

Note on the distortions which present themselves in the crania of the ancient Britons / by Joseph Barnard Davis.

Contributors

Davis, Joseph Barnard, 1801-1881.
Rolleston, George, 1829-1881
Rolleston, Humphry Davy, 1862-1944
Royal College of Surgeons of England

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Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

*Dr. J. H. Storer, with the kind regards of
the Author.*

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NOTE ON THE DISTORTIONS WHICH PRESENT THEMSELVES IN THE
CRANIA OF THE ANCIENT BRITONS. By Joseph Barnard Davis,
M.R.C.S. Engl. F.S.A. &c.

DURING the lengthened and minute investigation of ancient British skulls, to which I have been impelled by the preparation of the "Crania Britannica," I have been frequently struck with a peculiar flatness in the occipital region prevailing among them. It often extends over a good part of the parietals, about the posterior portion of the sagittal suture, and over the upper part of the occipital bone. Hence I have denominated it *parieto-occipital flatness*. The most peculiar and characteristic, normal form of these crania, which is very general, exhibits a shortness of the whole calvarium. This form must not be considered universal, yet it has prevailed among tribes far apart, if not deserving to be looked upon as different races. Such natural shortness has been found to be so common as in a material degree to mask the parieto-occipital flatness, to which allusion is now made. Another complication was early perceived in the occurrence of *posthumous distortion*, to which the skulls of the ancient Britons, like those of other people, are liable. The crania of those who were buried under tumuli have become singularly deformed by the pressure of the superincumbent earth, acting constantly upon a moist and slightly plastic body like the spheroidal skull. Others, whose remains were enclosed in cists, kistvaens, and cromlechs, were mostly defended from the mechanical influences which produced posthumous deformation. Still the effects of this kind of compression are often evident in the occipital region. Hence they serve to interfere with our appreciation of that deformity which manifests itself in the parieto-occipital flatness. It was only after witnessing many examples in which both kinds of distortion were present, and observing that they were not coincident, but quite independent of each other, that their real distinctness became fully apparent. In some ancient British crania of *young subjects*, preserved in the Bateman Museum, the original parieto-occipital flatness is observed, and at the same time another distinct and non-coincident flattening, generally on one side of the occipital region, which is clearly posthumous. To this subject I have directed attention in the Description of the Newbigging Skull in the "Crania Britannica," plate 21, p. (4); and more at length in the Description of the Green Lowe Skull, plate 41, p. (2). In the examples enumerated in these places both the two kinds of deformation manifest themselves, and, since they do not correspond, it is obvious that they have no relation to each other—one has been produced before and independently of the other.

It has long appeared to me most probable that the parieto-occipital

flatness now under consideration was produced by some artificial process. In the Description of the undeformed British Skull from Caedegai Barrow in Denbighshire, "Crania Britannica," plate 23, p. 3, I distinctly attributed it to art at an early period of life. Still, the subject being curious, it may be deserving of some further attention and additional evidence, by which it will be satisfactorily proved that the ancient Britons observed certain practices which resulted in deformation of the skull. Further investigation has shown that neither these practices nor their results were confined to the ancient Britons alone, but have equally prevailed among the ancient Caledonians and Hibernians and the ancient Gauls.

