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Don de M^r H. BREUIL

STUDIES IN IRISH CRANIOLOGY:

III.—A NEOLITHIC CIST BURIAL AT OLDBRIDGE,
COUNTY OF MEATH.

(PLATE XII.)

BY

ALFRED C. HADDON, M.A., D.Sc.

A PAPER

Read before the **ROYAL IRISH ACADEMY**, January 25, 1897;

and

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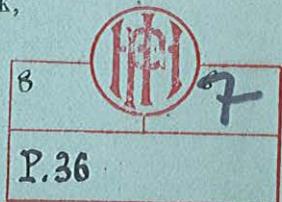
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XXI.

STUDIES IN IRISH CRANIOLOGY: III. A NEOLITHIC
CIST BURIAL AT OLDBRIDGE, COUNTY OF MEATH.
By ALFRED C. HADDON, M.A., D.Sc.

(PLATE XII.)

[Read JANUARY 25, 1897.]

A YEAR ago I had the pleasure of examining, in company with Mr. G. Coffey, a cist in the property of Lt.-Col. J. Coddington, J.P., at Oldbridge, Drogheda, county Meath.

The cist was accidentally discovered on December 20, 1889, in removing some stones which interfered with the ploughing of the field in which it occurs. It is situated on the top of a hill locally called "The Mountain," and Colonel Coddington has very wisely erected a wooden shed around the monument in order to preserve it. He has also affixed to the door of the shed a metal plate on which is stamped a record of the find.

The cist is built up of four slabs of stone resting on the ground which supported a large covering slab. The cavity measures some 3 feet 2 inches (970 mm.) in length; 1 foot 9 inches (535 mm.) in breadth, and 1 foot 6 inches (460 mm.) in depth. The long axis is orientated about N.E. by E. The stones are of local origin; the covering-stone is a greenish flag, and is pitted on its original under-surface with four depressions which are rather like cup-markings.

In the south-west corner there were found the cranium, which I am about to describe, and close to it an urn containing some burnt ashes. In the centre of the cist were heaped six large bones with fragments of smaller ones on the top. Marks of fire were observed on the sides of the cist, and on the under side of the covering slab. The cranium and urn are now in the possession of Colonel Coddington.

Mr. Coffey has kindly assisted me in drawing up the following

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short description of the urn, and I am indebted to him for the photograph of it:—

The urn is of the type usually called "food-vessel" (fig. 1). Its dimensions are $4\frac{1}{2}$ inches (115 mm.) high, $5\frac{3}{4}$ inches (146 mm.) in diameter at the rim, 6 inches (150 mm.) in greatest diameter, and $2\frac{1}{8}$ inches (54 mm.) in diameter at the foot. The ornamentation consists of horizontal bands of zigzag and herringbone patterns and bands marked with horizontal lines. The patterns are formed by serial repetitions of impressions made by two kinds of stamp, the zigzags were evidently produced by a small, semi-circular stamp, reversed alternately above and below; the herringbone pattern and

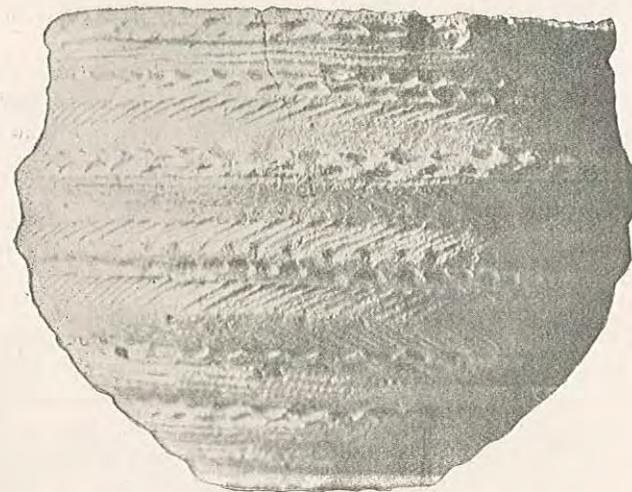


FIG. 1.

horizontal lines were impressed by a small toothed stamp. In details of the decoration the reader is referred to the illustration (fig. 1). The underside of the small base is decorated with a star having five broad rays, the field is marked with rudely scored oblique lines.

