III.

A PROPOSED CHRONOLOGICAL ARRANGEMENT OF THE DRINKING-CUP OR BEAKER CLASS OF FICTILIA IN BRITAIN. By The Hon. JOHN ABERCROMBY, Secretary.

Generally speaking, the whole ceramic material of the Bronze Age is presented to the student as being nearly on the same plane. Hardly any attempt is made to discriminate between earlier and later forms; and when this has been done, the true chronological order has sometimes been inverted. Considering the great duration of the Bronze Age, such a presentation of the subject is unsatisfactory. If sufficient light were thrown upon it, this ceramic material would be seen in perspective, in a series of planes ranging back from the foreground to the extreme distance in an orderly manner.

It is often lamented that in the prehistoric period there are no written documents. Although there are no manuscripts of so remote a time, yet in the fictilia of the Bronze Age we have a surrogate that is not to be despised. If properly interpreted, it can be made to yield no small degree of information. Its mere quantity gives it importance. It was constantly being manufactured, and so was in thorough touch with its

time. It was too rude to be imported or carried to a distance, and so possesses a local and homely interest in a measure that no other relic of the past can attain to.

In attacking the problem of the arrangement of the Bronze Age ceramic in chronological order, it is better and easier to begin at the extreme end and work downwards in time. To do otherwise would involve enormous, almost insurmountable difficulties. The first question, then, to settle is, which is the oldest type of Bronze Age pottery in the British Islands? In a paper read before the British Association at Belfast in 1902, and again before the Anthropological Institute in London (*Journ. Anthrop. Inst.*, vol. xxxii. 375–394), I tried to show that the oldest class of pottery of the Bronze Age is the 'drinking-cup.' For reasons given in the paper, for this term I proposed to substitute the word 'beaker,' as being shorter, more international, and more appropriate. It is the only class of Bronze Age ceramic in Britain that is found associated with large, well-made flint daggers of neolithic aspect. With the exception of an early type of bronze dagger and other early pieces of metal, it is only found with stone bracers, conical jet beads with a V-shaped perforation at the base, and other objects which on the Continent are attributed to the end of the Neolithic Age, which includes a transition period when copper was coming into use. In the above paper I showed that types α, β, must have come to us from the Continent in the first instance, the latter type more especially from the valley of the Central Rhine, about half a degree north and south of latitude 50°, where it cuts the river at Mayence.

Whether the earlier part of the British beaker ceramic belongs to the Transition or Copper period is largely a matter of terminology. According to the terminology of Oscar Montelius, the beginning of the Bronze Age is divided into two sections, written as follows: "Bronze Age. Period I : 1 or Copper Age. Bronze Age. Period I : 2 or Bronze Age proper." All flat axes, many of which are of copper, belong to Period I : 1, but flanged axes are assigned to Period I : 2. As the flat triangular knife-daggers sometimes found with beakers are

also sometimes associated with flat axes, some beakers must belong to Period I : 1 or the Copper period. But as beaker No. 72 of $\beta 1$ is a little later than or contemporary with four flanged axes, all beakers later than it must belong to the true Bronze Age. The British beaker class may therefore represent a transition from Period I : 1 to I : 2, and on the whole is doubtless later than the beaker types on the Continent. The late Dr Thurnam, shortly before his death in 1871, published in *Archæologia* (vol. 43, pp. 331-400), the best monograph on "British Fictile Vessels" that has yet appeared. In it he divided the Drinking-Cup or Beaker-class of sepulchral pottery into three types, which he designated α, β, γ. These types I retain, but subdivide them provisionally into 15 sub-types, α 1–6, β 1–4, γ 1–5.

α. High-brimmed globose cup.
β. Ovoid cup with recurved rim.
γ. Low-brimmed cup.

Type α.

The beaker of type α originally consisted of two organic parts, a body and a neck.

Sub-type $\alpha 1$.

At first the body is more or less globose; the height of body and neck is almost equal; at the base of the neck there is a constriction; the neck is wide with straight sides, which expand more or less outwards; sometimes the neck curves slightly inwards towards the top. By degrees the constriction tends to become obliterated, and the body, which still remains globose, passes into the neck with a gentle curve. There are 20 examples of this sub-type, of which 16 are here reproduced.

No. 1, from Seven Barrows, Lambourn Down, Berks, is $7\frac{3}{8}$ inches high, and now in the British Museum.

No. 2, from barrow 36, Stonehenge, is $7\frac{3}{8}$ inches high, and now in the Devizes Museum.

No. 3, from barrow 39, Stonehenge, is $8\frac{1}{2}$ inches high, and now in the Devizes Museum. It was found with a fine flint dagger, $7\frac{1}{8}$ inches long, the same type as one figured by Sir J. Evans. (*Anc. Stone Impl.*, fig. 264.)

No. 4, from barrow 37, Garton Slack, East Riding, is now in Mr Mortimer's museum at Driffield, Yorkshire. It was found at the centre of the barrow, about 1 foot below the natural level, with a very fine flint dagger, 7 inches long, and a perforated axe-hammer.

No. 5, from Green Low, Alsop Moor, Derbyshire, is $7\frac{1}{4}$ inches high, and now in the Sheffield Museum. It was found in a grave at the centre of the barrow, with a male skeleton, a splendid flint dagger 6 inches long, a flint implement with a circular head, and a piece of spherical pyrites. Lower down were three beautifully chipped arrow-heads with barbs and stems, and three bone instruments, much like a mesh-rule. (Bateman, *Vestiges*, pp. 59–60.)

No. 5 a, b, from Winterbourn Monkton, N. Wilts. They were found in a cist covered by a large stone, with a male skeleton, a recurved knife of flint $3\frac{1}{2}$ inches long and finely chipped, a large jet button almost 3 inches in diameter with a V-shaped perforation at the base, two other jet buttons, and a jet 'pulley ring.' (*Crania Britan.*, ii. p. 58 (2).)

No. 6, from Haddon Field, Bakewell, Derbyshire, is $6\frac{1}{2}$ inches high, and now in the Sheffield Museum. It was found under the centre of a cairn of large stones, with a flint arrow-head, a small bronze awl, and a 'mesh-rule' of deer's horn $6\frac{1}{4}$ inches long. (Bateman, *Ten Years*, p. 106.)

No. 6 a, from Figheldean, Wilts, is $7\frac{1}{4}$ inches high, and now in the British Museum.

No. 7, from barrow 93, Durrington, Wilts, is $7\frac{1}{2}$ inches high, and now in the Devizes Museum.

No. 7 a, from Avebury, Wilts. It was found in a cist under a barrow, with a bronze knife-dagger 4 inches long with three rivet-holes, and a perforated stone axe 5 inches long. (*Proc. Arch. Instit.*, 1849, p. 110, figs. 12, 13.)

No. 7 b, from Grind Low, Derbyshire, is $4\frac{1}{2}$ inches high. (*Reliquary*, iii. p. 206.)

No. 8, from barrow 5, Winterbourn Stoke, Wilts, is $5\frac{3}{4}$ inches high, and now in the Devizes Museum. With it was a 'pulley ring' and a large round jet button $1\frac{1}{2}$ inches in diameter. A so-called 'pulley ring' from Yorkshire is figured by Canon Greenwell (*Brit. Barrows*, fig. 123).

No. 9, from Needham Market, Suffolk, is $6\frac{3}{4}$ inches high, and now in the British Museum.

No. 10, from Rothbury, Northumberland, is $6\frac{5}{8}$ inches high, and now in the British Museum.

No. 11, from Smerril Moor, Derbyshire, is nearly 9 inches high, and is now in the Sheffield Museum. It was found in a large, irregular grave 5 feet deep, under a small tumulus, surrounded by an irregular circle of small stones. At the bottom was a skeleton, this beaker, a flint dagger $4\frac{3}{4}$ inches long, a bone 'mesh-rule' 12 inches long, and a flint spear-head 3 inches long. (Bateman, *Ten Years*, pp. 102–3.)

No. 12, from Sliper Low, Brassington Moor, Derbyshire. Found with skeleton of a child. (Bateman, *Vestiges*, p. 52.)

No. 13, from Winterbourn Stoke, Wilts, is 6 inches high, and now in the British Museum. Found with a skeleton having a cephalic index of 80. (*Proc. Soc. of Antiq.*, ser. 2, ii. 429.)

No. 14, from Castern, Wetton, Staffordshire, is $8\frac{3}{4}$ inches high, and now in the Sheffield Museum. The skull of the skeleton had a cephalic index of 85·6. (Bateman, *Vestiges*, pp. 87, 88.)

No. 15, from Dowel, Sterndale, Derbyshire, is $6\frac{3}{4}$ inches high, and now in the Sheffield Museum. Found under a small barrow in a grave cut 3 feet into the sandstone rock, with a skeleton, a conical jet button with the V-shaped perforation, and two flints, one of them an arrow-head. (Bateman, *Ten Years*, p. 106.)

No. 16, from barrow 161, Ferry Fryston, W. Riding, is $6\frac{5}{8}$ inches high, and now in the British Museum. It was found at the centre of the barrow in a grave, as a secondary interment, with a small thin bronze awl $1\frac{1}{16}$ inches long. (Greenwell, *Brit. Bar.*, p. 373.)

Sub-type a2.

Sub-type a2 is a derivative from a1, and branches off about the middle of it, so that they are partly contemporary. The proportions between the body and the neck remain the same, but at No. 17 a shoulder begins to develop, which development takes two directions: (1) it becomes accentuated and angular, while the lower part of the body becomes gradually flat; or (2) the shoulder remains rounded, while the lower part of the body flattens. There are twenty examples of this sub-type, of which sixteen are reproduced.

No. 17, from Bee Low, Youlgreave, Derbyshire, is $6\frac{1}{2}$ inches high, and now in the Sheffield Museum. Found in an irregular grave about 9 feet from the centre, cut in rock, with a skeleton and a very fine flint instrument, which may have been a saw or a knife. The primary interment at the centre consisted of a deposit of burnt bones, and near it fragments of a beaker. (Bateman, *Vestiges*, p. 35; *Ten Years*, p. 72.)

No. 18, from Hay Top Hill, Monsal Dale, Derbyshire, is $7\frac{1}{4}$ inches high, and now in the Sheffield Museum. There were several interments in the barrow, but none at the centre. Two food-vessels from one of them seem to be of a rather later type than the one found with 23a. (Bateman, *Ten Years*, p. 76.)

No. 19, from Denton, Lincolnshire, is 6 inches high, and now in the Collection of Canon Greenwell at Durham.

No. 19a, from East Kennet, Wilts, is $7\frac{1}{2}$ inches high. It was found under a barrow, in a grave 5 feet deep, cut into the solid chalk, with a beautiful axe-head of limestone, perforated for a haft, and a flat bronze dagger $5\frac{1}{2}$ inches $\times$ $2\frac{3}{8}$ inches, with 3 rivets. (*Arch. Journ.*, xxiv. 28-29; *Archæolog.*, vol. 43, figs. 83, 156.)

No. 19b, from Staker Hill, Buxton, Derbyshire, is 7½ inches high, and now in the Sheffield Museum. Found with a female skeleton. Both mastoid bones were stained with green from contact with two small pieces of thin bronze, bent in the middle, just enough to clasp the lobe of the ear. (Bateman, *Ten Years*, 80–81.)

No. 20, from Long Barrow 170, Wilsford Down, Wilts, is 8 inches high, and now in the British Museum.

No. 21, from Rusden Low, Middleton, by Youlgreave, Derbyshire, is 7¾ inches high, and now in the Sheffield Museum. It contained a broken flint implement, and had disturbed a previous interment with fragments of another beaker. (Bateman, *Ten Years*, 43, 44.)

No. 22, from Ram's Croft Field, near Stanhope, Staffordshire, is 6½ inches high, and now in the Sheffield Museum. Found in a circular grave, containing the skeleton of a child and a neat spear-head of flint, slightly burnt. (Bateman, *Ten Years*, 158–9.)

No. 23, from Top Low, Swinscoe, Staffordshire, is 7 inches high, and now in the Sheffield Museum. There were fourteen interments in the barrow; one cist contained the skeleton of a young hog and a tine of stag's horn. (Bateman, *Ten Years*, p. 134.)

No. 23a, from Fimber, E. Riding, is now in the Mortimer Museum at Driffield, E. Riding. It was found at the bottom of a grave cut over 6 feet into the firm chalk under the centre of the barrow. Above it was an inhumed body with a jet necklace. Above this again was a cremated interment, with a food-vessel of a common type. The rim is moulded; at the shoulder, there is a good-sized groove, with four perforated stops or ears. The lower part of this food-vessel is plain. All these interments are undoubtedly contemporaneous. (*Letter from Mr Mortimer*, Nov. 1, 1902.) Both vessels are figured by Jewett in *Ceram. Art.*, figs 30, 55.

No. 24, from Ballymenach, Kilmartin, Argyll, is 7 inches high, and now in the British Museum. It was found in a non-central cist of a sepulchral circle. (*Proc. S.A. Scot.*, vi. 348-9.)

No. 25, from Lakenheath, Suffolk, is 7¼ inches high, and now in the British Museum.

No. 26, from Waterwold, Yorkshire, is 9 inches high, and now in the British Museum.

No. 27, from barrow 242, Folkton, E. Riding, is 7¼ inches high, and now in the British Museum. Found with a child burial 13 feet from the centre. (*Archæol.*, vol. 52, p. 11.)

No. 27a, from Beckhampton, Wilts, is 6½ inches high. (*Proc. Arch. Instit.*, 1849, p. 109, fig. 10).

No. 28, from Mouse Low, between Deepdale and Grindon, Staffordshire, is 8¼ inches high, and now in the Sheffield Museum. Found in a cist at the centre of the barrow, with a skeleton, four beautifully chipped arrow-heads with barbs, a rudely chipped spear-head, and a roughly circular flint implement. The cephalic index of the skeleton was 78·7. (Bateman, *Ten Years*, 115–6.)

No. 29, from Fernworthy Stone Circle, Dartmouth, Devon, is $7\frac{1}{8}$ inches high, and now in the Plymouth Museum.

No. 30, from barrow 21, Ganton, E. Riding, is $7\frac{3}{4}$ inches high, and now in the British Museum. It was found about 9 feet south-east of the centre in a grave $3\frac{1}{2}$ feet below the natural level. It is therefore later than a food-vessel of ill-defined type found at the centre. But it is doubtless earlier than No. 49, which was 12 feet north-east of the centre. (Greenwell, *Brit. Bar.*, pp. 161–6.)

No. 31, from Newhouse farm, St Fagans, Glamorgan, is now in the Cardiff Museum.

