

CHAPTER III

ARTIFICIAL CRANIAL DEFORMATION IN ASIA

IF we look at a map of Asia for a moment we shall at once observe a few striking features. To the north, extending from the Ural Mountains on the west to the Stanavoi Mountains on the east, lies the great Siberian plain of forest and grass steppe, and to the south of it rise range after range of mountains cutting off the sea. To the east and further south lies the Arabian tableland divided from the plateau of Iran by what has been aptly described as the "Fertile Crescent" and the Persian Gulf. North of the Iranian plateau lies the Turkoman desert and the Kirghiz steppes, shut off from the east by the Hindu Kush, the Pamir Plateau and the Thian Shan. To the north again as we proceed eastward lies the Gobi, extending mile upon mile until it reaches the more fertile parts of China and Manchuria, the Khingan Mountains stretching north and south across the desert as if to bar the approach of the desert eastwards. Casting our eyes southwards once more, we notice that to the east of India and the Chinese Peninsula the land is broken up into great island masses, doubtless joined in earlier times by land bridges, but now separate and constituting Indonesia which is the gateway to Melanesia and the Pacific Islands. Now let us turn for a moment to that territory south of the Aral Sea and lying in the basin of the Oxus. Here, since about the second half of the fifth century of our era, dwelt the horde of Ephthalites or White Huns, who later were overthrown by the Turks who had appeared in Western Asia. The White Huns had previously done much harm to the Persians, and it is in his *De Bello Persico* that Procopius (fl. A.D. 525) mentions them. He remarks on their pale skins and adds, "*et vultus habent minime deformes.*"¹ Now during the course of his wanderings Hiuen Tsiang entered Chinese Turkestan. It is usually

¹ Procopius, vol. i, 3, p. 16.

thought that his travels lasted from about A.D. 630 to A.D. 645, and in his description of the kingdom of K'iu-chi (Kutchah?) and Kāshgar he makes some remarkable observations. Of the first he says that the children born of common parents have their heads flattened by the pressure of wooden boards, and of Kāshgar he states that the custom is to compress the head with a board of wood after the child is born.² Ujfalvy states definitely that the Ephthalites deformed their heads³ and that the Hūnas silver coins show clear occipital flattening, but I am not entirely satisfied that this is correct. It is certainly true, as anyone who cares to examine these coins at the British Museum can see for himself, that the heads are of an extraordinary shape. The majority resemble in form a thimble, of which one side is considerably flattened, but not a few have in addition a frontal flattening which, if depicting a real condition, might well be due to pressure from a board. From what I could gather from the workmanship of these coins, the technique is by no means crude, and it would appear that the design was certainly intentional on the part of the artist. Two possibilities seem therefore to emerge. Either these portrait heads depict a real deformation or they represent an ideal which had not been actually attained. Although we have no definite proof, these coins seem to suggest that it is possible that artificial cranial deformation was known to the White Huns at one period in their history.⁴ It would seem impossible to say whether the people described by Hiuen Tsiang were actually White Huns, but the possibility deserves consideration. At any rate, it would seem clear that cranial deformation was known in Eastern Turkestan at an early period, and the welter of nomadic peoples may have been the medium of its spread if this occurred. The statement of the old traveller that it was the children of the common people whose heads were compressed is of especial interest. This is the reverse of

² Si-Yu-Ki . . . vol. i, p. 19; vol. ii, p. 306; *Voyages des pèlerins*, etc., vol. i, p. 396. Cf. Zaborowski, S., who reports (p. 132) that macrocephalic skulls have been found in Turkestan, and Strong, who notes the use of head-deforming cradles among the Usbek people of Russian Turkestan. Perhaps the same may be said of the Sarts, who speak a dialect adopted from the Usbek. They are reported as having a mean C.I. of 85.6, and their brachycephaly may be increased artificially (although not intentionally) through the use of cradling methods. (See Jochelson, pp. 98, ff.)

³ Ujfalvy, 2, pp. 260, &c.

⁴ Cunningham, Pls. VII, etc.

what is usually the case, and may be due to the fact that the custom was dying out at the time that Hiuen Tsiang observed it.

In Asia Minor cranial deformations are common, and the custom appears to be widely spread. Amongst the brachycephalic Armenians, Kurds and Ansariyeh a form of fronto-occipital flattening is found, and Chantre estimated that of the Armenians of Kurdistan 40 per cent. suffered from deformation, and 75 per cent. of the Kurds from Ararat.⁵ In Armenia the practice has been reported as slowly dying out,⁶ but Hamy⁷ notes the fact that the Turkoman Bakhtyaris have an exaggerated parieto-occipital flattening, a feature which he says is common to many Turkish peoples. There is a story⁸ told of the Choresmiens that they, in order to avoid being taken for Turks and sold into slavery to the Persians, put heavy packages upon the heads of their children in order to make them broad and short. The Jurucks, especially those living in the region occupied by ancient Pamphylia, seem to be racially allied to the Eastern Turks, and are said to practise a cranial deformation resulting in skulls very similar to those found in the Crimea and tombs of the Caucasus, although the evidence is not so strong as might be desired.⁹ The prehistoric antiquities of Asia Minor, however, are not of much interest for our purpose. It is true that at various sites rude statuettes have been found which suggest cranial deformation, but these grotesques can, I think, hardly be held to be conclusive. Thus Gaudin discovered statuettes with pointed heads in Smyrna,¹⁰ and there is a collection of other terracottas from the same place in the Louvre, of which some show elongated heads with extremely retreating foreheads.¹¹ Of these some are quite realistic portraits, and perhaps the excessive elongation of the head may be taken as indicative of the artist's having remarked similar heads in actual life at one time or another.¹² I have already mentioned the discovery of deformed skulls in Cyprus and Crete, of which the earliest

⁵ Chantre, 5, vol. II, p. 122; cf. Chantre 7, pp. 68-69; 130 and Pl. XIV, a.

⁶ Boas, 7, p. 75.

⁷ Hamy, 3, p. 511.

⁸ Ochanine.