Mr. Coffey informs me that the ornamentation and basal decoration of this urn are very characteristic of the low globular urns most frequently found with incinerated interments, but the shape of the urn is, perhaps, transitional between these and those food-vessels which have a well-developed foot. Sufficient data have not, however, yet been collected for a systematic arrangement of Irish urns.

DESCRIPTION OF THE HUMAN REMAINS.

At the time of my visit there were only a few fragments of the skeleton in the cist, and with the exception of portions of a right femur, these were too broken to be of the slightest value.

The femur is incomplete, and in three pieces, but there is sufficient of it left to prove that it belonged to a powerful man: the shaft is decidedly curved, and the muscular impressions are prominent. It is impossible to measure the femur, but by comparing it with other femora one may put down the man as probably being about 5 feet 10 inches (1780 mm.) in height. The mean height of the Neolithic dolichocephals was probably about 5 feet 4 inches (1625 mm.), while that of recent Irishmen is 5 feet 7½ inches (1713 mm.).

Colonel Coddington had previously abstracted the cranium which he had then lent to Dr. Frazer to examine, and he authorised the latter to lend it to me to measure and photograph. I take this opportunity of thanking Colonel Coddington for this permission, and for other kindnesses shown towards me.

The cranium is that of an old male, of which the whole face is absent, as well as the squamosal, temporal, and base on the right side; the left zygomatic arch is broken.

The glabella and supra-ciliary ridges are very prominent (No. 4, Broca), and the external orbital processes are stout. The ophryon is flat and depressed, the frontal eminences are moderately well marked. The forehead is broad, and would probably appear somewhat receding in the norma lateralis were it not for a median keel. This sagittal frontal keel becomes very broad on the upper part of the frontal, where it attains a maximum breadth of about 27 mm., the broad portion narrows rather rapidly into the sagittal frontal keel about 65 mm. from the bregma. The temporal portion of the frontals has vertical sides, that is, the frontals are ill-filled laterally. The temporal crest is well marked. The parietal region has a low vault; there is a slight sagittal keel which, however, does not extend anteriorly to the bregma, which is flat, and it also disappears at the level of the parietal eminences. The latter are fairly prominent, and at this region the sides of the cranium are fairly vertical. The distance from one side to the other at the stephanion is 114 mm. in the direct line, and 129 mm. along the curve; the central point of the parietal eminences are distant from one another 119 mm. in the direct line, and 133 mm. along the curve. The occipital squame is somewhat

protuberant, but the bone is here much corroded; the superior curved lines are very strong, but there is no external occipital crest. The nuchal region of the occipital is rather flat, but with a pair of lateral swellings; the inferior curved lines extend to the base of the mastoids, both of the latter are broken, but, judging from the base of the one on the right side, these were of large size.

The sutures are very simple; the sagittal is entirely, and the lambdoidal almost totally obliterated. The coronal, which has a complication corresponding to No. 2 of the Broca scale, is beginning to be obliterated, especially about the bregma. Both pterions are in H; that on the right side appears to be 14 mm. in width. There are no wormian bones.

Norma verticalis.—Oval, irregular at occipital protuberance and at glabella, due probably to a slight posthumous distortion, apparently the result of the skull lying on its left side. It belongs to the ovoides group of Sergi,¹ but the sides in front of the parietal eminence are straighter than in the typical examples of that group.

Norma lateralis.—Prominent glabella; above the ophryon the low even curve of the cranial vault is continued to the lambda; it is very slightly flattened at the bregma and obelion; there is a slight occipital protuberance about the lambda; then the contour is vertical to the inion where it suddenly recedes. On the whole the form is nearest to Sergi's isobathypatycephalus (or isobathys siculus), and agrees very closely with the figure he gives of a Neolithic Sicilian skull, although the forehead is not so full and rounded as in the latter.

Norma occipitalis.—A low pentagon with a somewhat rounded roof.

The following are all the measurements I was able to make:—Glabello-occip. length, 196; glabello-inial length, 188; ophryo-occip. length, 191; maximum (parietal) breadth, 144; maximum frontal breadth, 125; bi-stephanial breadth, 125; maximum frontal breadth, 105; basio-bregmatic height, 139; frontal sagittal arc, 140; parietal sagittal arc, 124 (?); occipital sagittal arc, 123 (?); nasio-opisthial arc, 387; foramen magnum length, 34.5; basio-nasial length, 110; total sagittal circumference, 532; auriculo-nasial radius, 104 (?); auriculo-bregmatic radius, 125 (?); auriculo-parietal radius, 125 (?) horizontal circumference, 540.

