the example from Balmuick Farm, near Comrie. (No.253)
64. Beggat's Den, Chapel of Garioch. No particulars available.
65. Memrie. Discovered under a tumulus. "Beside it lay a bronze leaf-shaped sword broken in two".
67. Upper Boyndlie, Tyrie. Found in a cist in a sandpit. The beaker
No: 62.

No: 64.

No: 65.

No: 66.
lay at the NE corner. The cist contained some white quartz pebbles, but no bone or charcoal. The sand in the cist contained bone salt, but the local sand contains phosphate of lime.


Old Keig, Alford. Found on the original surface, within a "recumbent" stone circle.

68. **Type BY P.S.A.S. XXXVII, 230, (1902-03)**

Cuning Hill, Inverurie. Found in fragments together with a quantity of charred wood near the summit of a natural earthen mound 80 yards in circumference and 20' in height.

69. **Type BY Dundee Museum. P.S.A.S. XXII, 346. (1887-88).**

Castle Huntly. Ornamented spirally from lip to base by impressions of a cord.
ANGUS.


Kirkbu. No particulars available.


Noranside, Fern. Found in a stone cist lying E.-W., whose measurements were 5' x 3' x 2'. The cist, which also contained an unburnt flexed skeleton, was buried in a gravel mound 15' to 18' in height.


Priest-town, Edzell. No particulars available.


Wellgrove, Lochee. Found in a cist lying E.-W. whose measurements were 3'10" x 2' x 2'8". The cist, which contained the unburnt remains of a young person, was buried in a knoll.


Kingewalls, Fellows, Monikie. Found in a cist "together with flint implements and a rubbing stone".

75. Type C. A, No. 262. P. S. A. S. VI, 98, (1864-66); XII, 449, (1877-78).

Anderson, I, 10.

Linlathen. Found in a cist placed at the centre of a cairn. The cist lay E.-W., and measured 4'10" x 2'9" x 2'10". The floor was paved with waterworn pebbles, and the joints of the slabs had been plastered with clay. One piece of clay retains the impression of a thumb. The cist also contained a "bronze" knife dagger having three rivets.


Idvies, Kirkden. Found in a short cist which contained incinerated human bones. The cist lay ENE-WSW, and measured 2'4" x
ORNAMENTED FROM LIP TO BASE BY HORIZONTAL BANDS OF CONTINUOUS "MABBO" PATTERN.
1'9" x 1'2". Among the burnt bones (which were not contained in the urn) were some fragments of charred wood. The incineration had been far from complete. The person was an adult. One piece of bone bearing a green stain indicates the presence of bronze.

Farm of Collieston Mill, Arbroath. Found in a short cist which contained an unburnt human skeleton.

Fletcherfield. Found in a cist which lay E-W.

Kame Hillock, Hill of Tealing. No particulars available.
Type C_A. A, No.185. British Museum. P.S.A.S.VI, 348-349, (1864-66); LXV, 278, (1950-51)

Ballymenach, Kilmartin. Found in a cist which lay ENE-WSW, and measured 3'11" x 1'9" x 1'10". The cist also contained the remains of three unburnt bodies. It lay to the SE of the centre of a circular cairn 72' in diameter, surrounded by a trench 7'-12' wide. Beyond the trench is a circular earthen bank 24'-28' wide. Access to the interior was gained through two entrances on the E and W sides. This is a bell cairn, with an overall measurement of 138'. (The account given by Canon Greenwell differs somewhat from that given by Mr Craw. The more recent statement has been preferred.)


Poltalloch. No particulars available.


Poltalloch. No particulars available.


Poltalloch. No particulars available.


Largie, Poltalloch. See Nos. 82, 83.

Type (unknown, fragmentary.) P.S.A.S.VI, 344-345, (1864-66)

Largie, Poltalloch. These two urns, along with No. 81, were found within the segmented chamber of a Neolithic cairn. They represent a secondary interment.


Callachally, Glenforsa, Mull. See No. 85.
No. 88
FRAGMENTS EXHIBITING HORIZONTAL STRING MARKINGS FROM LIP TO BASE.

Wallachally, Glenforsa, Mull. Found, along with No.84, in a cist which contained the fragments of a "bronze" knife dagger and a bracer of greenstone.


Salen, Mull. Found in a cist, one of several, formed of loose stones. The cist contained a piece of flint and two fragments of bronze. "The fragments of metal do not seem to have formed part of a blade. On the partially crescent shaped bit, a straight rounded line with longitudinal furrows is seen slanting across while on the thickest part of the other piece there are hints of further ornamentation."

88. Type U_A. P.S.A.S.LIV,172, (1919-20).

Balnabraid, Campbeltown. Found in a cist which had been a secondary interment within a round chambered cairn. The cist measured 46" x 26" x 27". A part of the floor was formed by a slab, the rest being set closely with pebbles. The coverstone had been cracked and was mended by a plastering of yellow clay. Small stones mixed with clay to form a kind of mortar had been laid round the upper edges of the vertical slabs. Amongst the sand which filled the beaker was a discoid bead of fine, dense, very black lignite. A similar but larger bead was found outside close to the mouth of the beaker. The cist also contained a knife of yellow flint and unburnt osseous fragments.

89. Sherds of unknown type. Kelvingrove Museum, Glasgow: collection of Mr Ludovic Mann.

Western shore of Tiree. Found in a domestic context.

90. This number on the map marks the domestic site of No.88.


Western shore of Coll. Found in a domestic context.
94. This number on the map marks the domestic site of No.90.

95. Type B or $\alpha_B$. (fragmentary). *Man*, 1927, No.115, p.173.

Sana Bay, Ardnamurchan. Found in a kitchen midden on the shore, together with flakes of flint and basalt, limpet shells, and fragments of bone.


Sana Bay, Ardnamurchan. From a shore kitchen midden, which also yielded an unfinished celt of basalt made from a beach pebble which had broken in the process of manufacture. Also a "curious" flint knife and a barbed and tanged arrowhead.

97. This number on the map marks the domestic site of Nos.92,93.


Island of Coll. No particulars available.


Glebe Street, Campbeltown. Found in a gravel pit.
Court Hill, Dalry. Found in fragments near a slab beneath a cairn which had been buried under a tumulus of earth. There is no evidence that the cairn and tumulus are contemporary. It seems as if the cairn enclosing the beaker had been disturbed, possibly by the formation of the earthen mound.

Muirkirk. Found in a circular pit, 4' x 5', placed at the centre of a hut circle. The fragments of the beaker and some pieces of carbonised oak lay at the bottom of the pit, which had been packed with cairn sized stones. The hut circle measured 34' x 38'. The floor was of compacted clay and gravel, whereon was found two rough pieces of flint, much charcoal, and fragments of five beaker-like vessels. At 12' W. of the centre was a hearth of flat stones without a kerb, which still contained black and red charred material. At 11' SE. of the centre was a cooking hole, 22" x 12", full of fine charcoal mixed with burnt bone. 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. The hut circle in question is No. 2 in the P.S.A.S. account.

Muirkirk. Found strewn over the floor of the hut circle which contained No. 98. The ornamentation included hollow reed impressions and continuous string markings.

Muirkirk. Found in hut circle No. 1 (see No. 98) close to the
hearth which was 3' from the centre and 6' from the entrance. The hut circle was 18' x 19', and the outer wall was 2' high.
The floor had been paved with waterworn pebbles.

Muirkirk. Found in hut circle No.3, which measures 34' x 24'.
The trodden clay floor was sprinkled with charcoal and burnt bone. Near the centre was a ruined hearth. One urn has pinched finger tip ornament, and the other is of comb-marked ceramic.

106. This number on the map marks the domestic site of Muirkirk, Nos. 98 - 106.

Wellwood, Muirkirk. There is here a cairn, 18' x 17', whose corners are well defined. The SW corner still possesses its original cornerstone. On the ground level, in the centre of the cairn, was a slab set on edge and facing E-W. Near by were two flat boulders. The whole suggested a ruined cist. In the soil round about were five fragments of pottery, one of which was the lip of a beaker.

Haylee, Largs. Found in a stone cist, 4½' x 2½' x 2', together with the unburnt flexed skeleton of an adult male, whose cephalic index is 84.6. The skull is preserved in the Edinburgh University Museum of Anatomy, and is labelled B237. 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 Bicm.XXB,3&4 December 1928.


Shewalton Sands. This beaker sherd was picked up from an extensive sand dune area which may yet be found to represent another domestic site of the type of Glenluce or Hedderwick.

Buckie. Found in a stone cist which also contained a quantity of charred and burnt human remains.

Type OA. A, No. 270. Banff Museum. P.S.A.S. XXII, 369, (1887-88)

Carestown, Deskford. No particulars available.

(1868-70).

Boharm, Achroisk. Found in a cist within a sandy knoll. The cist was 2 1/4' long and lay N-S. It contained a flexed unburnt skeleton. Inside the beaker was a bluish stain.

Type UB. A, No. 274. Banff Museum. P.S.A.S. XXII, 369, (1887-88)

Cullen. No particulars available.

Type UB. A, No. 276. At Forglen House. P.S.A.S. XL, 306-310, (1905-06)

Burnside of Whitefield, Aberchirder. Found in a stone cist which measured 2' x 1'4" x 2'2". The cist contained the unburnt remains of a very young person. Adhering to the bones was some substance which looked like human hair.

Types CB, OA, OA. A, Nos. 277, 278, 279. Forglen House. P.S.A.S.

Forglen. There is here a tumulus 64' x 68' and 7' in height. The earth of which the mound is composed is not to be found in the immediate neighbourhood. Two settings of waterworn pebbles were found at different levels within the mound. At a depth of 1' below the second of these pavements and 3' from the surface of the mound a beaker (No. 115, 277, Type UB.) was found resting in a deposit of charred wood. From the inner edge of the second pavement a wide triangle of waterworn pebbles was laid out within the mound. From the apex of the triangle, a single row of pebbles ran northwards for 11', and
terminated in a second black deposit which lay at the base of a second beaker (No.116,278,Type $C_{A}$). East of the centre of the mound was a third and larger black deposit which also was in contact with a beaker (No.117,279,Type $C_{A}$). Underneath this beaker were the remains of a skeleton which had been placed in a scooped out grave, 5' x 1'. Near the skeleton was a barbed and stemmed arrowhead of yellow flint. At various depths throughout the mound thin layers of charred wood were found.


Lesmurdie. Found in a stone cist together with "decayed bones". The cist was in a sandpit.


Lesmurdie. Found in a cist which lay NNE-SSW, and measured 2' deep. The joints had been plastered with loam, and the floor was paved with small stones. Fragments of a skeleton including the skull were recovered from the sand which filled the cist. The cist also contained three flint chips and some minute pieces of oxide of iron. The skeleton was that of a male, and the cephalic index was 85.6.


Lesmurdie. Found in a cist which lay NE-SW and measured 3'2" x 2' x 1'8". The joints had been plastered with loam and the floor was paved with small stones. Fragments of "bones and teeth" were recovered from the sand which filled the cist.