No. 32, from barrow 66, Rudstone, E. Riding, is $8\frac{1}{2}$ inches high, and now in the British Museum. It was found below the centre of what seemed to be a round barrow, raised at the west end of a long mound. At 2 feet above the natural surface was the skeleton of a woman and this beaker. Under the woman, on a level with the natural surface, was a beam of wood overlying a grave 2 feet deep, containing an adult body. With it was No. 114 and two round flint scrapers and a small oval scraper. Both interments were secondary. (*Brit. Bar.*, pp. 253–5.)

Sub-type $a3$.

Sub-type $a3$ is a development from $a1$, brought about by the effacement of the constriction at the base of the neck, so that the body and neck are united by a continuous curve. It is distinguished from type β by the straight sides of the neck, which occasionally curve slightly inwards towards the top, as also occurs in $a1$. Eventually, the lower part of the body flattens. Nos. 36 to 39 seem to belong to this sub-type, though there are evidently gaps in the series, and No. 39 is older than 38. No. 39a is out of place, and will be mentioned under $a5$. There are nine examples of this sub-group, of which seven are reproduced.

No. 33, from Rams Croft Field, Stanhope, Staffordshire, is 7 inches high, and now in the Sheffield Museum. It was found in a circular grave, 3 feet apart from that in which No. 22 was exhumed. Mr Bateman observed that both beakers are of the same clay, and are so identical in fabric that we may safely conclude that they are the work of the same artist (Bateman, *Ten Years*, 158–9). These two beakers may therefore be regarded as contemporary.

No. 34, from Worlington, Suffolk, is 5 inches high, and now in the British Museum. Found in a gravel-pit with burnt bones.

No. 35, from Brenley, Kent, is $6\frac{7}{8}$ inches high, and now in the Taunton Museum.

No. 35a, from Blandford racecourse, Dorset, is 6 inches high. Found about 2 feet below the centre, with a skeleton. (Warne, *Celt. Tumuli*, ii. p. 19.)

No. 35b, from Broad Down, Honiton, Devon. (Jewitt, *Ceram. Art.*, fig. 43.)

No. 36, from Driffield, E. Riding, is 7 inches high, and now in the British Museum. Found in a cist under a large barrow, with a skeleton, a stone bracer 6 inches long with two gold-headed bronze rivets at its extremities, and near it a very small bronze buckle (now lost), part of a thin flat bronze dagger in a wooden sheath, 3 large conical amber buttons with a V-shaped perforation. The body had been wrapt in linen from head to foot. (*Archæol.*, xxxiv., pl. xx. figs. 6, 8.)

No. 37, from Woodhorn, Northumberland, is $6\frac{1}{2}$ inches high, and now in the British Museum.

No. 38, from Broomend, parish of Kintore, Aberdeenshire, is 7 inches high, and now in the National Museum, Edinburgh. It was found in a cist with No. 140.

No. 39, from barrow 60, Thwing, E. Riding, is 9 inches high, and now in the British Museum. Found with a skeleton $13\frac{1}{2}$ feet from the centre. At the centre, in a grave 4 feet deep, was a skeleton interment, with a 'pulley ring' and an ornamented conical jet button with the V-shaped perforation, and fragments of a beaker. (*Brit. Barrows*, 226–8, figs 3, 5.)

No. 39a, from Windmill Quarry, Wincanton, Somerset, is $9\frac{1}{2}$ inches high, and now in the Taunton Museum. With it were deer bones and a circular flint scraper.

Sub-type $a4$.

Sub-type $a4$ is evidently a derivative from $a2$, and branches off about the middle of it. It is confined to the northern part of Britain. It differs from $a2$ in having a shorter neck, but agrees with it in the flattening of the lower part of the body. The first of the sub-type from Manderston, Berwickshire, is like No. 24 from Argyll, though the shoulder is higher and the neck proportionally shorter, in this respect agreeing with the Fimber example of $a2$. Nos. 40, 41 seem to be variations or sports of this sub-type, for neither can be placed in $a1$. There are eight examples of this sub-type, of which four are reproduced.

No. 40a, from Manderston, Berwickshire, was found in a cist while digging for sand and gravel. The cover-stone lay about 6 inches below the surface. (*Berwick Nat. Club* (1882–4), p. 304, pl. i.)

No. 40, from the Hill of Mossplat, Carluke, Lanarkshire, is $7\frac{1}{2}$ inches high, and now in the National Museum in Edinburgh. Found under a cairn.

No. 41, from Eckford, Roxburgh, is $8\frac{1}{4}$ inches high, and now in the National Museum, Edinburgh. The bottom of this beaker is ornamented with chevrony lines. (*Proc. S.A. Scot.*, xxv. 29.)

No. 41a, from Amble, Northumberland, is 8 inches high, and now in the Alnwick Castle Museum. Found in a cist dug out of friable shale, with a skeleton, a fragment of flint, and another vessel broken in pieces. (*Arch. Journ.*, xiv. 262; *Catal. of Alnwick Cast. Mus.*, pl. xiv. fig. 1.)

No. 41b, from Beanley Moor, Northumberland, is now in the Alnwick Castle Museum. (*Alnwick Cast. Mus.*, pl. xii.)

No. 42, from Juniper Green, Midlothian, is $6\frac{1}{2}$ inches high, and now in the National Museum, Edinburgh.

No. 43, from Dairsie, Fife, is $7\frac{5}{8}$ inches high, and now in the National Museum, Edinburgh. Found in a cist in a sand-pit with four small flint arrow-heads, barbed and stemmed. (*Proc. S.A. Scot.* xxi. 132.)

No. 43a, from Tippermallo, Methven, Perthshire, is $5\frac{3}{4}$ inches high. Found in a cultivated field in a cist about 1 foot below the surface. With a decayed skeleton was this beaker, a fine circular flint scraper $1\frac{7}{8}$ inches in diameter, and a flint-flake knife or scraper $1\frac{1}{2}$ inches long, worked to an edge on both sides. (*Proc. S.A. Scot.*, xxxiii. pp. 145–6.)

Sub-type α5.

Sub-type α5 is a small sub-type, the exact origin of which is not clear, though its low height and the central position of the constriction allows it to be compared with No. 8 of α1 from Wilts. Geographically, it is found in the east and west of South Britain, in Suffolk and Wales; chronologically it precedes α6, as No. 45 is undoubtedly older than No. 52. No. 47 seems to be a variety or development of this sub-type, and with it may be associated 39a, which otherwise stands isolated, though both appear to lead up to γ1. There are seven examples of this sub-type, of which four are reproduced.

No. 44, from Tuddenham, Suffolk, is $5\frac{3}{4}$ inches high, and now in the British Museum.

No. 45, from Curdle Head, Eriswell, near Lakenheath, Suffolk, is $7\frac{1}{2}$ inches high, and now in the Cambridge Museum.

No. 45a, from Castleacre, Norfolk, is now in the Norwich Museum. It is not well figured by Ll. Jewitt in *Ceram. Art of Great Britain*, fig. 1.

No. 45b, from Aberbechan, near Newton, Monmouth, is 4 inches high. (*Archæologia*, vol. 43, fig. 86.)

No. 46, from Moel Hebog, Snowdonia, Carnarvon, is $5\frac{5}{8}$ inches high, and now in the British Museum.

No. 47, from Snailwell, near Newmarket, Cambridgeshire, is $7\frac{1}{2}$ inches high, and now in the Cambridge Museum.

Sub-type $\alpha 6$.

This sub-type is derived from $\alpha 2$ and $\alpha 5$, by gradual degradation till the beaker becomes little more than a pot. The angles at the shoulder, visible at the beginning of the series, gradually disappear and the walls become more and more straight. The later date of this sub-type is evinced not only by the form but by the change in technic. The ornament on the beakers from Nos. 52–56 is produced, not with a notched instrument as in the older period, but with a pointed instrument, as is often the case on beakers of type γ. Nos. 52, 57 and 57a descend from $\alpha 5$, the others from $\alpha 2$. There are eleven examples of this sub-type, of which ten are reproduced.

No. 48, from barrow 63, Rudstone, E. Riding, is $5\frac{7}{8}$ inches high, and now in the British Museum. It was found 16 feet from the centre, with the body of a very young child, at a depth of only 4 inches below the natural surface. At the centre of the barrow was a secondary interment, beside which lay a food-vessel of the same type as that found with No. 23a, and with five perforated ears. With it was a beautifully barbed and stemmed flint arrow-head. The food-vessel is probably older than the beaker. (*Brit. Barrows*, pp. 247–9.)

No. 49, from barrow 21, Ganton, E. Riding, is $7\frac{3}{4}$ inches high, and now in the British Museum. Found, with the body of a child, at a distance of 12 feet from the centre of the barrow, and is therefore younger than No. 30, which lay nearer the centre.

No. 50, from Minning Low, Derbyshire, is $8\frac{1}{4}$ inches high, and now in the Sheffield Museum. At the south side of the barrow a skeleton was found at a very inconsiderable depth, and near the shoulders this beaker and a small bronze pin or awl, pointed at each end, and a rude spear or arrow-head of flint. (Bateman, *Vestiges*, p. 41.)

No. 51, from Poleshead Road, Oxford, is now in the Ashmolean Museum.

No. 52, from Snailwell, near Newmarket, Cambridgeshire, is $5\frac{1}{2}$ inches high, and now in the Cambridge Museum.

No. 53, from Lake, Wilts, is $5\frac{1}{4}$ inches high, and now in the Devizes Museum. Found with the skeleton of a child.

No. 54, from the smaller Clandown barrow, Martinstown, Dorset, is $5\frac{1}{2}$ inches high, and now in the Dorchester Museum.

No. 55, from barrow 27, Winterbourn Stoke Down, Wilts, is 7 inches high, and now in the Devizes Museum.

No. 56, from barrow 116, Goodmanham, E. Riding, is $5\frac{3}{8}$ inches high, and now in the British Museum. The bottom of this beaker is ornamented. (Greenwell, *Brit. Bar.*, 325–6.)

No. 57, from Barnwell, a suburb of Cambridge, is $7\frac{3}{10}$ inches high, and now in the Cambridge Museum.

No. 57a, from Rhosbeirio, Anglesea, is 8 inches high. Found in a cist in a farm-yard. (*Arch. Cambr.*, 3 ser., xiv. 271.)

Type β.

"*β. Ovoid drinking-cup with recurved rim.*—In this there is no distinct demarcation between the body of the cup and the brim, but the one glides into the other by a gradual curve. The brim is of slight elevation, and in the Wiltshire examples is curved outwards at the lip. The body is oval." (Thurnam, *Archæol.*, vol. 43, p. 392.)

Sub-type β1.

At first the body is rounded, with the greatest swell at about a third of the height of the beaker, and passes with a curve into a curved everted neck. The development takes two directions: (1) the bulge becomes less and less prominent, till the walls are nearly straight and terminate in a very short everted neck, Nos. 58–66. At this point the sub-type touches β3. (2) The curve below the greatest swell flattens, and develops a well-marked rounded angle. From this point the walls take an inward curve to the lip, Nos. 58–62, 67–77. There are twenty-four examples of this sub-type, of which nineteen are reproduced.

No. 58, from Roundway, Wilts, is $6\frac{1}{4}$ inches high, and now in the Devizes Museum. It was found in an oval grave sunk to a depth of $5\frac{1}{2}$ feet below the surface of the ground, with the skeleton of an old man, a bronze tanged dagger 10 inches long, a stone bracer with a pair of holes at each end; and a flint arrow-head. The white incrustation in the lines composing the ornamentation is very noticeable, and though so common on neolithic pottery on the Continent, is very unusual in Great Britain. (*Wilts Arch. Mag.*, iii. 185–6; *Archæol.*, vol. 43, figs. 120, 154.)

No. 58a, from Gospel Hillock, Buxton, Derbyshire, is 7 inches high. At the centre of the barrow, probably on the natural surface, was a large stone, on which lay two skeletons, and with one of them was a stone chisel or celt, and several conical beads of Kimmeridge shale with the V-shaped perforation. Beyond the north-west angle of the stone, apparently a little below the level of the ground, were two skeletons lying on a pavement of stones, and protected by a walling of stones, but uncovered. With them was this beaker. (*Reliquary*, viii. 85–7; *Archæol.*, vol. 43, fig. 82.)

No. 58b, from Glanyr Afon, Denbighshire, is 5 inches high. (*Archæol.*, vol. 43, *fig.* 85.)

No. 59, from near Almer, Sturminster Marshall, Dorset, is $8\frac{1}{4}$ inches high, and now in the Farnham Museum.

No. 60, from Winterslow Hut, Wilts, is $8\frac{1}{2}$ inches high, and now in the Ashmolean Museum. Found under a barrow as a central interment 4 feet below the natural level, with a skeleton of immense size, a stone bracer with three holes at each end, and a tanged knife-dagger $5\frac{3}{8}$ inches long. (*Arch. Journ.*, i. 156–7; *Archæol.*, vol. 43, pl. xxxi. fig. 2.)

No. 61, from Largie, Poltalloch, Argyll, is 9 inches high, and now in the British Museum. Found in a chambered barrow with 4 compartments as a secondary interment, with fragments of two other beakers. (*Proc. S.A. Scot.*, vi. 344–5.)

No. 62, from Rotherley, S. Wilts, is $8\frac{1}{2}$ inches high, and now in the Farnham Museum. Found at the foot of a contracted skeleton, the estimated height of which was 5 feet $9\frac{1}{2}$ inches. There was no mark or rise in the ground to show its position. (Pitt Rivers, vol. iii. pl. 92.)

No. 63, from barrow 3, Upton Lovel, Wilts, $6\frac{3}{8}$ inches high, and now in the Devizes Museum. Found in a low barrow with a skeleton.

No. 64, from barrow 161, Normanton, Wilts, is $7\frac{1}{4}$ inches high, and now in the Devizes Museum. Found in a grave nearly 6 feet deep, under a low barrow. At a higher level, and above the grave, a skeleton with another beaker (lost) was also found.

No. 65 from Yarnton, Oxfordshire, is now in the Ashmolean Museum.

No. 66, from barrow 13, Wilsford, Wilts, is $6\frac{3}{8}$ inches high, and now in the Devizes Museum.

No. 67, from barrow 20, Rushmore Park, Wilts, is $8\frac{1}{10}$ inches high, and now in the Farnham Museum. Found under a low barrow at a depth of 3 feet, with a male skeleton of a young man about 5 feet $6\frac{1}{2}$ inches in height, the skull of which was brachycephalous. (Pitt Rivers, ii. p. 26, pl. 77.)