⁹ Luschan 1, pp. 167-170.

¹⁰ Regnault, 7.

¹¹ Regnault, 6.

¹² For a ruder figure of white marble, cf. that found at Kilia, near the Hellespont, where the head is also elongated backwards, see Calvert.

probably do not date from before late Minoan III. Phœnician ware in Cyprus occasionally seems to show figures having heads which exhibit an extreme elongation very similar to that of the Tell el-Amarna period in Egypt. It is possible that the error in the drawing of a vase from the Cesnola Collection in Perrot and Chipiez may be due to familiarity with this style of art. The oinochoë in question, now in the Metropolitan Museum of Art, New York City, is that figured by Perrot and Chipiez as No. 521, p. 709.¹³ In the actual vase Miss Richter assures me that no such elongation is apparent, and in the photograph she has kindly sent me I see that the shape of the head is totally different from that drawn in Perrot.¹⁴ Similarly, in a bronze bowl of perhaps Phœnician origin, now in the Athens Museum, Perrot again gives a seated figure a head resembling an egg lying on its side, whereas Curtius gives a photograph of the bowl showing the head with no elongation whatever.¹⁵ Mr. W. B. Heurtley, of the British School of Archæology at Athens, has kindly had the bowl examined for me and tells me¹⁶ that Curtius is correct and Perrot inaccurate. Such is not, however, always the case. A phiale¹⁷ in the Ashmolean Museum, Oxford, like the bowl at Athens, imported from the Orient and typically Phœnician, shows the head of an archer with an extreme elongation very similar to the incorrect drawings of Perrot. Both this and the former piece may have had an Egyptian origin, the motives being clearly imported from that country.

The question, if the ancient Hittites practised cranial deformation, is still an open one. The Hittite Empire endured some two centuries, and in the fourteenth century B.C. the Hittites were established in Asia Minor and were penetrating into Syria as far as Lebanon. To the east their sway extended to the Euphrates, and to the west perhaps to the Mediterranean coast. From the monuments that we possess there would seem to be little doubt that many of the Hittites are represented with flattened and retreating foreheads. They

¹³ Perrot and Chipiez, 2; Myers, 751, p. 93. I cannot find this vase in the Cesnola Collection Atlas.

¹⁴ Letter dated June 6, 1928.

¹⁵ Perrot and Chipiez, 2, 783; Ridder, No. 66 (514), p. 19; Luschan, 4, p. 39; Curtius p. 141, Pl. 52.

¹⁶ Letter dated June 11, 1928.

¹⁷ Gardner, p. 96.

appear to have been a brachycephalic people with long aquiline noses, and representative types were found portrayed on the north wall of the temple of Rameses at Abydos.¹⁸ A striking example of similar flattened and retreating foreheads can be seen on the tomb monument found at Marash, N. Syria, where two persons are engaged in a ceremonial meal.¹⁹ Cylinder hats intensified the exaggerated nature of the retreating foreheads which slope backwards on a line with the nose. Indeed the general appearance of these figures resembles in certain features the Maya carvings of Central America, where cranial deformation is represented by these flattened sloping foreheads and where we know that it was practised on an extensive scale. The theory that artificial deformation of the skull was actually practised by the Hittites need not imply that it was a universal custom. Indeed, the probability is that, if it were carried on at all, it was the privilege of the few, and that its distribution among the common people was very limited. Whatever the case may have been, however, we do not seem to possess enough evidence at present to determine the question positively one way or the other, and we can more profitably turn southward into Syria, and ascertain whether traces of the custom can be discerned in the land of the ancient Phœnicians.

As early as 1859, Meigs described part of a skull with flattened occiput and presumably artificially deformed which was found at or near Jerusalem.²⁰ Since then a good deal of evidence has accumulated that cranial deformation was practised in Syria, both in ancient and modern times. Although Bertholon²¹ does not appear to mention the discovery of deformation among Phœnician skulls, Lortet declares that it is certain that such existed.²² The typical Phœnician skull, he says, is high and somewhat pointed. Pressure has caused the antero-posterior diameter to become reduced, and in compensation the transverse diameter is augmented. Ancient Phœnician cemeteries produce skulls exhibiting precisely the same deformation, and the living inhabitants around Tyre and Sidon show on their heads a distortion of similar type.²³

¹⁸ Garstang, Pl. LXXXIII.

¹⁹ Garstang, Pl. LXXXV; cf. Messerschmidt, fig. 5, p. 35, and the gate sculptures of Zenjirli (fig. 4, p. 34), and also Barker, pp. 203 ff.

²⁰ Meigs, 2, p. 272, etc.

²¹ Bertholon.

²² Lortet, 2, p. 30.

²³ Lortet, 2, p. 33.

The Nosairis, Druses, Maronites and Metawillis all practise cranial deformation according to Lortet, who has examined skulls from modern cemeteries as well as from alleged Phœnician burial grounds in the neighbourhood of Tyre and Sidon. The parietals in many of these specimens are depressed and the occiputs often so flat that the skulls can be laid resting upon them and remain perfectly steady. Asymmetry is, however, often present, and Lortet concludes that, taken as a whole, the deformation is not intentional but produced through the influence of the cradle. From the frontiers of Egypt to Aleppo cradles are constructed from mulberry wood, the trees from which the wood is taken being planted in terrace upon terrace in this land of red earth. In default of a lower mattress transverse bars of wood are often used, and over these is placed a tightly packed mattress made of thin cotton or wool. The child is kept in the cradle for long periods of time and is not even removed for the purposes of suckling or for the natural needs. Ingenious contrivances are used in order to avoid removing the child. The urine is caught in a little iron or earthenware receptacle placed beneath the cradle. The apparatus is so arranged that a tube leads from the genitals to the pot and a similar arrangement serves for defæcation. Washing the child is usually done once a week, and thus for seven days at a stretch the child remains fastened in the cradle, the monotony only being broken by the weekly wash which probably does not take any considerable time. The head rests upon a small but very hard sort of bolster, upon the middle of which the occipital portion of the skull is placed. Arms and legs are secured by a band which ties them to two longitudinal bars fixed at either side of the cradle. Another wide band of woven material passes over these lateral bars and compresses the forehead, keeping the head pressed down against the bolster. If the child attempts to move a little to one side and succeeds, then asymmetry will be produced if the new position is maintained. Thus restrained the child remains for about the first two years of its life. The reason usually advanced for this custom is that it keeps the child fresher and prevents it from being stifled when it is being carried about in its mother's arms.²⁴

²⁴ Lortet, 2, pp. 30 ff. Cf. Lortet, 1, p. 87.