Lesmurdie. Found in a cist which lay NEXN-SWxS, and measured 4'4" x 2'4".
    Gardenstown. Found in a cist.

    Buckie. Found in a cist together with the remains of an unburnt body.

    Armohmore, Portsoy. No particulars available.

125. Type C_A. Cordiner, vol. III, (under "Sceptres and Urns")
    Castle Findlater. Found in a cist, one of several, enclosed in a tumulus. The urn was full of ashes and small pieces of bone.

126. Type C_A. British Museum.
    Nether Buckie. No particulars available.
BERWICKSHIRE


Manderston. Found in a cist lying E-W, and measuring 40" x 27" x 18". The cist also contained fragments of an unburnt burial.

128. Types UA, UB. A, Nos. 210, 211. With Mr Peter Cowie, Oldcastles.


Hoprig, Cockburnspath. Both found in a cist at the bottom of a pit, 3' x 4.2' x 2.8", which had been dug in the sub-soil beneath a ruined cairn. The cist lay E-W, and measured 33" x 14" - 21" x 13". It was surrounded by boulders which, higher up, formed the lining of the pit. Charcoal and burnt bones were freely mixed in the soil which filled the pit. The floor of the cist was paved with a sandstone slab.


Macmillan, Gordon. Found in a sandpit.


Grueldykes, Duns. Found in a short cist, measuring 4' x 15' x 20", together with the almost perfect skeleton of an adult male 5'8" in height, whose cephalic index is 82.6. In B.N.U.XXIV, Mr Hewat Craw evidently regards these two beaker fragments as parts of one and 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.


Broomdykes, Edrom. Found in a cist lying E-W, and measuring 2'7" x 15" x 16". The floor of the cist was paved with
small stones. The cist contained a few fragments of bone and a piece of ochreous stone.

127


Edington Mill, Chirnside. Found in a cist beneath a ruined cairn. The cist lay almost due E-W, and measured 3'8" x 2'4" x 1'6". It contained a foodvessel of Type D (imperforate), fragments of an unburnt burial, and some charcoal. The cairn, cist, beaker, and skeleton formed a primary interment disturbed and scattered by the intrusive foodvessel.

128


Harelaw Mill, Chirnside. Found in a cist under a cairn, together with bones and a piece of unworked flint. The cist lay E-W, and measured 6' x 3'.
BUTE


Duran Beg, Lamlash, Arran. Found in the southern compartment of a segmented, long-chambered, cairn. The floor was covered with a layer of black earth containing much charcoal. There were also some fragments of unburnt bone, a flint flake, two worked and one unworked fragment of Corrie-gills pitchstone, and a piece of Type A Neolithic pottery, as well as a triangular perforated plate of jet. The beaker fragments and the jet represent a secondary intrusive burial.


138. Giant's Graves, Whiting Bay, Arran. Found in a segmented chamber at the northern end of a Neolithic long cairn. The chamber also contained the fragment of a rim of Neolithic ware, Type A, four leaf-shaped arrowheads, and three knife scrapers of flint. Of the latter, one certainly belongs to Graham Clarke's category of "plano-convex" knife. (See A. J. April, 1932.) The others are technically similar but larger than the normal and more clumsily fashioned. They may be unfinished specimens.


140. Glecknabae, Bute. Found in the northwest chamber of a Neolithic long cairn. The chamber also contained a heap of burnt bones, and at a slightly lower level the remains of an unburnt skeleton. Some flakes of flint, a flake of pitchstone, and broken pieces of quartz were also recovered.
CAITHNESS


Acherole, West Watten. Found in a cist in a gravel pit. The cist measured 3' x 3' x 18", and contained the unburnt skeleton of a young adult male whose supraorbital ridges are prominent. The cephalic index of the skull is 85.7.

Note. Under No.286 bis, Abercromby figures a complete urn, E.G.43, and the fragment of 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 & Morant's paper in Biom. XXB,3&4 December 1928.

144. Type (Y fragmentary). Nat.Mus.Ant.E.0.357,360,361. P.S.A.S. LXIII,140, (1928-29); LXIV,12, (1929-30).

Lower Dounreay. No.144 (E.0.357) was found in a cist which had been built with the material of a fallen superstructure within the chamber of a round horned cairn. The cist lay NNE-SSW, and measured 6' x 2' x 1'4". The bottom was paved, and the cist contained an unburnt skeleton covered with beach shingle. The skeleton is that of a dolichocephalic man, aged 20-25, and 5'6" in height. Other fragments of No.144 came from various parts of the cairn. The lip was found immediately under the turf on top of the cairn; other pieces came from the floor. Between uprights 2,3,6, and 7, the floor was partly paved and partly covered with clay. On top of this paved area was a layer of clay, 2-3 inches thick, in which were embedded human skeletal remains, animal bones, charcoal, and pottery. The skeletal remains were fragmentary, having been crushed by the fallen stones. The first skeleton lay between uprights 3 and 4. It had been laid in a contracted position on its left side close to the wall. With it were
fragments of Neolithic pottery (Type A), animal bones, a stone axe, and pieces of the beakers No. 145, 146 (E.0.560, 361).

147. Type B or C. P.S.A.S. VII, 503, (1866-68).

Garrywhin, Bruan. Found in a cist within a cairn 30' in diameter and 3' in height. The cist also contained two flint scrapers. The cairn is associated with a line of small standing stones diverging from the S.W. side in irregularly parallel rows.
Old Kilpatrick. Found in an oval grave formed of boulders and measuring 4'1" x 2'4" x 2'. The cist, which lay NE-SW, had contained three vessels. Two were Neolithic, one being related to the Peterborough ware of Hedderwick and Glenluse, the third being of pseudo-beaker ceramic.

Auchencairn, Closeburn. Found in a cairn together with bones and two flint flakes, one of which had been worked into an oblong implement.
EAST LOTHIAN


East Barns. Found in a cist together with an unburnt burial.


Windy Mains, Humbie. Found in a cist together with "a few traces of bones".


Windy Mains, Humbie. Found in a cist which measured 4' x 2' x 1' 9", together with the skeleton of a large and powerful man. The stones which formed this cist must have been brought from some distance. In the paper by Reid & Morant, Biam.XXB,3 & 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.


West Links, North Berwick. Found in a cist measuring 3' x 2', which also contained the flexed skeleton of a young person. The beaker contained some substance of a fatty nature.


Archerfield, Gullane. From the shore, a long ravine, one of several, runs inland for more than a hundred yards. From a kitchen midden on the S side there were recovered the fragments of Nos.154 and 155. This kitchen midden consisted chiefly of whelk and limpet shells, together with animal bones including the horns of red deer. Besides the beaker
HORIZONTALLY STRING MARKED FROM LIP TO BASE.
shards, there were fragments of coarse pottery, parts of large cylindrical vessels with raised mouldings round the rim. This is kitchen midden No.1. No.5 was 25' to the east. Shells and bones were less numerous here, but there were traces of charcoal and charred wood. Nos.156,157,158,159 were gathered here, together with some \( \omega_A \) sherds and one fragment of the coarse pottery. There were also a few scrapers and flakes of flint.

\[164\]
Type \( \omega_A \). A, Nos.219,221,222 (except string marked fragment).
\[166\]

Archerfield, Gullan. None of this type occurred in kitchen midden No.1. No.2 was 5' east, and yielded fragments of Nos. 160-177. There was also found a bone pin 3" long; a portion of a chisel ended implement of bone "which may be compared to the finds from Oban and Ormsay"; a flint knife, two scrapers and a few flakes of flint. Kitchen midden No.3 yielded sherds of Nos.178-180.

\[181\]
This number on the map indicates the domestic site of Archerfield, Nos.154-180.

\[182\]
Type B. A, No.222. P.S.A.S.XLI,270,(1907-08).

North Berwick. Found in fragments at the base of a small pillar, 1' in height, formed of waterworn stones, which was embedded in kitchen midden No.1. The midden contained quantities of flint, much of which was worked into scrapers or knives; bones of animals including red and roe deer; at least one fragment of Neolithic pottery; and whelk, limpet, and oyster shells. The flint was derived from a band of flint nodules in chalk situated near the kitchen midden.

\[187\]
An unknown quantity of sherds of Type B or \( \omega_B \). P.S.A.S.XLI, 270,(1907-08).

North Berwick. The predominant ceramic in kitchen midden No.1

North Berwick. From kitchen midden No.1.

An unknown quantity of sherds representing Types $\Omega_B$ and $\Omega_A$.

North Berwick. Found in kitchen No.2, which was of the same character as kitchen midden No.1. One beaker fragment bore the impression of three grains of wheat. There were no worked bones in this midden and no remains of roe deer, but several pieces of lignite were found.

This number on the map marks the domestic site at North Berwick, Nos.182-186.

Type (Y fragmentary). Nat.Mus.Ant.E.G.44.

Brogmouthe Waerd, Oxwell Mains, Dunbar. No particulars available.


Boglehill Wood, Longniddry. Found in a short cist which lay ENE-WSW. The cist measured 2'11" x 2'3" x 1'9", and contained small pieces of burnt wood.


Drem. Found in a cist 3'6" x 2'8" x 1'8", which contained a flexed adult skeleton. The floor was formed of one slab.


West Links, North Berwick. Found in a cist which lay nearly E-W, and measured 36" x 25" x 16". The cist had been built on the southern margin of a kitchen midden which contained split animal bones, bird and fish bones, shells, and burnt and unburnt human remains. The floor of the cist was partly paved, and within was the contracted skeleton of a female beyond middle age whose skull was mesaticephalic.

Hedderwick, Dunbar. From a domestic site on the shore, which also yielded sherds of Peterborough ware, leaf-shaped and barbed and stemmed flint arrowheads, and stone axes. The beaker sherds were found towards the W end; the earlier ceramic in the middle and eastern parts.

This number on the map marks the domestic site of Hedderwick, No. 192.
HORIZONTALLY STRING MARKED FROM LIP TO BASE.

Dairsie. Found in a cist lying N-S, and measuring 3'6" x 1'10". The floor was paved with waterworn pebbles, and the cist contained an unburnt skeleton, and barbed and stemmed arrowheads of flint.


Parklaw, St. Andrews. Both found in a cist which lay E-W and measured 3'4" x 20". At three of the corners the side slabs were heightened by stones embedded in marly clay. The material found in the cist included a jet necklace of 79 oblong beads, six flat plates and a triangular pendant, pieces of burnt bone, two pieces of flint, fragments of four cinerary urns and five mediaeval vessels. The area had been very much disturbed.

196.

Tents Moor, Leuchars. Found in fragments among the sand hills on an extensive occupation site.


Tents Moor, Leuchars. Found on the occupation area which has yielded leaf-shaped, and barbed and tanged flint arrowheads, kitchen middens of cockle, mussel, and whelk shells, and Late Bronze and mediaeval relics.


199.

Tents Moor, Leuchars. Found on the occupation area which has yielded leaf-shaped, and barbed and tanged flint arrowheads, kitchen middens of cockle, mussel, and whelk shells, and Late Bronze and mediaeval relics.