No. 68, from Wor Barrow, Handley Down, Dorset, is $5\frac{1}{4}$ inches high, and now in the Farnham Museum. Found in a circular pit 200 feet S.W. of the centre of the barrow, at a depth of $2\frac{1}{4}$ feet. There was no mound over the grave. With it was a skeleton having a height of 5 feet $4\frac{1}{2}$ inches, the skull of which had a cephalic index of 80·6. (Pitt Rivers, vol. iv. p. 114, pl. 265.)

No. 69, from Dorchester, Dorset, is 7 inches high, and now in possession of Mr Charles Prideaux, Dorchester. The skull of the skeleton was extremely brachycephalous.

No. 70, from Summerton, Oxon., is $7\frac{3}{4}$ inches high, and now in the British Museum.

No. 71, from Somersham, Hunts, is $10\frac{4}{5}$ inches high, and now in the Cambridge Museum.

No. 72, from barrow 235, Willerby, E. Riding, is $4\frac{1}{2}$ inches high, and now in the British Museum. Found as a secondary interment at the centre, with

an adult skeleton. In all probability it is later than 4 slightly flanged axes found 8 feet from the centre and apparently placed there when the barrow was thrown up. (*Archæol.*, vol. 52, pp. 2–4.)

No. 73, from near Pickering, N. Riding, is 7⅝ inches high, and now in the Sheffield Museum. (Bateman, *Ten Years*, p. 231.)

No. 74, from Court Hill, Dalry, Ayrshire, is 9 inches high, and now in the National Museum, Edinburgh. Found under a cairn at the bottom of a central grave. (*Proc. S.A. Scot.* x. 284.)

No. 75, probably from Northumberland, is now in the Newcastle Museum.

No. 76, from Lesmurdie, Banffshire, is 7½ inches, now in the National Museum, Edinburgh. Found in a cist. In two adjacent cists, which are probably contemporary, were found Nos. 132, 143. (*Proc. S.A. Scot.*, i. 206-9.)

No. 76a, from Linlathen, Monifieth, Forfarshire, is 7 inches high. Found in a central cist under a large cairn. With it was a flat bronze knife-dagger 4½ inches long. (Anderson, *Br. and Stone Ages*, figs. 6, 7.)

No. 76b, from cist 3, Eddertoun, Ross, is 6 inches high. Five other cists were found under the cairn, three of which contained burnt bones. (Anderson, *op. cit.*, figs. 110, 111.)

No. 76c, from Auchmore, Portsoy, Banffshire, is now in the Banff Museum. Most of the upper part is broken off, but the beaker seems to belong to β1.

Sub-type β2.

At first the body seems to have been rounded, but the greatest swell lies rather lower than in β1; it develops in the same way as the second part of β1. Nos. 81–83 are from pit dwellings, and show that the beaker type was not made solely for sepulchral usage. There are twelve examples of this sub-type, of which ten are reproduced.

No. 77, from Mere Down, Wilts, is 6 inches high, and now in the Devizes Museum. Found under a low barrow at a depth of 3½ feet, with two skeletons, a small tanged knife-dagger, flat, plain, measuring 5 inches by 1⅜ inches, a stone bracer with a perforation at each end, two discs of gold leaf, very thin, and rather larger than a shilling, bearing a cross with equal arms and a row of dots round the circumference. (Hoare, *Anc. Wilts*, i. 44, pl. ii.)

No. 77a, from Boyton, Dean Valley, Wilts, is 9 inches high. Found with a skeleton, at 4 feet below the natural level, under a barrow. (*Archæol.*, xv. 343, pl. xvii.)

No. 78, from Blackbush Down, Cranborne, Dorset, is 7⅛ inches high, and now in the Farnham Museum.

No. 79, from Aberdeenshire, is 4¾ inches high, and now in the National Museum, Edinburgh.

No. 80, from Highstead gravel-pit, Devonshire, is 4 inches high, and now in the Plymouth Museum, as a loan from F. Brent, Esq.

Nos. 81, 82, 83, from Hitcham, near Taplow, Bucks, are 4 inches, $3\frac{3}{16}$ inches, and $4\frac{1}{2}$ inches high respectively, and are now in the British Museum. They were found in removing several circles belonging to pit-dwellings near Taplow. These contained food-vessels, drinking-cups, and cinerary urns; bones of the ox, sheep, pig, etc.; broken pottery, on which were rudely formed patterns; in one vessel was a fragment of a polished axe. (*Maidenhead Natur. Field Club, 8th Annual Report*, 1890–1, p. 46.)

No. 84, from Highstead, Devonshire, is 4 inches high, and now at the Plymouth Museum, on loan from F. Brent, Esq.

No. 85, from Cholsey, Berks, is 6 inches high, and now in the British Museum.

No. 86, from Baillieland, Auchterarder, Perthshire, is $5\frac{3}{4}$ inches high, and now in the National Museum, Edinburgh.

No. 86a, from Plas Heaton, near Denbigh, is 8 inches high. Found in a cist under a barrow, with a skeleton. (*Arch. Camb.*, 3 ser., xiv. 273.)

Sub-type $\beta 3$.

In this sub-type the body is oval and neck extremely short. As all the examples, with the exception of No. 93, are short, from 4 inches to $5\frac{1}{2}$ inches high, perhaps they are to be regarded as dwarfed forms of beakers of sub-type $\beta 1$, such as No. 63. Nos. 91, 92 are both later than a food-vessel of the same type as that found with No. 23a; and No. 92 is very likely rather later than a food-vessel of a later sub-type than the above, as it was found at a greater distance from the centre. No. 93 was found in the same barrow as Nos. 123–5, 139. There are seven examples of this sub-type, all of which are reproduced.

No. 87, from Beggars Heaven, Devil's Dyke, Brighton, Sussex, is 5 inches high, and now in the British Museum. It was found with a necklace of thin bronze-leaf, rolled into small cylinders, and beads of very small perforated discs of lignite.

No. 88, from Brandon Fields, Suffolk, is $3\frac{7}{8}$ inches high, and now in the British Museum. This small beaker, a food-vessel not unlike a beaker, and a stone bracer with three perforations at each end, were found together in a bed of drift, extensively worked for flints, on the banks of the Little Ouse. There was no tumulus, and no bones accompanied the vessels. (*Proc. Soc. Ant. of London*, 2 ser., v. 271–2.)

No. 89, from between Methwold and Fellwell, Norfolk, is $5\frac{1}{2}$ inches high, and now in the British Museum.

No. 90, from Yarnton, Oxford, is 4½ inches high, and now in the British Museum.

No. 91, from barrow 67, Rudstone, E. Riding, is 4⅞ inches high, and now in the British Museum. It was found about 12 feet from the original centre.

No. 92, from barrow 67, Rudstone, E. Riding, is 4¼ inches high, and now in the British Museum. Found about 21 feet from the original centre. (*Brit. Barrows*, pp. 259, 261.)

No. 93, from barrow 62, Rudstone, E. Riding, is 6¾ inches high, and now in the British Museum. At the centre of the barrow, a circular cutting 9 feet in diameter had been made subsequent to the erection of the mound. Towards the centre of the cutting, just above the natural level, and resting on a bed of charcoal, was the body of a young woman and No. 139. A little further from the centre, and all but resting on the charcoal, was the body probably of a woman, with No. 93, a flint knife, 2 flint chips, and 2 bronze awls. These two beakers may therefore be regarded as contemporary. At 4 feet from the centre, and 4 feet above the natural level, was a skeleton interment, accompanied by a food-vessel of quite a different type from those hitherto mentioned, but one that is fairly common in Scotland, and very abundant in Ireland. From the level at which it was found it must be somewhat later than Nos. 93, 139. (*Brit. Bar.*, pp. 236–7.)

Sub-type $\beta 4$.

In this sub-type the body is oval, and passes with a curve into the neck, which is short and everted. The development took two directions. (1) The neck shortens, while the body retains its oval form—Nos. 94, 95, 97, 103–110; (2) the position of the greatest constriction becomes lower—Nos. 96, 98–102—and some examples approximate $\beta 1$, such as No. 74, but without becoming so angular; No. 106 is much like Nos. 87, 88 of $\beta 3$, but I have placed it in $\beta 4$ on account of the great geographical distance that separates the places where they are found, and the want of intervening links in the chain of beakers. Whether Nos. 107–110 really belong to this sub-type is very uncertain; some perhaps belong to the end of $\gamma 2$. There are twenty examples of this sub-type, of which seventeen are reproduced.

No. 94, from Culbone, Exmoor, Somerset, is 6¼ inches high, and now in the Taunton Museum. Found, with a brachycephalous skeleton, at a depth of 5 feet below the natural surface. (*Somerset Arch. Proc.*, xlii. 60–65.)

No. 95, from Chagford Common, Exmoor, Devon, is 9¼ inches high, and now in the Plymouth Museum.

No. 96, from Lambourn Down, Berks, is 5¾ inches high, and now in the British Museum.

No. 97, from Clifton, Penrith, Westmorland, is 7 inches high, and now in the Carlisle Museum.

Nos. 98, 99, from barrow 99, Goodmanham, E. Riding, are $5\frac{3}{4}$ inches and $6\frac{7}{8}$ inches high respectively, and are now in the British Museum. At the bottom of a large grave at the centre was the body of a young woman, and near her face lay No. 98. This interment seemed to have been disturbed by the introduction of a child's body; close to its face was No. 115. About 2 feet north of the woman's head lay No. 99. All three beakers are no doubt practically contemporary. (Greenwell, *Brit. Bar.*, pp. 308–9.)

No. 99a, from barrow 245, Folkton, E. Riding, is $8\frac{1}{8}$ inches high. (*Archæol.*, vol. 52, p. 16.)

No. 100, from Alwinton, Northumberland, is $7\frac{1}{8}$ inches high, and now in the British Museum.

No. 101, from East Barns, E. Lothian, is $7\frac{3}{4}$ inches high, and now in the National Museum, Edinburgh.

No. 101a, from Tents Moor, Leuchars, Fife, is 5 inches high. (*Proc. S.A. Scot.*, xvii. 384–5.)

No. 102, from Gardenstown, Banffshire, is $6\frac{3}{4}$ inches high, and now in the Collection of Mr Young, Tortola, Nairn. (*Reliquary*, new series, ii. 178.)

No. 103, from Dunrobin Park, Sutherland, is 7 inches high, and now in the Dunrobin Castle Museum. Found with the skeleton of a young woman with a brachycephalous skull, having a cephalic index of 82·4; 18 quartzose, beach-rolled pebbles; 118 small shale discs about the size and thickness of a three-penny bit, of which six were perforated. (Letter from the Rev. J. M. Joass, LL.D., Golspie, Curator of the Dunrobin Museum.)

No. 103a, from Corran Ferry, Inverness-shire, is $5\frac{1}{2}$ inches high. Found in a cist at $4\frac{1}{2}$ feet below the natural surface. The roof was formed of two inclined stones, sloping like rafters. The floor of the cist was formed by the natural gravelly soil. (*Proc. S.A. Scot.*, xxiv. 437.)

No. 104, from Gordonstone, Elgin, is $6\frac{1}{4}$ inches high, and now in the Elgin Museum.

No. 105, from the Fairy Knowe, Pendreich, Bridge of Allan, Stirlingshire. This tumulus was 21 feet high, and had a diameter of 78 feet. The beaker was found embedded in the earth at a depth of about 2 feet from the summit of the mound. At the centre of the tumulus, on the natural level of the ground, there was a cist, constructed with flat stones set on edge and partly with dry masonry. It was somewhat circular in form and 3 feet deep. The bottom of the cist for a depth of 6 inches was covered with fatty black earth, mixed with charcoal and small bits of human bone. (*Proc. S.A. Scot.*, vii. 519–21.)

No. 106, from Cambusmore, Dornoch, Sutherland, is $5\frac{1}{2}$ inches high, and now in the Dunrobin Museum. Found in a cist in a gravel-bank. (Letter from Rev. J. M. Joass, LL.D., Golspie.)

No. 107, from Cullen, Banffshire, is 5 inches high, and now in the Banff Museum.

No. 108, from Slap, Turriff, Aberdeenshire, is 6 inches high, and now in the National Museum, Edinburgh. Found with flint flakes. (*Proc. S.A. Scot.*, x. 740.)

No. 109, from Aberdeenshire, is $4\frac{3}{8}$ inches high, and now in the British Museum.

No. 110, from Gryndan, Norham, Northumberland, is $5\frac{3}{8}$ inches high, and now in the National Museum, Edinburgh.

Type γ.

This type is described by Dr Thurnam as the 'low-brimmed cup,' and was regarded by him as a debased variety of type α.

Sub-type γ1.

This sub-type seems to be derived from a form like No. 47, which belongs to the East Coast, by a reduction of the length of the neck. The body was originally oval or ovoid, the neck short, and the junction between this and the body was abrupt and well marked. By degrees the lower part of the body flattens and a rounded shoulder develops—Nos. 121, 122. At this point it approaches some forms of γ4, such as Nos. 161 to 163. No. 113 is out of place, and goes with No. 122a quite at the end of the series. No. 116 is abnormal, but is contemporary with No 117. There are seventeen examples of this type, of which twelve are reproduced.

No. 111, from Hawkfield, Lesbury, Northumberland, is $9\frac{3}{4}$ inches high, and now in the Newcastle Museum. Found with No. 127a.

No. 111a, from Whitehouse, Alnwick, is 9 inches high, and now in the Alnwick Castle Museum. (*Catal. of Aln. Cast. Mus.*, pl. xi.)

No. 112, from Sacriston, Durham, is $6\frac{3}{4}$ inches high, and now in possession of Canon Greenwell, of Durham. Found in a cist with the unburnt body of an adult.

No. 113, from Norham, Northumberland, is 7 inches high, and now in the British Museum.

No. 114, from barrow 66, Rudstone, E. Riding, is $7\frac{1}{4}$ inches high, and now in the British Museum. It was found in a grave underlying a skeleton interment with No. 32.

No. 115, from barrow 99, Goodmanham, E. Riding, is 8 inches high, and now in the British Museum. Found with Nos. 98, 99.

No. 115a, from Northumberland, is $8\frac{1}{2}$ inches high, and now in the Alnwick Castle Museum. (*Catal. Aln. Cast. Mus.*, pl. xiii.)

No. 116, from North Sunderland, Northumberland, is 8 inches high, and now in the collection of Canon Greenwell, of Durham. Found, with the unburnt body of a girl of nine years old, with No. 117.

No. 117, from North Sunderland, Northumberland, is 5 inches high, and now in the collection of Canon Greenwell, of Durham.

No. 118, from Bellingham, Northumberland, is $6\frac{7}{8}$ inches high, and now in the British Museum.

No. 119, from Nether Moor, Hunsonby, Cumberland, is $8\frac{1}{2}$ inches high, and now in the Carlisle Museum.

No. 120, from Clifton, Penrith, Westmorland, is $7\frac{3}{4}$ inches high, and now in the Carlisle Museum.