I will, in a few words, describe the appearance of this peculiar parieto-occipital flatness. It varies in extent in the different crania in which it is seen; it also varies somewhat in its position, so as to present much diversity in the angle which its plane forms with that of the *vertical line* of the cranium; but it is always situated about the point of junction of the sagittal and lambdoidal sutures. This particular spot is commonly the centre of the flatness, which extends upwards upon the parietals and downwards on the occipital, in different degrees in different examples. The flatness itself is seldom perfect, for the progressive growth of the head, after the flattening influence has ceased to operate in infancy, has almost always occasioned some rounding of the surface, so as to give it a slight convexity. Nevertheless, the parieto-occipital flatness is very marked, and gives the idea of its having been produced by impression upon a plane. It is by no means always quite symmetrical, but, on the contrary, it is very often more apparent and extensive on one side than the other, as if the head had not rested upon the plane exactly at right angles to its long axis. It occurs in the skulls of females as well as of males, and is thus shown not to be any mark of distinction, such as the distorting processes to which the head was subjected in infancy among the Scythian tribes described by Hippocrates, among the ancient Aymaras, among the Chenooks and other races of North and South America. With these people there was a notion of *nobility* attached to the deformed head, which was wholly unapproachable by the inferior orders, such as slaves and women. In many cases, the diameter of the area of the flatness is fully four inches in every direction. It is impossible to estimate the comparative prevalence of this flatness with accuracy. In the plates of the "Crania Britannica," it is plainly perceptible in the skull from Green Gate Hill Barrow, Pl. 4; that from End Lowe, Pl. 13; that from Codford Barrow, Pl. 14. (Fig. 1.) where it is especially apparent; that from the Juniper Green Cist, Pl. 15; that from the Lesmurdie Cist, Pl. 16; that from the Newbigging Cist in the Orkneys, Pl. 21; that from the Kinaldie Cist, Pl. 25; that from the Wetton Hill Barrow, Pl. 34; that from Green Lowe, Pl. 41; and that from Ballard Down Barrow, Pl. 45. Thus we have reason to presume that it was a very general peculiarity of the aboriginal inhabitants of Britain and its islets. Parieto-occipital

flatness is obviously present in two ancient Orcadian crania, derived from Cists in the Island of Pomona, in my collection. A skull disinterred from a Kistvaen in the Phœnix Park, Dublin, to be figured in the "Crania Britannica," proves that it prevailed among the ancient Hibernians. This is most likely that of a young man of about 30. The flatness extends over a little more of the sagittal region of the parietals than over the occipital. It is asymmetrical, the depression being greater on the right than the left side, which causes a slight projection on this side, near the middle of the parietal. It is above three inches in length, but not quite so broad, and its centre is just above the juncture of the sagittal and lambdoidal sutures. In this case, the deformed surface is perfectly flat. We have equally satisfactory proofs that this occipital flatness was a characteristic of the skulls of ancient Gauls. It exists in many contained in the Galerie Anthropologique, at the Jardin des Plantes, and is quite obvious in some of those derived from the excavation of the dolmen at Meudon, near Paris. A cast of one of these crania in my possession, is perhaps the most marked example of parieto-occipital flatness I have seen, and at the same time it indicates most convincingly the artificial nature of the distortion. (Fig. 2.) This also is the skull of a man, and is remarkably short. The flattened surface is nearly four inches in diameter in each direction, and rises up from just above the tuberosity of the occiput almost perpendicularly. At the junction of the sagittal with the lambdoidal suture there is a slight depression. The flattening is not quite symmetrical, but rather greater on the right side. In this example the plane of the flatness is, as nearly as possible, parallel to that of the *vertical line* of the calvarium, or the line drawn through the centre of the ear and the point of juncture of the coronal suture with the sagittal.* I have observed this peculiar flatness in many skulls of very young subjects, an evidence that it is produced at an early period of life.†

* It ought not to be omitted to be mentioned here, that the late learned and excellent Swedish craniologist, Professor A. A. Retzius, designated this and the other brachycephalic skulls derived from the Meudon dolmen, "Basque." Arndt, Rask, Rudolf Keyser, Nilsson and others had argued in an erudite manner, that all Western Europe in the oldest period was inhabited by a so-called *Turanian* race, who had brachycephalic skulls, of which the Finns and the Basques are the only representatives. On the discovery of many crania of this form among the osseous relics of the dolmen at Meudon, the ardent Retzius regarded this, which is a mere hypothesis, to be fully proved, and he subsequently treated it as an established fact, and boldly asserted that these were the skulls of Basques, *i. e.* of the primeval race now supposed to be represented by the Basques. See his "Blick på Ethnologiens närvarande Ståndpunkt," 1857, p. 8. We may respect the fervid affirmation of so amiable a man, but are not able to allow that these crania are anything more than those of ancient Gauls, of the tribe of the *PARISI*. Such conclusion is not favourable to this large hypothesis, but it is believed to be in conformity with the facts and sober philosophy.

