Remarks on Skulls Dredged from the Thames in the Neighbourhood of Kew

Author(s): J. G. Garson

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raised by Mr. Elton and other writers, as to a Finnish or Mongol immigration, among which race the custom of inheritance by the youngest son could be traced to a remote antiquity. In Hampshire this custom formerly prevailed on nine manors.

DR. GARSON and MR. LAWRENCE exhibited certain human skulls from the bed of the Thames, and made the following remarks:—

REMARKS on SKULLS dredged from the THAMES in the neighbourhood of KEW.

By J. G. GARSON, M.D., V.P.A.I., and Lecturer on Comparative Anatomy, Charing Cross Hospital.

THE skulls which I have the pleasure of calling your attention to to-night were placed at my disposal for this purpose by Mr. G. F. Lawrence, who will make some remarks regarding the geological stratum in which they were found (see p. 26).

There are in all fifteen specimens on the table before us; some of these are almost complete, while others are unfortunately only fragmentary. Eight of them, those marked B, C, F, I, K, N, O, and P, were found near Kew; three marked D, L, and M were obtained between Kew and Mortlake; two marked A and H came from the river bed near Hammersmith; while the remaining two, E and G, were dredged at Twickenham and in Lion Reach respectively. All of the specimens therefore were obtained within a distance of a few miles. On separating the obviously male specimens from those which are distinctly female, and running the eye along each group, we see that there is a good deal of difference between some of the male skulls, but less variety occurs in the females. Among the male skulls there are at least two well-marked types, which may be readily distinguished by almost anyone. There is first a type in which the skull is low in height, broad (especially in the frontal region), and the vault as seen from the front has a low broad arch. When we look at these skulls from above it will be seen that they are squarish-oval in form. Their cephalic index is about 75·0. Of this type there are five specimens, namely, those marked respectively D, L, M, H, and P. In some of these the glabella and superciliary ridges are fairly marked, while in others these prominences are less distinct. The forehead is receding. One of the specimens, marked P, is metopic. The three Mortlake specimens, one of the Kew, and one of the Hammersmith specimens are of this type. The second type differs from that just described in the cranial

vault being acutely arched from side to side, the brain cavity being long and narrow, and the cephalic index averaging about 70·0. In one (marked F) the glabella, but more particularly the superciliary ridges, are excessively developed, while in the others these parts are moderately marked. Most of these specimens have irregularities of the surface, and in this respect differ from the previous type, which are remarkably smooth and regular. Of this second type there are four examples, namely, two of the specimens found at Kew, and the Twickenham and the Lion Reach specimens; these are marked respectively F, N, G, and E. Possibly a third type intermediate in character, between the former two, is represented by the cranium marked O, obtained from Kew. It is a very fine example of a well-filled and formed skull of large size, rather more dolichocephalic than the average English skull of the present day, the cephalic index being 74·2. The superciliary ridges and glabella are fairly developed but not markedly so; the greatest elevation of the former is over the inner angle of the orbit. This specimen is very nearly allied to those of the second type, and had the means of determining more completely the facial characters of the latter been present, might have been included with them, with a remark that one of the specimens is a little more brachycephalic than the others. In none of the latter have we got the facial portion preserved, and consequently we have to trust to the shape of the calvaria alone in classifying them.

Of the other specimens those marked B, D and I respectively, are females; the specimen marked K is also probably of female sex, but being very incomplete the sex cannot be determined with certainty. The specimens B and G are complete crania, and resemble one another in general appearance; their measurements also are very similar; but B has somewhat more masculine characters than I, the surfaces for the attachment of muscles being more marked on it. The cephalic index of these two crania averages 75·2. In relation to the male specimens the female crania correspond to the first type; the specimen K is markedly of this type, being flatter than the other females. It differs from all the other specimens in having the outlines of its lateral walls, when viewed from above, remarkably straight and diverging till the greatest breadth is attained at the posterior part of the parietal bones—in other words, it is markedly “coffin-shaped.” All the female specimens, it will be noted, were obtained from the river at Kew.

The following notes regarding the character of each individual specimen, and the table of measurements appended, may be useful for the purpose of comparing these with other specimens of ancient British skulls:—

First Type.