200. This number on the map marks the domestic site of Tents Moor, Nos.197-199.

201.


Collessie. The first was found in a stone cist 4'6" x 3' in the centre of a huge cairn, 120' in diameter and 14' high.
The cist contained a contracted skeleton. At 12' from the centre was an oval pit, 6' deep, at the bottom of which were the fragments of the second beaker embedded in gravel, ashes, and charcoal. At 25' from the centre another hole, 4' deep, contained pieces of the burnt bones of an adult, and a "bronze" knife dagger with a gold mounting. The cairn area had been levelled and coated with clay, which exhibited signs of burning, and was plentifully mixed with charcoal and burnt animal bones.


Corran Ferry. Found in a cist which had been placed in a pit dug out of the subsoil for 4'. The cist measured 3'9" x 2'2" x 1'8", and lay NE-SW.


Kraiknish, Loch Eynort, Skye. Found in the chamber of a round cairn. No.206 was tightly wedged in with waterworn pebbles, and near it was a small flint button scraper.


Langass Barp, North Uist. Found on the floor of the chamber of a round cairn, together with a barbed arrowhead, a scraper and five flakes of flint, wood ashes, burnt bones, and a thin disc of mica with two perforations near the edge. The three fragments are pseudo-beaker ceramic and belong to one pot.

Type (Y fragmentary). Sherds representing at least one vessel.

Geirisceleit, North Uist. Found on the floor of the chamber in a round cairn, together with a flint scraper and a piece of "Neolithic" ware. The fragments are of pseudo-beaker ceramic.


Achindoun, near Cawdor. Found in a cist together with a flexed skeleton and a white pebble.
213. Invernesshire. No particulars available.
214. Dr Gallander is of opinion that the fragmentary examples Nos.
211-214 came from cists in the vicinity of Ashindoun which
are described in the same paper as contains the account of
Kilmarie Lodge,Loch Slapin,Skye. Found in a short cist placed
within the margin of a long cairn. The cist measured 3'3" x
1'91" x 1'83", and lay NE-SW. On the floor was a layer of dark
mould covered by a coating of shore gravel. The cist also
contained incinerated human bones.
Rudh'an Dunain, Skye. Found in the chamber of a round cairn.
The lowest or Neolithic stratum contained Type A ware (Wind-
mill Hill), unburnt human and animal bones, two oval flint
scrapers, seven flint chips, and three pieces of quartz. The
higher or Beaker stratum, which was clearly divided from the
Neolithic level, contained the unburnt skeletons of four
individuals: - a young man; a broad-headed person aged about
30-35, and probably a male; two young adults, one aged about
18-20. This stratum also contained white quartz pebbles, four
pieces of pumice, traces of charcoal, and a piece of dark green
chert.
217. Type unknown. Aberdeen University.
Kirkhill, Olunes. Found in a cist (no further particulars
available as yet).
KINNAR


_Balbridie, Durris._ Found in a cist, which lay E-W, together with the remains of an unburnt skeleton. A quantity of charred wood and other organic material was found in the sand which filled the cist.


_Balbridie, Durris._ Both found in a cist which lay E-W, and measured 58" x 24" x 24". The cist also contained several small fragments of bone and a quantity of charred wood.


_Balbridie, Durris._ Found in a cist (close to that which contained Nos. 218, 219) which lay E-W, and measured 30" x 21½" x 2'. The cist also contained several small fragments of bone and charred wood.


_Kernoon Farm, Dunottar._ Found in a stone cist 4'2" x 2'4" x 2'2".


_Reesting Hill, Dunottar._ Found in a cist.

**224.** Type $\Omega_{7}$. Aberdeen University. P.S.A.S. LVIII, 27, (1923-24).

_Cat. Marischal Coll. Figs. 1 & 25, No. 1, p. 27.

_Parish of Kineff and Gatterline._ Found in a cist which lay NE-SW, and measured 2'9" x 4'1" x 2'4". The covering was formed of several stones, making three layers and about 3' thick. One of these cover stones had cup and ring markings.
comparable to those on the cover stone of the Carnwath cist (See No. 234). Another slab had a countersunk perforation. The stones of the cist were roughly dressed and the floor was covered with beach pebbles. Within the cist was an implement of quartzite, and the flexed skeleton of a male over 40 years of age and 5'7½" in height. The cephalic index of the skull was 85.0. The urn was placed on a flat stone behind the neck and the implement lay near the left hand.

236. Type U_A. Aberdeen University. Cat. Marischal Coll. No. 24, p. 46.
Banchory Ternan. No particulars available.

237. Type U_B. Aberdeen University. Cat. Marischal Coll. No. 11, p. 41.
Pityot, Fetteresso. Found in a cist within a stone cairn or tumulus, together with part of a skull.

238. Type U_B. Aberdeen University. Cat. Marischal Coll. No. 28, p. 47.
Parish of Kineff and Catterline. Found in a cist. Part of the ornament shows a white encrustation.

Lanmilllock, Portlethen. Found in a cist.
KINROSS


Tillyochie. Found under a cairn.
Woodfield, Highbanks. Found in a cist, 3' x 2', whose floor was formed by two slabs. The cist contained fragments of unburnt human bone.
LANARK


Mossplat, Carluke. Found under a cairn of stones.


Lanarkmoor, Lanark. Found in a sandpit.


Urawfurd. Found in a cist at the centre of a cairn, together with an unburnt skeleton, and a bronze ring which may be compared with the example from Stobo. (Anderson, I, 58).

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.


Wester Yird Houses, Carnwath. Found in a cist beneath a cairn. The cist lay N-S. The coverstone had ring markings comparable with those on the coverstone of the cist which contained No. 223. The markings have also analogies with those on the coverstone of the Goilsfield cist which contained foodvessel No. 74.
Juniper Green. Found in a stone cist which measured 3'11" x 2' x 2'. The cist also contained the flexed skeleton of a male over 50 years of age, whose cephalic index was 83.2. The head had been pillowed on a flat stone, and "when the cist was opened it was thought there were some slight indications of a linen covering, especially round the legs". The joints of the cist were carefully plastered with loam.

The cephalic index is taken from Biom. XXB, 364 December 1928. P.S.A.S. gives it as 82.0. The more recent statement has been preferred.
Knockando, Acres, Elgin. Found in a cist.

Near Elgin. No particulars available.

Sleepies Hill, Urquhart, Elgin. No particulars available.

Gordonstown, Elgin. No particulars available.

Elgin. (?) No particulars available.
NAIRN.

246. Type \( \text{C}_A \). A.No.266. Tortola.

Nairn. No particulars available.


Cawdor Castle. Found in a stone cist which lay E.-W. and measured 4' x 2'. The cist contained two awls and a chisel of bone, and the unburnt fragments of a human skeleton.

246a. Type unknown. Cambridge Museum.

Nairn. Presented by the Earl of Cawdor in 1923. No particulars available as yet.

246b. Type unknown. Cambridge Museum.

Nairn. Presented by the Earl of Cawdor in 1923. No particulars available as yet.
ORNAMENTED BY HORIZONTAL IMPRESSIONS OF A TWISTED CORD
Drummelzier. A cairn, 40' in diameter and 2' in height, is situated on a knoll. At the centre was a grave cut in the subsoil, and in the cairn itself were seven cists and two oval stone settings. The contents of the cairn were (1) fragments of Neolithic or Overlap ware, (2) a beaker urn and fragments of another, (3) pieces of six cinerary urns, (4) part of a jet armlet, (5) a flint saw, (6) flakes of flint and chert, some of which show secondary working, (7) a small fragment of iron, (8) a broken whetstone, (9) a slab with ring markings. The periphery of the cairn had been marked by boulders. The primary interment was a cist of small stones, 3'5" x 1'8" x 1'3", which lay NE-SW. The cist contained the beaker ware, fragments of Neolithic or Overlap pottery, a flint saw and 13 flakes of flint and chert. Some of the flints showed secondary working. The Neolithic or Overlap fragments are like the Type B. (Peterborough) ware from Hedderwick and Glenluce.
    Tippermallo, Methven. Found in a stone cist.

    Tippermallo, Methven. Found in a cist, 4'5" x 25" x 20", whose
    floor was formed by two thin slabs. The cist also contained
    two scrapers, a knife of flint, a flint flake showing no sec-
    ondary working, and the unburnt fragments of a human skeleton.

    It is suggested that Nos. 248 and 249 are one and the same
    urn. The latter 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. 248, which is preserved 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.

    (1897-98).
    Bailielands, Auchterarder. Found in a cist whose floor was
    paved with a slab. The cist also contained a flexed skeleton.

    T.S.A.S,1928-27,p. 94.
    Fairies' Knowe, Pendreich, Bridge of Allan. Found embedded in
    the top of a tumulus, 78' diameter and 21' high. The tumulus
    covered a stone cairn, 3' in diameter, much of which had been
    subjected to fire. At the centre of the cairn was a cist which
    contained fatty black earth, charcoal, and pieces of human bone
    some of which were incinerated. The earth throughout the
    tumulus was black and greasy, plentifully mixed with charcoal
    and human and animal bones.

    (1877-78).
    Kincardine Castle. Found in a cist whose floor was paved with
HORIZONTALLY GROOVED FROM LIP TO BASE.
a single slab, together with a flexed unburnt skeleton. The cist measured 3' x 21" x 15". Below the flooring, the remains of a second skeleton were found.

267
Type C. Nat. Mus. Ant. E. H. S. P. S. A. S. XVIII, \( \text{B} \), (1883-84).

Andrewson, I, 82.

Balmuck, Comrie. Found in a stone cist, south of the centre of a mound. The cist lay E-W, and measured 3' x 12". It contained a few small fragments of bone. Wood ashes were found all over the original surface of the ground beneath the mound, and a stratum of fragments of bone was found towards the centre. This bone stratum was 10' x 4', and lay just above the lowest stones of the mound. Scattered through the mound were fragments of a large unornamented urn. This is a handled beaker similar to the example from Monquhitter, Aberdeenshire, No. 62.

268
Type C. Nat. Mus. Ant. E. H. S. P. S. A. S. XVIII, \( \text{B} \), (1883-84).

Balmuck, Comrie. Found in a cist within a mound 22' in diameter. The cist was 2\( \frac{1}{2} \) long.

269
Type ? C. B. II, 25, footnote.

Belmont Castle, Neile. Found in a stone cist together with the skeleton of a young woman, 17 years of age. The skull is markedly brachycephalic.
The ornamentation of this urn includes "horizontal bands of vertical and diagonal lines and cross hatching."
Parish of Lochs, Lewis. Fragments of a beaker were found in a short cist which contained the remains of an unburnt human skeleton. The floor of the cist was covered with sand.

**Fyrish, Evanton.** Found in a cist together with a stone bracer, and remains of an unburnt skeleton. The skeleton is that of a male whose cephalic index is 82.3.

**Eddertoun.** Found in a cist within a tumulus which was 24' in diameter and 5' high. The tumulus contained in all six cists. The beaker was in No. 3, which lay SW of the centre, and contained the skeleton of an aged person of short stature with a brachycephalic skull.