† It should likewise be particularly noticed that the parieto-occipital flatness is seen to occur in crania from Cists, where they were defended from superincumbent pressure, as well as in those from Barrows. This is a convincing evidence that it is a deformation of a totally different kind from posthumous distortion, which owes its origin to compression after burial. See *Cran. Brit.* p. 37. *Athenæum*, Aug 6, 1859.

In turning to the *cause* of so general a deviation of form, it becomes at once evident that it must have arisen from the operation of influences which were all but universal. They must have been set in action at the earliest period of infantile life, and upon both sexes; yet there is no evidence that they were used with any express *design* for the production of this deformation. They clearly resolve themselves into the particular mode of nursing infants employed by the women of the ancient Britons, Caledonians, Hibernians and Gauls. And, if any further proof were required that such nursing did produce this flatness, it is afforded by an examination of the skulls of those tribes of North American Indians, who adopt cradle-boards for their infants. In the calvarium of a LENNI-LENAPE from an old grave on the Delaware, which is in my collection, exactly the same parieto-occipital flatness is seen, occupying the spot already pointed out. (Fig. 3.) Like European examples, this cranium is asymmetrical, being more depressed on the right than the left side, as is *generally*, perhaps universally, the case; which has arisen from the child having been laid with an inclination to the right, or, more likely, having had by nature greater power in the organs of the right half of the body.*

It seems most probable that the board upon which the women of the so-called "Celtic" tribes placed their new-born infants to be nursed, was not a mere piece of flat board, like that in use by some of the North American Indian tribes. More likely it had a sort of inclined or sloping shelf, or pillow, at its upper part, against which the child's head rested. Some contrivance of this kind is introduced into the cradles of the Flathead-Tribes, on the Columbia River, as is seen in the figure given in Morton's "Crania Americana," p. 204, although, in this case, it is not placed in a sloping position. The different angle at which this inclined shelf for the head was introduced, accounts for the diversities in the direction of the parieto-occipital flatness, as seen in different skulls. Probably with a supply of the soft flocculent *sphagnum*, the child would be secured by straps, and retained in a pretty comfortable position, during the period of suckling, which lasts a long time among all primitive people. And, with a cradle so contrived, the mother would not be confined, like a modern mother, to one spot or apartment in the neighbourhood of her child, which is, in one sense, much of a fixture, but able to take her nursling about with her in all her laborious journeys and occupations, either when attending upon her husband, or engaged in her own family duties.

These cradle-boards among the ancient Britons would be made of

* Among the South American tribes the same custom has prevailed. In two prepared heads of QUICHEAS, or CHINCHAS, (men) kindly presented to me by the learned Professor J. Y. Simpson of Edinburgh, from the Chincha Islands, off the coast of Peru, the parieto-occipital flatness is strongly manifested in the same spot, and the same plane as in the LENNI-LENAPE. It is deeply impressed, extensive, and has been produced without counter-pressure on the frontal bone, therefore, no doubt, by the cradle-board.

thin and light wood, probably willow. Hence, if they were occasionally interred with the mother or child in the barrow, which is likely, there is no reason to expect that any fragments of them would still remain in a recognizable form; but, now that this particular mode of nursing upon a cradle-board is made known, some *traces* of its presence may yet be detected.

There has been a good deal of diversity in the effects of this compression against the cradle-board, in different instances. A diversity in great measure to be attributed to the varying obliquity of the shelf for the pillow, already alluded to, and also to the degree of compression. In the case of the Codford skull, "Crania Britannica," (Plate 14, or Fig. 1 here) and in the cast of the Meudon skull (Fig. 2), a greater share of the parietal bones has been flattened. And the deformation has proceeded to such an extent as to render these examples almost parallel to some of those of America. In the "Crania Americana," Plates 8 and 9, are two ancient Peruvian calvaria, from the Temple of the Sun, in which the occipital region has been rendered almost perpendicular from this compression. And in the famous mound calvarium from the ancient Mound in the Scioto Valley, (Smithsonian Contributions to Knowledge, Vol. i.; Squier and Davis's Ancient Monuments of the Mississippi Valley, p. 288, Pl. XLVII.) the same result is presented. In some cases the flattening was carried to still more exaggerated lengths. Some instances in my collection are very extreme, as that of an ancient PAKOMAME from Guatemala, No. 378; that of an ancient MUIZCA, from Facatativo, in the plain of Bogatá, No. 306; and that of an ancient PERUVIAN, No. 918. But it is probable that in these tribes a counter-pressure was exercised upon the frontal bone. This was not the practice among the ancient Britons.