The length-breadth index is 73.5 (the ophryo-occip. index being 75.4); the length-height index is 70.9, and the breadth-height index,

¹ "Origine e Diffusione della Stirpe Mediterranea," p. 133, fig. 25.

96·5; taking the auriculo-radial measurements the length-height index is 63·8, and the breadth-height index is 86; but the two latter indices are only to be regarded as approximate, owing to the difficulty of getting accurate radial measurements. The cranium is therefore dolichocephalic and tapeinocephalic.

I have taken measurements, descriptions, and photographs of a considerable number of ancient and mediæval Irish crania, but many more skulls will be required to be studied before it will be possible to speak with any degree of certainty on Irish craniology. In the meantime I venture to publish this find as it has some interest, and will compare this cranium with one or two of the skulls that have passed through my hands.

The classical prehistoric Irish crania are the Phœnix Park specimens found in cists in Phœnix Park, Dublin, a little over half a century ago. Two of these are in the Academy's Collection in the Science and Art Museum, and I take this opportunity of thanking the Council of the Academy for permission to measure the skulls in that collection, the more important indices of these crania will be found in the following table. Casts of these skulls are in the Grattan Collection now in the Museum of the Belfast Natural History and Philosophical Society.¹ It will be observed that they form a fairly continuous series, to which I have added a skull, collected by the late Mr. Bell in the county Tyrone, which carries the series a step further. This skull is also represented by a cast in the Grattan Collection. Unfortunately, I have not had access to the original specimen of this skull, or of Phœnix Park No. 3, but as the indices I calculated from measurements made on the casts of the Phœnix Park crania agreed very closely with those made on the skulls themselves, we may safely regard the indices of these two crania as correct. The detailed measurements of all these crania will be given in the memoir on Irish Craniology which I am preparing.

PHŒNIX PARK CRANIA.

A.—*Kistvaen in Tumulus of Knock-Maraidhe, Phœnix Park, Dublin.*

No. 1.—*Cranium of an adult male.* The glabella and supra-ciliary ridges are very prominent; there is a slight sagittal keel immediately above the ophryon, which disappears between the fairly prominent frontal eminences. The vertex is somewhat flattened; there is a

¹ Cf. Proc. Roy. Irish Acad. (3), II., 1893, p. 760.

very slight anterior sagittal keel, but between the prominent parietal eminences there is a sagittal groove; the cranial walls are flat. There is a slight bulging of the occipital squame; the occipital muscular impressions are strong. The mastoids are large. The coronal and sagittal sutures are nearly obliterated; the lambdoid is complex. There are no wormian bones. The pterion is in H (right, 16·5 mm.; left, 16 mm.).

The cheek-bones are not specially prominent; the nose is prominent, and the nasal bones are well formed and not constricted; the apertura pyriformis has slight pre-nasal fossæ; the palate is large and broad.

Norma verticalis.—The cranium may be placed in the sphenoides stenometropus group of Sergi; that is, the biparietal enlargement is far back, and there is a gradual and sensible reduction in width anteriorly; the sides of the cranium are flattened; the occipital is rounded; the skull is slightly phænozygous. *Norma lateralis.*—In a side view, the cranium appears long and depressed, with a slight occipital bulging; it appears to me to be intermediate between Sergi's platycephalus and ellipsoides depressus. *Norma occipitalis.*—The sides and base are flat, and together form a transversely-elongated oblong with a fairly well-rounded top.

The cranium is dolichocephalic, tapeinocephalic, very orthognathic, very leptoprosopic, very leptorhine, very microseme, especially in the right orbit; the naso-malar index is prosopic; and the palate is brachyuranic.

No. 2.—*Cranium of an adult male.*—The glabella and supra-ciliary ridges are more prominent than in the preceding skull; there is a sagittal keel which extends from the glabella to the anterior third of the parietals; the frontal eminences are moderately prominent; there is a slight depression at the obelion between the prominent parietal eminences; the sides of the skull are ill-filled. The cranium is flattened posteriorly about the lambda, but there is a slight occipital bulging; the inion and the muscular impressions are prominent. The mastoids are large; the sagittal suture is largely obliterated, the sutures are complex. Pterion in H (right, 13 mm., left, 14 mm.); no wormian bones.

