

VIII.

NOTES (I.) ON A HUMAN SKELETON FOUND IN A CIST WITH A BEAKER URN, AT ACHAROLE, WEST WATTEN, CAITHNESS, AND (II.) ON THE CRANIAL FORM ASSOCIATED WITH THAT TYPE OF CERAMIC. BY THOMAS H. BRYCE, M.A., M.D. WITH AN APPENDIX ON SIX SKULLS FOUND WITH BEAKERS IN THE NORTH-EAST COUNTIES. BY ALEXANDER LOW, M.B., C.M., ABERDEEN UNIVERSITY.

The following account of the Acharole Cist and Urn has been communicated to me by Dr Joseph Anderson :—

In August last, Mr Robert Sutherland, while excavating gravel from a gravel-pit to mend a road on the hill of Acharole, West Watten, Caithness, discovered a cist, containing an unburnt burial, and an urn of the "beaker" or "drinking cup" type. The cist (fig. 1) was at a depth of about six feet from the surface of the slight eminence in which the gravel-pit was excavated. It was constructed in the usual way, of four flat slabs set on edge for the sides and ends, with three irregularly shaped flat stones over them for a cover. The cavity of the cist was

three feet in length and about the same in breadth, and eighteen inches in depth. The skeleton lay in the usual contracted position, with the head towards the north, and the urn placed at the right side of the head.

Unfortunately, owing to the friable nature of the urn and the incautious handling to which it was subjected, it soon went into many fragments; but the greater part of the fragments having been recovered and pieced together, the form and decoration of the vessel appear as shown in the accompanying woodcut (fig. 2). It is a fine example of the low-



Fig. 1. Cist at Acharole, West Watten, Caithness.
(From a photograph by Mr James Sutherland.)

brimmed variety of the beaker or drinking-cup type of sepulchral urn, usually deposited with an unburnt interment. It measures $7\frac{1}{4}$ inches in height by $5\frac{3}{4}$ inches in diameter across the mouth, and 3 inches in diameter at the base. The thickness of the wall of the vessel is not more than a quarter of an inch throughout, and the top of the brim has a slight bevel to the inside. The paste is dark-coloured and rough on the interior surface of the vessel, showing a plentiful intermixture of small fragments of quartz, while on the exterior the colour is a deep reddish-brown, the surface smooth, and the intermixture of quartz fragments not so perceptible. The ornamentation of the exterior surface

is arranged in zones or bands of about an inch or more in width, passing round the vessel horizontally, with plain spaces of about the same width between them. The whole of the ornament is linear in character, consisting of lines of impressions made in the soft clay by an instrument toothed like a comb. The uppermost band, which is $1\frac{5}{8}$ inches in width, has a marginal border above and below, consisting of two parallel horizontal lines running all the way round, about a tenth of an inch apart. The band of ornament within these marginal borders consists



Fig. 2. Urn from the Cist at Acharole. ($\frac{1}{3}$.)

of closely set parallel lines about an inch in length, running nearly in a vertical direction, but with a uniform inclination towards the right, and bordered above and below by zigzag lines, each zigzag enclosing the ends of five or six of the almost vertical lines. The second ornamented band has, within its double marginal horizontal lines above and below, a band of parallel lines about an eighth of an inch apart, crossing each other obliquely in opposite directions almost at right angles, and forming a net-work ornament between the inner lines of the double margin. The third ornamental band is similar to the first, but slightly narrower.

The fourth is a band of oblique lines inclined to the right, parallel to each other, and about an eighth of an inch apart, and bordered above and below by double marginal lines running round the vessel in a horizontal direction. The ends of these lines on the upper side of the band have not met exactly, and are carried past each other for the space of about an inch. The plain space underneath this band is only half an inch in width. The fifth and lowest band of ornament, which is also only half an inch in width, has a single marginal horizontal line bounding it on the upper side, the lower side being the line of circumference of the bottom of the vessel. The ornament is made by a zigzag dividing the surface of the whole width of the band into a series of almost equilateral triangles, and filling the alternate triangles which have their bases impinging on the circumference of the bottom of the vessel with lines parallel to their bases. Altogether, the effect of the ornament is pleasing to the eye, and both in shape and ornament the urn is one of the most artistic productions of the period. It is also the furthest north example yet recorded in Scotland.

The Society is indebted to Rev. Alexander Miller, Buckie, and Mr James Davidson, Old Hall, Watten, for notice of the discovery and particulars of the burial. The urn was recovered by the King's and Lord Treasurer's Remembrancer. The skull and long bones were recovered and sent for description by Sir Francis Tress Barry, Bart., M.P., Keiss Castle.

The osseous remains submitted to me from this cist consist of a very well preserved though somewhat broken skull; an imperfect lower jaw; a humerus; and a femur of which the lower end is absent.

The skeleton is that of a male in the early part of adult life.

Long bones.—The muscular markings are moderately well marked. The *humerus* is relatively short, having a maximum length of 320 mm. The *femur* shows a distinct degree of subtrochanteric flattening, and a marked, almost pilasteric, salience of the *linea aspera*. The *platymeric index* is 73·2, the *pilasteric* 119. The data for the calculation of the stature are deficient; but if the maximum length of the *humerus* be taken as $\frac{1}{3}$ of the height, we get the figure of 1·6 meters, or 5 feet 3 inches.