**Ross. (?)** No particulars available.

**Tarradale.** No particulars available.
ROXBURGHSHIRE


Eckford. Found in a cist lying E-W, which measured 33" x 20" x 18". The floor consisted of two slabs.


Near Littleton Castle, Kels. No particulars available.


Wester Wooden Farm, Eckford. Found in a cist which lay NE-SW, and measured 3' x 16" x 18". Among the soil which filled the cist were pieces of charred wood, two small flints, and some pieces of chipped stone.


Knock Hills, Eggeston. Found in a cairn 36' in diameter and 5' in height, which had been surrounded by a ring of boulders. "Within was a circle 6'6" with big stones over it and char-
coal underneath them very near the original surface. Further below there were some bits of unburnt bone", and five sherds of a beaker.


Roxburghshire. No particulars available as yet.
SHETLAND


Unst. No particulars available.

267. Type (Y fragmentary) P.S.A.S.LXVII,(1932-33).

Fraga, Skatness. found, together with unburnt human remains, in a short cist.
STIRLINGSHPRE

268. Type C, A, No. 103. Stirling Museum.

Cambuskenneth, Stirling (?) No particulars available. Beaker 7/2 x 6/2. 

Presumably from Cambushenneth sandpit.
   Cambusmore, Dornoch. No particulars.

   Dunrobin. Found in a stone cist together with the skeleton of a young woman, 18 years of age. The skeleton was flexed and the skull had a cephalic index of 82.0. Behind the skeleton were 18 quartzose beach-rolled pebbles, and at the feet lay 118 small shale discs of which 6 were perforated.

   In J. R. A. I. the cephalic index is given as 82.4. The above figure is taken from Biom. 3 & 4 December 1928, and have been preferred as the most recent statement.

279. Type (Y fragmentary). A, p. 43, footnote 2.
   Bettyhill, Strathnaver. Found in a cist.
No 272: 280

Horizontally String Marked from Lip to Base.

No 273: 281

Horizontally String Marked from Lip to Base.

No 274: 282

Ornament no longer distinguishable except for a few dots.


   Glenluce Sands. No particulars available.

   Stoneykirk. Found in a patch of sandy ground. The urn contained
   three pieces of charred wood and 188 perforated discs of lig-
   nite forming a necklace with a triangular catchpiece.

   Larsecoreugh Castle. Found in a cist which lay NE-SW and meas-
   ured 38" x 28" x 15". The cist contained the unburnt skeleton
   of a young woman, 30 years of age with a brachycephalic skull.
   Close to the skeleton lay the skull of an infant.

   Ulashsiant,Stoneykirk. Found buried in the sand beside a
   broken whetstone, in the hollow of which lay a small stone axe


      available.

281. Types B or G (? fragmentary). Nat.Mus.Ant.B.H.8614-8683. (Selection
      of unspecified Bronze Age pottery)
      Glenluce Sands. An unknown quantity from a domestic context.

282. This number on the map marks the domestic station of Glenluce,
      nos.275;281-285.

283. Type G or B (? fragmentary). Kelvingrove Museum,Glasgow.Collect-
      ion of Mr Ludovic Mann.
      Knockdoon. Found in a bark-lined grave.
Types (Y fragmentary). Kelvingrove Museum, Glasgow. Collection of Mr Ludovic Mann. From the vicinity of Knockdoon.
APPENDIX V

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LIST OF BRACERS FOUND IN SCOTLAND
Arranged according to Counties, in alphabetical order.
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LIST OF BRACERS FOUND IN SCOTLAND

ABERDEENSHIRE

1. Rinnachie, Strathdon.
2. Rayne.
4. Fyvie.

ARGYLLSHIRE

5. Callachally, Glenforsa, Mull.

FIFE


INVERNESSSHIRE

8. Corry, Broadford Bay, Isle of Skye.
   Found in a chambered cairn.

MORAYSHIRE


ROSS-SHIRE

10. Fyris, Evanston.

WIGTONSHIRE

11. Mid Torrs, Glenluce.
APPENDIX IV

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LIST OF BRONZE RIVETTED KNIFE DAGGERS FOUND IN SCOTLAND

Arranged according to Counties, in alphabetical order.

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LIST OF BRONZE RIVETTED KNIFE DAGGERS FOUND IN SCOTLAND

ABERDEENSHIRE

   Found with an urn. Described as a flat piece of bronze which
   might have been a lance head.

   ANGUS

   LVII, 128 (1922-23).
   Part of a hoard which also included three flat axes and a plain
   pennannular armlet, all of bronze. No. 2 had nine and No. 3 had 5
   rivet holes.

   (1886-87); LVII, 131 (1922-23).
   Found in a short cist which lay N.W.-S.E. and measured 4' x 2' x 2'.
   The floor had been paved with pebbles, the joints had been ce-
   mented with clay and the mouth of the cist had been closed with
   a coverstone. With the dagger were the remains of an unburnt
   skeleton, whose long bones had been enveloped in some matted
   substance, and two gold discs. This cist was one of several
   found in and about a gravelly mound 50' in diameter.

   (1886-87); LVII, 131 (1922-23).
   Found in a cist within the same cairn as the cist which had con-
   tained No. 4. This cist had been opened in 1875.

   205 (1897-98); LVII 131 (1922-23).
   Found in a cist at the centre of a cairn 21 x 20 yards dia-
   meter and 5' - 6' in height. The periphery of the cairn had
   been marked by boulders and an inner ring of boulders surrounded
   the cist. The cist, which lay NE - SW, was rhombooidal, measuring
   approximately 2' x 2' x 2'. It had been closed by three cover-
stones which were cemented with clay. The interior of the cist had been divided into two compartments by a low septal slab. The dagger lay in one compartment together with two heaps of incinerated bones. In the other compartment was a third heap of burnt bones plentifully mixed with wood ashes. The dagger had six rivet holes, a triple reeded midrib, and a handle of ox horn. With the dagger were three bronze rivets and a rivet pin of "white ivory" which may have belonged to the scabbard.

7. Cairn Greg, Linlathen. P.S.A.S. VI, 98, (1864-66); XII, 439, (1877-78); Anderson I, 10.
   Found in a cist at the centre of a cairn. The cist measured 4'10" x 2'9" x 2'10" and lay E - W. The floor had been paved with waterworn pebbles and the joints had been cemented with clay. The dagger had three rivets and was associated with beaker no.74.

   Gold fillet found with foodvessel No.38 under a small cairn together with an unburnt burial.

ARGYLL

   Found in a cist together with two beakers (Nos.85,86) and a bracer of greenstone.

    Found in a cist within a cairn. The earth which filled the cist was mixed with fragments of bone. The blade had had a handle of wood and three rivets. Where the handle met the blade there was a line of

BUTE

    Found in a cist within a cairn. The cist lay NW-SE, and measured
4'3" x 2'4" x 2'6". The blade had four rivet holes, a triple midrib, and where it had formed the handle it had been decorated by a thin fillet of gold corrugated longitudinally.

**EAST LOTHIAN**


Found in a cist within a large cairn together with unburnt human remains. The blade had four rivet holes and was associated with a narrow fillet of gold corrugated longitudinally. (op. No. 10)

**FIFE**


Twenty-five feet from the centre of a large cairn, which also contained beakers Nos. 201, 202, was a pit 4' deep which contained the burnt bones of an adult and the bronze knife dagger. The dagger lay in a sheath of ox hide, had two rivet holes, and was associated with a thin fillet of gold corrugated longitudinally.

**KIRKCUDBRIGHT**


Found in a cist within a cairn.

**LANARKSHIRE**


Found in a cist 3'4" x 1'3" x 2'3" which contained an unburnt contracted skeleton with the head towards SW. The dagger was pierced for three rivets and had a circular midrib.

**MIDLOTHIAN**

16. **Newbridge, Ratho**. P. S. A. S. X, 151–(1872–74); XXXVII, 201, (1902–03); Wilson, I, 61.

Found together with a heap of animal charcoal and small fragments of bones in a large earthen tumulus which is associated with three standing stones, lying on two circles which are concentric with the mound.
Found in a cist which had been placed within a mound of earth and stones. The cist which was one of several lay N.E.-S.W. and measured 5'3"x 2'2"x 2'. There was no cover stone. At the bottom of the cist lay the remains of an inhumed skeleton together with the knife dagger. Scattered among the human bones were the calcined bones of some animal. The knife dagger measured 4\(\frac{3}{4}\)"x1\(\frac{3}{4}\)" and had three rivets. The writer of the account remarks that "the thickness is about equal throughout as if it (the knife dagger) had been cut out of a sheet of bronze and not cast". Another of the cists within the group contained two food-vessels Nos: 240, 241.
MORAY

   Found in a cist 6' x 3' wide in the centre and 1' wide at the ends. The cist, which was discovered during ploughing operations, contained the remains of an oxhide. The blade has a central flat midrib. This example has been hafted and used as a halbert.

ORKNEY

   Found in a peat cutting.

PERTHSHIRE


   The blade had three rivet holes.


   Found in a short cist which lay NW - SE. The floor was covered by a layer of sand, gravel and pebbles, and the stones were cemented with red clay. There was a cup-marked coverstone. The dagger was associated with unburnt human remains, two bone pins, and part of a bone ornament. The cist measured 4'6" x 2'8" deep.

RENFREWSHIRE


   Part of a hoard which also contained two flat axes with incipient flanges and curved expanded cutting edges. One axe has a cable design on the sides, and the other has a herring-bone pattern on the surface of the flat face. The blade has a triple midrib and was hafted as a halbert.

STIRLINGSHIRE


   Found in a food vessel (No.259), one of three occurring in a tumulus together with fragments of bone.
WIGTOWNSHIRE

    Found among the sandhills and probably associated with frag-
    ments of urns.

    Found between two large stones with some ashes.
plus 1 from hub-caldy
1 from Brinksland
1 from Abadour.
APPENDIX III

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LIST OF POLISHED FLINT DISCOIDAL KNIVES FOUND IN SCOTLAND

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LIST OF POLISHED FLINT DISCOIDAL KNIVES FOUND IN SCOTLAND
Arranged according to counties, in alphabetical order.

ABERDEENSHIRE


BANFFSHIRE


BERWICKSHIRE

   Found 2' below the surface, in cutting a drain.

FIFE

   Found on an extensive occupation site, inhabited at one time by
   Beaker folk.

KINCARDINE


KIRKCUDBRIGHT


LANARKSHIRE


MORAYSHIRE


ROSS-SHIRE


WIGTOWNSHIRE

APPENDIX II

LIST OF EARLY BRONZE AGE FOOD VESSELS FOUND IN SCOTLAND
LIST OF EARLY BRONZE AGE FOOD VESSELS FOUND IN SCOTLAND
Arranged according to Counties, in alphabetical order.

ABBREVIATIONS.
The following abbreviations are used in addition to those of Appendix I.