The face is fairly broad, with wide and fairly prominent cheek bones, and a strong concave nose, the nasal bones are not pinched, the apertura pyriformis has slight prenasal fossæ, the palate is horse-shoe shaped.

Norma verticalis.—This is an elongated, somewhat oval cranium, but enlarged in the region of the parietal eminences, and may be



placed amongst Sergi's sphenoides. The skull is slightly phænozygous. *Norma lateralis*.—Very similar to the last, but less depressed. *Norma occipitalis*.—Is distinctly pentagonal.

The cranium is mesaticephalic, metriocephalic, orthognathic, barely leptoprosopic, mesorhine, very microseme, prosopic and brachy-uranic.

These skulls were carefully described, and the circumstances of the find narrated by Barnard Davis, and Thurnam in "Crania Britannica" (II. 1857, No. 22 A and B). The circumstances of the find were compiled from the report of the excavation published in the Proceedings of the Royal Irish Academy, 1838, vol. i., pp. 187, 196, and from the account given by Sir William Wilde in the "Catalogue of the Museum of the Royal Irish Academy," 1857, p. 180. Sir W. Wilde had previously made some observations on the two skulls found in this kistvaen, in his "Lecture on the Ethnology of the Ancient Irish" (1844, p. 11), reprinted as Chap. IX. of his "The Beauties of the Boyne and Blackwater" (1849), p. 212. Dr. Pritchard has also described these skulls ("Researches," 1841, vol. iii., p. 200).

In this kistvaen "two perfect male human skeletons were found, and also the tops of the femora of another, and a single bone of an animal, supposed to be that of a dog. The heads of the skeletons rested to the north, and, as the enclosure is not of sufficient extent to have permitted the bodies to lie at full length, they must have been bent at the vertebræ or at the lower joints." (Proceedings, Royal Irish Academy, I. p. 189).

B.—CIST IN THE PHOENIX PARK, DUBLIN.

No. 3. *Cranium of an adult male*.—The glabella and supra-ciliary ridges are very strong, the ophryon is depressed, low, somewhat narrow, retreating forehead; the side walls of the frontal are ill-filled. There is a slight anterior sagittal keel; the obelion is flat or somewhat depressed; the parietal eminences are prominent, but anteriorly the sides of the cranium are ill-filled. There is a slight occipital protuberance; the muscular impressions are not well marked; mastoids large; the squamosals are rather prominent. The prominent cheek-bones give the face a broader appearance than it has; the teeth project, and there is a subnasal prognathism. The powerful lower jaw has a very prominent chin. The cranium is somewhat high in the mid-parietal region; the posterior parietal region is decidedly vertical; the skull is phænozygous.

The cranium is mesaticephalic, akrocephalic, orthognathic, probably leptoprosopic, very leptorhine, very microseme, and mesopic.

Norma verticalis.—This skull most nearly resembles Sergi's sphenoides rotundus, that is, it is wider than the more typical sphenoides, and has the elevations rounded off, especially in the occipital part, which is globular; it is phænozygous.

Norma lateralis.—In the side view the skull agrees with Sergi's sphenoides latus,¹ except that in the Irish specimen the forehead is more retreating and the superciliary arches more prominent.

The following taken from the "Crania Britannica" (II. 1865, No. 55) is the only record I can discover of this find:—"About the year 1840 a small cist was opened at a depth of 4 feet in the Phoenix Park, not far from the two cromlechs previously discovered there. It was of a domed shape, and constructed of small stones, closed at the top with a larger one. It contained a skeleton, the major part of which was placed at the bottom of the cist, with the long bones crossed and the calvarium at the top, the lower jaw upon it. This skull was presented to the Museum of Trinity College by the late Dr. Robert Ball."

ANCIENT CRANIUM FROM COUNTY TYRONE.

In the Grattan Collection there is a cast of a cranium, which is labelled "No. 2.—Kistvaen, county Tyrone, Mr. Bell's Collection." Unfortunately there is no further information about this interesting specimen, which evidently belongs to a well-marked racial type.