*Skull.*¹—The skull is well preserved, save that there is a deficiency in the right parieto-occipital region, and the right malar and maxillary bones as well as the mandible have been damaged.

¹ For measurements, see table on page 426.

It is of moderate dimensions, the circumference measuring 512 mm., and the internal capacity being 1425 cc. (within a few units) of mustard seed.

The muscular markings are slightly developed; the glabella and supraorbital ridges are prominent, but not exaggeratedly marked; and the mastoid processes and inion are relatively small. The upper margins of the orbits are specially thick, and the external angular processes broad and turgid. The supramastoid crest is salient to an exceptional degree, so that there is a marked groove between it and the mastoid, and there is a distinct fossa at the junction of the squamous and parieto-mastoid sutures. There is a large mesial Wormian bone at the lambda.

Norma lateralis (fig. 3).—The vault is relatively high. From the prominent glabella the frontal bone slopes backwards with a gradual flat curve to the bregma, with a certain amount of sinking in at the ophryon. The vertex is nearly flat, and very slightly ridged—the highest point, when the skull rests on the alveolo-condylar plane, being slightly behind the bregma. The posterior curve falls away very steeply to the lambda, and the occipital protuberance projects to only the slightest possible degree. There is thus marked parieto-occipital flattening. The frontal segment exceeds the parietal in length.

In respect of the characters of the outline, the skull resembles the type of *sphenoidal* cranium called by Sergi *Sphenoides latus declivus*.

Norma verticalis (fig. 4).—This view brings out the very brachycephalic character of the skull. The index is as high as 85.8. Its outline is *sphenoidal*. The glabella and supraorbital ridges are seen, owing to the backward slope of the frontal bone, while the zygomatic arches are hidden by its marked lateral bulging. The occipital curve is uniform and flat. The general outline corresponds exactly in shape to Sergi's type, *Sphenoides tetragonus*.

Norma occipitalis (fig. 6).—The parieto-occipital flattening gives a flat appearance to this view. There is a slight sagittal elevation, from which the vault inclines down on each side to the level of the parietal

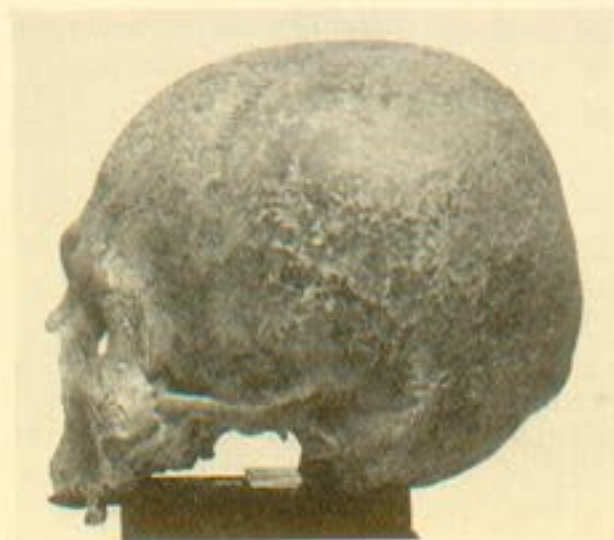


Fig. 3.



Fig. 4.

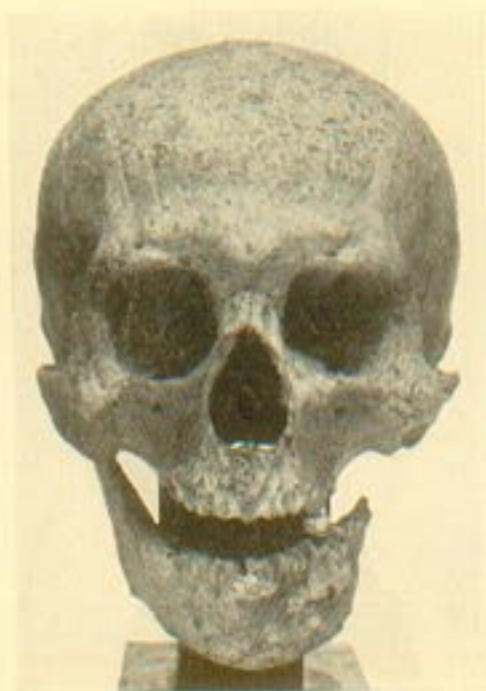


Fig. 5.



Fig. 6.

Figs. 3-6. Skull from the Cist at Acharole

eminences, below which the side walls are flat, so that the outline is broadly pentagonal. The base is specially broad, and the foramen magnum far back and nearly circular.

Norma facialis (fig. 5).—The face is low and broad, with a somewhat quadrate outline; the nasal aperture is specially broad and low; the orbits approach the circular, but the width exceeds the height; the outer parts of the upper orbital rims are thick, passing into the specially turgid external angular processes. The malar bones are not specially prominent.

There is no trace of prognathism, the gnathic index being 90.