No. 120a, from Mawksmill, Gordon, Berwickshire, is 9 inches high. Found in a sand-pit, lying on its side. (*Berwick. Nat. Club.* (1885–6), p. 194; and *Proc. S.A. Scot.*, xx. 100, fig. 2.)

No. 121, from Lanark Moor, Lanarkshire, is $6\frac{3}{4}$ inches high, and now in the National Museum, Edinburgh. It was found with another beaker very much like No. 101 in outline, but more slender.

No. 122, from Ord, Auchindoir, Aberdeenshire, is $7\frac{7}{8}$ inches high, and now in possession of Professor Reid, Aberdeen. The white inlay is very apparent, and is found all over the vessel.

No. 122a, from barrow 197, Bamborough, Northumberland, is $5\frac{1}{2}$ inches high, and now in the British Museum. Found in a cist 2 feet below the natural surface, the cover being level with the ground. Inverted over this capstone lay a large cinerary urn, of unusual form and unique ornamentation, apparently of a late epoch. Although this beaker is a late one, there is no reason to suppose that it is contemporary with the cinerary urn. (*Brit. Bar.*, pp. 415–16.)

No. 122b, from Carlisle, is 6 inches high, and now in the Carlisle Museum.

Sub-type $\gamma 2$.

This sub-type seems to be a derivative of $\beta 4$. Nos. 123–5 are from the same grave, and no doubt contemporary. So at the beginning of the series we find two varieties: (1) a more slender form of body, passing with a curve into a short neck; (2) a stouter body, where the curve at the base of the straight neck almost disappears. Though some of the forms of this sub-type closely resemble others from $\gamma 1$, yet their descent from a β sub-type is recognisable by the passage from the body to the neck, which is always softened by a slight curvature. Towards the end of the series the walls flatten, and the original type-form is less and less distin-

guishable, so that the place of the final beakers is quite uncertain. There are twenty-three examples of this sub-type, of which sixteen are reproduced.

Nos. 123, 124, 125, from barrow 62, Rudstone, E. Riding, are 7¾ inches, 7¾ inches, and 8½ inches high respectively, and now in the British Museum. At the centre of the barrow was a circular grave, 9 feet in diameter and 10½ feet deep, at the bottom of which were two cists composed of slabs. In the northerly cist was the body of an old man, and at his feet the bodies of two very young children, together with No. 124. At the centre of the other cist was a deposit of burnt bones, chiefly of a male adult, and in one corner lay No. 125. Between the east side of the grave and the side of the first cist lay the burnt body of a strong male adult and No. 123. These interments seem to have disturbed a previous one, as fragmentary bones of two persons lay outside the second cist, and fragments of a beaker were noticed in the filling in of the grave. At a much higher level, as later interments, were found Nos. 93, 139. (*Brit. Bar.*, pp. 238–241.)

No. 126, from Clifton, Penrith, Westmorland, is now in the Ashmolean Museum.

No. 127, from barrow 7, Sherburn, E. Riding, is 8½ inches high, and now in the British Museum. Found close to the north-west edge of a barrow with a diameter of 60 feet. The body lay on the natural surface and was that of a young person. (*Brit. Bar.*, p. 146.)

No. 127a, from Lesbury, Northumberland, is 5 inches high, and now in the Alnwick Cast. Museum. Found with No. 111. (*Catal. Aln. Cast. Mus.*, pl. xii.)

No. 128, from Turret Burn, North Toridale, Northumberland, is now in the Newcastle Museum.

No. 129, from barrow 42, Weaverthorpe, E. Riding, is 7¾ inches high, and now in the British Museum. Found at the centre, on the natural surface, as a secondary interment, having disturbed two or three previously buried bodies. (*Brit. Bar.*, p. 193.)

No. 130, from barrow 61, Rudstone, E. Riding, is 7⅞ inches high, and now in the British Museum. Found with the body of probably a woman of about thirty years of age. (*Brit. Bar.*, p. 231.)

No. 131, from Collessie, Fife, is 9 inches high, and now in the National Museum, Edinburgh. Found in a stone cist on the natural surface, nearly at the centre of a large cairn about 120 feet in diameter and about 14 feet high. About 12 feet from the centre was an oval pit 6 feet deep, at the bottom of which lay No. 142 in fragments. About 25 feet from the centre was another hole 4 feet deep, containing fragments of burnt human bones. Among these lay a thin triangular knife-dagger 6 inches long, and near it the gold mounting of the handle. (Anderson, *Br. and Stone Ages*, figs. 4, 5.)

No. 132, from Lesmurdie, Banffshire, is 7¾ inches high, and now in the National Museum, Edinburgh. Found in a cist with a skeleton interment; the skull was platycephalic, and had a cephalic index of 85. Two adjacent cists contained Nos. 76 and 143, so they may be regarded as contemporary.

No. 133, from Aberdeenshire, is 6½ inches high, and now in the National Museum, Edinburgh.

No. 133 a, b, from Balbridie, Durris, Aberdeenshire. There are two photographs of these beakers in the Marischal Coll. Museum, Aberdeen, which perhaps belong to the series, but the photographs I have are too small and indistinct to be sure on this point.

No. 133c, from Brougham, Penrith, Westmorland, is 3¾ inches high. Said to have been found with a food-vessel which was in fragments. (*Archæol.*, vol. 45, p. 414.)

No. 133d, from King's Wells, Fallaws, Monikie, Forfarshire, is 8 inches high, and now in the National Museum, Edinburgh. Found in a cist with flint implements and a rubbing-stone. (*Proc. S.A. Scot.*, x. 26.)

No. 134, from near Aberdeen, is 8 inches high, and now in the Collection of Mr Young, Tortola, Nairn. Found in a cist with burnt bones.

No. 134a, from Noranside, Fern, Forfarshire, is 8¼ inches high. (*Proc. S.A. Scot.*, xxvii. 66.)

No. 135, from Windy Mains, Humbie, E. Lothian, is 6½ inches high, and now in the National Museum, Edinburgh. Found in a cist in digging for sand. (*Proc. S.A. Scot.*, iii. 51.)

No. 136, from Bankhead, Pitsligo, Aberdeenshire, is 4¾ inches high, and now in the Peterhead Museum.

No. 137, from near Elgin, is 6¾ inches high, and now in the National Museum, Edinburgh.

No. 137a, from Tartraven, Linlithgow, is 5½ inches high, and now in the National Museum, Edinburgh.

No. 138, from Sleepie's Hill, Urquhart, Elginshire, is 5¾ inches high, and now in the Elgin Museum.

Sub-type $\gamma 3$.

To judge from its proportions, this sub-type is derived from an East Coast form like Nos. 44, 45, of $\alpha 5$. At first the neck is only a little shorter than the body; the body is well rounded and the constriction is very strongly marked. By degrees the lower part of the body flattens and the body lengthens at the expense of the neck, which becomes shorter. Although the angle between the neck and body in No. 143 seems much blunted on its left side, if the vessel is turned a little to the right the angle is seen very clearly. Whether No. 148 belongs to this series is uncertain. There are fourteen examples of this sub-type, of which ten are reproduced.

No. 139, from barrow 62, Rudstone, E. Riding, is 6 inches high, and now in the British Museum. It was found in the same barrow as No. 93. At a greatly lower level were found Nos. 123–5.

No. 140, from Broomend, Inverurie, Aberdeenshire, is 6 inches high, and now in the National Museum, Edinburgh. It was found in the same cist as No. 38.

No. 141, from Crawford, Lanarkshire, is 6 inches high, and now in the National Museum, Edinburgh. Found in a central cist under a cairn, with a bronze ring 3 inches in diameter. (Anderson, *Br. and Stone Ages*, figs. 64, 65.)

No. 142, from Collessie, Fife, is 7 inches high, and now in the National Museum, Edinburgh. It was found in the same cairn as No. 131.

No. 143, from Lesmurdie, Banffshire, is $5\frac{3}{4}$ inches high, and now in the National Museum, Edinburgh. It was found in a cist adjacent to two others containing Nos. 76 and 132. (*Proc. S.A. Scot.*, i. 206–9.)

No. 143a, from Kirkbuddo, Forfarshire, is 4 inches high. Figured by Thurnam in *Archæologia*, vol. 43, pl. 31, fig. 6.

No. 143 b, c, from Hoprig farm, Cockburnspath, Berwickshire. Found in the same cist under a barrow. (*Berwick Nat. Club* (1887–9), pp. 131–6.)

No. 144, from Fyrish, Evanton, Ross-shire, is 6 inches high, and now in the National Museum, Edinburgh. Found in a cist with a brachycephalous skeleton and a bracer of felstone $4\frac{1}{2}$ inches long, with a pair of holes at each end. (*Proc. S.A. Scot.*, vi. 233 ; *Br. and Stone Ages*, fig. 12.)

Nos. 145, 146, from Ellon, Aberdeenshire, are $4\frac{1}{2}$ inches and $5\frac{1}{8}$ inches high respectively, and now in the National Museum, Edinburgh. Perhaps they were found with four flint arrow-heads. (*Proc. S.A. Scot.*, xxvi. 262.)

No. 147, from Callachally, Glenforsa, Mull, is $6\frac{1}{2}$ inches high, and now in the National Museum, Edinburgh. Found with fragments of a bronze blade, and a bracer of greenstone, with a perforation at each end. (*Proc. S.A. Scot.*, ix. 537.)

No. 147a, from near Kincardine Castle, Perthshire, is 5 inches high. Found in a cist with a burnt body. (*Proc. S.A. Scot.*, xii. 682.)

No. 148, from Ross-shire probably, is $5\frac{1}{4}$ inches high, and now in the National Museum, Edinburgh.

Sub-type γ4.

This sub-type is perhaps derived from a form like No. 41 of α4 by shortening the neck. It begins with a well-rounded body and a relatively longish everted neck. By degrees the body lengthens at the expense of the neck, and its curves tend to flatten at both ends. The greatest curvature then lies about the centre of the body. Whether Nos. 157, 161–3 belong to the series is uncertain, as the greatest diameters lie rather

too high. With the exception of No. 150a, the position of which here is doubtful, all examples of this sub-type seem confined to the counties of Forfar, Aberdeen, Banff, Elgin and Nairn. There are twenty examples of this sub-type, of which sixteen are reproduced.

No. 149, from Cruden, Aberdeenshire, is 6½ inches high, and now in the National Museum, Edinburgh.

No. 150, from Priest-town, Edzell, Forfarshire, is now in the National Museum, Edinburgh.

No. 150a, from Castle Carrock, Cumberland, is 7½ inches high, and now in the British Museum. Found in a cist while ploughing. (*Brit. Bar.*, p. 379.)

No. 151, from Leslie, Aberdeenshire, is 8 inches high, and now in the Collection of Mr Young, Tortola, Nairn. Found in a cist, over which there never had been a mound, with the skeleton of a very tall man, and two or three arrow-heads. (*The Reliquary*, new series, iii. 49.)

No. 152, from Cairnie, Huntly, Aberdeenshire, is 5 inches high, and now in the Elgin Museum.

No. 153, from Persley Quarry, Aberdeen, is 6⅛ inches high, and now in the Marischal Coll. Museum.

No. 154, from the parish of Nairn, is 7 inches high, and now in the Collection of Mr Young, Tortola, Nairn.

No. 154a, from Broomend, Inverurie, Aberdeenshire, is 6½ inches high. Found in a cist with the skeleton of a large tall man and a female child. In the beaker there was a horn spoon. (*Proc. S.A. Scot.*, vii. 115–7.)

No. 154b, from Parkhill, Aberbeen, is 6¼ inches high, and now in the National Museum, Edinburgh. Found in a cist under a mound at a depth of 2 feet below the surface with a skeleton and the bone of a boar. (*Proc. S.A. Scot.*, xvi. 70.) Figured in the catalogue of the Museum.

No. 155, from King's Road, Aberdeen, is 8 inches high, and now in the National Museum, Edinburgh.

No. 156, from Buckie, Banffshire, is 7½ inches high, and now in the Collection of Mr Young, Tortola, Nairn. Found in a cist in a field at some depth below the surface. No trace of a mound. In one corner of the cist were burnt human bones and a quantity of charcoal. In the same field similar graves have been found from time to time. Two or three at least contained not only urns but flint implements and arrow-heads. (*The Reliquary*, new series, i. 249.)

No. 157, from Aberdeenshire, is 7¼ inches high, and now in the British Museum.

No. 158, from Carestown, Deskford, Banffshire, is 8 inches high, and now in the Banff Museum.

No. 159, from Ardiffney, Cruden, Aberdeenshire, is now in the Peterhead Museum. It was found with No. 164 bis. (Wilson, *Prehist. Annals*, i. 157.)

No. 160, from Stoneywood, Aberdeen, is $5\frac{1}{4}$ inches high, and now in the Marischal Coll. Museum.

No. 161, from Acres, Knockando, Elgin, is $5\frac{1}{2}$ inches high, and now in the Elgin Museum.

No. 161a, from Freefield, Aberdeenshire, is 7 inches high. Found 5 feet above the natural surface on the north side of a cairn 15 feet high and 60 feet in diameter. The beaker stood on a stone under an alcove of clay. At the centre under a pile of stones 4 feet high and 5 feet in diameter was found a rusty bit of iron like a chisel, but this must have been a very much later deposit. (*P.S.A.S.* xv. 193.)

No. 162, from Parkhill, Aberdeen, is $7\frac{1}{2}$ inches high, and now in the Marischal Coll. Museum. When found it was covered with a brown ox-hide.

No. 163, from Klintery, Kinellar, Aberdeenshire, is $7\frac{7}{8}$ inches high, and now in the Marischal Coll. Museum. Found in a cist with flint arrow-heads, a small flint borer, and charred wood. With them was a large fragment of a bone ring in shape like a napkin-ring, with three deep grooves round it, and one perforated stop in the central groove. The arrow-heads and borer were retained by the donor, and are not now in the Museum.

No. 164, from Tillyochie, Kinross-shire, is $5\frac{3}{4}$ inches high, and now in the National Museum, Edinburgh.

Sub-type $\gamma 5$.

This sub-type is a bifurcation from $\gamma 4$. Nos. 159, 164 were found in the same cist, but the two forms lead in different directions. In this sub-type the body is sub-angular and tends to become more and more angular; the neck is short and everted. Nos. 166, 167 both came from a cist on the top of Caikmuir Hill, Midlothian, though whether from the same cist is not recorded. At any rate they are not far removed from each other in time, for as No. 166 is closely allied in form to No. 121 of $\gamma 1$ and might be placed next it, the latter part of $\gamma 1$ must be contemporary or nearly so with the beginning of $\gamma 5$. No. 166 is placed where it is to show more clearly the connection between the two sub-types. There are ten examples of this sub-type, of which eight are reproduced.