The ancient skulls are said to show precisely the same appearance as the modern specimens, and there would appear to be little reason to doubt that artificial cranial deformation has been practised in Syria from remote times. Some of the Egyptian racial portraits show examples which illustrate elongated heads.²⁵ Burton noted these hard head-rests and remarked upon the "suckling boards," going on to describe a skull from the Deir Mār Músá el Habashi. The coronal region was keel-shaped transversely along the direction of the suture and the parietals were forced forwards by the compression which Burton regards as certainly artificial.²⁶ Similarly Pruner-Bey²⁷ in 1866 reported skulls with the same deformity coming from Gebel Cheikh, but Voisin²⁸ contested his conclusions giving it as his opinion that the anomalies were due to pathological causes and were not artificially produced. In support of this idea he exhibited two skulls formerly belonging to patients in a clinic at Bicêtre in which were seen similar distortions. Voisin then showed that in both these cases the changes were pathological and that one of the patients was a deaf mute and the other an idiot. He does not seem to have proved, however, that artificial deformation had not been practised on either of these cases in infancy, which, if it had been so, might have produced, at least partially, the deformation observed. In reply to Voisin's objections Pruner-Bey said that there was no doubt whatever that cranial compression was practised in Syria during the early months of a child's life and that Burghière Bey, a French doctor at Damascus, had assured him of the fact.

As at Smyrna and elsewhere portrait heads have been found in Palestine showing an exaggerated elongation. One of the best of these was discovered during the Beisân (Bethshan; Scythopolis) Expedition. An ivory plaque of a squatting figure was found at a level said to be lower pre-Amenophis III, and has been dated as prior to 1400 B.C., although from its appearance it might be later. The head has its forehead and crown flattened to an amazing extent; the occiput is rounded and projecting; and the jaw is prognathous.²⁹ The same curious forms are found in ancient Chaldean art of which

²⁵ Cf. Petrie and Tomkins, ix, 243 (Photographs issued separately).

²⁶ Burton, vol. II, p. 277 (Appendix.)

²⁷ Pruner-Bey, 2.

²⁸ Voisin.

²⁹ Rowe, p. 420.

the Sarzec Collection in the Louvre furnishes some striking examples. Perrot, perhaps more reliable here, figures several in his joint work on Chaldean and Assyrian antiquities, of which some of the most interesting are the reliefs from Tello (fig. 29) and also those of their figs. 293, 299 and their Plate VII.³⁰ It is of course true that these crude portrait heads are no certain proof of the existence of artificial cranial deformation; they are merely suggestive when viewed in the light of further evidence and at present we have, I think, no satisfactory confirmation of the idea that artificial head deformation was practised in ancient Chaldea, Babylonia or Assyria.³¹

We will now consider the custom as it presents itself in India. As we have seen above there is some reason to believe that the White Huns practised cranial deformation as some of their coins seem to suggest. The centre of their home was Çākala, the modern town of Siālkot in the Punjab which became the capital city of the Ephthalite monarch Toramāna and his son, Mihirakula. Before describing modern methods of head deformation in the Punjab we may pause a moment to examine the evidence from Baluchistān. Bray has reported on the custom of moulding the head in this district. Baluchistān is inhabited mainly by the Baluchi and Brāhūī peoples who differ both in language and appearance, and, although of unlike origin live in close contact. They are Muhammadan, but still practise a number of customs not common with peoples of this persuasion. The Marī Balōch wear ear and nose rings and also practise the excision of females. Similarly the Khetrān Balōch circumcise both sexes and in barren women a form of excision is occasionally resorted to in supposed cases of emergency.³² Amongst the Hindus domiciled in Baluchistān a round head, a broad flat forehead, a long thin, high and pointed nose and small ears are looked upon as marks of beauty in both sexes. Of the treatment of children Bray says:—"In Kachī and Belā, the infant's body is rubbed with a paste of *atta* and *ghi* for the first forty days. This

³⁰ Perrot and Chipiez, 1, *loc. cit.*

³¹ The flattened occiput as seen in ancient art is ascribed by Deonna to the primitive idea of the figure as enclosing two parallel planes, one in front and one behind. See Deonna, 1, vol. ii, p. 413.

³² A form of clitoridectomy. See Bray, 2, p. 2.

removes the superfluous hair from the body, and also the blue patches which are found on some of the infants. To give the head a rounded shape various devices are used. Ordinarily a cloth bandage is tied round the head: in Kachī, a round cotton ball (*khutnri*) is placed under the head: in Sibi the head is gently pressed by the mother every day with the sole of her foot, the head being placed in a broken earthenware cup, stuffed with cotton or cloth. Great care is taken to see that the child in its infancy lies on the back, and not on the side of the head."³³ And again elsewhere he writes:—"Too many nurses," says the Brāhūī proverb (and the Pathāns have a proverb modelled closely after it) 'make the babe's head oval,' or—as we should put it—'too many nurses spoil the babe's head.' The first concern in a Brāhūī nursery on the birth of a child is the moulding of its head and features. There is no time to lose. During the first three days the babe's body is believed to be so plastic that it can be shaped to will, especially if it is not exposed to the air. Whatever is to be done, must be done in the first fortnight, though as a matter of fact most people persevere for full forty days. According to the current idea—and this may be of interest to the anthropometrist—the babe is born with a tapering head. Nothing could be more opposed to Brāhūī standards of beauty and, I may add, to Brāhūī canons of luck. So they bestir themselves at once to set nature right. The methods they adopt are curiously like Walcher's. Firstly and foremost the babe's head must be laid on a soft pillow, millet being the usual stuffing. The object (as in Walcher's experiments) is of course to keep the babe plumb on the back of the head. The forehead again should be neither convex nor concave, but flat, so they keep it wrapped round in a muslin bandage, drawn as smooth and as tight as they can get it. In these matters a girl gives her parents much more anxiety than a boy. A boy, they say, is one of Nature's jewels, and stands in scant need of embellishment, after all is said and done. But failure in the case of a girl is little short of a disaster; so they bore three or four holes in her ears, with the result that if she chance to turn over to one side on her pillow, the pain soon makes her turn back again to the proper position.