The parieto-occipital flatness in ancient British skulls is mostly very moderate in extent, and shows itself as an oblique plane, about the position in which the posterior fontanel was situated. Dr. L. A. Gosse, in his "Essai sur les Déformations artificielles du Crâne," has illustrated at some length the exaggerated form of compression of the occiput, under the title of "Tête déprimée par derrière," but has not paid much attention to the slighter flatness now described. Yet he has this incidental remark:—"Passant dans l'ancien continent, ne tardons-nous pas à reconnaître que ce berceau plat et solide y a produit des effets analogues. Les anciens habitants de la Scandinavie et de la Calédonie devaient s'en servir, si l'on en juge par la forme de leurs crânes." p. 74.

Notwithstanding this parieto-occipital flatness of ancient British skulls, and others of so-called Celtic races, which is the result of the intervention of art, although *without distinct design*, and which may now be considered to have been demonstrated, one usual normal form of these crania is brachycephalic, and that decidedly so. To this form I have applied the epithet *typical*. And it is too obvious to need remark, that the mode of nursing would heighten this brachycephalism. That the impression of the occipital region did

so heighten it is indisputable; but, that it had the slightest influence in producing it, is quite contrary to the laws of physiology, and I believe wholly untenable.

POSTSCRIPT.—Although not immediately connected with the subject of this Note, yet closely allied to it, is a very curious distorted skull of an Anglo-Saxon woman, derived from the cemetery at Harnham, near Salisbury. It has been carefully and correctly figured in the "Crania Britannica," p. 40. However improbable in the present state of our knowledge it has seemed, I have always felt myself obliged to regard this as an example of *artificial* deformation, and have referred to the distorted skull of an ancient Peruvian woman ("Crania Americana," plate 3) as closely resembling it in form. The latter presents the peculiar ridges which indicate the position of the compressing bandages in Peruvian skulls. These are also present, although slight, in the Harnham specimen. It is, perhaps, in some measure to be attributed to the great improbability of the Saxon tribes having employed artificial means to distort the cranium, that we owe another attempt at explanation. In his recent valuable work, "Zur Morphologie der Rassenschädel," Professor J. C. G. Lucae, of Frankfort, has the following passage:—"Der in der ersten Decade der Crania Britannica, Chap. iv. pag. 40, abgebildete verschobene Schädel eines Weibes, der nach Angabe der Autoren durch Kunst entstanden sein soll, verdankt sicher seine Bildung den vorhandenen Synostosen. Nach der Abbildung ist hier gleichfalls der grosse Keilbeinflügel mit dem Scheitelbein verwachsen. Da aber hier auch zugleich der Keilbeinflügel mit dem unteren Theil des Stirnbeines verwachsen ist, so ist hier nicht allein ein Sattel, sondern auch das ganze Stirnbein flach gestellt," S. 53. Although distortion by synostosis is an ingenious conjecture, and quite consistent with the rationale of deformation in other crania depicted by Dr. Lucae, to which he refers, it is singularly at variance both with the figure of the Harnham specimen, and with the skull itself. In the woodcut, the speno-parietal, the speno-frontal, and the speno-temporal sutures, so far from being the subjects of synostosis, are distinctly and accurately represented on the left side as quite open. There is even a slight gap in the position of the second, occasioned by the breaking off of a portion of the frontal. And, in the skull itself, these sutures, both on the right and left sides of the head, are seen to be patent and entire without any obliteration. That synostosis could have given rise to the deformation, as the distinguished Professor of Anatomy at Frankfort presumes, is wholly inadmissible.