The original was apparently perfect, except for a fracture, with an average breadth of about 60 mm., which extends from the right squamosal obliquely over the vertex to the left frontal. The glabella and supra-ciliary ridges are prominent, the forehead is high and broad, the frontal eminences are well developed, and the frontal region of the cranium is well filled both dorsally and laterally. The high curve of the frontal, as seen in the norma lateralis, is carried evenly backwards to the middle of the sagittal suture, the anterior portion of which appears to form a slight median keel; between the prominent parietal eminences there is a sagittal groove, and the obelion is flattened. The lateral parietal regions are well filled. There is a slight bulging of the occipital squame. The squamosals are swollen; the mastoids appear to be moderately large. The face has prominent cheek-bones, and appears broad, but it is really leptoprosopic. The index 57 may, however, be somewhat too high, as the bizygomatic breadth could not be actually measured; and I estimated it at 130, with a note that

¹ "The Varieties of the Human Species" (English translation published by the Smithsonian Institution, p. 34, fig. 11).

it might somewhat exceed that figure. The skull was probably phænozygous. The palate is large and elongated.

Altogether it is a powerful, round-headed cranium, with a strongly-marked face, and belonged to an adult male.

Norma verticalis.—The nearest form to this skull that I can find in Sergi's essay on "The Varieties of the Human Species" is his platycephalus bogdanovii. It has some resemblance to the Auvergnat type. It is phænozygous.

Norma lateralis.—The side view is very similar to that of the last skull, but the forehead is a little fuller and more vertical; the vertex is more arched, and the posterior parietal region less flattened.

Norma occipitalis.—The sides and top are well rounded.

This cranium is brachycephalic, akrocephalic, probably orthognathic, leptoprosopic, markedly leptorhine, very microseme, mesopic, but bordering on prosopic, and very dolichuronic.

While it is probable that these groups are correct, it must be remembered that as the measurements of this and the preceding skull were made upon casts, none of the figures can be accepted as being perfectly accurate.

Indices.	Oldbridge.	Phœnix Pk. 1.	Phœnix Pk. 2.	Phœnix Pk. 3.	Tyrone.	Caverne de l'Homme Mort.	Guanche.
Length-breadth, . . .	73·5	71·6	76·8	78·0	83·5	71·4	76·3
„ height, . . .	70·9	68·3	75·4	84·1	—	68·8	70·5
„ „ (auricular),	63·8	63·4	67·2	67·0	72·1	—	—
Breadth-height, . . .	96·5	94·6	98·2	107·7	—	96·4	92·9
„ „ (auricular),	86·0	88·4	87·6	85·9	86·3	—	—
Nasal,	—	42·1	50	39·2?	45·3	45·6	47·6
Orbital (right), . . .	—	79·5	78	68·2	75·0	80	83·6
„ (left),	—	83·7	—	—	79·5	—	—
Alveolar,	—	94·2	96·6	92·0	—	—	94·1
„ (auricular), . . .	—	105·1	108·2	107·4	103·3	—	—
Naso-malar,	—	111·9	112·9	109·5	109·6	—	—
Upper facial, (KOLLMANN),	—	59·4	50·2	—	57·0	—	50·2
„ „ (VIRCHOW), . . .	—	85·4	77·2	73·3	74·7	—	—

The following Table gives this series in a form more easy for comparison :—

Oldbridge, .	dolicho.	tapeino.	—	—	—	—	—
Phœnix Pk. 1,	„	„	orthog.	leptoprosop.	leptorhine	microseme	prosopic
„ „ 2,	mesati.	metrio.	„	„	mesorhine	„	„
„ „ 3,	„	akro.	„	„	leptorhine	„	mesopic
Tyrone, .	brachy.	„	„	„	„	„	„
Homme Mort ♂	dolicho.	tapeino.	orthog.	—	leptorhine	microseme	—
Guanche ♂	mesati.	„	„	leptoprosop.	„	„	—

The following are the indices adopted :—“Length-breadth” of Broca; in order to equate this to the index of the “Frankfurt Agreement” it is necessary to add ·5 to the indices given, or, to be more exact, to add ·6 to the dolichocephals and ·7 to the extreme brachycephals (cf. Otto Ammon: “L'Anthropologie,” VII. 1896, p. 682). The length-height is the glabello-occipital length (Broca), and the basio-bregmatic height; the height of auricular index is obtained by a modification of the Busk-cranimeter, which measures the radius from the centre of the external auditory meatus to the greatest parietal height. The nasal, orbital, alveolar, and naso-malar measurements are those adopted by Flower; the auriculo-alveolar index corresponds to that of Flower, but it is taken from the ear-hole instead of from the basion. The upper facial indices are those of Kollmann and Virchow respectively. The palatal index is that of Turner.