No. 164 bis, from Ardiffney, Cruden, Aberdeenshire, is $5\frac{3}{4}$ inches high, and now in the Peterhead Museum. Found in a small tumulus with No. 159, a bracer of polished felstone, with two perforations at each end; a finely polished axe of grey flint $6\frac{1}{2}$ inches long; a necklace of twelve jet beads and four unshaped of amber; a flint arrow-head with barbs and stem. (*Cat. Arch. Exhib. Edin.*, 1858, pl. iii.; Wilson, *Prehist. Annals*, i. 157.)

No. 165, from Cursed Field, Windmill Hill, Ancroft, Northumberland, is $6\frac{3}{4}$ inches high, and now in the Collection of Canon Greenwell, of Durham. Found with the skeleton of a male adult.

Nos. 166, 167, from Caikmuir Hill, Borthwick, Mid-Lothian, are $6\frac{3}{4}$ and $7\frac{1}{2}$ inches high respectively, and now in the National Museum, Edinburgh. Whether they were found in the same cist is uncertain. (*Proc. S.A. Scot.*, ii. 482.)

No. 168, from Inveramsay, Chapel of Garioch, Aberdeenshire, is $7\frac{1}{4}$ inches high, and now in the National Museum, Edinburgh. (*Proc. S.A. Scot.*, iv. 165.)

No. 168a, from Buckie, Banffshire, is 7 inches high, and now in the National Museum, Edinburgh. Found in a cist about 2 feet below the surface with a skeleton. (*Proc. S.A. Scot.*, xvi. 414.) Figured in the catalogue of the Museum.

No. 169, from Achroisk, Boharm, Banffshire, is 6 inches high, and now in the National Museum, Edinburgh. Found with a skeleton in a cist 4 feet below the surface of a sand-knoll. (*Proc. S.A. Scot.*, viii. 381.)

No. 169a, from Clashfarquhar, Banchory, Aberdeenshire, is $6\frac{1}{4}$ inches high, and now in the Free Church College, Aberdeen.

No. 170, from Cawdor Castle, Nairn, is $6\frac{1}{2}$ inches high, and now in the British Museum.

No. 171, from Savock, Longside, Aberdeenshire, is now in the Peterhead Museum.

The 222 beakers classified in the preceding pages do not exhaust the total number that have been brought to light. Mr Mortimer of Driffield has a good many in his collection which I have not noticed, as he has a book in the press in which the excavations he has made in the East Riding during the last thirty or forty years will be fully described and illustrated. There are a few more in private collections or in small local museums of which I only know the type or of which I have never heard. According to Thurnam, thirty-six beakers were found in Wilts by Hoare and Cunnington, of which only nine are preserved. Of those discovered in the counties of Derby and Stafford by Mr Bateman about sixteen were too fragmentary to restore, and are consequently lost. During the last hundred years a good many casual finds of beakers must have been made of which there is no record, or no more than that the vessel was in fragments and these thrown away. In Ireland there are in the Dublin Museum fragments from Moytura, Sligo, of two or three

beakers of type β. What seems to be a late beaker of the same type from Mount Stewart, Co. Down, has been figured in the *Dublin Penny Journal* (1832, i. 108), but Mr George Coffey will not allow it to pass muster, and at any rate it is very doubtful.

Diagram I. The classification of the beaker-class here proposed can be focussed in a diagram, which shows at a glance how it works out and the inferences that follow from it. In the preceding pages mention has been made of beakers of different type being found together, and being therefore contemporary. Taking advantage of these helps, it is possible to synchronise, at one or more points in their course, nearly all the fifteen sub-types. The next thing to make sure of is, that the sequences are in the right direction. No one will, I think, maintain that the sequence α1, 2, 6 is in the opposite direction and to be reversed, for here we have the flint daggers to fall back upon as evidence to the contrary. If it is true of type α that the evolution on the whole is retrograde, from good to bad, and from bad to worse, we are entitled to believe that the same principle holds good for types β, γ. Hence a difficulty arises in placing the terminal beakers in most of the sub-types. Towards the close of the beaker period the form had degenerated to such an extent, and we have such ill-shaped, misbegotten examples to deal with, that it is impossible to assign them with certainty to this or that sub-type. Yet, from a practical, chronological point of view, this is of less importance, as they all belong to the close of the period.

Diagram I. is drawn to scale, a $\frac{1}{12}$ of an inch being allowed for each beaker, so that the length of each line is proportionate to the number of examples in each sub-type.

If every beaker made in the country had been preserved, was then arranged correctly in fifteen sub-types and drawn to scale in the same way as the diagram, then the length of a line A B drawn between the extremities would represent graphically the length of life of the beaker-class with absolute accuracy. If we also knew exactly what this line represented in terms of years, by dividing A B into spaces of fifty years each and drawing horizontal lines through the points, all the beakers between each

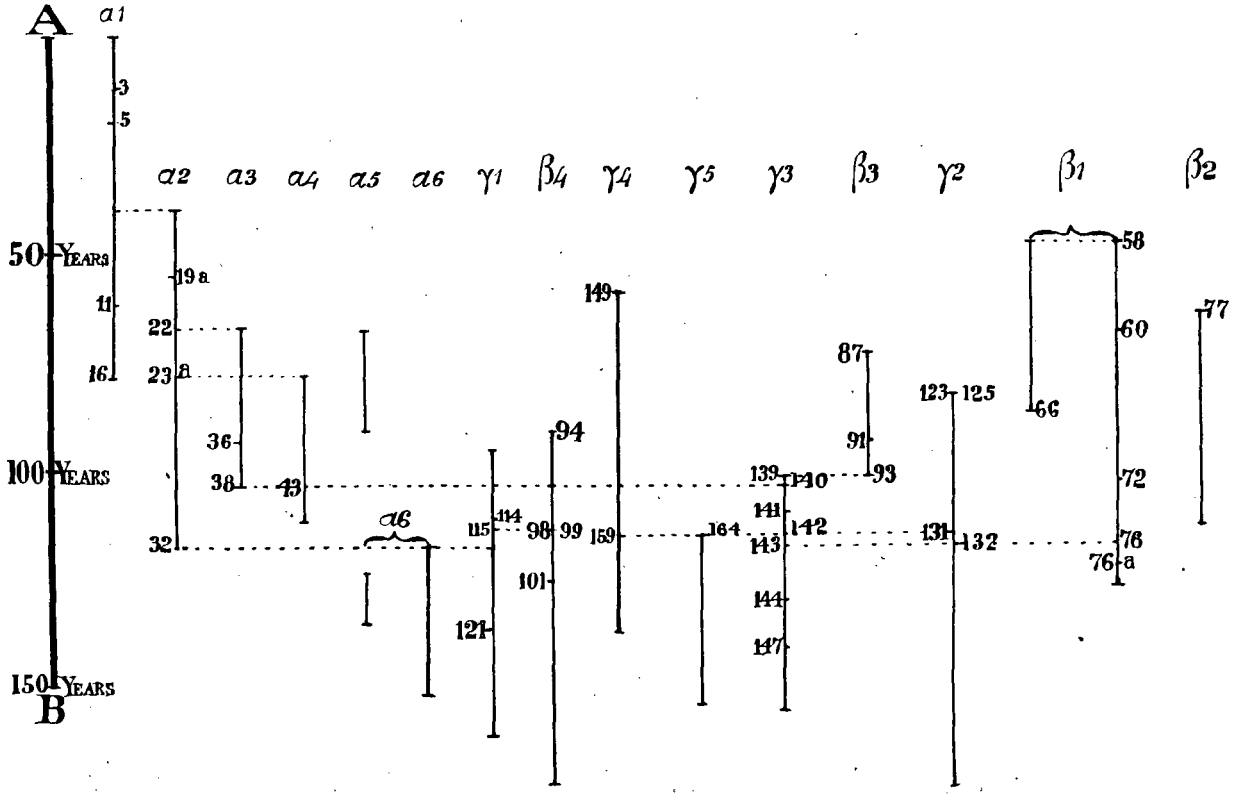
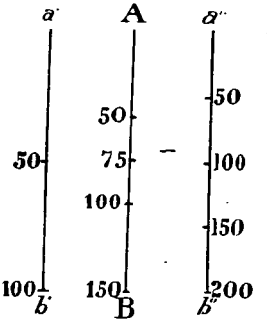

A
B
50 YEARS
100 YEARS
150 YEARS
a1
a2
a3
a4
a5
a6
γ1
β4
γ4
γ5
γ3
β3
γ2
β1
β2
3
5
11
16
19 a
22
23 a
32
36
38
43
a6
115
114
98
99
101
121
149
159
94
164
139
140
141
143
142
144
147
87
91
93
123
125
131
132
66
58
60
72
76
76 a
77

Diagram I.

space would belong to a definite time with absolute certainty. There would be no error. So too if, in default of having all the beakers, we have only a proportion of them, so long as that proportion was the same in each sub-type, the new line A′ B′ would be as true as A B; it it would only be proportionally shorter. But a source of error would creep in if the number of years represented by A B or A′ B′ was unknown and had to be estimated. The error might be either on the side of excess or of deficeiency of years, and can easily be visualised on a small diagram. For instance, if A B is estimated at 150 years, it might be 50 years over or under the truth. Let A B represent a line estimated to cover 150



years and divide it into 3 spaces of 50 years each. Let $a'\,b'$ represent a true space of 100 years, and divide it into 2 equal spaces. Let $a''\,b''$ represent a true space of 200 years, and divide it into 4 equal spaces. If A B is underestimated by 50 years, the beakers on each side of the 50-year point will be underestimated by about 17 years; on each side of the 75-year point they will be 25 years less than the true time; at the 100-year point they will be about 35 years short and at the 150-year point will be 50 years short of the true time. On the other hand, if A B is overestimated by 50 years, the beakers on each side of the 50-year point are 17 years in excess of the true time; at the 75-year point they are 25 years in excess, and at the 150-year point are 50 years out of reckoning. From this diagram it is evident

that the full force of the error does not take effect till the close of the series, and that for the first half of it the progressive error can never be more than ± 25 years, or less than a generation—no great miscalculation in an investigation of this sort.

In diagram I. the lines that represent the lengths of the sub-types are necessarily drawn on the assumption that each is equally well represented and bears the same proportion to those that are lost or missing. This postulate is not likely to be perfectly accurate, though I think there is a considerable probability that the difference in proportion between them is not very great, and not likely to cause any outrageous error. Although they were separated for convenience, α**1, 2, 6**, form a single sequence, and can be treated as unity. The line A B, therefore, between the beginning of α**1**, and the end α**6**, represents the length of time that type α existed in Britain. I estimate it at 150 years, or five generations, though for all I know this length of time might be doubled.

Construction of Diagram I.

α**1**.—This line is a perpendicular 20 units long, each unit being $\frac{1}{12}$ of an inch, as the series consists of 20 members.

α**2**.—As this sub-type branches off about the middle of α**1**, a line of 20 units, there being 20 examples, is drawn parallel to α**1** at 10 units from its starting-point.

α**3**.—This sub-type bifurcates from α**2** at No. 22. Its line is drawn parallel to α**2** with a length of 9 units.

α**4**.—This sub-type diverges from α**2** about its centre. Its line is drawn parallel to it with a length of 8 units.

α**5**.—There is nothing to fix the exact position of this sub-type. Provisionally it is drawn to begin at the centre of α**2** with a length of 7 units.

α**6**.—This sub-type is a prolongation of α**2** and of α**5**. A line of 8 units in length is drawn parallel to α**2**, beginning where the latter terminates; another of 3 units is drawn in prolongation of α**5**, allowing a gap of 4 units, but the length of this interval cannot be determined at present.

The line A B has a length of 39 units. Estimating this at 150 years, the space between each unit of length is equal to 3·84 years, or 13 units to 50 years.

γ**1**.—The general position of this sub-type is found as follows. No. 32 of α**2** was found immediately over a grave containing No. 114 of γ**1**. No doubt they are practically contemporary, though not deposited in the same year. I allow 2 units, or about .7 years' interval. From 32 on line α**2** draw a hori-

zontal line and set up in both directions a perpendicular **γ1**. At 2 units above the intersection, place 114. The line **γ1** begins 3 units higher up, and has a length of 17 units.

β4.—No. 115 of **γ1** was found with Nos. 98, 99 of **β4**. From 115 draw a horizontal line, and set up in both directions the perpendicular **β4**, marking 98, 99 at the intersection. This line begins 5 units higher up, and has a length of 20 units.

γ3.—No. 38 of **α3** was found with No. 140 of **γ3**. From 38 draw a horizontal line, and set up in each direction a perpendicular **γ3**. It begins 1 unit higher up, with 139, and is 14 units long.

β3.—No. 139 of **γ3** and No. 93 of **β3** must be practically contemporary. From 139 draw a horizontal line, and set up a perpendicular **β3** with a length of 7 units, marking 93 at the intersection.

γ2.—No. 142 of **γ3** is contemporary with No. 131 of **γ2**, and No. 143 is practically if not exactly contemporary with No. 132 of **γ2**. From 142, 143 on the line **γ3** draw two horizontal lines, and set up in both directions the perpendicular **γ2**. Mark off the points 131, 132 at the intersections. The line **γ3** begins 8 units above 131, and has a length of 23 units.

β1.—No. 132 of **γ2** is practically, if not precisely, contemporary with No. 76 of **β1**. From 132 draw a horizontal line, and set up a perpendicular **β1** in both directions, marking 76 at the intersection. It begins 18 units higher up with No. 58. As sub-type **β1** develops in two directions, a line 10 units long must be drawn parallel to it, terminating with No. 66.

γ5.—Nos. 142 of **γ3** and 164 of **γ5** are very similar in form and belong to the same series, but develop in different directions. From 142 draw a horizontal line, and let fall a perpendicular **γ5**, 10 units long, from the point of intersection 164.

γ4.—No. 164 of **γ5** was found with No. 159 of **γ4**. From 164 draw a horizontal line, and set up in both directions a perpendicular line **γ4** at the point of intersection 159. The line begins 14 units higher up with No. 149, and has a length of 20 units.

β2.—The position of this sub-type cannot be exactly determined. Provisionally its beginning has been placed 4 units later than No. 58 of **β1**. Its length is 12 units.

The above construction shows the typological classification of the beaker class of ceramic when laid down on paper in as mechanical a manner as possible, so as to preclude fudging or insidious adjustment of any kind. The system is, I believe, a perfectly sound one, though in carrying it out no doubt there are errors. Some beakers are probably, perhaps certainly, misplaced. But these are errors of detail, which do not affect the fact that this ceramic has developed in an orderly way,

following an unconscious law from the beginning to the end of the series.