The *mandible* is unfortunately incomplete. It is on the whole slight; the body is of moderate depth; the chin is well marked and the symphysis inclined forwards; the angle is very slightly everted. The mandibular index (Arthur Thomson), which was calculated approximately, is very low in association with the low gnathic index.

Teeth.—In the lower jaw the third molars have not erupted, but they are present in the upper jaw. On the right side the second and third molars have been lost by caries, and the sockets have been absorbed; on the left side the wisdom is crushed into a very limited space, and the socket is single. Only two teeth have been actually preserved; their crowns are partially, but not greatly worn.

The sockets of the incisor teeth are quite vertical, so that there can have been none of the alveolar prognathism seen in some of the skulls of this period.

To sum up—the skull in shape and outline is sphenoidal; in proportions it is hyperbrachycephalic; it is platyhamæcephalic (or wide and low) when height and breadth are compared, but hypsiccephalic (or high) when height and length are correlated. The face is chamæproscopic (or low and broad). The gnathic index puts it low in the orthognathous category. The nasal index falls so high in the middle group as to approach the platyrhine class. The orbital width is greater than the height.

II. ON THE CRANIAL FORM ASSOCIATED WITH THE BEAKER CLASS OF SEPULCHRAL URN.

It has been demonstrated by Hon. John Abercromby that the "drinking cup," or as he suggests it should be named, the "beaker class of sepulchral urn, is the oldest Bronze Age ceramic, and that it is an imported not a native type, having its centre of dispersion in Central Europe at the end of the Stone Age.

In the light of Mr Abercromby's results it becomes of special interest to examine more particularly the cranial form associated with the beaker urns.

The skulls recovered from Bronze Age interments in Britain are by no means uniform in type. The aphorism of Thurnam, "round barrows, round skulls," holds only in so far as the majority of specimens from the round barrows of England and the short cists of Scotland are of that type, and in certain districts this is not even true. Dr Wright¹ has recently shown that out of 62 crania from the round barrows of East Yorkshire recovered by Mr Mortimer, 20 are dolichocephalic, 24 mesaticephalic, and only 18 brachycephalic.

The question thus arises—admitting the specific difference between the two great classes—whether this diversity of type was due to mixture of races before, or after, the arrival of the new stock which undoubtedly invaded Britain at the beginning of the bronze, or perhaps in the transitional, period.

If the earliest Bronze Age ceramic were associated with a pure or even a relatively pure type of skull form, compared with the Bronze Age interments as a whole, an important light would be thrown on the ethnic relations prevailing at that period.

I know of twenty-eight examples in all of skulls which were found in this association. This is a relatively small number compared with the number of beakers recorded, and is too small a series for any absolute

¹ *Journal of Anat. and Phys.*, vols. xxxviii.-ix.

	1	2	3	4	5	6	7	8	9	10	11
	Acharoë, Cathness.	Dun- robin, Suther- land.	Les- murle, Banff.	Juniper Green, Mid- lothian.	Parkhill, (A) Aber- deen.	Parkhill, (B) Aber- deen.	Stoney- wood, Aberdeen.	Auchen- doir, Aberdeen.	Clin- tery, Aber- deen.	Pensley, Aber- deen.	Fyrish, Ross.
Described by	T. H. Bryce.	T. H. Bryce.	Cran. Brit. & T. H. B.	Cran. Brit. & T. H. B.	A. Low.	A. Low.	A. Low.	A. Low.	A. Low.	A. Low.	Sir W. Turner.
Sex	M.	F.	M.	M.	M.	M.	M.	M.	M.	M.	M.
Cubic capacity	1425	1540	185.4	178	1450	183	1420 ap.	1350 ap.	1500 ap.	1500 ap.	1605
Glabello-occipital length	176	178	185.4	178	180	188	169	167	185	188	185.4
Ophryo-occipital length	172	178	183	176	178	180	169	162	182	184	...
Basal-bregmatic height	138	132	132	131	135	148 ap.	133	136	138	146	132
Length-height index	78.2	74.7	71.2	73.6	75	80.9	78.7	81.4	74.6	77.7	71
Minimum frontal diameter	94	99	...	...	102	...	100	91	102	100	...
Stephanic diameter	125	125	...	...	115	...	120 ap.	108	120 ap.	126 ap.	121.9
Asterionic diameter	111	111	...	110	137	...	110	113	115	120 ap.	104.1
Maximum breadth	151	146	157.4	147.3	153	160 ap.	156 ap.	142	156 ap.	160 ap.	149.8
Cephalic index	85.8	82	85	82	85	87.4	92.3	85	84.3	85.1	80.8
Breadth-height index	91.4	97.9	83.8	88.8	88.2	92.5	85.2	95.7	89.4	91.2	88
Horizontal circumfer- ence	512	518	546.1	515.6	524	...	510 ap.	494	528	540	541
Vertical transverse arc	314	325	...	...	327	...	300	306	336 ap.	336 ap.	...
Biauricular diameter	135	123	130	127	131	...	124	128	130 ap.	130 ap.	...
Frontal segment	128	132	133	128	135	132	128	123	143	132	127
Parietal segment	120	118	123	124	135	118	120	130	140	148	132
Occipital segment	113	120	115	116	100	...	111	...	110	117	127
Total	361	370	371.0	368.1	360	...	359	...	398	397	386
Base line	134	138	139	129	137	...	131	...	138	135	...
Proportion of vault to base	2.69	2.71	2.66	2.85	2.62	...	2.74	...	2.84	2.94	...