In comparing the Oldbridge cranium with Phœnix Park No. 1, the following points of resemblance and difference may be noted.

Norma verticalis.—Both are of an elongated oval form; but the sides are flatter in No. 1, and the supra-ciliary ridges are more prominent in O. B. and the occipital bulging is larger. No. 1 is phænozygous; O. B. was apparently only very slightly so.

Norma lateralis.—The length of both is striking (194–196 mm.), but No. 1 appears flatter above. In O. B. the cranial walls are better filled, and there is a greater swelling in the roof in the parietal region; and also the parietal squame is more prominent; the supra-ciliary ridges and the parietal eminences are more prominent; the frontal

keel gives a fictitious height to the contour of the forehead when the cranium is viewed laterally.

Norma frontalis.—The forehead is narrower in No. 1, and the frontal eminences are closer together; the great size of the supra-orbital ridges, and the prominence of the frontal eminences in both, result in a characteristic large depressed ophryon. Although the lower parts of the sides of the cranium in O. B. are flat, the regions just below the temporal crest are slightly swollen. In No. 1 the sides are flatter and parallel up to the crest. The sagittal keel is also much more prominent in O. B. than in No. 1.

The *norma verticalis* of these two crania is shown in Pl. XII., figs. 7, 8; beside them I have placed a cast of another skull, which is also in the Grattan Collection, No. 5. It is described as "Very ancient Irish, from a Railway-cutting." I have not been able to find any further information respecting it. I carefully measured the cast, and have drawn up the following indices, which must be regarded as approximate only. The maximum length was 196, and I had to estimate the breadth, which I put down as 150; this makes the index as 76. Collignon argues that a length of over 190 in the living head is characteristic of dolichocephaly, and so we may describe this skull as dolichocephalic; it is also tapeinocephalic (length-height 71, breadth-height 93·3), orthognathic (96), leptoprosopic, Virchow (82), leptorhine (44), and microseme (79). It is obvious that both the contour of the *norma verticalis* and the indices prove this cranium to belong to the same race as the Knockmaraidhe skull No. 1, whatever its age may happen to be.

From the foregoing descriptions and comparisons there is no doubt that these crania belong to the same people or race; and, from their similarity to one another and to other ancient skulls which I have studied, they may be regarded as very typical examples of that race as it occurred in Ireland.

When we travel further afield we find that these crania agree essentially with the Long Barrow race of Ancient Britain and with the Neolithic Dolichocephals of Western and South-Western Europe. The remains found in certain French caves present this type in its purity; as, for example, Les Baumes-Chaudes in the commune of Saint Georges de Lévejac, and L'Homme Mort in the commune of Saint Pierre de Tripiés, both in Lozère, South France. Broca described thirty-five crania from the former cave, having length-breadth indices ranging from 64·3 to 76·1, with a mean index of 72. He also studied nineteen crania from the latter cave; of these seven-

teen had indices ranging from 68·2 to 76·7, with a mean index of 72·6, but the mean index of the male crania is 71·4; the remaining two crania had indices of 78·5 and 78·8, the total index being 73·2. Philippe Salmon has recently ("Ethnologie préhistorique: Dénombrement et types des Cranes Néolithiques de la Gaule" in *Revue mensuelle de l'École d'Anthropologie de Paris*, 1895) published in a convenient form an enumeration of the length-breadth indices and the bibliography of all the Neolithic crania of France and its borders; and the reader is referred to this valuable Paper for further evidence respecting the distribution of these indigenous dolichocephals or "Type de Baumes-Chaudes," as he prefers to style it.

The Baumes-Chaudes tribe belonged to what is now generally called the Mediterranean Race, of which the Guanches¹ of the Canary Islands are, perhaps, the purest living representatives. I have tabulated some mean indices of these two representatives of the race, and it will be seen that they compare very closely with the two Irish crania under discussion.

The Co. Tyrone cranium is as well-marked a cranium as the other two, but clearly belonging to a very different race.