The skull of a man of about 40 years of age, a Merovingian Frank, from the cemetery at Envermen, near Dieppe, in the Department of Seine-Inferieure, in my collection, No. 209, presents, although in a lesser degree, the same kind of deformation, and that with all the sutures of the alisphenoid open, therefore, without synostosis. The hint thrown out in the description of this Harnham specimen, that further research may probably reveal much more extensive distortion

among ancient European tribes, seems to be rather confirmed than otherwise.

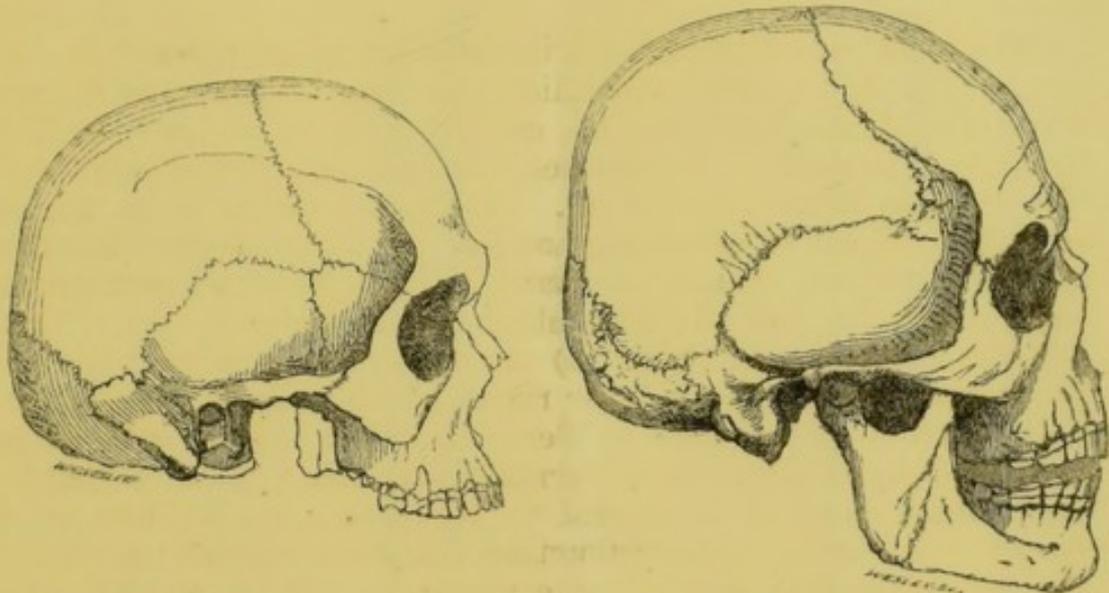


FIG. 1.

FIG. 2.

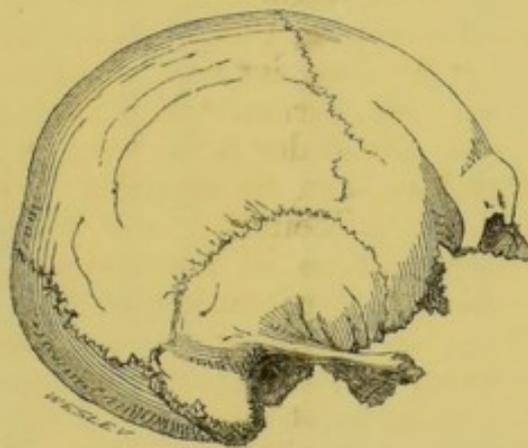


FIG. 3.

EXPLANATION OF THE FIGURES.

Fig. 1. Profile of skull of an ancient Briton, from a barrow at Codford, Wilts (region of the *Belgæ*).

The parieto-occipital flatness is nearly equal to that of Fig. 2.

Fig. 2. Profile of skull of an ancient Gaul, from the dolmen discovered at Meudon, Seine et Oise (Region of the *Parisii*), July 1845.

The parieto-occipital flatness is very extensive, and its plane is as nearly as possible parallel to that of the *vertical line*.

Fig. 3. Profile of imperfect calvarium of a Lenni-Lenape, from a grave found, in 1861, at Delaware Gap, Pennsylvania.

The parieto-occipital flatness presents itself at a very different angle from that of Figs. 1 and 2, still one that is common among ancient British skulls.

The figures are all quarter size.