The diagrammatic results must now be tested to see where they are strong and where weak. The position of $\beta 4$ is fixed by $\gamma 1$. Now 121 of $\gamma 1$ was found with a beaker extremely like 101 of $\beta 4$, though more slender, so that they must be practically contemporary. Though 121 on line $\gamma 1$ and 101 on line $\beta 4$ were laid down quite mechanically and independently, the difference of time between them is represented by a little over two units, or about eight years. In describing sub-type $\beta 1$ it was observed that No. 66 touched $\beta 3$, and that would be between 90 and 91. Though the lines $\beta 1$, $\beta 3$ are arrived at quite independently, and 91 and 66 are fixed mechanically, the difference of time between them is only seven years. It must be observed, too, that the line $\beta 1$ is fixed by No. 76, almost the last of the series. And though we have to carry the line back to No. 58, a space of seventy years, and then begin again to reach 66, the difference of time between this and 91 is only seven years. So too 131, 132 on $\gamma 2$ follow naturally, just as 142, 143 on line $\gamma 3$, though here the difference in time is probably more than a unit. These unexpected coincidences show that the whole scheme of classification is not erroneous, and that the sequences in these particular sub-types must in the main be true.

It will be observed, however, that the position of types γ and β, except $\beta 2$, depend entirely upon the proper fixation of 32 on line $\alpha 2$ and of 38 on line $\alpha 3$. The position of 32 at the end of $\alpha 2$ is tolerably certain, and so the lines $\gamma 1$, $\beta 4$ which depend upon it are also fairly certain. But the position on line $\alpha 3$ of 38 from Aberdeenshire is very questionable. The sub-type $\alpha 3$ to which it belongs is anything but continuous; it is full of gaps, and some members of it are geographically very far apart, ranging from Kent to Aberdeenshire. Perhaps 35 a, b, should form a separate sub-type. Although in No. 38 the neck curves outwards on the left side, the beaker certainly belongs to type α. The great difficulty is to connect it with any beaker geographically nearer to it than Northumberland and Yorkshire. Though it differs in profile and

the neck is rather shorter, it seems to have something in common with 43 of **α4** from Fife. If so, it would no doubt be later, for, as it happens, they are exactly contemporary according to the diagram. There are other reasons for believing that No. 38 is placed too high up in the diagram. It makes **γ4** begin too early; it makes the head of the series No. 149 older than the beginning of **α5**, which, considering the geographical positions, is not likely. Correlatively, it makes **γ4** end too soon. Futhermore as 23a was found with a fine specimen of a food-vessel with a grooved shoulder and perforated stops, and **91**, 92 of **β3** are both later than a similar food-vessel, while **92** is very likely a little later than a food-vessel of similar but later sub-type, the difference of time between 23a and 92, viz., fifteen years, seems insufficient for the development of the food-vessel. From these considerations No. 38 may properly be brought down some six units, more or less, which affects **β1**, **3**, **γ2**, **3**, **4**, **5** exactly in the same measure. I take six units, or twenty-three years, as a reduction that is probably not far from the truth. One result of this change will be to show that some forms of the beaker lasted more than forty years longer in North Britain than south of the Tweed, a supposition which, *a priori*, is highly probable.

Diagram II.

Diagram II. shows the scheme of classification when No. 38 has been lowered to its approximately proper level. The lines representing the sub-types are now arranged in the same order in which they are successively described; the continuation of **α5** in **α6** is raised a little, and **β2** keeps its position with respect to **β1**. Sub-type **γ4** still seems too high, and there may be some error in the series; for instance, 155 and 157 are not unlikely misplaced, and **α1** does not seem to come far enough down. But, on the whole, I believe the diagram shows the development of the beaker types in Britain with substantial approximation to the truth. It may have covered a period of 200 years as a minimum.

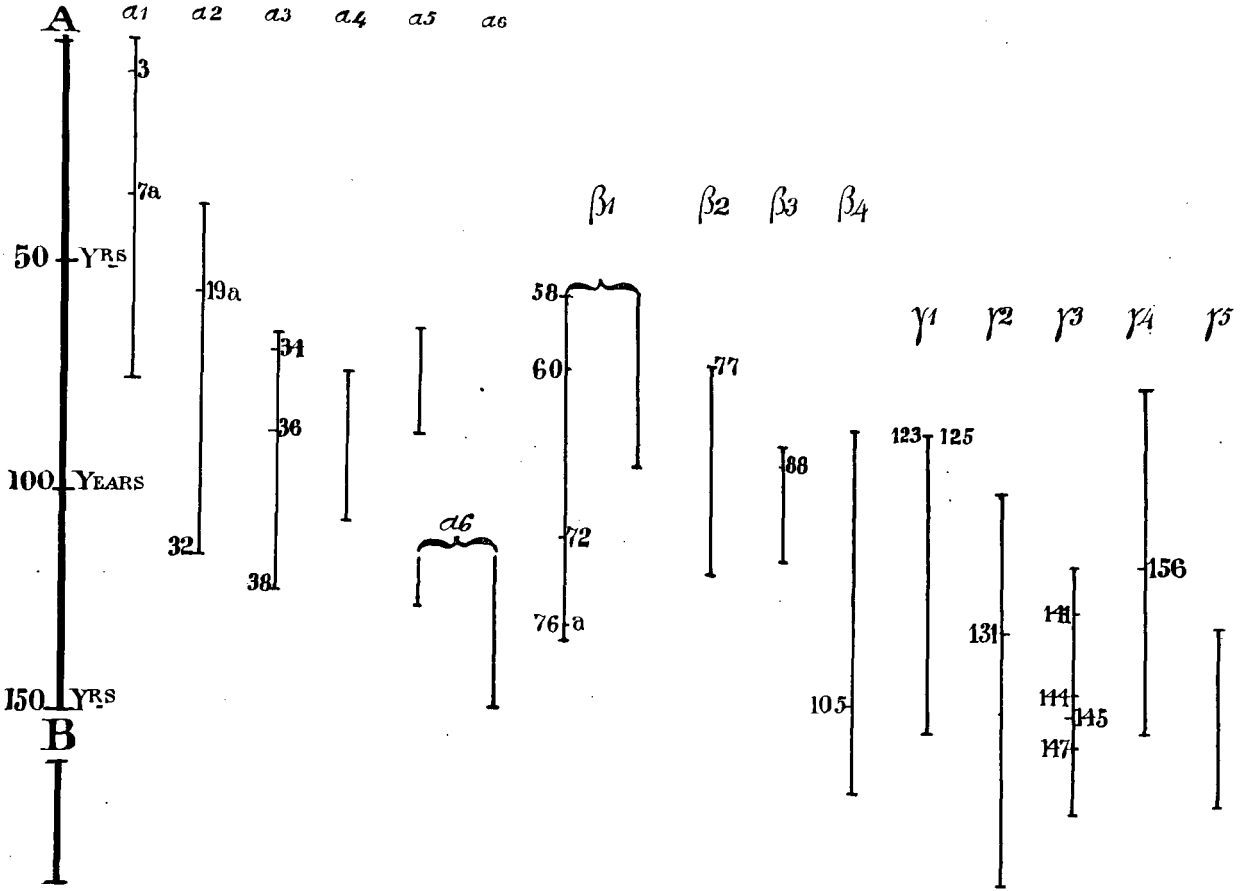

A
α1
α2
α3
α4
α5
α6
3
7a
50 YRS
19a
34
36
100 YEARS
32
38
α6
β1
β2
β3
β4
58
60
77
88
72
76a
γ1
γ2
γ3
γ4
γ5
123
125
131
141
144
145
147
156
105
150 YRS
B

Diagram II.

The Archæological Objects.

Tables I., II. present lists of archæological objects that have been found with certain beakers of thirteen of the sub-types. They all indicate that the ceramic found with them belongs to an early period, but in quite a vague and general manner. None can be used for fixing, within narrow limits, the exact age of the accompanying beaker. The flint daggers and arrow-heads, the stone axes and axe-hammers, the jet buttons with the V-shaped perforation at the base, and the stone bracers, are all inheritances and survivals from the Later Neolithic period, but the line of development that each of these sets of objects took has not been worked out. It is the same with the knife-daggers of metal; it is uncertain whether the tanged type or the tangless type is the older of the two in Britain. But both Sir John Evans and Dr Thurnam are inclined to believe that the untanged type was the first to reach our shores. As the question is of real importance, it is well to describe the nine metallic daggers and knife-daggers of Table I., and compare them with similar daggers on the Continent.

The daggers and knife-daggers belong to two types: (1) the handle is attached to a plate at the base of the blade by three rivets: (2) the handle is attached to a tang.

(1) 7a, Avebury. The blade is 4 inches long by about $1\frac{3}{8}$ inches wide, flat, with a well-rounded head and three rivet-holes, arranged to form a triangle. (*Proc. Arch. Instit.* (1849), p. 110, figs. 12, 13.)

(2) 19a, East Kennet. The blade is $5\frac{1}{2}$ inches by $2\frac{3}{8}$ inches, flat, with a bevelled edge and well-rounded head. The three rivets form a triangle, and the semilunar mark at the base of the blade is nearly as wide as the base itself. (*Archæol.*, vol. 43, pl. 33.)

(3) 76a, Linlathen. The blade is $4\frac{1}{2}$ inches by about 2 inches, flat, thin, with point broken off, and the three rivets disposed in form of a triangle. The semilunar mark is somewhat angular, and the lines uniting it with the cutting edges incline somewhat downwards. (Anderson, *Br. and Stone Ages*, fig. 7.)

(4) 131, Collessie. The blade is 6 inches by about $2\frac{1}{8}$ inches, flat, thin, with a rather obtuse point. The semilunar mark at the base is united with the cutting edges by lines that incline downward. (Anderson, *op. cit.*, figs. 4, 5.)

(5) 147, Glenforsa. Only small fragments of a thin flat blade were recovered.

TABLE I.

Sub-type.	Number of the Beaker.	Place.	Flint Knives.	Flint Daggers.	Stone Axe-hammers.	Flint Arrow-heads.	Buttons with V-Perforation.	"Pulley Rings."	"Jlesh Rules."	Disc Beads.	Stone Bracers.	Bronze Knife-Daggers.	Bronze Awls.	Bronze Necklace.	Bronze Earrings.	Bronze Bangle.	Gold.
$\alpha 1$	3	Stonehenge, Wilts,		×	×				×								
	4	Garton Slack, E. Riding,		×		×											
	5	Alsop Moor, Derby,	×	×				×									
	5a, b	Winterbourn, Wilts,			×	×			×			×	×				
	6	Haddon, Derby,															
	7a	Avebury, Wilts,											×				
	8	Winterbourn Stoke, Wilts,					×	×									
	11	Smeril Moor, Derby,							×								
	15	Dowel, Derby,				×	×						×				
	16	Ferry Fryston, W. Riding,															
$\alpha 2$	17	Bee Low, Derby,	×									×					
	19a	East Kennet, Wilts,			×										×		
	19b	Buxton, Derby,				×											
	28	Mouse Low, Stafford,															×
$\alpha 3$	36	Driffield, York,															
$\alpha 4$	43	Dairsie, Fife,				×											
	43a	Tippermallo, Perth,	×														
$\alpha 6$	50	Minning Low, Derby,				×											
$\beta 1$	58	Roundway, Wilts,				×											
	60	Winterslow Hut, Wilts,															
	76a	Linlathen, Forfar,															×
$\beta 2$	77	Mere Down, Wilts,															
$\beta 3$	87	Brighton, Sussex,															
	88	Brandon, Suffolk,															
	93	Rudston, E. Riding,	×														
$\beta 4$	103	Dunrobin, Sutherland,															
$\gamma 2$	131	Collessie, Fife,															
$\gamma 3$	141	Crawford, Lanark,															
	144	Fyrish, Ross,															
	145	Ellon, Aberdeen,				×											
	147	Glenforsa, Mull,				×						×					
$\gamma 4$	151	Leslie, Aberdeen,				×											
$\gamma 4$	163	Clintery, Kinellar, Aberdeen,			×	×				×	×						
$\gamma 5$	164 *bis.*	Artliffney, Aberdeen,				×											

TABLE II.

	Beaker No.	Place.	Size.	Holes.	Section.	Found with	Where figured or mentioned.
1	58	Roundway, Wilts	$4\frac{1}{2}'' \times 1\frac{3}{8}''$	4	flat	Tanged blade, flint arrow-head	*Arch.*, vol. xliii. fig. 120.
2	60	Winterslow, ,,	$4\frac{3}{4}'' \times 2\ ''$	6	flat	Tanged blade	,, ,, ,, 121.
3	77	Mere Down, ,,	$4\ '' \times 1\frac{1}{8}''$	2	flat (?)	Tanged blade, gold ornaments	Evans, *Anc. Stone Imp.*, p. 427.
4	36	Driffield, E. Riding	$5\ '' \times 1\frac{1}{4}''$	4	curved	Tanged blade, amber beads	*Arch.*, vol. xliii. fig. 119.
5	88	Brandon, Suffolk	$4\frac{5}{8}'' \times 1\frac{7}{16}''$	6	flat	. . . . .	,, ,, ,, 122.
6	164 *bis*	Ardiffney	$4\frac{1}{4}''$	4	curved	Flint arrow-heads, flint knife, etc.,	*Cat. Mus. A. I.*, Edinburgh (1858), p. 11.
7	144	Fyrish, Ross	$4\frac{1}{2}'' \times 1\frac{1}{4}''$	4	curved	. . . . .	Evans, *op. cit.*, fig. 354.
8	147	Glenforsa, Mull	$3\frac{1}{4}'' \times 1\frac{1}{4}''$	2	flat	. . . . .	Anderson, *Br. and St. Ages*, fig. 11.
9	. .	Everley, Wilts	$3\frac{1}{4}'' \times \frac{3}{4}''$	4	flat	Bronze tanged chisel, whetstone, bone and horn implements	*Cat. Dev. Mus.*, 96, figd.
10	. .	Sutton Veney, Wilts	$4\frac{5}{8}'' \times 2\frac{7}{8}''$	6	flat	Two boars tusks, broken beaker	,, ,, ,, 63, ,,
11	. .	Wilts ?	$4\frac{1}{8}'' \times 1\frac{7}{8}''$	12	flat	. . . . .	,, ,, ,, 232, ,,
12	. .	Tring Grove, Herts ?	$3\frac{15}{16}'' \times \frac{7}{8}''$	4	curved	. . . . .	,, ,, ,, 326.
13	. .	Skye	$2\frac{1}{4}'' \times 1\frac{3}{4}''$	4	curved	. . . . .	Evans, *op. cit.*, fig. 353.
14	. .	Dalmore, Ross	imperfect	(4)	curved	Flint knife, small cylindric jet beads	Anderson, *op. cit.*, fig. 54.
15	. .	Sittingbourne, Kent	$3\frac{3}{4}'' \times 1\frac{1}{4}''$	2	flat	Knife-dagger	*Proc. Soc. Ant.*, 2 ser., x. 29.
16	. .	Bulford, Wilts	not stated	2	flat (?)	Part of a bronze spear	*Arch. Jour.*, vi. 319.
17	. .	Aldbourne, Wilts	$2\frac{3}{4}'' \times 1\frac{1}{4}''$	(4)	flat	Bone tweezers, bone pin with four holes in the head	*Arch.*, vol. lii. figs. 21, 22.
18	. .	Stelchoves, Bohemia	$4\frac{1}{4}'' \times 1\frac{3}{8}''$	6	curved	Tanged bronze dagger, beaker like No. 77	Píč., *op. cit.*, i. 83.
19	. .	Rothleben, Rudolstadt	$3\frac{11}{16}'' \times 2''$	4	curved	Two beakers	*Zeit. f. Eth.*, xxx. p. 21.
20	. .	Fünen, Denmark	$2\frac{7}{8}'' \times 1\frac{3}{8}''$	5	curved	From a passage grave	Montelius, *op. cit.*, fig. 482.