Intermediate between this and the two first are the Phoenix Park No. 2 and No. 3 crania. These appear to belong to a mixed race. The former, however, is probably a modification of the dolichocephalic group, and might be classed among them, while the latter seems to belong to the brachycephalic group. The glabella-occipital length of the former is 183 and of the latter 182 mm., while that from the Tyrone kistvaen is only 176 mm. M. Salmon has drawn attention to a similar mixture of types in France, and he has traced the racial movements that these facts indicate. Of the 688 indices that he has enumerated the preponderating indices are 73 and 74. The dolichocephals mount up to 57·7 per cent.: (it must be remembered that he classes all skulls up to 77 as dolichocephals, instead of the more usual limit of 75): the mesaticephals are 21·1 per cent.; and the brachycephals 21·2 per cent. The fact that 53 skulls have an index of 78 denotes an already pronounced mixture. The number of indices of 70 and 80 are equal (29, 30). Indices are exceptional or rare from 63 to 68 and from 85 to 97. The proportion of the two original races is as 397 is to 146; the mixed race (145) are equal in number to the brachycephals (146).

¹ Cf. an important paper, by F. C. Shrubbsall, on "Crania from Teneriffe," *Proc. Camb. Philosoph. Soc.*, ix. 1895, p. 154.

An analogous immigration of brachycephals has been proved for Ancient Britain. It is generally supposed that this people introduced bronze weapons and the "Celtic" language into our islands.

Sir William Wilde long ago pointed out ("Ethnology of the Ancient Irish," 1844) that "among the true Irish of our time distinct traces of the long-headed, dark-haired, black-visaged, swarthy aborigines, or Gothic Firbolgs, and also (for they are very numerous) the oval or globular-headed, fair-haired, light-coloured, blue or grey-eyed Celtæ or Tuatha de Danaan. But the present Irish race is very mixed. . . . Finally, we may add that there can now be little doubt that the same early race [the long-headed] inhabited, long before the date of written history, Ireland and Great Britain, Sweden, Denmark, and the north-west of Europe generally, together with the ancient Etruria, and perhaps to central parts of Germany also; at least one or two specimens of ancient crania which we examined at Halle and Berlin lead to these conclusions. We have had an opportunity of examining some skulls of the Guanches or ancient people of the Canary Archipelago, found by M. Berthelot in Teneriffe, and they presented precisely similar characters." These conclusions were arrived at by this acute observer solely by an inspection of the skulls, and the only measurements since published on the Phoenix Park crania (which formed the basis of Wilde's comparisons) are the very few in the "Crania Britannica." Till now there has been no means of verifying this hypothesis by means of modern craniological methods. Wilde had not in his time the means of discriminating between the North European dolichocephals (Teutonic or Row-Grave type), and the South European dolichocephals.

Dr. Garson who is a well-known authority on the ancient ethnology of the British Islands, says:—"Osteological remains of the Neolithic people are distributed all over Britain, from the south of England to the extreme north of Scotland. They are most numerous in the south-west of England, especially in Wilts and Gloucestershire, the part of the country occupied by the Drobuni, or Silures, at the beginning of the historic period. They have been found in considerable numbers in Yorkshire, Derbyshire, and Stafford. Huxley and Wilson have described the same race from horned cairns in Caithness, and from other places in Scotland. I have described them from Wiltshire, Yorkshire, Middlesex, and from Orkney.

There is some doubt of their having been found yet at an early period in Ireland, as Professor Macalister informs me that he has not recognised them in Ireland, where there are no long barrows. Sir

William Wilde, on the other hand, recognised Neolithic skulls from Somersetshire as identical with certain Irish skulls. Any skulls from Ireland I have seen, which have shown characters similar to the Neolithic skulls from England, are of later date, but Huxley describes them from chambered tombs, peat mosses, and river deposits of Ireland. I think we may conclude, as regards Ireland, that although it is doubtful whether the Neolithic people were there at as early a date as in Britain, they were certainly there later." (Lecture delivered at the Royal Institution, "Nature," vol. LI., Nov. 15, p. 67; Nov. 22, p. 90, 1894.)