³³ Bray, 1, vol. ii, p. 51.

"The Jatt and the Balōch appear to have much the same standards of beauty as the Brāhūis and much the same methods of conforming to them. So have the Pathāns, but as the Brāhūis have no very high opinion of the results they achieve, and are fond of poking fun at their long 'mortar-shaped' heads, I will describe their methods at some length. The first thing the nurse does is to wipe down and dry the baby, body, head and all. Then she carefully rounds the head with her hands. This done, she takes a piece of old muslin and lays it four-folded over the infant's scalp."²⁴

This having been done, the nurse next binds the child's head round "with a long strip of cloth, keeping it in place with a band, called *pat^ai* which must be either silk or muslin. In Kandahār they make black silk kerchiefs, called *kalāghi*, especially for this purpose. Thus trussed up, the babe is laid in its cradle on a soft pillow—usually stuffed with millet—with the object of inducing it to lie on the back of its head. Day by day the face is cleaned with a mixture of kneaded flour and ghee, which after use is kept in some safe place for forty days and then thrown into a stream. Every now and then the head is douched with the mother's milk. On the fortieth day the head and the whole body are bathed for the first time. The folded napkin is now discarded, its place being taken by a *rakhchīna*, a female headgear made of silk or some other soft material. But the *pat^ai* is considered indispensable for two or three years, to shield the tender head from the air. Not until the child can pronounce *kānai* (stone), do they consider that the bones of the head have properly set. But the Pathāns in their over-zealous use of the *pat^ai* seem frequently to defeat their object, with the result that the head at the end of the treatment is often found to be elongated—'the reverse of natural beauty, as in the case of my own,' adds my informant pathetically. Among the womenfolk, I am told, this tendency to elongated heads is exaggerated by the scaping back of the hair into one long plait behind. The Brāhūi, Balōch and Jatt women, on the other hand, wear their hair in two plaits, which scented and plastered with gum, stick out like rams' horns on either side. To a Brāhūi's eye it almost seems as if the Panjābi woman were proud of what he calls her 'nut-shaped'

²⁴ Bray in *Census of India*, etc., 1, para. 304.

head, for not only does she scrape back her hair into a single plait, she sticks a rounded ornament called *chaunk* on the top of her head, which makes it look more nut-shaped than ever."³⁵

The deliberate moulding of the features of Brāhūi children is also practised. Bray reports that almost the first thing that they do when the child is born is to examine the mouth "measuring it against a finger joint. If it's too large, they compress it within a small ring, rubbing the lips slowly to make them thin. Not less is the care they lavish on the ears and on the nose, which is pinched constantly and pressed upwards. In fact what with pulling and compressing and massaging with kneaded flour and oil, they devote as much trouble to the features of a new-born babe, as a fashionable beauty-doctor in Europe to the wrinkles of his lady patients. They even do their best to train the hair in the way it should grow, for few things are more fraught with ill-luck for a Brāhūi maiden than to have her *baunri* or the whorl of her hair at all forward on the head. So unchancy is such a *baunri* that a girl had almost better be lame or blind or deaf; she would certainly have just as much prospect of getting a husband. This then is one of the first things a nurse must look to, and it rests with her to coax the *baunri* with her deft fingers towards the back of the head. Not even the foot is overlooked, for the Brāhūis heartily endorse the Persian saying *sar-i-kalān kalan ast, pā-i-kalān ghulām ast*, a large head is the mark of a nobleman, a large foot is the mark of a slave. Not only should the foot be small, it should have a pronouncedly arched instep. To secure this shape, which they call *mōza-pād* or 'boot-foot,' the nurse massages the foot with oil, pressing the instep up with her thumbs. Bow-legs (a literal translation, by the by, of their own expression *kamān pād*) are regarded as a most unlucky formation, and they seek to avoid it by tying the legs together and strapping wads of rags in between them to keep them straight. To be really effective, the whole course of beauty treatment should be begun on the day of the birth and should be sedulously adhered to for at least forty days. As may be imagined, the women-folk are kept pretty busy in a Brāhūi nursery.

"So convinced are the Brāhūis that art should be the hand-

³⁵ Bray in *Census of India*, etc., 1, para. 304.

maid of nature, and so confident are they of the efficacy of their methods that, not even where their domestic animals are concerned, are they content to leave nature alone. The foreheads of their lambs and kids are smoothed and flattened by constant dabbing with the palm of the hand, for a smooth flat forehead is looked upon as a highly desirable feature in sheep and goats. How far the pointed, inward-tapering ears of the Balūchistān breeds of horses are natural, I do not know. The Brāhūī at any rate does not leave such important matters to chance. He takes a rag some eight inches square, cuts two holes in it, and thrusts the ears through, until the rag rests on the forehead. Not only is this treatment designed to pull the ears to the proper shape, it is intended to narrow the forehead. Another point in horse-flesh which is much prized is a slender foreleg above the knee, and this they seek to secure by means of bandages, which are left on the legs until they get worn out or fall off of their own accord." ³⁶