HUMAN SKELETON FOUND IN A CIST WITH A BEAKER URN. 427

Length of foramen magnum	35	38.5	38.4	33	36	...	37	...	37	38
Basi-nasal length	101	99	101	96	104	100 ap.	95	100	98	96
Basi-aveolar length	91	95	97	90	98	92	87	97	87	87
Gonathic index	90	96.9	96	93.7	94.2	92	91.6	97	...	90.6
Interzygomatic breadth	146 ap.	...	...	...	142	...	126 ap.	136	...	140
Intermalar breadth	131 ap.	111	...	...	115	...	114 ap.	114	...	110
Inferior nasal length	112	105	...	...	108	122	107	108	...	110
Nasio-aveolar length	70	68	65	70	64	80	64	67	...	67
Complete facial index	76.7 ap.	...	...	...	76	...	84.9	79.4	...	78.5
Upper facial index	47.9	...	...	...	45	53.9	...	49.2	...	47.8
Nasal height	49	45	50	56	48	53 ap.	...	50	55	48
Nasal width	25	24 ap.	24	19	23	25	25	24	28	25
Nasad index	52	52	48	34	47.9	47.2	52.1	48	50.9	52.1
Orbital width	37	39	43	40	41	...	40	40	...	44
Orbital height	32	35.5	34	32	33	...	30	31	...	32
Orbital index	86.5	91	79	80	80.5	...	75	77.5	...	72.7
Palato-maxillary length	50	...	52	55	51	56	51	55	...	52
Palato-maxillary breadth	57	...	68	58	55	64	61	66	...	56
Palatal index	114	...	130.7	105.4	107.4	114.2	119.6	120	...	107.6
Symphysial height	34	27	30	31	30	...	28	31	30	30
Coronoid	68.5	48	55	61	59	...	50	60	63	63
Condyloid	70	...	...	73	58	...	48	59	64	54
Gonio - symphysial length	90	...	96	95	90	...	83	98	90	91
Condyllo-symphysial length	97 ap.	...	...	...	108	...	112	106	106	98
Bicondylloid width	133 ap.	...	...	...	127	...	113	121	110 ap.	123
Bigonial width . . . . .	...	...	...	...	101	...	96	112	...	107
Condyllo - coronoid width	44.5	...	...	45	44	...	39	44	43	38
Breadth of ascending ramus	34	31	36	37	37	...	38	37	36	33
Mandibular index	72.9 ap.	...	...	...	85	...	99.1	87.6	96.3	79.6
Coronoid index	40 ap.	...	...	...	40.7	...	34.8	41.5	40.5	38.7

Measurements of Lower Jaw.

conclusions ; but as the sequel will show, the results of segregating the available specimens according to the type of the associated ceramic, is so suggestive, that for working purposes it will be desirable in the future to arrange the Bronze Age crania in terms of the fictilia.

Out of the twenty-six cases mentioned, eleven occurred within the Scottish area, and in the present paper I propose to consider these only in detail. They form a series complete in itself, as each skull was found singly in a closed short cist. This fact gives a greater amount of certainty in regard to the association with a beaker urn than can be attributed to the English examples, most of which were found in cistless barrows with multiple interments.

Of the eleven skulls, I have examined and measured four ; six have been fully described by Dr Alexander Low, and one was recorded many years ago by Sir William Turner.

DESCRIPTION OF CRANIA.

II. SKULL FROM DUNROBIN PARK, SUTHERLANDSHIRE.

This skull was found with a beaker in a cist in Dunrobin Park, Sutherland. The specimen is preserved in the museum of Dunrobin Castle, and for the opportunity of figuring and describing it I am indebted to the kindness of the Rev. Dr Joass, curator of the museum.

The skull is that of a young female between twenty and twenty-five years of age. The wisdom teeth have just erupted in the upper jaw, but are still within their sockets in the lower ; the ankylosis between the occipital and sphenoid bones is not quite complete. The skull is a capacious one, having a capacity of mustard seed as high as 1540 cc., and a horizontal circumference of 520 mm.

Norma lateralis (fig. 7).—There is absolutely no projection at the glabella, and there are no signs of supraorbital ridges. The frontal bone rises vertically, with even a faint forward inclination, to the level of the prominent frontal eminences. The vertex is flat, and sinks in a somewhat gradual curve posteriorly down to the slightly bulbous occipital protuberance. There is none of the parieto-occipital flattening seen in the Acharole skull.

Norma verticalis (fig. 8).—The shape is a broad oval ; the frontal bone is full and bulging, and hides the root of the nose, and would probably also have hidden the zygomatic arches had they been intact. The posterior curve is somewhat conical, due to the projection of the occipital protuberance. The breadth is relatively great, so that the index is 82. The outline, combined with the flat vertex, gives to the skull characters resembling Sergi's type *Sphenoides rotundus*.