Childe = The Bronze Age. V. Gordon Childe. Cambridge 1930.
T.B.N.S. = Transactions of the Buteshire Natural History Society.
Uisneach. = Loch Etive and the Sons of Uisneach. Dr Angus Smith. London. 1879.
ABERDEENSHIRE

   Wartle. No particulars available.

   Methlick. Found in a cist at the centre of a large cairn.

   Blackhills, Tyrie. Found in a short cist, 3' x 2' x 1'9", which lay E.S.E.- W.N.W. The cist also contained the contracted skeleton of an adult male, 5'4" in height, whose cephalic index is 83.6. The floor of the cist was paved with waterworn pebbles, and the skeleton had been covered by an oxhide. The man was beyond middle age and had suffered from osteoarthritic disease.

   Blinmill, Rothie-Norman. Found in a cist at the centre of a cairn 23' in diameter, which had been surrounded by boulders. The cist lay almost E.- W. and measured 3'4" x 2'8". It contained a necklace of 14 beads and 9 plates of jet, a fragment of bronze, two amber beads, remains of an unburnt skeleton, and charred wood.

   Haddo House Estates. No particulars available.

   Hill of Migvie, Tarland. Found in a cist 2½' x 1½' x 1½' within a cairn which contained in all three cists. With the urn were some calcined bones, among which was a human toe-nail.
Tillybin,Kintore. Found in a cist,5' x 2\(\frac{1}{2}\) ' x 2\(\frac{3}{4}\) ',which lay nearly E-W. "When found there was a whitish mealy stuff adhering to the bottom of the urn."

Cairn Curr,Alford. There is here a cairn 82' in diameter. The material of which it was built rested on a foundation of large stones laid round the periphery. A pillar,11' high, stood on the W margin, and a similar pillar stood slightly beyond the cairn area on the E side. The urn was found in a cist W of the centre. The cist was 2'10" in length, and lay E-W. As far as can be ascertained from an inadequate description, the cairn contained no fewer than two cinerary urn cremations and four cists.

Farm of Sunnyside, Parish of Fyvie. Turned up by the plough.

Pitcaple Castle, Chapel of Garioch. No particulars available.

Tuack,Kintore. No particulars available.

P.S.A.S.XXII,331,(1887-88).
Aberdeenshire. No particulars available.

Straloch. No particulars available.

Meethill Monument,Broad Street,Peterhead. Found together with burnt bones.

Clashfarquhar, Banchory. Found in a cist together with a beaker of Type $\varphi_A$, (No. 23), and the flexed skeleton of an adult.


Gask. Found in a cairn.

Balncall, Tealing. Found in a cist which measured 3'2" long, 2'2" deep, together with a flint knife, the end of a bronze pin or awl, a jet or lignite necklace consisting of 7 plates and 142 fusiform beads, and the flexed skeleton of a female whose cephalic index was 77.1.


Lunanhead. Found in a cist 4'8" x 2'4" x 2'6", lying E-W, together with a flint flake showing secondary working, and some unburnt skeletal remains.


Kellas Murroes. Found in a cist together with a cylindrical bead and a small plate of jet which had once formed part of a necklace.


Howyars Farm, Letham Grange, Arbroath. Found in a cist 20" x 20" x 10", which lay E-W and was buried within an artificial mound composed of earth and stones. The cist contained some unburnt skeletal remains. The mound had covered at least three cists.


Deerpark, Kinnaird Castle. Found in a natural sandy ridge which contained in all five or six cists, "mostly more or less in line," and sunk 2' to 3' beneath the surface. No. 31 may also have been found in a cist, although the fact is not actually mentioned.

(In the Museum, this urn is labelled as from Perthshire. In the Imperial Gazetteer of Scotland, Kinnaird Castle is given in Angus.)

Murley Well, Glamis. Found in a cist.


Zabothy Hill, Inverarity. Found in a cist.


Greenford, Guynm. Found in a cist.


Hatton Cairn, Inverarity. Found in a cist within a cairn, 30' in diameter, whose periphery was marked by large boulders. The cairn contained a great number of cists.


West Skichen, Carmylie. Found in a knoll of sand and gravel.


Hatton Cairn, Inverarity. Found in a cist within the same cairn as contained No.26.


Carr Hills, Monikie. Found in a cist.


Meikle Kenny, Kingoldrum. Found in a gravel mound.


Zabothy Hill, Inverarity. Found in a cist.


Pitreuchie. Found in a cist together with a large plate jet necklace, a smaller one which was incomplete, and an unburnt burial.
   
   Oarmyllie. Found in a cist. The urn contained ashes and unburnt bones. The cist was floored with 12 small round stones.

   
   Ninewells, Invergowrie. Found in a cist together with unburnt skeletal remains of a young female aged 12 to 15 years.

   
   Milton Hill, Lochlee. Found in a stone cist, 3'6" x 18" which had been buried beneath a cairn. The cist also contained the unburnt skeleton of an adult.

   
   Knockenney, Glamis. Found in a cist which lay NW-SE, and measured 3'5" x 2' wide. It contained an unburnt skeleton and an incomplete jet necklace, of which 15 discoidal and 3 cylindrical beads were recovered.

37. Type A. Anderson, I, 85.
   
   Stannergate, Dundee. Found in a cist, one of several, which contained an unburnt interment.

38. Type C. Anderson, I, 66.
   
   Monikie. Found under a small cairn, together with an unburnt burial, and the gold mounting for the haft of a dagger, similar to that found at Collessie, Fife. (See List of Beakers, No. 201).
39. Type A. West Highland Museum, Fort William.
   Gemmell Farm, Craignish. Found together with three flat discoid beads of jet.

40. Type B. Kelvingrove Museum, Glasgow: Corporation.
   Ardlamont. No particulars available.

41. Type B. P.S.A.S. LVI, 364, (1921-22).
   Oban. Found in a cist which measured 4'6" x 2' x 3'9", and lay nearly E-W. It was buried in the 25' raised beach.

42. Type B, B. P.S.A.S. LIV, 178, (1919-20).

43. Balnabraid, Campbeltown. No. 42 was found in cist No. 4, one of twelve within an oval cairn whose periphery had been marked by a setting of boulders and whose primary burial had been within a Neolithic segmented passage grave. The cist was built of loose boulders, with piles of smaller stones at the corners. It lay N-S, and measured 29" x 21" x 14". The floor was formed by a flagstone which had been covered by a sprinkling of sand. In the SE corner was a heap of burnt bones, presumably human, lying on pebbly soil outwith the area covered by the flagstone. No. 43 was found in cist No. 9, which measured 43" x 20" x 22", and lay NE-SW. The cist also contained a flexed skeleton, a flint knife showing secondary working, and a flint flake which was found between the pelvic bones and had evidently been placed beneath the body. The food vessel was lying on a thin bed of clay beneath which was a collection of burnt bones, presumably human. Among the bones was a fire injured flake of flint like a knife, but without secondary working. The incinerated deposit had been placed in the cist before the inhumed burial, as the layer of clay intervened. The cairn also contained numerous uncist burial, burnt and unburnt. Cist No. 6 contained Beaker No. 87.
44. Type 7. P.S.A.S.XLI,449,(1906-07).

Uragaig,Colonsay. Found in a cist,3'10" x 1'10" x 2', together
with the flexed skeleton of a young female of low stature and
slight build.


Probably from the vicinity of Poltalloch. No particulars avail-
able.


Poltalloch. Found in a cist which had been buried in a gravel
knoll. The cist lay slightly E of true N, and measured 3'9" x
1'9" x 1'7". The floor had been paved with waterworn pebbles.
The coverstone had been "tooled" at the N end in order to
reduce its thickness. The end slabs had been grooved, but the
side slabs were not placed therein. It is thought the grooves
may have been for the attachment of a lining of wood. The cist
had been purposely filled with soil and gravel. On the pavement
were fragments of unburnt human bones, a piece of flint, small
fragments of charcoal, pieces of ochre, and a minute scrap of
bronze. The bones are those of a young woman over 22 years of
age.

47. Type B. With Miss Campbell of Ledaig, Benderloch. Uisneach, 171,
and fig.

Given. Found at the base of Dun Bhaile an Righ, with
no associations.


Dunadd, Poltalloch. From the Iron Age fort: probably from a
Bronze Age burial disturbed by the builders of the fortificat-
ions.

49. Type B. Nat.Mus.Ant.Poltalloch Collection. P.S.A.S.LXV,275,
(1930-31).

Uaranserie, Poltalloch. Found in a cist within a cairn, 93' x 90
x 8'3" high. The periphery had been marked by a ring of boulders.
and the cairn area had been paved with large stones set close together. Within the cairn was part of an inner ring of boulders whose centre would be 18' E of the centre of the cairn. The cist lay 14' SSE of the centre of the cairn and measured 3'11" x 2'1" x 1'6". The floor was paved with 265 waterworn stones. The main axis of the cist lay NW-SE. Besides the food vessel, the cist contained some charcoal and ochre.

50. Type A. Nat. Mus. Ant. L, 1927, 10. P. S. A. S. XI, 488, (1874-75). Near Avenue Gate, Dunstaffnage. Found in a cist which had been buried in a gravel hillock. The cist measured 29" x 16" x 21", and contained unburnt bones "of a large size".


52. Type B. Nat. Mus. Ant. L, 1931, 2. P. S. A. S. LXVI, 406, (1931-32). Island of Kerrera, Oban. Found in a cist 4'5" x 1'3" x 2'2", which had been buried within an artificial mound. The cist also contained seven waterworn pebbles of cream-coloured quartzite.


P.S.A.S. VI, 217, (1864-66): XXXIX, 244, (1904-05).
Rudle, Poltalloch. Found in a "small" cist on the SE margin of
a cairn. In all, three cists were found close together.

Probably from the vicinity of Poltalloch. No particulars avail-
able.

P.S.A.S. XXXIX, 239, (1904-05).
Barsleisnach, Poltalloch. No particulars available.

Collection, L.P. 13, 11. P.S.A.S. VI, 347, (1864-66): XXXIX, 237,
Buncraigaig, Poltalloch. No. 60 was found in a cist at the centre
of a cairn, 100' in diameter. The cist lay ENE-WSW, and measured
4'5" x 2'9" x 2'6". On the coverstone lay an unburnt body.
Within the cist were some burnt bones, presumably human, char-
coal, and a few flint chippings. Beneath this lay a pavement
of flagstones which covered a flexed skeleton embedded in
clay. No. 61 was found in a small cist which measured 1'6" x
1'3" x 1'5", and lay 22' east of the cist which contained No.
60. The axis of this cist was NE-SW. It contained burnt bones,
presumably human, and a few flint chippings. On the southern
margin was a third and very much larger cist. Amongst the
cairn material there were found a whetstone, an axe of green-
stone, a flint knife, and fragments of pottery.