- D, L, M and H. Broad flat calvaria, more or less imperfect, of oval form, superciliary arches distinct from glabella and feebly developed. These specimens are very similar in appearance, and are fully adult. The first three found at Mortlake, the last at Hammersmith.
- P. Similar to the previous four specimens, but more dolichocephalic. Metopic; square and broad in frontal region; the arch of the cranial vault low and broad, the occipital region pointed. Found at Kew.

Second Type.

- F. Calvaria of an adult male somewhat imperfect, the base being absent. The superciliary ridges and glabella are extraordinarily prominent, the former extending along the whole orbital margin to the external orbital processes. The external occipital protuberance and superior semi-circular line are also very strongly developed. The sagittal suture is situated in a depression extending from before backwards. The form of the cranium is long and narrow; cranial vault acutely arched from side to side. Obtained from the river at Kew.
- N. Calvaria of adult male. Very dolichocephalic, supra-orbital ridges entirely absent; forehead prominent; the arch of cranial vault acute but sunk at the apex, and in the depression, which extends from before backwards, is situated the sagittal suture. The occipital ridges are feebly marked; the surface generally is uneven. Obtained from the river at Kew.
- G. Calvaria of adult male. Resembles very closely the specimen marked N. Dredged in Lion Reach.
- E. Calvaria of adult male. Forehead moderately prominent; the arch of the cranial vault acute; no depression at the apex as in F, N and G, so that the sagittal suture runs along the highest part of the vault: in other respects resembles the two previous specimens. Dredged at Twickenham.

Other Specimens.

- O. Cranium of adult male. Glabella and superciliary ridges moderately developed, and form a continuous elevation in the centre of the brow region; forehead rather receding, muscular ridges moderately developed.

In all respects a well-formed cranium; the upper part of the face moderately prominent; nose straight; axes of orbits at a medium angle.

- B. Cranium of adult female. Superciliary ridges and glabella moderately developed; forehead square and broad; metopic; cranial arch broad from side to side; the ridges for muscular insertions fairly marked. Teeth moderate in size; not much worn. From the river at Kew.
- I. Cranium of adult female. The muscular ridges feebly developed; frontal region not so broad as in the previous specimen, and the face is shorter from above downwards. From the river at Kew.
- C. Imperfect calvaria. From the river at Kew.
- K. Imperfect calvaria of remarkable shape, very broad in posterior parietal region, narrow in front, with absolutely straight lateral walls, which diverge regularly from the frontal region to the parietal bosses; afterwards they converge rapidly. Occipital region and base wanting. Surface smooth, ridges for muscular insertions absent. The arch of the cranial vault is remarkably flat and broad. Probably female. From the river at Kew.
- A. Imperfect calvaria of young person. Oval in shape, pointed at frontal and occipital ends. From the river at Hammersmith.

It is difficult to determine with any degree of certainty the period to which these specimens belonged, on account of their being dredged up from a river bed. The evidence which must guide us in coming to a conclusion as to the approximate date at which their owners inhabited the country is of a threefold nature. There is first the evidence afforded by the character of the specimens compared with those of known date; next that indicated by the objects of art or manufacture found or dredged up with them: and thirdly, the evidence to be derived from the geological stratum in which they lay. The characters of the specimens can only be imperfectly studied on account of the broken and imperfect condition of most of them, but the form of the calvaria would indicate that they are those of the dolichocephalic race or races whose remains are found in various parts of the country, associated in earliest times with neolithic implements, and who appear to have been the inhabitants of this country anterior to the advent of the brachycephalic or Celtic race usually associated with the Bronze period. The investigations which have been hitherto made regarding the osteological characters of this dolichocephalic or neolithic people, seem to show that they were not a homogeneous race, but