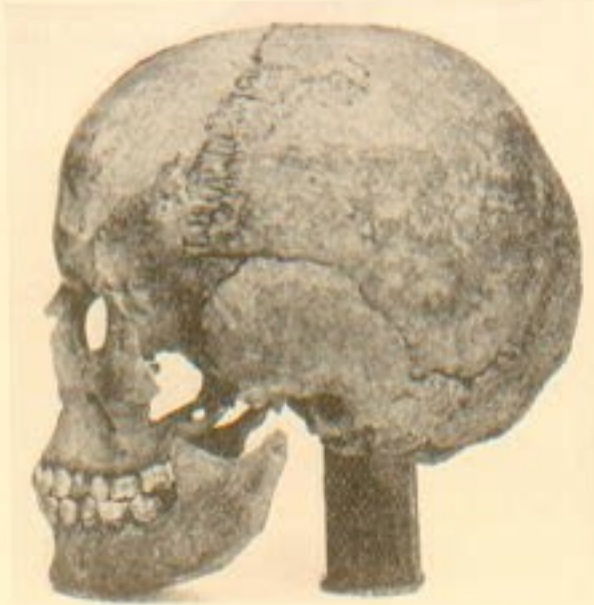


Fig. 7.



Fig. 8.

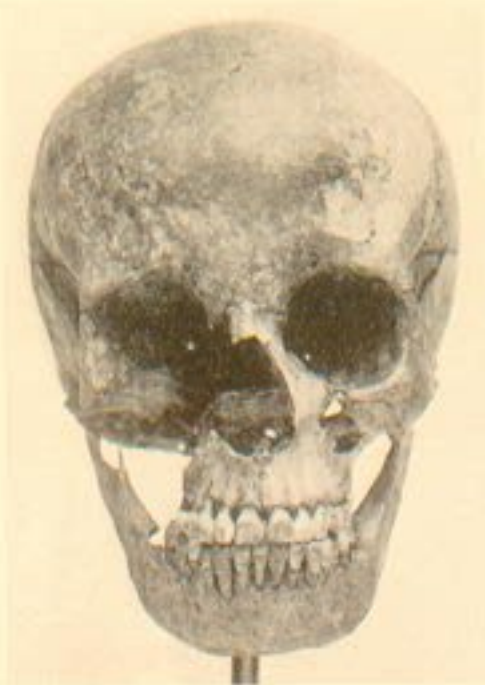


Fig. 9.



Fig. 10.

Figs. 7-10. Skull from the Cist in Dunrobin Park.

Norma occipitalis (fig. 10).—There is no parieto-occipital flattening. There is a slight amount of sagittal elevation; and though the side walls are flat, there is more rounding out than in the Acharole skull, the parietal eminences being less prominent. The base is specially flat and straight, and the foramen magnum is oval.

Norma facialis (fig. 9).—Owing to the imperfect state of the face bones, few of the usual measurements can be arrived at. The great breadth and fulness of the frontal is a prominent feature, giving this view of the skull exactly the characters of the Acharole skull. The absolute length measurements are low, and looking to the intermalar breadth, there is no doubt that the face was broad and low. The forehead is perfectly flat, the upper orbital rims are thin, and the external angular processes narrow.

The orbital index is high, the height approaching the width, and the nasal aperture is broad.

The set of *teeth* is almost complete in both jaws. The first molar alone shows any wearing. There is distinct obliquity of the incisors, giving a certain amount of alveolar prognathism, and the gnathic index itself is relatively high.

Compared with the Acharole skull, the differences are chiefly to be attributed to sex and age; but there is to be specially noticed the more sloping curve of the posterior segment, and the absence of parieto-occipital flattening.

III. SKULL FROM LESMURDIE, BANFFSHIRE.

This skull, which is figured in *Crania Britannica*, was recovered from one of a group of three cists all containing beaker urns. The skull is preserved in the National Museum of Antiquities, and I have remeasured it for the purposes of this communication.

It is so fully described in *Crania Britannica* that I need not here give more than the salient points, especially as, though a larger, heavier skull than the Acharole specimen, it agrees with it very closely in its form and proportions.

It is the skull of a male of over sixty years of age. Though its capacity cannot be accurately gauged owing to a deficiency of the vault, it is capacious, and its horizontal circumference exceeds that of any other member of the series. The glabella and supraorbital ridges are full and prominent, and the nasal notch deep; the frontal bone is more arched than that of the Acharole skull, but is not so full laterally, so that the outline of the *norma verticalis* approaches the type named by Sergi *Sphenoides latus*. There is marked parieto-occipital flattening, the back wall of the skull being very vertical, so that the outline of the *norma lateralis* is rather cuboidal. The length-height index indicates marked platycephaly, and the breadth-height index falls as low as 83·8, the lowest figure in the series. The outline of the *norma occipitalis* is less pentagonal and more cuboidal than that of the Acharole skull—the vertex and base being more parallel to one another, and reminding one of the description of the *Dissentis* type of skull in this respect.

The facial bones and jaw are more massive than those of the Acharole skull, but the outline and proportions are quite similar; the nasal aperture is, however, narrower, the index falling several units lower.