(6) 36, Driffield. The blade is imperfect, measuring $3\frac{1}{2}$ inches by $1\frac{3}{4}$ inches. When complete it may have measured $4\frac{5}{8}$ inches in length. It is thin, flat, with a bevelled edge, and is provided with a tang nearly as wide as the base of the blade. Near the end of it is a rivet-hole. (Evans, *Br. Impl.*, fig. 278.)

(7) 58, Roundway. The blade is 10 inches by 2 inches, flat, with bevelled edge, and shows a curved mark at the base. It ends in a tang with curved shoulders, and weighs $5\frac{1}{4}$ oz. av. Thurnam describes it as a formidable weapon. (*Archæol.*, vol. 43, fig. 154; Evans, *op. cit.*, fig. 277.)

(8) 60, Winterslow. The blade is $5\frac{3}{8}$ inches by $1\frac{3}{4}$ inches, flat, with bevelled edge and a somewhat obtuse head. It terminates in a short broad tang with curved shoulders. (*Archæol.*, vol. 43, pl. 32, fig. 2.)

(9) 77, Mere Down. The blade is 5 inches by $1\frac{3}{8}$ inches, flat, with bevelled edge, and terminates in a broadish tang with sloping shoulders, and without a rivet-hole. (*Catal. Devizes Mus.*, 81.)

Comparing daggers 1–4 with copper daggers from the Mondsee, figured by Dr Much (*Kupferzeit in Europa*, 2nd ed., figs. 12–14); from the Mondsee, Attersee, and St Blaise, figured by Dr Munro (*Lake Dwellings*, figs. 39, 8) it will be seen that they differ very much. The continental blades are all narrow at the base and acutely pointed at the head; the British are all broad at the base with a remarkably blunted or rounded head. The only point of agreement is that they are hafted with three rivets. Yet here again there is a difference, for the rivet-plate in the copper daggers is longer, and therefore the lower angle of the triangle formed by the position of the rivets is more acute. In a flat bronze blade from Pile, Sweden (Montelius, *Chron. d. ält. Bronzezeit*, etc., fig. 158), of period I : 2, the 3 rivets form a very obtuse angle, even more so than in daggers 1–4. Long ago Dr Franz von Pulszky pointed out that the widening of the base of daggers was a later development, so that these four British daggers are evidently later than the continental ones referred to above. M. A. Bertrand figures a small bronze dagger from a neolithic station in Lozère with three rivets, which is very like the British flat daggers in the form of the blade, but no dimensions are given (*La Gaule avant les Gaulois*, p. 219).

In comparing daggers 1–4 with the triangular-bladed daggers of Italian type of period I : 2 (Montelius, *op. cit.*, fig. 270, a,b, 307–8), the same broad base will be observed, but in the latter type the head is

more acutely pointed and the surface of the blade is ornamented with incised lines parallel to the cutting edges. The blade is also hafted with several rivets, arranged along a curve. The Scottish triangular flat blades 3, 4 are, I think, later than 1, 2, for a better preserved one, like that from Lochnell, Argyllshire (Anderson, *op. cit.*, fig. 8), is like two bronze blades from Unietits and Holubits in Bohemia, both with three rivets, figured by Dr Píč (*Čechy předhist.*, pt. i. pl. xi. 21 ; pl. xix. 12), and it has also a greater resemblance in form to the Italian triangular blades of period I : 2. Indeed, if the arrangement shown in diagram II. is fairly accurate, both 3, 4, belong to the genuine Bronze Age I : 2, for both are later than No. 72, which itself is later than or contemporary with slightly flanged bronze axes.

Tanged blades.—A small knife-dagger, $4\frac{3}{4}$ inches by $1\frac{7}{8}$ inches, flat, tapering to a rounded point, with a rivet-hole at the centre of the tang, was found at Sittingbourne, Kent, and is now in the British Museum. It was found with a bracer of slaty stone, $3\frac{3}{4}$ inches by $1\frac{1}{2}$ inches, with a countersunk hole at each end (*Proc. Soc. Ant. Lond.*, 2 ser. x. p. 29). In France there are several tanged blades more or less resembling 6–9. From near Tournemire (Aveyron) comes a copper blade, thin, flat, with a pointed head and a tang tapering towards the butt end. With it were two small blades, a long perforated copper blade, and a copper pin with a richly ornamented head, which seems to belong to a Bronze Age type (*Matériaux*, xxii. 157). In the Archæological Museum at Madrid I saw two tanged flat copper blades from Palencia, in form almost identical with the above.

From the Grotto Bounias, near Arles, came a blade 10 inches by $1\frac{3}{4}$ inches, with bevelled edge, and a short, rather broad tang. It was found with a conical bone button with the V-shaped perforation and several flint lance and arrow heads of neolithic aspect (*Matériaux*, XI. 544). In the Musée d'Histoire Naturelle at Toulouse I saw a tanged blade from the sepulchral grotto of St Pé Dardet (H. Garonne) of the same form as the above, but the point is broken off. It was found with a leaf-shaped arrow-head.

In a tumulus at Coatjou-glas (Finisterre), in a chamber of dry masonry at the centre of it, was found a cinerary interment, and with it a small bronze flat blade, 4 inches by $\frac{15}{16}$ inches, terminating in a tang, which is perforated near the centre by a hole. Other objects with it were, four schist beads, a schist plaque (bracer?) with a hole at each end, and two points of flint arrow-heads (*Matériaux*, xxi. 51, pl. iv. 6).

From Castelviel d'Albi (Tarn) there are two blades 5 inches by 1 inch and $2\frac{7}{16}$ inches by $\frac{3}{4}$ inch. They are badly engraved, but seem to have a broad, low midrib, while the smaller one has a rivet-hole at the centre of the tang (*Matériaux*, xiv. 941). The larger of these resembles two tanged blades I have seen in the Musée Dobrée, Nantes. They are about 6 inches long, with a very slight midrib, a flat tang, and a rivet-hole near the end. One is from Brittany, the other from St Nazaire. Just above each lies a small socketed spear-head, with a hole near the base of the socket, suggesting that in each instance a spear and dagger had been found together. There is also a stout bronze dagger, 14 inches by 3 inches, of period I : 2, from Saxony, figured by Montelius (*op. cit.*, fig. 103), which, though larger and with a tang expanding at the butt end, is much like his fig. 480 (= (7) No. 58, Roundway). Yet this particular dagger seems exceptional and isolated.

The blade from Bounias, from its greater thinness, is probably considerably earlier than the Roundway dagger. Though no description is given of the Roundway arrow-head, it may be supposed to have been stemmed and barbed, and therefore of later type than those from Bounias. The same is probably true of the blades from St Pé Dardet and Palencia; they are earlier than the Roundway dagger. Though the Coatjou blade is narrower and smaller than that from Mere Down, and is narrow compared with the Sittingbourne blade, all three were found with the simple form of bracer, having but one countersunk hole at each end. In the opinion of M. de Chatellier, the Coatjou interment belongs distinctly to the Bronze Age. On the other hand, daggers 6–9 must be older than those from Tarn if these have a midrib, and belong to a type contemporary with socketed spears.

The above data are insufficient to determine which type of dagger first came to Britain, though they show that each type points in a different direction. The British tanged type looks to France and Spain for its source, the untanged type has its origin more in central and southern Europe.

If diagram II. is approximately correct in its suggested chronology, it must throw some light upon this obscure subject. According to it, knife-dagger No. 1 from Avebury of the untanged type is the oldest of the nine knife-daggers. At an interval of about twenty-two years it is followed by No. 2 of the same type. But contemporary with it is No. 7 of the tanged type. About nineteen years later comes No. 8, also a tanged blade. No. 9 has been equated with it in time, as the only available means for fixing the place of sub-type **β2**. With it were ornaments of thin beaten gold, and this is the first time on record of the noble metal being found with the beaker ceramic. All these blades, it may be noted, are from Wilts. About fourteen years later comes No. 6 from Yorkshire, also of the tanged type, and for the second time gold is found associated with bronze. About forty-two years more seem to have elapsed before a dagger-blade can be noted in North Britain—No. 3 from Forfarshire, which is practically contemporary with No. 4 from Fife, where gold again occurs. The fragmentary blade from Mull, No. 5 seems to be about twenty-five years later than these. The interval of time between this and knife-dagger No. 1 appears to be about 128 years, or four generations, a period that, *a priori*, is certainly not unreasonable. Judged by the same method, it is reasonable to suppose that bronze or copper and gold should be used in the south of England before reaching Yorkshire, and that the use of these metals reached the east coast of Scotland at a still later date.

The next archæological object that needs notice on account of its relative frequency is the bracer or wrist-guard of hard polished stone, slate, or more rarely of bone. Although bracers belong to the end of the Neolithic Age on the Continent, Table I. shows that they have not been found with sub-types **α1**, **α2**, and are with one exception confined

to types β, γ. In size they do not greatly differ. The total number of countersunk holes varies from 2–6, though one example from Wilts has as many as twelve, and was taken by the finder for a breastplate. Some archæologists will not allow that the simplest form with a hole at each end is a bracer at all; they regard it rather as a pendant or amulet. In cross-section the bracer is either flat or curved, the inner side being concave and the exterior convex. Yet none of these characteristics seem sufficient to determine the age of any particular bracer. They evidently cover a great space of time, for No. 17 from Aldbourne was found with a burnt interment and a bone "tweezer" or "dress-fastener" (Greenwell), an object that is sometimes associated with stout bronze daggers of later date than the thin knife-daggers, and with a cinerary urn of a well-marked type. And No. 16 was found with part of a bronze spear, while an "incense cup" was unearthed from an adjoining barrow. The three foreign examples, which are probably older than the British, have all a curved inner and outer surface like Nos. 6, 7 from Aberdeenshire and Ross. But this coincidence is not sufficient to make it certain that these two bracers are older than Nos. 1, 2, which have a flat section. Local usage and prescription may have had something to say in the matter. Without exception, all the seven or eight bracers from Wilts and the two from Kent and Suffolk are flat. Hence, for some reason, a flat bracer was preferred in South Britain. As a type it is possible, though yet not proved, that the flat kind is later than the curved, but that fact would not justify our placing North British Nos. 6, 7 before all the examples from South, in the face of other evidence to the contrary.

My intention had been to give an analysis of the ornament and technic of the beaker types, but as this would involve the reproduction of 342 additional illustrations and a considerable number of extra pages of letterpress, I must defer that part of the subject for another occasion.

Food-Vessels and Burnt Interments.

In the foregoing pages mention has occasionally been made of food-vessels and burnt interments in connection with beakers. It is

important therefore to re-state clearly the different occasions on which these coincidences have occurred, so as to have a more precise idea of the facts of the case. The earliest beaker found in the same barrow with food-vessels, though not with the same interment, is No. 18 from Derbyshire. Yet there is nothing to show that these two types of ceramic are contemporary; in fact, the food-vessels seem both to be of a rather later type than that found with No. 23a. The difference of time between Nos. 18 and 23a seems to be about thirty-four years, and to suppose that beaker 18 was deposited a generation earlier than the two food-vessels does not seem an incredible supposition. According to diagram I. the difference of time between the beginning of **α1** and No. 23a is about seventy-eight years. At this distance of time from the commencement of the series a beaker, 23a, occurs for the first time exactly contemporary with a food-vessel described at p. 328, which for convenience may be called type A. As it is well made and belongs to a fully-developed type, quite at its prime, the type must have begun earlier, though at present I do not know of any earlier stages of its development. With No. 16 at the end of **α1**, which must belong to much the same time as 23a, was found another example of a food-vessel of type A. No. 48, at the beginning of **α6**, which by diagram I. is thirty-eight years later than 23a, was found in the same barrow as a food-vessel of type A, but at a distance of 16 feet from the centre. The food-vessel, though found at the centre, was a secondary interment. So it is impossible to be certain which was deposited first, though I think the probability is that the food-vessel is older by some years, for Nos. 91, 92, close to the end of **β3**, are, according to diagram 2, practically contemporary with the beginning of **α6** and with No. 48. Both of these are later than a food-vessel of type A, and No. 92 is possibly later than a food-vessel of a later sub-type A′. From these data it is evident that type A was at its prime when the form of the beaker had already begun to change for the worse, and had entered on a downward course. We have therefore to admit that the food-vessel class of ceramic is later as a type than the beaker class, though partly contemporary.

Incineration of the dead was doubtless practised during the beaker period, though examples of it are rare. The first instance of cremation that can be approximately dated is about seventy-three years later than the beginning of **α1** : it occurred with No. 34 of **α3** from Suffolk. The next instance is found about twenty-seven years later, with beakers Nos. 123, 125, at the beginning of sub-type **γ2** from Yorkshire. The next occurs with No. 156 of **γ4** from Banffshire, and according to diagram II. is about twenty years later. About half a generation later cremation and inhumation were evidently contemporary in Fife when Nos. 131, 142 were deposited under the cairn at Collessie. A little later is No. 134 of **γ2** from Aberdeenshire, which was found with a burnt interment. Not much later, cremation and inhumation were evidently both practised when No. 105 of **β4** was placed only 2 feet below the top of a 21-foot tumulus, covering what seems to have been a burnt interment, and situated on the western extremity of the Ochils, above the Bridge of Allan. In the seventh example, No. 147a of **γ3** from Perthshire was deposited with a cremated interment, and seems to be about one hundred years, or three generations, later than the first example.