Similarly in the story told by Mirza Shēr Muhammad, who was himself a Brāhūī, it is said that "our women-folk think an egg-shaped head so ugly that there's no end to its ugliness. So it's a blessing that the whole body of a new-born babe is so soft and tender that they can shape it to their will. First they bind a bandage round the babe's forehead as smooth as smooth can be, and underneath its head they lay a soft pillow, stuffed with uncrushed millet or peas. For if the pillow were hard, the babe would never lie on the back of its head, but would be for ever turning on this side or that. But on a soft pillow the head lies soft on its back, and in time is rounded to shape. Well, as for the shape of a boy's head some folk care little. A boy is a jewel after all, be the shape of his head what it may: all the same a boy with a mortar-shaped head like a Pathān is mighty uncomely. But the rounding of a girl's head is the concern of one and all. And to make matters doubly sure they bore three or four holes in her ears and thread them with blue cotton. And with ears bored she will not toss her head from side to side, I warrant, but will lie quiet with her head set plumb on the pillow of millet. Now the rounding of the head must be taken in hand betimes, and for the first forty days at least must it be kept up. Yet the saying goes that the bones

³⁶ Bray in *Census of India*, etc., 1, para. 306.

of the head are not wholly set until the child can say '*Khal*,' or stone, with the best of them. But though a good round head counts for much, it doesn't count for all. Throughout these first forty days they never let the babe's features alone. Even at the *dēm-dīdārī*, the first viewing of the face, they anxiously measure the babe's mouth, and if it be bigger than the span of a finger-joint, they take a small ring and press it to the lips to bring the mouth within its compass. The lips themselves they rub to make them thin. And the nose is pinched and pressed softly upwards. For there are few things more unsightly than a large mouth and blubber lips and an overhanging nose. Yet in a maiden I wot of something that is worse still," and here the narrator speaks of the position of the whorl of hair upon the head which we have already discussed. He then proceeds to describe the treatment of the feet. "Twice a day," he says, "when they give the babe its hill drugs in a little ghee, they rub its body deftly with oil, and press the palm of its foot upwards. For a foot should be *mōza-pād*, or shaped like a boot, with instep well arched—not flat like the ugly flat foot of a bear. For though a large head is the mark of a noble, a large foot is the mark of a slave, as the saying is. And *kamān-pād*, or bowlegs, are just about as bad. So we stretch the babe's legs out straight and bind them together, and stuff wads of rags in between, that the limbs may grow straight as an arrow, not curved like a bow. Likewise are the arms bound straight to the body. Nay, the whole body is trussed up, so that only the face peeps out from the swaddling bands. And in this fashion the babe must remain for nine months, or for four at the least. Howbeit the bands are unloosed twice a day, in the morning and again in the afternoon, that the babe may kick its chubby limbs about. Now it is not only to straighten the limbs that we truss a babe up in this fashion. For should a babe be scared out of its wits by some malicious demon, its limbs would get twisted from sheer fright if they were free from their bands, and would never return to place."³⁷

Again, Gait, in the *Census of India* (1911) says that in Western Punjab it is almost the universal practice to flatten the heads of the children by forcing them to lie on hard

³⁷ Bray, 2, pp. 18-20.

surfaces. Pandit Hari Kishan Kaul reported that he had seen heads most horribly flattened by this practice.³⁸ Similarly in South-west Punjab A. C. Elliot, a Commissioner from Gujrat, reports of the Pathāns of Derajat that occipital flattening is considered among them as a sign of beauty. After swaddling the child a pad is placed on the ground, its back being laid on it, the head hanging down with the occiput resting on the hard floor. Every day the child is bathed, the whole head rubbed with oil and the back of the head gently pressed and flattened. At the same time an attempt is made to elongate the nose by pressing and pulling it. It is said that under this treatment the infant's head becomes flattened and this flatness is considered in both sexes an essential feature of beauty. Again in Jhang, in central Punjab, both Hindus and Muhammadans consider a long nose and flat occiput to be handsome and in order to secure the latter the infant is forced to lie "with its head in a round earthen vessel lined with soft material but with a hard flat tablet against the back of its head."

In Afghanistan and Multan the practice of moulding the heads of new-born children is almost universal, and is carried out by means of an earthenware cup, the object being to produce a broad open forehead. Again according to Pandit Hari Kishan Kaul, "it is considered the first duty of a mother to shape the head of her child." The forehead is pressed with an earthen cup and is moulded with the palm of her hand when feeding the child. If the head is not well shaped according to this method the child is called *Mula*, *Dhasira* (having $2\frac{1}{2}$ heads), or *Satsira* (having 7 heads). Similarly the limbs and body of the child are shaped by a process called *Bandhna Baddhan* which is very like the European method of swaddling.

In Rohtak, in S.E. Punjab, the custom of moulding the heads of new-born children is not known. Here the only custom appears to be the rubbing on the forehead of fine wheaten flour kneaded in *ghi* and water in order to regulate the growth of the hair.³⁹

Thorburn also, when speaking of the Punjab, says that from the hour of birth the child's head and face were manipulated to make them round and shapely. Particular attention was

³⁸ E. A. Gait in *Census of India*, etc., 2, p. 382.

³⁹ Rose, 1 & 2, and cf. Steel, pp. 157, 158.

paid to the forehead, for the broader and flatter it was the finer and more manly was the face considered. The nose also was not forgotten. It was pulled and pinched every day in order to point and elongate it. In some parts it was said that the Jatt used to put their children's heads in moulds, and the same custom is reported by Thorburn as actually occurring in certain districts among the Bannuchi and the Marwat.⁴⁰

In Bengal also Hindu mothers are sometimes accustomed to rub mustard oil on the limbs of their children and to massage them. The head is pressed and manipulated in order to round it, and as the dictates of beauty demand that the occiput should be somewhat flat the baby is forced to lie upon its back and pieces of cloth are occasionally used to compress the sides of the skull. The nose is pinched in order to raise it and the features much pressed and manipulated. The ideal head form is considered to be oval at the sides and flat at the back so that the women from Orāon and Manota press the back and sides of the heads of their new-born children.⁴¹

Again, the English theologian and trader Ovington, who was chaplain to James II and who spent several years in Surat, declares that the people of Arakan in Lower Burma "seem most to affect those [i.e. features] which are most contemned by those of other Nations: they prize a broad and flat Forehead; to effect which, they bind a Plate of Lead hard upon the Foreheads of their Children as soon as they are born, which they do not remove 'till it has had its effect."⁴² The same custom of head deformation appears to be known in the Central Provinces. In a skull from Koromankiai, near Bastar, which was reported on by Turner in 1899, the parieto-occipital region showed signs of flattening and was not symmetrical and other factors seemed to indicate that artificial compression had been applied.⁴³ Similarly specimens from Orissa in Bengal belonging to the Uriyá-speaking people showed signs of deformation. Of the dolichocephalic series three examples were examined by Turner. The parieto-occipital regions showed asymmetry and indications of artificial pressure, and in one skull these characters were most distinct and a transverse post-coronal depression was also visible as if caused by a tight band worn

⁴⁰ Thorburn, pp. 145-146.