IV. SKULL FROM JUNIPER GREEN, MIDLOTHIAN.

This skull, also described in *Crania Britannica*, was recovered from a cist along with a beaker urn. It is also preserved in the National Museum of Antiquities, and I here give a number of measurements not included in the original description. It is the skull of a male over fifty years of age, and is specially heavy. It is, however, smaller in all its proportions than the last, and is less platycephalic. In all other respects it has the same form—but the face is rather longer and narrower, and the nasal aperture is remarkably narrow for a skull of this type. The cephalic index is 82, and the outline of the norma verticalis is rather narrower in the frontal region than the Acharole skull. It approaches thus, a little more than that specimen, the *latus* variety of the *sphenoid* type of Sergi.

The side walls of the skull are flat and "ill-filled," and there is the same sagittal elevation as seen in the skulls already described.

In a careful and valuable paper¹ Dr Alexander Low, Demonstrator of Anatomy in the University of Aberdeen, has recently described ten short cist skulls preserved in the Anatomical Museum of the University. All save one of these belonged to the same general type—nine had high brachycephalic indices, and corresponded very closely with my Acharole cranium. The tenth was dolichocephalic. Six out of the series were found with beaker urns; and for a description of these, abstracted from his detailed paper, I am indebted to him, as well as for the figures of the skulls.

DESCRIPTION OF SIX SKULLS FOUND WITH URNS OF THE BEAKER CLASS IN ABERDEENSHIRE. BY ALEXANDER LOW, M.A., M.B., C.M.

V. PARKHILL CIST, ABERDEENSHIRE—(A).

This cist was opened in 1867 in making a railway cutting at Parkhill. Covering the bones was a thin layer of matted substance which proved to be largely made up of hair. Associated with the skeleton was a beaker urn.

The skeleton was that of an adult male beyond middle life. The bones of the extremities are generally short and stout, with well marked muscular impressions. There is some degree of platymery of the femur, and a moderate salience of the linea aspera. The stature could not have been more than 5 feet 2 inches.

SKULL.—The cranium is fairly capacious, with a capacity of 1450 cc. of mustard seed.

¹ *Proc. of the Anatom. and Anthropol. Soc. of the Univ. of Aberdeen*, 1902-1904.

Norma lateralis (fig. 11).—The nasion is somewhat depressed, and the glabella and supraorbital ridges fairly prominent. The vault is high, rising up in the frontal region with a uniform steep curve to the bregma; behind this there is some flattening, and then the postero-parietal passes down with a similar steep curve to the lambda. At that point there is a distinct step produced by the occipital jutting backwards. The occipital pole does not, however, project as a whole.

Norma verticalis (fig. 12).—The cranium is broadly ovoid (*Sphenooides tetragonus*, Sergi.—T.H.B.). The cranial index is 85. There is flattening behind the bregma, with a gentle slope out to the parietal eminences. The glabella and supraorbital ridges enter into this view, while the zygomatic arches are concealed.

Norma occipitalis (fig. 14).—The outline approaches the pentagonoid; the greatest width is high up on the parietals, and the sides are "ill filled." The parieto-occipital suture is very elaborate, and in it is a chain of no less than twelve distinct Wormian bones; one of the largest of them is situated in the middle line at the lambda.

Norma facialis (fig. 13).—The face is very broad and square looking, the total facial index being 76, and the minimum frontal diameter practically the same as the bigonial.

VI. PARKHILL CIST, ABERDEENSHIRE—(B).

The cist, which was discovered in 1881, contained the skeleton of a male much broken, and a beaker urn.

The only part of the skull preserved is the vault, a piece of the superior maxilla and the right half of the body of the lower jaw. Measurements of the cranium yield a cephalic index of 87.4. The glabella and supraorbital ridges are prominent. The occipital pole does not project beyond the inion when the glabello-inial line is horizontal.

The stature of the individual, calculated from the length of the femora (R. 463. L. 472), must have been about 5 feet 7 inches.

VII. STONEYWOOD CIST, ABERDEENSHIRE.

This interment was opened in 1866. The cist contained a complete urn of the beaker class, and the skeleton of an adult male.

SKULL.—The specimen is incomplete, the parietal region on the right side being broken and the right half of the lower jaw wanting. The skull, though that of a male, is rather delicate, and has its muscular impressions faintly developed. It has an approximate capacity of 1420 cc. of mustard seed.

Norma lateralis (fig. 18).—The glabella and supraciliary ridges are not prominent, and the nasal depression is slight. There is no falling in at the ophyron, the frontal eminences being slightly developed, and the frontal arc passing up with a uniform steep curve. The parietal curves downwards vary sharply just at the obelion. There is no projection of the occipital pole.

Norma verticalis.—The great relative breadth is seen in this view, the index being 92.3.

Norma occipitalis.—This is high, and forms a somewhat rounded pentagonal, with the greatest breadth high up on the parietal bones.

Norma facialis.—The face is low and broad, while the malar bones are not prominent. There is a complete absence of prognathism. The orbits are microseme, and the nasal aperture has a breadth so great as to be almost platyrrhine.



Fig. 11.