Thanks to the researches of Sergi, and of several French anthropologists, we now know a good deal about the Mediterranean race. The indices I have given demonstrate that it extended into Ireland in Neolithic times, and the head forms of the three first skulls mentioned in this paper are common among Mediterranean people. Sergi says that the ovoides (Oldbridge) is found from Egypt to the Iberian peninsula, and that it occurred very frequently in French Neolithic interments (Solutr , Laugerie-Basse, Grenelle, l'Homme-Mort, etc.), and equally frequently in the long barrows of England. The sphenoides stenometropus (Phoenix Park, No. 1) is very common in the Mediterranean, and the same applies to the more typical sphenoides (Phoenix Park, No. 2). These Irish crania are also orthognathic, a feature which they share with the Long-barrow people of Britain; this also is very characteristic of the skulls from the Caverne de l'Homme Mort, and the existing Spanish Basques; the Guanches and the Corsicans are also extremely orthognathous. Similarly these same people are equally leptorhine (cf. table on p. 579), but, according to Shruballs, the mean female Guanche nasal index is 41.5, the index of the Spanish Basques is 44.7. The important orbital index tells the same tale, the index of the Spanish Basques is the lowest of any living European people, but it is lower in the skulls of the Caverne de l'Homme Mort, and of the Guanche mummies. Therefore, not only do these three Irish crania belong to the Mediterranean race, but to the Iberian group or division of that race.

Among other problems of Irish ethnology to be solved by craniological study is the question whether we had representatives of the short, swarthy, black-haired, brachycephalic race of Central Europe (the "Celtæ" of Julius Cæsar, and Broca, the "Auvergnats" or "Ligurians"¹ of some authors, or the "Type de Grenelle" of P.

¹ Sergi and some other anthropologists regard the ancient Ligurians as belonging to the dolichocephalic Mediterranean race.

Salmon); as well as the tall fair, brachycephalic race that may have come from Denmark (the "Celts" of some authors, the "Turanian" of Thurnam and Rolleston, or the "Round Barrow Race" of all authors).

Personally, I am inclined to think that the Neolithic brachycephals of Central Europe did come over to the British Islands, and that traces of them are still to be seen, perhaps more frequently in Ireland than in Great Britain. If this be so, it is probably they came as a mixed people, that mixture of brachycephals and southern dolichocephals which Broca called "Celts," for it must be remembered that he regarded the Celtæ of Cæsar as a mixed people, but mainly brachycephals. The Neolithic brachycephalic immigrants into Western Europe almost certainly came from Eastern Europe, and possibly originally from Asia; it is also probable that they were primitively of the same stock as the Lapps and Finns, or rather one constituent of the latter people. It may be that the short, dark, brachycephalic element in the British Islands was largely due to the northern brachycephals who came direct from Scandinavia in the Neolithic period, or both northern and southern brachycephals may have contributed their respective shares.

It is possible that the Round Barrow race had comparatively little to say to Irish ethnology.

POSTSCRIPT ADDED IN THE PRESS.

Since this paper was read a learned and voluminous work has been published, entitled "The Dolmens of Ireland, their Distribution, Structural Characteristics and Affinities in other Countries; together with the Folk-lore attaching to them, supplemented by considerations on the Anthropology, Ethnology, and Traditions of the Irish Race," by William Copeland Borlase. In the third volume Mr. Borlase deals very fully with Irish craniology, and he connects the Knockmaraidhe dolichocephal with the Long Barrow men of Britain, and with the Caverne de l'Homme Mort in France. The mesaticephalic skull from the same tumulus is due to an admixture with this type of a brachycephalic type (p. 978). The measurements and descriptions I have given above, together with the evidence so laboriously collected by Mr. Borlase conclusively prove the existence of the Baumes-Chaudes or l'Homme-Mort race in Ireland in very early times.



EXPLANATION OF PLATE XII.

FIG. 1.—Oldbridge Cranium, norma verticalis.

FIG. 2. " " " lateralis (left side).

FIG. 3. " " " " (right side).

FIG. 4. " " " frontalis.

FIG. 5. " " " occipitalis.

FIG. 6.—Cast of ancient Irish skull. Railway Cutting (Grattan Collection, No. 5).

FIG. 7.—Oldbridge Cranium.

FIG. 8.—Cast of Phoenix Park Cranium, No. 1.

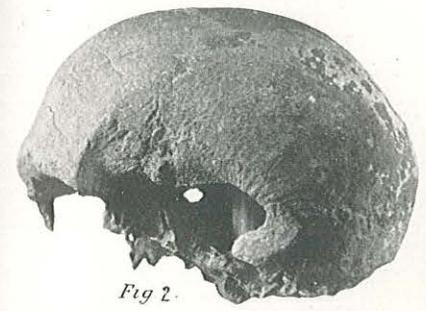


Fig. 2.



Fig. 1.



Fig. 3.



Fig. 5.



Fig. 4.



Fig. 6.



Fig. 7.



Fig. 8.