⁴¹ Roy, pp. 27, 29.

⁴² Ovington, p. 569.

⁴³ W. Turner, Pt. I, p. 89.

during infancy. In the mesaticephalic series two specimens gave a similar impression as regards the parieto-occipital regions, whilst in the brachycephalic series four crania showed parieto-occipital flattening and in one the occipital region was rounded and projected behind the inion.⁴⁴

The practice of deformation has also been reported from the south. In the Nilgiris, women are said to mould the heads of infants in order to make them cylindrical. This process commences eight days after birth and is continued morning and evening.⁴⁵ Even among the Veddas of Ceylon it is said that after birth the child is washed in cold water and then the body is rubbed with turmeric oil. The head is massaged with the flat hand, beginning from the crown and then in all directions. The edge of the hand is then used and the fore-finger is rubbed on both sides of the nose and the cheek bones are rubbed with the flat hand. The whole body is also massaged carefully and systematically.⁴⁶

Leaving India we now cross the Bay of Bengal and visit the Andaman Islands and the Nicobar Group. Deformation of the skull is not common here and indeed amongst the Andaman Islanders bodily deformations are almost unknown. As regards the kind of cranial deformation we are here considering, I do not know of any good evidence that it exists in the Andaman Islands,⁴⁷ with the exception of Jagor's statement that on the day of birth and following days the head and body of the child are pressed according to certain rules so as to give them a proper form. The operation is almost always performed by the father, who warms the surface of his right hand by the fire or by a faggot and presses it strongly first on the forehead and then on the temples. Then, with his forefinger placed on the root of the nose he presses with the left hand on the chin.⁴⁸

Among the women, however, another kind of unintentionally produced deformity has been reported. Shaving the head among the female population is now falling into disuse,⁴⁹ but when this custom was in vogue the results of this accident could occasionally be observed. The deformation consists of

⁴⁴ W. Turner, II, pp. 93-96.

⁴⁵ Jagor, 1, p. 196.

⁴⁶ Jagor, 3, p. 169. Seligman does not mention the practice.

⁴⁷ Cf. Man, p. 115.

⁴⁸ Jagor, 2, p. 51.

⁴⁹ A. R. Brown, p. 483.

a transverse depression or groove across the frontal region of the skull, and it is said to have been caused by the practice of carrying heavy burdens on a strap which passed over the front of the head.⁵⁰ The carrying of heavy weights, supported by this strap, is said to be commenced at an early age, but I do not know what good evidence exists that the depression is in reality on the bone of the skull, although it is reported that in extreme cases the depression is almost a deep indentation.⁵¹ In the Nicobar Islands cranial deformation was reported at the end of the eighteenth century by Fontana. Writing of the inhabitants of this group he says: "It is a custom among them to compress with their hands the occiput of the new-born child, in order to render it flat; as, according to their ideas, this kind of shape constitutes a mark of beauty, and is universally esteemed such by them: by this method, also, they say that the hair remains close to the head, as nature intended it, and the upper fore teeth very prominent out of the mouth."⁵² Since Fontana wrote, his remarks have been partially confirmed by others. Vogel, in 1875, noted that the skulls of children among the Nicobarese were often pressed with a board,⁵³ and similarly Svoboda writes of the women "with their close cropped heads whose flat occiputs, produced by gradual pressure in the new-born children, were especially remarkable."⁵⁴ Kloss, in commenting upon the custom, says a pillow is used to exert pressure, and the mother always uses the palms of her hands and her outstretched fingers to massage the head of the baby for an hour or so at a time.⁵⁵

Before passing on to Further India and China, it may be of interest if we very briefly touch upon another cranial peculiarity, thought by many to be of the nature of a deformation and revered by thousands throughout the ages. I refer to the "Ushnīsha," that supposed bump of intelligence and one of the Buddha's thirty-two auspicious and distinguishing features. The history of this top-knot is very curious. Foucher has pointed out that in the Brahmanic texts the word appears in the sense of the royal coiffure; and similarly the ancient Buddhist texts employ the word for a kind of

⁵⁰ Man, p. 113.

⁵² Fontana, p. 151.

⁵⁴ Svoboda, 1, p. 5: cf. Svoboda, 2, p. 165.

⁵⁵ Kloss, p. 226. Whitehead does not mention the practice.

⁵¹ Man, p. 113: cf. Portman, vol. 1, p. 31.

⁵³ Vogel, p. 187: cf. Virchow, 11, p. 103.