In addition to these, Sir Richard Hoare (*Anc. Wilts*, i. 121, 199) mentions two instances in which he found beakers with burnt interments. Unfortunately all three, for two were found together, are now lost, though the two "incense cups" that accompanied the pair of beakers are at present in the Devizes Museum (*Cat. Deviz. Mus.*, 123, 123a). I should imagine that these beakers belonged to **α6**, and were contemporary with some of the examples just mentioned from North Britain. Apart from these two pygmy cups, neither of which are characteristic, there is no certain example that I know of where a cinerary urn, properly so called, has been found with a beaker. While the beaker ceramic flourished, a beaker or a food-vessel might be placed with a cremated body, but not an urn of recognised cinerary type, for such a type had not yet developed. Indeed, I think it can be shown that some of the cinerary urn types, including the "overhanging rim type," are derived from food-vessels.

The Map showing the Distribution.

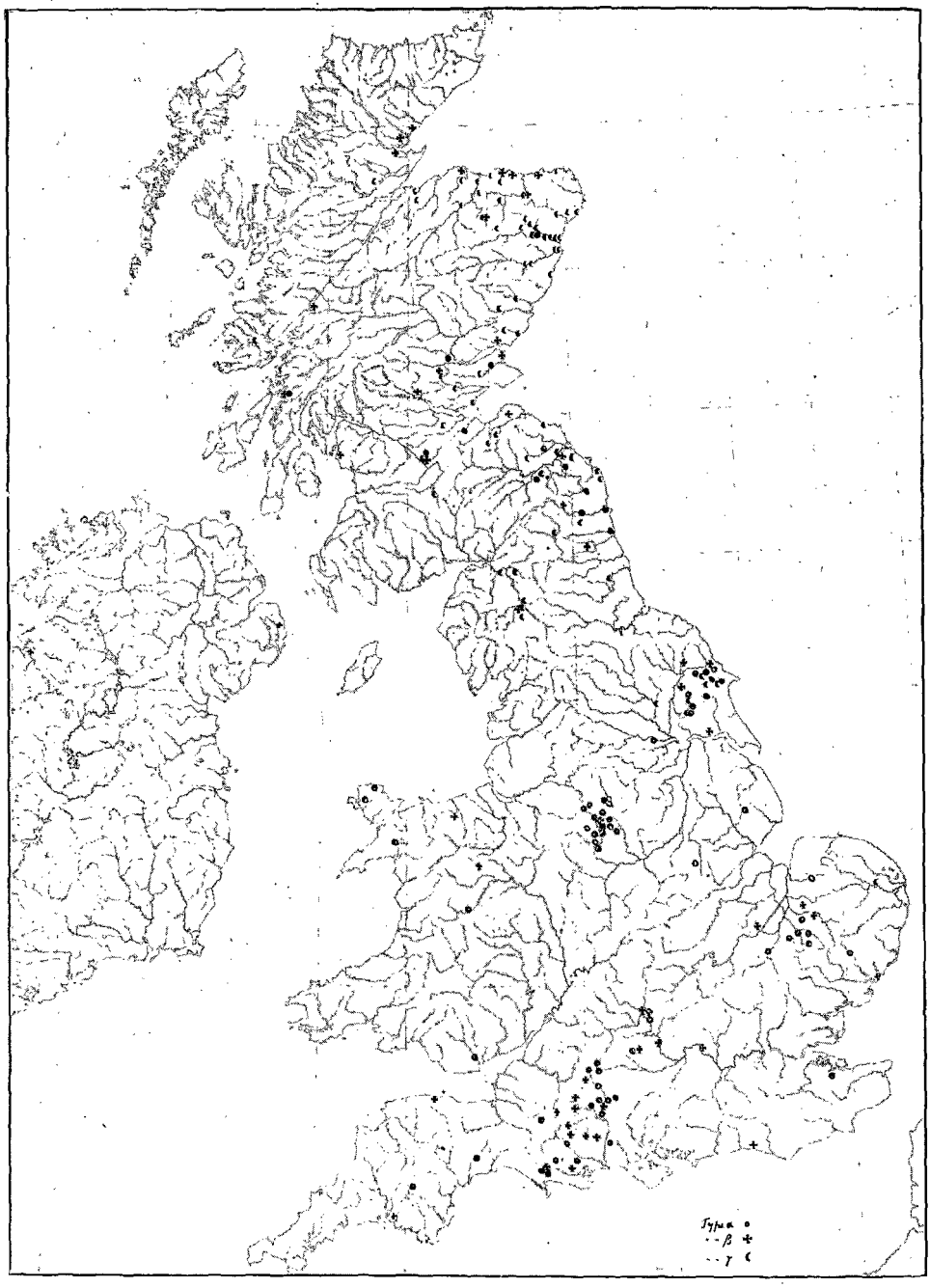
The map showing the distribution of the three types speaks for itself, though it must be explained that only the places where beakers have been found are laid down, not the number discovered in each place. So, too, the number of places marked is less than in the chart that accompanied my paper mentioned above. The reason is that now the types are discriminated, whereas in the older map the beaker types were not separated, and it was possible to enter on it records of finds which I cannot utilise now, from not knowing to what type the beaker belonged.

It is remarkable that only one example of a β type is known in Derbyshire and Staffordshire, and this is the only type yet found in Ireland.

Anthropological Data.

Although it is quite beyond the limits of this paper to enter into any detail with regard to the anthropology of the stock that introduced beakers into Britain and continued their manufacture for some two hundred years, yet it is of some interest to know whether the three types are the handiwork of the same people. The subjoined list shows that in all probability there was no difference between the people that made the three types. In it there is only one example of a dolichocephalous skull; all the others are brachycephalous, or a little under that limit. In two cases, 151 and 154a of $\gamma 4$, though no measurement of the skull is given, yet the descriptions of the skeletons, as being "very tall," and "large and tall," make it likely they belonged to brachycephalous individuals.

$\alpha 1$	No. 13	Ceph. index 80·		$\beta 1$	No. 69	Very brachyceph.	
	,, 14	,,	85·6	$\beta 2$	,, 86a	Ceph. ind.	78·
	,, 6	,,	92·2	$\beta 4$	,, 94	Brachyceph.	
$\alpha 2$	,, 17	,,	73·3		,, 103	Ceph. ind.	82·4
	,, 18	,,	78·7	$\gamma 2$	,, 132	Platyceph.	85·
$\beta 1$	,, 67	Brachyceph.		$\gamma 3$	,, 144	Brachyceph.	
	,, 68	Ceph. ind.	80·6				



Map showing Distribution of Beaker Types.

Conclusion.

Supposing that the beaker types in Britain lasted about two hundred years, and that the sequences on diagram II. are in the main correct, the error in the middle of the whole series can, I fancy, hardly exceed ± thirty years, or the length of a generation, though quite at the end this figure may be greater. If this is so, and if the facts recorded in the preceding pages are correctly interpreted, a very considerable accession has been made to our knowledge of the remotest corner of the Bronze Age. The beaker types can no longer be imagined to occur sporadically or at any time during this long space of time. Now they are seen to form a compact class, developing in various directions according to an unconscious law, and anchored firmly to the beginning of the Bronze Age, at a time when metal was very scarce and stone weapons had not been entirely displaced. The time can also be fixed with some precision when food-vessels came into use, and when cremation was beginning to come into fashion. The rounded-headed flat knife-daggers with a rivet plate and no tang are seen to have been imported earlier than the tanged type. And the use of metal is observed to pass by stages from south to north at appreciable intervals of time. Although this is what might be expected *a priori*, yet the fact that the typological arrangement points in the same direction, though more precisely, is an argument in its favour, for, with the exception of the flint daggers, no archæological objects were taken into consideration in forming the sequences of the sub-types. With regard to beakers themselves, local varieties present themselves; some forms are confined to the inland parts of South Britain, others to the east coast south of the Wash. The β type, though otherwise very widely spread, is only known in the counties of Derby and Stafford by a single example. And one sub-type of γ is confined to part of the east coast of Scotland, while another, with one doubtful exception, belongs to the counties on each side of the Border. These facts seem to show that the new tribes possessed a certain degree of civilisation, were permanently settled on

certain areas, and did not nomadise at large. The craniological data make it probable that these tribes belonged to a common brachycephalous stock; and from the difference of time between the beginning of **α1**, **β1** it may reasonably be inferred that the migration from the Continent was not effected by a single movement, but covered at least some two generations in time.

[The numbers appended to the illustrations which follow correspond to the numbers under which the particular urns are described in the foregoing classified list. Those which have numbers followed by letters are not illustrated.]

Beaker Urns, type a, high-brimmed, globose—sub-type a1.

Beaker Urns, type a, high-brimmed, globose—sub-type a1

9.

10.

11.

12.

Beaker Urns, type a, high-brimmed, globose—sub-type a1.


13.


14.

15.


16.

Beaker Urns, type a, high-brimmed, globose—sub-type a1.

17.

18.

19.

20.

Beaker Urns, type a, high-brimmed, globose—sub-type a2.

21.

22.

23.

24.

Beaker Urns, type a, high-brimmed, globose—sub-type a2.

25.

26.

27.

28.

Beaker Urns, type a, high-brimmed, globose—sub-type a2.

Beaker Urns, type a, high-brimmed, globose—sub-type a2.

33.

34.

35.

36.

Beaker Urns, type a, high-brimmed, globose—sub-type a3.

Beaker Urns, type a, high-brimmed, globose—sub-type a3.

Beaker Urns, type a, high-brimmed, globose—sub-type a4.


44.


45.


46.


47.

Beaker Urns, type a, high-brimmed, globose—sub-type a5.


48.


49.


50.


51.

Beaker Urns, type α, high-brimmed, globose—sub-type α6.


52.


53.


54.


55.


56.


57.

Beaker Urns, type a, high-brimmed, globose—sub-type a6.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.


62.


63.


64.


65.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.


77.

78.

79.


80.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 2$.


81.


82.


83.


84.


85.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 2$.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 3$.


90.


91.


92.


93.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 3$.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.

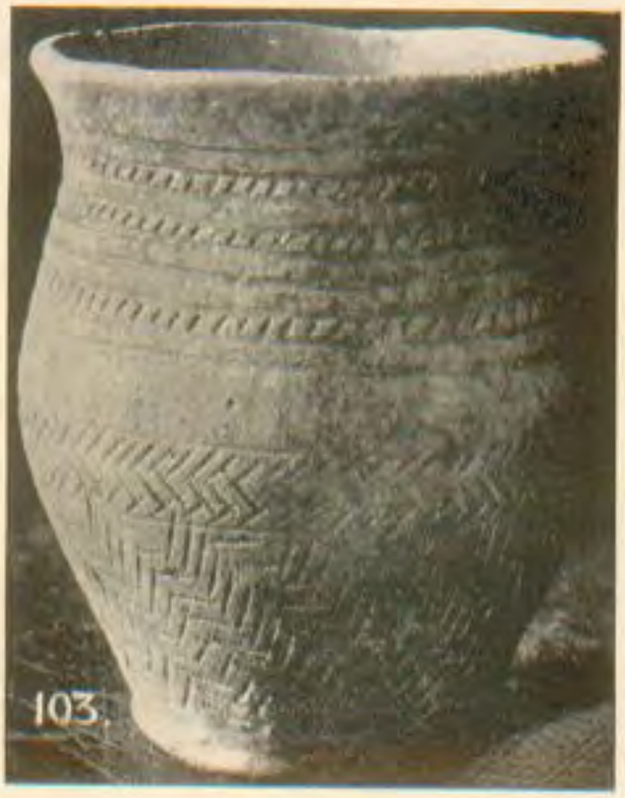

98.


99.

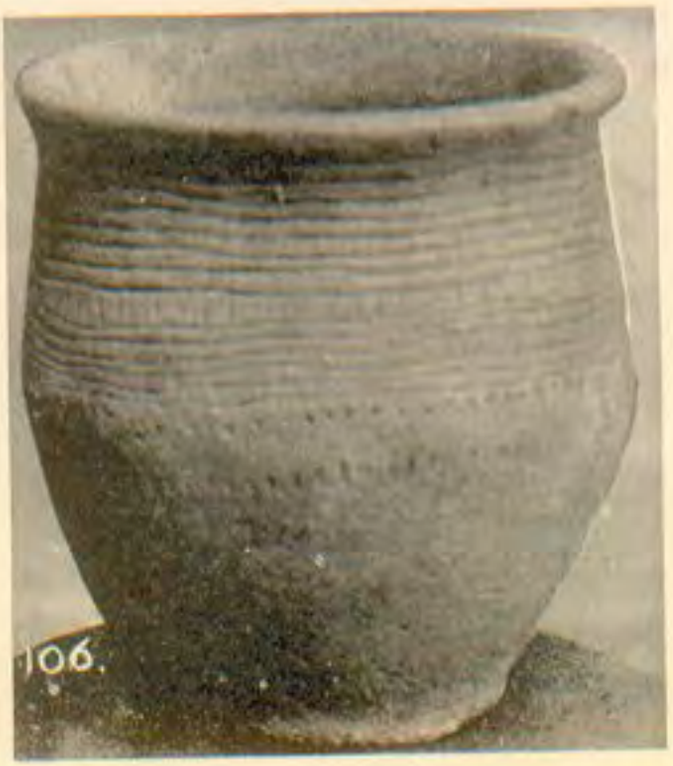

100.


101.

Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 4$.



Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 1$.



Beaker Urns, type β, ovoid, with recurved rim—sub-type $\beta 4$.

Beaker Urns, type γ, low-brimmed—sub-type γ1.


115.


116.


117.


118.

Beaker Urns, type γ, low-brimmed—sub-type γ1.

Beaker Urns, type γ, low-brimmed—sub-type γ1.


123.


124.


125.


126.

Beaker Urns, type 7, low-brimmed—sub-type 72.

Beaker Urns, type γ, low-brimmed—sub-type $\gamma 2$.


131.


132.


133.


134.

Beaker Urns, type γ, low-brimmed—sub-type γ2.

Beaker Urns, type γ, low-brimmed—sub type γ2.


139.


140.

141.


142.

143.

Beaker Urns type γ, low-brimmed—sub-type γ3.

144.


147.


145.

148.


146.

Beaker Urns, type γ, low-brimmed—sub-type $\gamma 3$.


149.


150.


151.


152

Beaker Urns, type 7, low-brimmed—sub-type 74.


153.


154.


155.


156.

Beaker Urns, type γ, low-brimmed—sub-type γ4.


157.


158.


159.


160.

Beaker Urns, type 7, low-brimmed—sub-type 7¹.

Beaker Urns, type γ, low-brimmed—sub-type γ4.

Beaker Urns, type 7, low-brimmed—sub-type 7b.

Beaker Urns, type γ, low-brimmed—sub-type γ5.