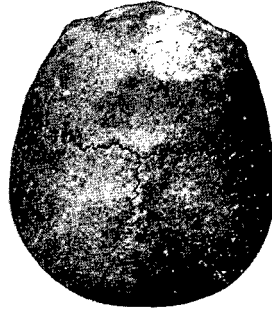


Fig. 12.

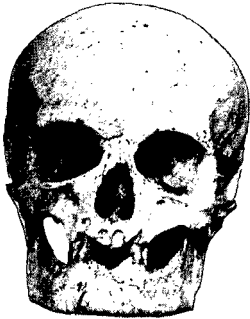


Fig. 13.

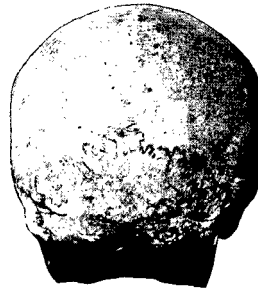


Fig. 14.

Figs. 11-14. Skull from Cist at Parkhill, Aberdeenshire—(A).

Stature.—The femur measures 423, and the humerus 297 mm. The stature calculated from the length of the femur, would have been only just 5 feet 1 inch.

VIII. AUCHINDOIR CIST, ABERDEENSHIRE.

This cist was observed in 1857 at Ord, Auchindoir. It contained an urn of the beaker type. The skeleton is very beautiful and almost complete, and belonged to an adult male.

SKULL.—The sagittal suture and lower parts of the coronal suture are obliterated. The cubic capacity is 1350 cc.

Norma lateralis.—The glabella having been broken, revealed two large frontal sinuses. There is hollowing at the optryon, and there the frontal ascends with a uniform and high curve. Behind the obelion there is a sudden flattening of the postero-parietal region. There is no projection of the occipital pole. The skull is extremely high, the vertical index being 81.4. [Notwithstanding, seeing that the height is substantially less than the width, the breadth-height index is below 100, being 95.7. It is thus a "wide low" skull when height and width are compared.—T.H.B.]

Norma verticalis (fig. 15).—The shape of the skull is an extremely broad oval [again *Sphenoides tetragonus* of *Sergi.*—T.H.B.], the index being 85. There is slight flattening of the parietals, with a tendency to "keeling."

Norma occipitalis.—The outline is a broad pentagon with rounded angles. The parietal eminences are high up, and the maximum breadth is between them. The skull is of the "ill filled" type.

Norma facialis (fig. 16).—This skull tends more towards prognathism than the others described. The face is short and relatively very broad, the breadth being slightly greater than the length. The forehead is narrow and the angles of the jaw far apart. The orbits are microseme, and the nasal aperture mesorhine.

Bones of extremities.—The *humeri* are of medium length, the muscular impressions well marked, and the internal condyles very prominent. The *radius* has the normal proportion to length of humerus. The *femora* are stout muscular-looking bones of medium length (R. 458, L. 466); there is distinct flattening below the trochanters. The *tibiae* are relatively short, and show distinct lateral flattening (platycnemism).

The *stature* was estimated at 5 feet 6 inches.

These four skulls described by Dr Low, the Acharole and Lesmurdie skulls, form a group of very uniform characters. They are all very brachycephalous, and with a few minor differences, the same description might be given for each.—T.H.B.

IX. CLINTERTY CIST, ABERDEENSHIRE.

This cist was opened in 1897 at Clinterty, Kinellar, Aberdeenshire. It contained part of a male skeleton—an urn of the "beaker" type; a bone ring; flint arrow-heads, and a small flint axe or borer.

SKULL.—The skull is much broken. It is that of a male; the circumference is approximately 528 mm.; the cranial index is 84.3. The nasal depression

and the glabella are fairly well developed. The frontal arc, as in the other skulls, is slightly longer than the parietal; still the bregma is well forward, the frontal arc being high.

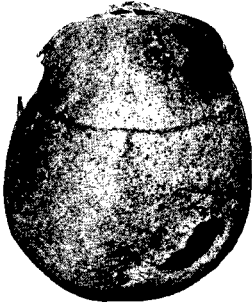


Fig. 15.



Fig. 16.

Skull from Cist at Auchindoir, Aberdeenshire.



Fig. 17. Skull from Cist at Persley,
Aberdeenshire.



Fig. 18. Skull from Cist at Stoneywood,
Aberdeenshire.

The *norma verticalis* is broadly oval—the zygomatic arches are hidden from view; the *norma occipitalis* has a distinctly “ill-filled” appearance. The nasal aperture is relatively wide, the nasal index approaching the platyrrhine group.

The *stature* is calculated as about 5 feet 1 inch.

X. PERSLEY CIST, ABERDEENSHIRE.

This cist was discovered at Persley quarry in 1868. It contained an urn of the "beaker" type and two flint knives or scrapers with a skeleton of an adult male.

SKULL.—The specimen is imperfect, having but part of the left side of the calvaria. It has approximately a capacity of 1500 cc.

Norma lateralis (fig. 17).—This view is striking on account of the apparent great height. The real height is, however, diminished by the rapid way in which the occipital bone shelves inwards and forwards below theinion. The glabella and supraorbital ridges are prominent and overhanging. The general outline is high, and so rounded as to form practically one segment of a circle. The parietal arc is in this skull 14 mm. longer than the frontal. The vertex is 35 mm. behind the bregma.