Kilmartin, Poltalloch. No. 61 was found in a hollow, 7½' x 3' x 3'
orientated NE-SW, and lined with rounded boulders. It was situated at the centre of a cairn 110' in diameter and 13½' high. Besides the food vessel, the grave contained only a quantity of dark unctuous matter. At 30' from the centre was a second cist which contained No. 63, together with the remains of a jet necklace consisting of two oblong plates, three cylindrical and 23 discoidal beads. This cist lay NE-SW and measured 3'5" x 2'4" x 21". It had been surrounded by two concentric circles of boulders, 27' and 57' in diameter.
AYRSHIRE

64. Type B. Hist. Arch. Coll. Ayr and Wigton, I, 51, fig. 15.
     Eglinton Castle. No particulars available.

     Ladyland, Kilbirnie. No particulars available.

66. Type (Y fragmentary). Hunterian Museum, Glasgow.
     Ladyland, Kilbirnie. No particulars available.

     Maybole. Found in a field.

     The Law, Tarbolton. Found "placed on a rock and covered with up-
     wards of 3' of earth". It was blackened "as if it held ashes of
     animal matter". (Smith says it was found under a cairn of stones)

     Content. Found in a sandbank.

70. Type D (imperforate). Lanfine Collection. Munro, p. 321. Hist. Arch Coll. Ayr and Wigton, I, 50, fig. 12. N.S.A. St Quivox Parish, p. 120.
     Content. Found in the same sandbank as contained No. 69.

     Skeldon. No particulars available.

72. Type C. Carnegie Public Library, Ayr. Cat. Glas. 1911, No. 11, p. 874
     Hist. Arch. Coll. Ayr and Wigton, I, 47, fig. 7.
     Skeldon. No particulars available.

Coilsfield, Tarbolton. A circular earthen tumulus, surmounted by two boulders of basalt, was found to cover a cairn of stones. At a depth of 4' in this cairn, beneath a flagstone and packed round with yellow clay, was found No. 73. It contained burnt bones and the mouth was covered by a small slab. In the vicinity of the urn, and covered by flat stones, were several small heaps of bones (probably burnt) surrounded by the yellow clay. Other urns were also found.


Coilsfield, Tarbolton. Found in a cist buried in a gravel pit. The urn contained burnt bones and the coverstone had cup and ring markings upon it.


Wetherhill, Muirkirk. Found in a cairn, 30' x 25', which was built around an outcrop of dolerite rock. The urn had been laid in a cranny of the rock, 4' N of the centre of the cairn. Near the food vessel was the rim of a cinerary urn. Fragments of birch and oak charcoal were scattered on the rock. At 7' from the centre and 9' E of the cinerary urn was a deposit of burnt bones, which had probably belonged to a woman of small stature. The rock had evidently been the site of a funeral pyre.


Kirkhill, Ardrossan. Found in a cist which lay E-W, and measured 2' x 16" x 12". The urn contained fragments of burnt bone and wood charcoal.

Ardrossan Water Works. Found in a stone cist which also contained burnt bones, presumably human.

    Probably North Ayrshire. No particulars available.

    Ardrossan Water Works. Found in a stone cist which also contained burnt bones, presumably human.

    Wallacetown, Ayr. No particulars available.


82. Townhead, Stevenston. Found in stone cists with inhumed burials. One cist contained a nodule of ferruginous matter, and flint flakes.

Netherdale. No particulars available.
84. Type Y. Berwick Museum. *P.S.A.S.*XXII.331, (1887-88).

Merton. No particulars available.


Gordon. Found on the original surface beneath a cairn.


*Aycliffe House* (Falnabraes), Ayton. Found in a cist lying N-S. The cist was one of twelve which lay in two parallel rows, E-W, and were from 4' to 6' apart. "Most of the graves contained flexed skeletons generally placed with the head to the south".

87. Type Y. *B.N.U.XV*,155, (1894-95):XXIV,184, (1919-23).

Hillhouse, Channelkirk. No particulars available.


*Broomhill*, Duns. Found in a cist which lay N-S, and was formed of sandstone slabs. Within the cist were some unburnt bones, presumably human.

89. Type ?. *B.N.U.XXIV*,186, (1919-22).

*Lintmill*, Greenlaw. Found in a cist which lay NNW-SSE, measured 42" x 29" x 21", and was built of sandstone slabs. With the urn were bones and charcoal.

90. Type ?. *B.N.U.XXIV*,188, (1919-22).

*Blyth*, Lauder. Found in a cist.


*Flas*, Westruther. Found in a cist.


*Leetside*, Whitone Parish. Several cists, 4½' long and lying N-S, were found. "Triangular urns" were found at the W sides of the cists. These were probably food vessels. An unknown number were found.
Berwickshire ? No particulars available.

94. Type B. P.S.A.S. XXVI, 32, (1902-03).
Longriggend, Lauderdale. Found in a cist buried within a natural knoll. The cist measured 3' x 2' x 1'6".

Berwickshire (probably). No particulars available.

Earnskeugh, Coldingham. Found in a cist.

Haggwood, Foulden. Within a cairn, 31½' x 28', whose periphery is marked by a ring of boulders, was an inner ring of boulders, at the centre of which were two cists lying E-W. The northernmost cist measured 3'4" x 2'1" x 1'10", and contained No. 97, four flint implements which included a dagger-shaped knife of pale grey flint, a small knife of black flint, a scraper of brown flint, fragments of oakwood charcoal, and the incompletely incinerated remains of an adult. The second cist measured 3'9" x 1'10" x 1'8", and contained No. 98, a knife of dark grey flint, a small piece of unworked black flint, as well as several fragments of oak charcoal. Two pits full of forced soil and organic remains were found within the inner ring near the central cists.

Cockburn Mill, Cockburn Law, Abbey St Bathans. Found in a cist, together with two human teeth.

Edington Mill, Chirnside. Found in a cist which lay E-W, and
measured 3'8" x 2'4" x 1'6". The cist had originally been covered by a cairn. The floor of the cist had been paved with three sandstone flags. Besides No. 100, there were also found the fragments of a beaker, No. 135, minute portions of a skull and several teeth, and a small piece of charcoal. The cairn, cist, beaker, and skeleton were a primary interment disturbed by the intrusive food vessel.


Hallyburton Farm, Greenlaw. Found in a ruined cist beneath a cairn. The urn contained "a quantity of small broken bones and burnt stuff both red and black".


B.N.U.XVII,127,198.

High Cocklaw, Berwick. Found in a cist, 4'6" long, formed of sandstone slabs. The cist also contained portions of a jet necklace, and a finely flaked oval knife of dark grey flint which belongs to Graham Clarke's category of "plano-convex knives". (See A.J. April, 1932).
103. Type A. Rothesay Museum. T.B.N.S.1930,55,Pl.6.

Kilmichael Farm,Rothesay. Found in a cist together with a flint knife.

104. Type B. Rothesay Museum. T.B.N.S.1930,56.

Craignore,Rothesay. Found in a cist.

105. Type B. P.S.A.S.XX,179,(1885-86):XXXVI,125,(1901-02).

Knockankelly,Whiting Bay,Arran. Found in a cist which lay N-S, measured 2'6" x 1'6" x 20", and was buried in a small hillock. The floor of the cist was formed by fine white sand, resting on 2" of coarse gravel, which lay upon a second stratum of white sand. The cist also contained the fragmentary remains of a boy of 10 or 11 years whose cephalic index is 93.0.


Limekiln Cairn, Glachaidh, Arran. Found, along with unburnt human remains, the upper jaw of a young pig, and a flint scraper, in a cist which measured 3'4" x 1'8" x 2'. The cist was a secondary interment within a long cairn, whose primary burial had been in a Neolithic segmented chamber.


Glenkill, Shisken, Arran. Found in a cist together with an unburnt interment.


Whitehouse, Lamlash, Arran. Found in a field.


Scalpsie Bay, Bute. Found in a cist within a cairn 45' x 45' x 4-5' high. The cist measured 2'10½" x 18" and lay WNW-ESE. The floor was covered by gravel and beach shingle. Besides the
urn, there was a quantity of burnt human bones, a fragment of a bronze pin, a flint scraper, a cylindrical jet bead, a number of broken pieces of quartz, and several flint flakes.


Brownhead Cairn, near Blackwaterfoot, Arran. Found in a cist south of the centre of a cairn 26' in diameter whose periphery was marked by a ring of boulders. Within this ring is an inner circle. The cist measured 3'2" x 1'8" and lay E-W. Besides the urn, there were recovered from the cist a flint flake and 14 perforated discs of lignite.


Mount Stuart, Bute. Found in a cist within an earthen tumulus. The cist lay N-S, and measured 4'2" x 18". The floor was formed of sand pebbles and gravel. Besides the urn, the cist contained the flexed skeleton of a young woman whose skull had a perforation in the left frontal bone. This has been regarded as a trepanation, though it may possibly represent a necrosis of the bone resulting from a wound. The skull was brachycephalic and had an index of approximately 81.0. On the floor, under the upper part of the skeleton was "some burnt stuff". Near the feet and head were fragments of bronze, like pieces of awls or pins. In front of the chin was a piece of bronze, and where the neck had been were 7 plates and 100 fusiform beads of jet which had once formed a necklace. (The P. S. A. S. account states that the skull belongs to the "same class" as the example found in a cist at Auchantirie, also in Bute. The cephalic index of the latter is 81.0).


Mauchrie Moor, Arran. Found in a cist at the centre of a stone
circle (No.4) formed of four granite blocks 3' high, and placed in the cardinal directions. The circle in its longer axis measured 21' from N to S. The cist measured 3' x 1'4" x 2', and contained a bronze awl, three flint flakes (one of which exhibits its secondary working) and some fragments of bone. The axis of the cist lay NNE-SSW.


Maughris Moor, Arran. Found in a cist at the centre of a stone circle, 15 yards in diameter, and consisting originally of 7 or 8, the highest of which stood towards the west. The cist measured 2'11" x 1'10" x 2'2", lay NNE-SSW, and contained four flint flakes.


Tomont End, Great Gumbræ. Found in a cist in Cairn No.1, which is situated on the raised beach, and measures 40' in circumference and 6' in height. The cist, which lay at the centre of the cairn, was paved with white pebbles, and contained some burnt bones, presumably human.


Tomont End, Great Gumbræ. No.115 was found in a cist at the centre of Cairn No.2 (see No.114) which measured 30' in circumference and was 12' high. The cist was 29" x 21" x 19", and contained a few burnt bones. No.116 was found in a bed of gravel near the periphery and may have accompanied a small heap of burnt bones.


Bulletin, Glasgow, Monday 20th March 1933.

Little Kilmory Farm, Bute. Found in a cist along with "human remains", presumably unburnt. "A burial ground was revealed, and more discoveries will probably be made in the vicinity."

Sordale Hill, Stempster. Found in a niche behind the lintel slab of a chambered cairn.
CLACKMANNAN

   Easter Tillicoultry, Alva. No particulars available.

120. Type C. Museum of Dollar Institute. P.S.A.S. XXIX, 107, (1894-95)
   Cat. Ant. Edin. 1856, p. 20.
   Harvieston, Dollar. Found in a cist together with an oval flint knife.

   1914-15, p. 82.
   Tillicoultry. Found in a cist 18" square whose floor was formed of one slab. The main axis of the cist was N-S, and it was buried in a sandpit.