"coiffure, moitié turban, et moitié diadème que portent tous les personnages de haute caste."⁵⁶ One difficulty, however, cannot be escaped. The texts aver that Buddha was born with it. Now, either (the grammar allows two alternatives) Buddha was born with a turban on the head or Buddha was born with a head like a turban. The first interpretation can perhaps be excluded. Now, since a well developed head was supposed to imply intelligence, the heroes of the tales are often called *chatrākāra-çirah* (i.e. having a head shaped like a parasol).⁵⁷ The next step may have been taken by the Gandhara School of Sculpture. During the first century of the Christian era this school was much influenced by Hellenistic artists from without.⁵⁸ The earliest figures of Buddha are found during this period and an Apollo ideal was created which had a decided influence upon the portrayal of the hair. The original attempt produced long hair "gathered up with a band into a bunch forming a prominence on the top of the head."⁵⁹ Later came the difficulty of expressing flowing waves of hair as Dr. E. J. Thomas⁶⁰ and Mr. Grünwedel⁶¹ have pointed out, and the chignon became covered with tight curls and was interpreted as an actual part of the head. Hence the Buddha, besides his long ear lobes and webbed fingers came to possess an odd cranial deformity from which light was said to issue and which was considered as an outward mark of Supreme Enlightenment.⁶² The actual bone was said to be enshrined in a monastery in Kapistan, Fa-Hian (c. A.D. 400) describing it as elevated in the centre.⁶³ The prominence itself took on a variety of different forms. Pointed and even spiral forms⁶⁴ are not uncommon, and a similar variety is found in countries further east, the Gupta style influencing Chinese work.⁶⁵

Actual cranial deformation does not seem to appear in Cambodian art, at least in a form where the distortion is undoubted and artificial. It is true that the realist type of ancient Khmer sculpture shows retreating foreheads, but I

⁵⁶ Foucher, vol. II, p. 290.

⁵⁷ Foucher, vol. II, p. 293. Cf. Groslier, p. 43.

⁵⁸ V. A. Smith, p. 126.

⁵⁹ Thomas, I, p. 221.

⁶⁰ Thomas, 2.

⁶¹ Grünwedel, p. 169.

⁶² Waddell, pp. 153, 155, but the light is usually said to issue from between the eyebrows.

⁶³ Waddell, p. 147.

⁶⁴ Cohn, p. 7.

⁶⁵ Ashton, p. 38. Cf. Sirén, Pl. 468, A, B, C, D (Text, vol. I, p. 128).

have not noticed any striking examples of deformed heads.⁶⁶ In modern Siam and Annam, parietal flattening is said not to be particularly rare,⁶⁷ but no detailed account of the artificial methods (if any) have come to my notice.

As we pass eastwards the evidence becomes more conflicting and less able to be accurately estimated and appraised. I cannot enter here into the controversy over the connection between China and Sumer, even if I were at all capable of discussing it. Terrien de Lacouperie affirms that the Baks, at least the Bak Sings, may have been living in Elam about the second half of the third millennium B.C., and that they used to taper the heads of their children through pressure.⁶⁸ Ball has endeavoured to connect China and Sumer on linguistic grounds⁶⁹ and Richthofen has also attempted to derive Chinese civilization from the West. Hirth, on the other hand, rejects the theory of Terrien de Lacouperie as regards the origin of the Bak tribes⁷⁰ and points out that the evidence is not sufficient at present to enable us to determine with accuracy the true position regarding these disputed points.

In the ninth century it appears that the custom of cranial deformation was being given up in parts of southern China, as Terrien de Lacouperie⁷¹ has pointed out when he mentions the report of Hasan Ibn Yazid,⁷² although we must remember that this author did not himself visit China, but drew his information from the records of others. He writes:—

... "lorsqu'un enfant vient au monde, on se dispense de lui arrondir la tête et de la redresser, comme cela se pratique chez les Arabes. Les Chinois disent que cela contribue à faire perdre au cerveau son état naturel et altère le sens commun. La tête d'un Chinois présente un aspect difforme: les cheveux qui la couvrent cachent ce défaut."

Although the last few words of this passage are not clear it would seem that cranial deformation was once known in parts of what is now the Chinese Republic. There is some evidence that certain people of north-west China, about 2000 B.C., flattened the skulls of infants in a lateral direction

⁶⁶ Belluge, p. 297. ⁶⁷ Cf. J. B. Davis, 5, p. 176, and Mondière, p. 118.

⁶⁸ Terrien de Lacouperie, 3, pp. 317 ff.

⁶⁹ Ball, 1 and 2.

⁷⁰ Hirth, pp. 16 ff.

⁷¹ Terrien de Lacouperie, 2.

⁷² Hasan Ibn Yazid (Abū Zaid), vol. I, p. 119.

in order that the head might grow in an upward cone-shaped formation. Certain traditional heroes seem to be depicted as possessing heads of this type. Hwang Ti, who is supposed to have reigned about 2600 B.C., is represented with a forehead which tapers upwards⁷³ and others are said to have had heads broad as shields and pointed as spears. These attributes appear to have been bestowed only upon national persons of importance. The portraits of rebels are quite otherwise. It is said that about 2147 B.C., a certain Shuh-ki, a man not of Chinese descent, revolted. His head was portrayed as square and not tapered on the crown. Similarly it was said, so Terrien de Lacouperie reports, that a princely head must be small and tapered above, and that this view was held during the Tsin dynasty of the fourth century.⁷⁴

After the fall of the Tsin dynasty it seems that part of the population of Honan and Shansi fled to south-east Korea and settled in Shin-han. In the records of the Han dynasty and afterwards mention is made of these people and it is said that they flattened the heads of their children with stones and that this practice was confined to the male sex. If a boy is born in Shin-han, so the saying is reported, then his head must be pressed with a stone because it must be flat, and so all the men in Shin-han have flat heads. A similar practice was said to be carried out in other parts of Korea.⁷⁵ The origin of this custom may perhaps be found, as Terrien de Lacouperie is inclined to believe, in an attempt to imitate the form of head found in some ruling family, and as we proceed, further evidence may emerge which probably supports this view. At any rate, there would seem to be little doubt that certain historical and legendary figures are depicted as having these high dome-shaped heads. For example, Lao-Tse himself is often portrayed with a head like an inverted thimble and similar odd-shaped heads are to be seen in other sacred persons, the Musée Guimet in Paris possessing some excellent examples of these little statuettes.⁷⁶

⁷³ Terrien de Lacouperie, 1, p. 193. Cf. Werner, p. 19.

⁷⁴ Terrien de Lacouperie, 1, p. 194.