Norma verticalis.—The massive supraorbital ridges and external angular processes enter into this view, but the zygomatic arches, if they had been entire, would have been concealed. From the vertex the surfaces of the skull descend uniformly and rapidly in all directions. The maximum breadth is well down on the parietals and is relatively great, the index being 85·1.

Norma occipitalis.—The side walls are well filled; and the point of greatest width is near the squamous sutures.

Norma facialis.—The brows are "beetling," and the face wide and square looking. The malar bones are not prominent. The gnathic index is low (90·6). The orbits are microseme, and the nasal aperture almost platyrhine.

This skull differs from the others in respect that the vault is raised, as it were, to a summit from which the surface slopes down uniformly in every direction. It recalls the shape named by Sergi *Chomatocephalus*—which is a sub-variety of his sphenoid class.—T.H.B.

XI.—FYRISH CIST, EVANTOWN, ROSS-SHIRE.¹

The cranium was found in a cist with a beaker in 1865. It belonged to a male in the decline of life. The skull is brachycephalic and rounded in form. The various regions of the cranium are well proportioned. It is not truncated posteriorly, and does not exhibit the parieto-occipital flattening which many of the skulls from the ancient short cists possess. The glabella and supraorbital ridges are strongly marked. The nasal bones curve slightly upwards. There is no prognathism. The capacity is 1605 cc., the cranial index is 80·8, the height index 71. The frontal arc is slightly less than the parietal.

¹ *Proc. Soc. Antiq. Scot.*, vol. vi. p. 266, 1865, William Turner, M.B., now Sir William Turner, K.C.B.

Considering this group of eleven skulls, one is struck by its uniformity. Ten of them have the very high average index of 85·39, and with minor differences they are all identical in type; they are all sphenoid in Sergi's nomenclature. The eleventh, from Fyrish, has a lower index 80·8, and like the youthful Dunrobin skull it does not show the marked degree of parieto-occipital flattening, which is a marked characteristic of the more brachycephalic specimens.

When the short cist skulls recovered in Scotland are grouped without any discrimination in terms of the associated fictilia, the same uniformity does not prevail. In Dr Low's series there is one dolichocephalic skull out of ten; and in Sir William Turner's series of seventeen, only twelve come into the brachycephalic category, with an average cephalic index of 81·4.

The same want of uniformity is seen in the English Round Barrow crania taken as a whole, and I cannot yet certainly tell whether a segregation in terms of the ceramic will bring out a more even series.

I know of seventeen recorded cases from the Round Barrows. Of these eleven are brachycephalic, some with very high indices; three fall just below the conventional limit of brachycephaly; while three are dolichocephalic.

The English series is thus less uniform than the Scottish, but I feel less confidence regarding the association than I do in the case of the short cist skulls. It is obvious that there is room for error of association, in the exploration of cistless barrows with many interments, especially if these are in the same grave and successive.

Certain of these Round Barrow skulls have not been recorded, others want further examination and identification, so that I must meantime content myself with the record of the fully worked out Scottish examples, reserving a discussion of the southern series for a future occasion.

A study of descriptions of the Round Barrow crania shows that, exclusive of the dolichocephalic specimens, there are three main types.

(1) A sub-brachycephalic type with prominent glabella and supra-

orbital ridges; prominent arched nose, with its root deeply insunk; large mouth; heavy lower jaw and strong chin. The shape is a broadish oval; the occipital region is somewhat flattened, but there is no distinct or pronounced parieto-occipital flattening. The *norma occipitalis* is well filled—the greatest breadth is parietal, and rather far back. These traits correspond rather closely with the *Borreby* type of skull, and again with the *Sion* type of His and Rütimeyer, and the form has very generally been held, as it was by Davis and Thurnam, to be the typical Round Barrow cranium.

(2) There is a type with a higher cephalic index, sometimes very brachycephalous, with weak or moderately developed, but sometimes even rather prominent supraorbital ridges. The shape is sphenoid in Sergi's nomenclature; the breadth-height index is low, and the skull is often markedly platycephalous; there is marked parieto-occipital flattening; and the face is low and broad.

This type is represented nearly pure in our Scottish beaker series, and it exactly corresponds with the *Dissentis* type of His and Rütimeyer.

(3) There is a type which has the higher index and other characters of the second type, with the longer face and stronger jaws of the first.

These may well be individual variations within the race type; but it is a fact of possible significance, that the series of skulls from short cists containing beaker urns are practically uniform in adhering closely to the second type.

Many of the individuals in the Scottish group were of low or moderate stature, and thus the beaker interments in Scotland represent in this respect also the *Alpine type* of Ripley, and it is to be specially noted that this series is not consistent with the generally accepted proposition that the Bronze Age immigrants were a uniformly tall people.

Postscriptum.—Since this paper was sent to press I have been informed by Dr Low that he has examined the remains from another short cist with a beaker urn, discovered in Aberdeenshire. A description will be published later, but he permits me to say that in type the skull agrees exactly with those described above.