   The Cunninghar, near Tillicoultry House. A stone circle, 60' in diameter, is situated on an elevated sandy ridge. An embankment is said to have surrounded the circle, but whether the stones, which averaged about 5½' high, were placed on this embankment is uncertain. A cinerary urn in fragments was found lying in the sand at the edge of the circle, and near one of the stones. At the centre of the circle was a cist which lay NE-SW and measured 4' 9" x 3½' x 2'. The floor consisted of pure sand and the joints had been packed with clay. The cist contained No. 121 and the flexed skeleton of an adult. "Where the head had rested was a quantity of a fibrous or hairy substance of a dark red colour, and underneath this was a layer of white quartz pebbles, some of which were deeply stained with the red hue". The hairy substance resembles the "wool" of a fox or rabbit, or may be a matting of roots mixed with a "felt or unwoven cloth". The coverstone which was of granite had on its sides and upper surface ring markings and spirals.
123. Type B. Hunterian Museum, Glasgow. T.G.A.S. (New Series) VIII, II.

Old Kilpatrick. Found in a cist which lay NE-SW, and measured 5'3½" x 3'2½" x 1'3".
DUMFRIESSHIRE


Closeburn. The urn contained fragments of decayed bones, and four triangular flint arrowheads.
Near Dunbar. No particulars available.

Knockenhair, Dunbar. No particulars available.
(Abercromby registers this urn as from Knockenbaid, Dunbar.
As no such place name can be traced on the 6" O.S. map, it is suggested that "Knokenbaid" is a misprint for Knockenn-
hair, a well-known house near Dunbar.


128. P.S.A.S.XXIV,131,(1899-1900).

129. Duncra Hill Farm. Pencoaitland. Found in a cist within a sandy knoll, together with the remains of an unburnt skeleton. The cist measured 3'6" x 2'11" x 2'.

Luffness. Found in a cist 6' x 1'6" x 1'6", which had been buried in a gravel mound forming part of the 25' beach. The cist also contained the unburnt skeleton of a man "of large size".

Ormiston. No particulars available. The chevron ornament has been executed with the serrated edge of a cockle shell.

Longniddry. No particulars available.

Kilspindie Golf Course, Aberlady. Found in a cist which lay NW-SE, and measured 3'2" x 1'3" x 1'6". The wall of the urn had been built up in three strips which had been luted together with a relatively long acute angled overlap.
Gullane Links. Found while excavating for a quarry.

East Lothian. No particulars available.

Humble Mill. Found in a cist.

138. Type A. University Museum, St Andrews. Cornuceres Farm, Crail. Found in a cist near the seashore, together with fragments of unburnt bone.


140. Type (? fragmentary). University Museum, St Andrews. Several cists were found on the seashore between St Andrews and Crail. This fragment is from one of them.


142. Type (? fragmentary). Nat.Mus.Ant.E.Q.77,78,79. Tayfield, Balgay, Newport. Found in a cist together with 8 plates and 43 beads of jet, which had once formed part of a necklace.

143. Type D (imperforate). Nat.Mus.Ant. Elie. From a "grave" together with fragments of other urns which may be of cinerary type.


146. Greenhill, Balmerino. There is here a cairn composed of
earth and stones 50' x 48' x 5' in height. The periphery is marked by boulders set with their longer axes in the direction of the circumference. No. 145 was found in a rectangular pit the mouth of which had been covered by a flagstone. Embedded in the soil at the edge of the pit was No. 146. The interior of this urn was coated by a white encrustation. Nos. 147 and 148 were found with a heap of incinerated human bones amongst which were a yellow flint flake showing no secondary working, and two small perforated discoid beads, one of bone and one of jet. The white bead however may not be bone but simply fire-injured lignite. No. 149 was found with burnt bones underneath a slab; and to the S.E. was found No. 150. Near the S.W. margin was No. 151 together with a heap of burnt bones and near to it were the fragments of No. 152.


Pitrawie, Dunfermline. This cemetery was located in a sand-pit and consisted of four cists which lay side by side almost in a line E. to W. and about 2' - 3' apart. The longer axes of the cists varied from N. - N.W. and the average dimensions were 40" x 18" x 16". Each cist contained a food vessel. Beside No. 154 was a flint flake. Beside No. 153 was a disc-shaped scraper of flint.

Ualais Muir, Dunfermline. Found in a tumulus of loose sandy soil 40' in diameter and 4' in height. At the centre was a cist 42" x 16" x 23" which lay N.E. - S.W. The joints of the cist were cemented with a yellow ochreous substance. The cist contained No.158 together with an unburnt burial. Near the central cist "ten other urns" were found, while many pottery fragments, deposits of burnt bone and charcoal were found throughout the tumulus.


Farm of Beley, Parish of Dunino. Found in a cist.


(Battle Law, Naughton. There is here a circular enclosure 50' in diameter which may have been the ruins of a cairn. A cist which lay E. - W., measured 2' 5" x 13" x 17" and contained Nos.161 and 162 was found at the centre of the enclosure. Incinerated bones lay at the east end of the cist. In 1873 another cist containing No.163 had been found within the circle.


Kingsbarns Law, Crail. Within a sandy hillock two cists were found. The larger measured 3' 6" x 2' x 18" and contained an unburnt skeleton together with No.165. The smaller cist also contained the skull and bones of an unburnt skeleton together with No.164. All around the cists in the soil of the hillock were abundant traces of burning.
Type B. (fragment). Nat. Mus. Ant.

Dunbeath, near Wemyss. No particulars available.
INVERNESSSHIRE


Skye. No particulars available.


Ardochy, Invergarry. Found in a cist 3½' x 2' whose floor was paved with a slab. The urn contained a black greasy deposit which was also found over the floor of the cist.

Craigieston, Fettercairn. No.169 was found in a cist and No.170 was found at the same place.

171. Type C. A. No.347. Private Collection.

Stonehaven. No particulars available.


Kineff. Found together with an unburnt burial, two penn-annular rings and a spearhead of bronze. The rings are flattened on the inner side. The spearhead has a different patina from that of the rings and was probably found near, but not with them. The rings should be compared with the examples from Crawford, Stobo and Ratho (see No.212).
173. Type B. Stewartry Museum, Kirkcudbright. T.D.G.A.S. XIV (Third series) 284 (see list of relics) 1927; and XIII, 265, (1890).

High Banks, Kirkcudbright. Round in a circular grave hollowed out of the subsoil and 3' in diameter. The grave was situated at the centre of a round cairn 200' in circumference and 6' in height whose periphery had been marked by large slabs. Within the cairn material was a cup-marked stone. The urn was accompanied by a quantity of bones (presumably human and unburnt) which had belonged to more than one person.


High Banks, Kirkcudbright. Found in a second cairn near to that which contained No.173. The periphery was marked by large slabs. The urn was associated with a quantity of burnt bones resting on a flat slab beneath which was a second heap resting on a slightly smaller slab. Below that was yet another heap of burnt bones on a very small flagstone which lay at the bottom of a well, 3' deep, cut out of the solid rock.


Drannandow, Minnigaff. There is here a cairn 46' in diameter and 3' in height within which numerous structural walls were found. At the centre was a cist lying N.W. - S.E. which measured 2'6\(\frac{3}{8}\)" x 1'9" x 1'8\(\frac{3}{8}\)" and whose floor was formed of a few loose flat stones. This cist contained No.175, an unworked flake of flint and a piece of charcoal. South-west from this cist was another which seems to
have been a secondary burial. The long axis lay N.W. -
S.E. and the cist measured 2'4" x 2' x 1'6½". The floor
was covered with a red sandy deposit amongst which lay a
few loose flat stones and the fragments of No. 176.

177. Type C. A. No. 402. British museum.
Kirkmabreck. No particulars available.

25th. T.D.S.A.S. XVI, 38 (1898 - 99) and XIV (Third series)
284 (see list of relics) 1927.
Glenarm, Urr. Found in a cavity "large enough to hold
two or three people" on removing a quantity of stones in
a quarry. The urn contained "a little black liquor like
tea". Other vessels found at the same place were broken.
Mr Corrie registers two foodvessels from Glenarm but un-
less he includes two in the above account (for which there
seems insufficient evidence) there is no record of a second
foodvessel from the vicinity.

Barholm, Creetown. Found in a cist.
LANARKSHIRE

180. Type B. With Mr D.W. Ranken, Carluke. Cat.Ant.Edin. Fig. opposite p.11.

Cairnheadmount, Carluke. No particulars available.

181. Type B. Kelvingrove Museum, Glasgow; Corporation.

Teathes, Lanark. Found in a short cist, one of three, within a ruined round cairn.


183. Greenoakhill, Mount Vernon. There is here an extensive cemetery. No.182 was found in a cist together with some charred pieces of oak which had been "quick-fired".

No.183 was found in another cist together with unburnt human bones and a flint knife. No.184 was also found in a cist near to those which contained Nos.182 and 183.

No.185 was found in a cist. No.186 was found in a cist together with the unburnt skeleton of a young woman 25 years of age. Near the skeleton was a flint knife while traces of oats and rye were found adhering to the inside of the food vessel. Only a fragment of No.187 was recovered.

188. Type Y. Coatbridge Naturalists Association. Cat.Glas. 1911, No.38, p.873.

Drumpellier, Coatbridge. No particulars available.


190. Knocken, Lesmahagow. No.189 was found in a cist, one of several, together with bones "in a fair state of preservation". Fifteen or sixteen cists were found containing calcined bones; and two other urns, Nos.190 and 191, were recovered.

Cadder. While digging in a sandpit workmen discovered a pile of stones 5' - 6' in depth which contained four urns. Two were large (one of which is No.192) and two were small. In reality there seems to have been a cairn on top of the sandpit measuring 30' in circumference and 10' in height. In this the urns were found.


Dechmount Hill, Cambuslang. Found under a small cairn.


Drumsargard, Cambuslang. No particulars available.


Sheriff-flats, Thankerton. Found in a cist within a gravelly knoll which had contained a cemetery of cinerary urns.


Over Dalserf, Hamilton. Found in a cist.


Rachan, Biggar. Found under a tumulus.


Hamilton. Found together with human bones.
    Merrilees Close, Leith. Found in a cist together with two
    unburnt male skeletons. The cephalic indices of the skulls
    were 90.7 and 75.8.

201. Type ?. (fragmentary). Nat.Mus.Alt. E.E. 95. P.S.A.S. XXXIX,
    394. (1904 - 05); XL, 313. (1905 - 06).
    North Merchiston Cemetery. Found in a cist which lay N.E.-
    S.W. and measured 4'6" x 2'6" x 2'. The floor had been
    formed by a slab and the mouth of the urn was covered by
    a thin piece of laminated clay-stone.

    Winton Park, Cockenzie. Found in a cist 16" x 14" x 16"
    together with incinerated human bones and some charcoal.


204. XXXIII, 354. (1899 - 99).
    Juniper Green. No.203 was found in the soil mouth down-
    wards. Towards the north-east, lying near the cover of a
    cist was No.204.