	MALES.						FEMALES.						Young.	
	D.	L.	M.	P.	F.	N.	G.	E.	O.	B.	I.	C.	K.	A.
Maximum length	184	192	c 194	200	187	189	192	183	190	180	175	130	144	137
Maximum breadth	c 146	144	146	144	133	130	136	130	141	134	133	130	144	137
Cephalic Index	c 79.3	75.0	c 75.3	72.0	71.1	68.8	70.8	71.0	74.2	74.4	76.0	88	..	130
Minimum frontal breadth	100	99	..	..	..	93	96	91	96	98	90	..	..	130
Height	..	..	..	..	..	..	134	132	133	130	131	..	..	130
Height Length Index	..	..	..	..	..	..	69.8	72.1	70.0	72.2	74.9	..	..	130
Basio-nasal length	..	..	..	..	..	..	96	100	104	100	94	..	..	130
Basio-alveolar length	..	..	..	..	..	..	..	..	102	98	88	..	..	130
Gnathic Index	..	..	..	..	..	..	..	..	98.1	98.0	93.6	..	..	130
Nasio-alveolar length	..	..	..	..	..	..	..	..	78	67	56	..	..	130
Nasal height	..	..	..	..	..	..	..	..	57	47	43	..	..	130
Nasal breadth	..	..	..	..	..	..	..	..	26	23	23	..	..	130
Nasal Index	..	..	..	..	..	..	..	..	45.6	48.9	53.5	..	..	130
Orbital height	..	..	..	..	..	..	..	..	34	31	30	..	..	130
Orbital breadth	..	..	..	..	..	..	..	..	39	36	36	..	..	130
Orbital Index	..	..	..	..	..	..	..	..	87.2	86.1	83.3	..	..	130
Palato-maxillary length	..	..	..	..	..	..	..	..	59	53	49	..	..	130
Palato-maxillary breadth	..	..	..	..	..	..	..	..	65	59	58	..	..	130
(min. bi-maxillary breadth)	..	..	..	..	..	..	..	..	90.8	89.8	84.5	..	..	130
Palato-maxillary Index	..	..	..	..	..	..	..	..	92	85	85	..	..	130
Maximum bi-maxillary breadth	..	..	..	..	..	..	..	..	168.0	185.0	214.0	..	..	130
Bi-zygomatic breadth	..	..	..	..	..	..	..	..	131	124	120	..	..	130
Mid-facial Index =	..	..	..	..	..	..	..	..	..	..	..	..	..	130
Bi-zygomatic breadth × 100,	..	..	..	..	..	..	..	..	..	..	..	..	..	130
Nasio-alveolar length.	..	..	..	..	..	..	..	..	..	..	..	..	..	130

c = circum.

c = circum.

consisted of more than one race. The two distinct types found among these specimens is therefore an interesting circumstance, and may prove very important in connection with future observations. Although belonging to the earliest known inhabitants of this country, it does not follow as a matter of consequence that these specimens belong to the neolithic age. We find that the neolithic races lived during the Bronze period as well as before it, and even during Roman times, but their distribution during later times was more restricted or beyond the boundaries occupied by the new-comers, as is usually the case with a conquered race. The absence of brachycephalic skulls amongst the specimens before us as well as the fact that they were found in the district which would be first occupied by the brachycephalic race coming in from the east or south-east, would indicate that probably they belong to an age anterior to the invasion of the country by the Bronze age or Celtic people.

The implements which have been found in the same stratum as that from which these specimens were obtained, I understand from Mr. Lawrence, are of stone, bone, and bronze, but no implements were found with the specimens.

The geological stratum in which the specimens were obtained will be described by Mr. Lawrence, who will tell you they were found in the stratum immediately above the London clay. Further information regarding the geological formation of the Thames valley which throws light on this subject, is contained in a valuable paper by Mr. F. C. J. Spurrell, F.G.S., in the "Proceedings of the Geologists' Association," Vol. xi, No. 4. An important point bearing upon the antiquity of the specimens before us is the fact that between the stratum in which they were found and some of the strata above it, are hard concretionary crusts, which required some force to break through, thus eliminating all possibility of the specimens having reached their resting-place by subsidence at a subsequent period during the formation of the more recent strata.

As considerable interest attaches to these skulls from the bed of the Thames, I am glad to be able to announce that Mr. Lawrence has consented to present them to the Natural History Museum at South Kensington, where they will be preserved for future reference and study.