⁷⁵ See Macgowan, 1, pp. 105-106; Ma-touan-lin, Pt. I, p. 35; Macgowan, 2, p. 287; Terrien de Lacouperie, 1, p. 194; Werner, p. 20; Griffiths, pp. 33-34; Schlegel, p. 193.

⁷⁶ See Jaennike, p. 96, fig. 52 (Lao Tse); Regnault, 3; and cf. *La Nature*, 1895, An. xxiii, 321-322.

Among the Manchus, cranial deformation has been reported as occurring to a considerable extent. The Manchus are thought to have been connected originally with the Tungusic tribes and their ancestral home may have been north of Corea, whence they may have possibly been fugitives. According to the saying of the Emperor Kien-Lung (*A.* 1735) it was an ancient custom among the Manchus to lay the child, immediately after birth, flat on its back in its cradle and that this practice was for the express purpose of flattening the occiput. The Chinese, on the other hand, are said to lay their children on their sides, but in North China the same custom as that of the Manchus is occasionally observed.⁷⁷ The Chinese are reported to hold the opinion that the Manchus have their occiputs flattened and a story at one time gained currency that when the Kwangsi insurgents massacred the Manchu garrison at Nanking, they examined the heads of doubtful persons, decapitating those the backs of whose heads appeared to be flattened.⁷⁸ Torii, in his examination of certain Manchu characteristics, notes⁷⁹ the high indices among this brachycephalic people and Dixon suggests that the figures may be due to the practice of cranial deformation.⁸⁰ Similar examples of flattened occiputs have been observed among certain of the population in South China; and Mr. L. J. P. Gaskin tells me that he has seen exaggerated specimens among the servant class called Hoinams in the Malay States.⁸¹

Evidence that cranial deformation has been practised in Mongolia is very scanty. In the north of Inner Mongolia dwell the Khalkhas, who with the Chahkhas form one of the principal groups of Mongols. Although I have not seen any literary evidence which describes the methods of head deformation in use among these people,⁸² Mr. Dudley Buxton assures me from his own personal observation that artificial deformation is practised by some of them.

We have already seen (p. 11) that reports have been written concerning the transverse groove upon the Ainu skull said to be caused by the carrying of heavy burdens suspended from a strap passing over the forehead. Siebold, in his edition

⁷⁷ E. Martin, 2; *cf.* E. Martin, 1.

⁷⁸ Macgowan, 1, pp. 105-106.

⁷⁹ Torii, pp. 12 *ff.* ⁸⁰ Dixon, p. 286.

⁸¹ Gaskin, *cf.* Harrower, p. 278.

⁸² *Cf.* Bureau, 1889, vi, p. 81; Howorth, Pt. iv, p. 31, and Gerbillon, who mentions *déformation* but not of the head and it is doubtful if he refers to an artificial distortion (p. 682).

of the travels of the seventeenth century Dutch navigator Vries, declares that the Ainu "carry all burdens on the back by means of a strap running over the forehead. Having followed this custom from childhood, the *os frontalis* must of course have unnatural inclination and be pressed backward, which is also the characteristic of their foreheads."⁸³

It has been thought by certain authorities⁸⁴ that cranial deformation was practised, at least to some extent, by the inhabitants of Kamchatka, although the evidence is not, I think, satisfactory as far as I have been able to obtain it. Krasheninnikov notes that the children are not swaddled, and a wooden box serves for a cradle, but he does not appear to mention any resulting artificial deformation.⁸⁵

Similarly Steller,⁸⁶ in his detailed account of the Kamchadal, makes no mention of cranial distortion, but Blumenbach records a skull which was said to come from Kamchatka, and which appeared as if it might have been deformed.⁸⁷ This is, however, too slender a foundation upon which to erect a theory of the practice of artificial cranial deformation in Kamchatka, and we must await further evidence before coming to a definite conclusion. It is true that Montandon has reported a case of antero-posterior flattening in a Chukchee skull, the Chukchee being related to the Kamchadal and also the Koryak. It is not certain if this compression was effected artificially, and until more material is collected the question must remain an open one.⁸⁸

From the above notes on the custom of artificial cranial deformation in Asia, a tolerably clear idea may be obtained as to the distribution of that practice on the continent. It would seem possible that the origin of the custom may be sought either in the home land of the nomadic peoples of Turkestan⁸⁹ and the Trans-Caspian Provinces or in the area now roughly defined as Turkey in Asia. The evidence from India and China would, I think, suggest that the custom may have originally been connected with ruling families, and possibly the idea spread from the fact that the common people imitated a royal or aristocratic privilege. The voluntary

⁸³ Vries, p. 113.

⁸⁵ Krasheninnikov, vol. i, p. 177.

⁸⁷ J. F. Blumenbach, 3, pp. 6 ff.: Taf. lxii.

⁸⁹ Cf. J. F. Blumenbach, 2, p. 17: Tab. III.

⁸⁴ Duckworth, 1, p. 255.

⁸⁶ Steller.

⁸⁸ Montandon, p. 20.

character of the deformation is seen clearly to be present in certain instances. There can be little doubt that the art of moulding the head as practised in Baluchistan, India and the Nicobar Islands is intended actually to change the normal shape of children's heads and to produce another form more in keeping with some specific idea of beauty or propriety. On the other hand, it would seem doubtful whether the Manchu cradle is especially designed for this purpose, and the same question arises here as in every country where the cradle board exercises its influence on the occiputs of the children. The deformation through stones reported from early Corea, is important, and those practising it probably brought it with them from the North, although we cannot be certain that they did not borrow it on their arrival. This again is a custom due to a clear intention to mould the head in some definitely desired shape which is different from that with which the child is born.

Generally speaking, therefore, artificial cranial deformation, both voluntary and involuntary, may be said to be practised in Asia south of about latitude 50°; the most southerly points being Ceylon (if actually found there) and the Nicobars. As we proceed we shall be able to examine the distribution of the custom in the Dutch East Indies, Melanesia and Polynesia, and thus it will be seen how the practice spread eastwards through the islands, losing itself finally in Australia and New Zealand only to reappear when we turn to the vast continent of America.