    North Gyle, Worstorphine. Found in a cist which had been
    buried in a sandpit. The cist lay E.N.E. - W.S.W. and
    measured 2'7" x 16" x 20".

    Wardie, near Newhaven. No particulars available.

    Cramond. Found beside a row of twenty-four short cists
    which contained unburnt adult burials.

II, 76.

Shiel Loch, Tororaik. Found in a cist 2'6" x 1'6" buried beneath a great cairn. The joints of the cists had been cemented with clay.


Beechwood mains, Corstorphine. Found in a cist.


Bellfield, Musselburgh. Found in a cist together with an unburnt male skeleton.

211. Type A. A. No.3051. Cambridge Museum.

Inveresk. No particulars available.


Anderson I, 60.

Ratho. Found together with the portion of a bronze ring which should be compared with the examples from Kineff. (see No.172).


Succoth Place, Edinburgh. Two contiguous cists were found. The westernmost measured 3'3" x 2'5" and the floor was paved by a slab of sandstone. This cist contained No.213. The second cist measured 3'7" x 2'3" and contained No.214 together with fragments of unburnt bone. The main axis of both cists lay N.E. - S.W.

Sleepies Hill, Urquhart. No particulars available.


Kenny's Hillock, Urquhart. Found in a cist within a cairn, 24' in diameter. The cist lay on the sandy bottom of an oval grave 5' deep. The cist measured 4' x 2' and contained an abundance of wood ashes and charred fragments of oak. Among the ashes there was found a piece of flint.


Wilson I, 434.

Dam of Burgie. Found with an unburnt interment and portions of a plate jet necklace.


Burgie Lodge Farm. No. 218 was found in a cist, one of several, buried within a sandpit. The cist measured 3'6'' x 2' x 2' and lay N.E. x N. to S.W. x S. The roof had been formed of thin slabs embedded in clay and the joints of the cist had been cemented. Besides the urn the cist contained an unburnt skeleton and portions of a jet necklace consisting of 107 beads and 7 plates. From the position in which it was found the necklace had lain on the neck and breast of the person. No. 219 was found in a cist within the same sandpit. This cist lay N.E. x E. - S.W. x W. and measured 3'6'' x 2' x 2'3''. The joints of the cist were packed with a kind of mortar formed of pebbles embedded in clay while the floor was covered with puddled clay. The cist contained an unburnt skeleton. The slabs at the south side and west end exhibited
a series of hollow markings which may have been formed by using the slab for grinding down stone axes.


Loch of Blairs, Altyre. Found in a cist within a gravel pit. The cist lay N.E.x S. - S.W.x N. and measured 2'7' x 1'8" x 1'9". Besides the urn the cist contained partially incinerated human bones and a number of pebbles covered with a white limy deposit.
NAIRN


Cawdor. No particulars available.
Darnhall, Eddleston. Found in a cist which lay nearly N. - S. and measured 2'9" x 1'1" x 1'4".

Darnhall, Eddleston. Found in a cist, the middle one of three, together with dust and fragments of bones.

Manor Water. Found in a cairn (no further particulars available as yet).

225. Type B. Peebles Museum.
PERTHSHIRE


Burnfoot, Kinfauns. Found in a cist which lay E. - W.

227. Type B. British Museum.

Glenalmond. No particulars available.

228. Type B. With Mr Bullough of Megginis. P.S.A.S. XIX, 39.

(1884 - 85).

Bruach, Glenlyon. Found in a cist within a gravel hillock.
The cist measured 3'9" x 2' x 2'4" and was covered by a
small cairn of stones 2' in height. Within the cist was
the flexed skeleton of a "large and powerful man" 6'2"
in height. The skull was missing.


231. Sheriffton, Perth. Placed upright in the crest of a slight
ridge. The vessels had stood almost touching in a line
N.E. - S.W. The mouths of the urns had been covered by
small flat slabs.

232. Type ?. With the Duke of Atholl, Blair Castle. P.S.A.S. XLII,

138. (1907 - 08).

Balnaguard, Grantully. Found in a cist near a group of
standing stones.

233. Type B. Nat.Mus.Ant. E.E.103. P.S.A.S. XLVI, 374. (1911 - 12);

XLVIII, 365. (1913 - 14). Strathearn Herald, 17th and 24th
November and 8th December, 1860.

Near Crieff. Found is a cist buried within an earthen
tumulus. The cist measured 2'6" x 1'6" x 10" and con-
tained burnt human bones. The floor had been carefully
laid with clay. The urn contained a quantity of dark unctuous matter.

Flawcraig Farm, Kinnaird. Found in a cist 30" x 22" x 18" which lay N.E. - S.W. and contained incinerated human bones.


Mill of Queich, Alyth. Found in a cist.


Moulin. Found during the subsoiling of a field.


Glenhead, Doune. Found in a cist, one of several within a cairn, together with a perforated stone hammer.


Doune. Both found in a cist which measured 4'4" x 1'8" x 1'8". The sides and ends of the cist were built of stones converging inwards by means of overlapping in order to carry the roofing slabs. The floor contained ashes and burnt bones (presumably human).


Keir, Dunblane. Both found in a cist, one of four, within a gravel mound. The earth which filled the cist was mixed with white fragments of incinerated bone "thought to be the bones of animals". The main axis of the cist was N.E. - S.W.
ROSS and CROMARTY

242. Type B. P.S.A.S. XLIII, 131. (1908 - 09).

Kilcoy, Blackisle. Found in a cist within a large cairn.
The earth in the vicinity of the cist had been subjected to
fire and contained many fragments of burnt wood together
with the portion of a human skull and the tooth of an ox.
The cist lay E. - W., measured 3'6" x 1'7½" and contained
charred wood and fragments of bone.

243. Type B. P.S.A.S. XLII, 66. (1907 - 08).

Easter Moy, Dingwall. Found in a cist in a cairn whose
primary burial had been within a chamber 13' x 8'6".
The cist lay E. - W. and measured 3'1½" x 21" x 15½".
The floor had been carefully levelled and was covered
with a sprinkling of sand and clay. In the cist were
fragments of wood and four small flints of which one is
a scraper showing careful secondary working.


(1866 - 68); LXV, 258. (1930 - 31).
Kings Cairn, Cartomie Wood, Eddertoun. Found beside a
short cist placed within a stone circle.


Rosemarkie Manse. Found in a cist which lay nearly N. - S.,
measured 3' x 26" x 30" and contained an unburnt interment.


(1878 - 89).
Alness. Found in a cist (No.10) together with a cinerary
urn inverted over burnt bones (presumably human).


Alness. No particulars available.
ROXBURGHSHIRE

248. Type B. Kelso Museum. Cat. Ant. Edin. p. 16 and Fig. opposite p. 11.

Edenmouth. Found in a "barrow" together with a human skeleton.


(1882 - 83).

Yetholm. No particulars available.

250. Type B. Nat. Mus. Ant. E.E. 24. P.S.A.S. XX, 100. (1885 - 86);

XXII, 331. (1887 - 88).

Craiging Hall, Jedburgh. Found under a heap of stones.


(1932 - 33).

Keiton Mills, Kelso. Found in a cist which lay nearly E.-W.

and measured 3'6" x 2'2". The cist also contained an unburnt interment.

252. Type B. Nat. Mus. Ant.

Kalemouth. Found in a cairn. (No particulars available as yet).


254. (1887 - 88).

255. (1887 - 88).

Friars, Jedburgh. No particulars available.


Roxburghshire. No particulars available as yet.

Galashiels. Found in a cist which lay N.W.- S.E. and measured 3' in length. Amongst the earth in and around the cist were some small scale-like fragments of bone.

260. Blochairn, Baldernock. Found in a tumulus associated with fragments of bone. In one of the urns was a "bronze" rivetted knife-dagger. The urns stood in a line and were 1' apart. Beneath them lay a flagstone.


Birkhill, Stirling. No particulars available.


Birkhill, Stirling. Found in a cist together with an oval flake knife of flint.


Camelon. Found in a cist buried in a sandpit. The cist lay N.N.E. - S.S.W. and measured 36" x 19" x 18". The cist also contained the unburnt skeleton of a young woman over 18 years of age but not yet adult, and the cremated remains of an adult male of slender build.


Cambusbarron. No particulars available.


Cambusbarron. Found embedded in a sandpit.

266. Type B. Stirling Museum.

Touch Stirling

Troughend, Brora. Found in a grave.


Strathfleet. Found in a cist under a tumulus together with the unburnt lower jaw of an aged person and a "leaf-shaped finely chipped spearhead of dark-coloured flint 2" in length.

Cowdenhill, Bo'ness. Found in a cist in a sand bed of 25' beach. The cist measured 40" x 21" x 18", lay nearly E.-W. and contained an unburnt interment.


Bridgeness, Bo'ness. Found in a cist lying nearly E.-W. and measuring 3'11" x 2'1" x 1'6". The cist also contained two unburnt skeletons. The first was the flexed skeleton of a male 30 years of age and 5'7" in height. The second was the fragmentary skeleton of a child aged 7. The cephalic index of the male was 75.9.


Bridgeness, Bo'ness. Found in a cist together with the unburnt skeleton of a male whose cephalic index was 75.1.
WIGTOWNSHIRE

    Torrs, Glenluce. No particulars available.

    Wigtown. No particulars available.

    Cairnsgaan, Kirkmaiden. Within a sandy hillock there was a small enclosure 3' x 2½' covered by large flags. In the circle were several urns, including No.274, together with an unburnt interment. In the second reference the built enclosure is described as a cist.

    Portpatrick. No particulars available.

276. Type BY (fragmentary) Kelvingrove Museum, Glasgow. Collection Mr Ludovic Mann.
    Barnkirk, Penninghame. No particulars available.

    Portpatricky no particulars available.

    Port of Spittal, Portpatrick. Found in a cist together with the inhumed skeleton of an adult and a slate plaque incised with a network design. The cist which was somewhat oval in shape was one of several and lay near a standing stone.

Stairhaven. Found in a cist within a cairn. The cist measured 20" x 14" x 12" and was situated on the verge of the 25' beach. The cist lay E.- W. and contained a small quantity of burnt human bones and three small quartz pebbles. On top of the coverstone was a scraper of yellow flint. The incineration of the bones was complete and the person was an adult.


Craigbirnoch, New Luce. Found in a cist at the centre of a cairn 37' in diameter. The cist lay N.E.- S.W. and measured 22" x 14½" x 15". The floor was carefully paved with flat stones. The foodvessel was associated with a small deposit of burnt bones (presumably human) mixed with fragments of carbonised oak.


Glenluce. No particulars available.

282. Type C. Nat.Mus.Ant.

Glasserton. Found in a cist together with a nodule of flint.


Craigenthollie, Old Luce. Found in a gravel pit.


Lochinch. No particulars available. The assertion that this foodvessel is the same as an urn discovered at Glendrie, inch,
in 1818 is very doubtful and has not been accepted here.


Port of Spittal Bridge. Found in a grave which was one of several.