CHAPTER V

ARTIFICIAL CRANIAL DEFORMATION IN INDONESIA AND NEW GUINEA

N the short summary of artificial cranial deformation in Asia which was attempted, it was shown how the custom was prevalent in parts of India and Burma and how it could be traced in all probability through the great island masses lying to the south-east of the Continent. Skeat has shown how head pressing ceremonies are a striking feature of Malay magic. When the head is considered too long (terlampau panjang), a small close-fitting "yam leaf cap" (songko' daun k'ladi) made of seven thicknesses of yam leaves is used to compress it. This operation is supposed to shorten the child's skull and the person who fits it on to the child's head says the words "Muhammad, short be your head," in the case of a boy, and "Fatimah, short be your head," in the case of a girl.1

The same customs are described by Annandale and Robinson in their Fasciculi Malayenses. When a child is born with a long head or with protuberant forehead it is the duty of the principal midwife to mould with her hands both morning and evening, and to attempt to make it into that short-headed type which is regarded with admiration both in parts of Malaya and Siam. This is done lest the child should excite ridicule among his later companions; and Annandale is of the opinion (although I am inclined to disagree with him) that through these manipulations the heads which would normally have displayed the highest degrees of dolichocephaly are reduced to the lowest among those who suffer the moulding described above.2

Similarly in Sumatra, women are accustomed to compress

¹ Skeat, pp. 336-337. *Cf.* R. Martin, 2, p. 698. ² Annandale and Robinson: Sect. Anthropology, Pt. II (a), June, 1904 p. 65.

the heads of their new-born children and to flatten their noses while they are still plastic. The ears are pulled and other facial manipulations take place which are supposed to be aids in the production of beauty.3 Similarly in the island of Nias people are very insistent upon the infant always lying on its back, since it is thought that if the child be allowed to move about, the skull will be flattened upon one side only. The child is laid with its legs somewhat drawn up on a big leaf of the pinang tree; the arms and legs are crossed and wound round with pieces of bark. A piece of tikar (matting) is fastened down along the whole length of the child and at the same time an oblong piece of rolled up matting is placed on either side. Kleiweg de Zwaan is of the opinion that this method of decubitus does not have much effect upon the infant skull.⁵ The majority remain dolichocephalic and few are short and broad. Various head forms occur in Nias and another peculiarity is the extreme platyrrhine form of the nose which has been attributed 6 to the infant pressing its nose against the back of its mother. This opinion can scarcely be substantiated since high and narrow noses are also found in Nias, and this method of child transport does not always produce platyrrhiny even if it ever does, which seems to be doubtful. But in south Nias, where long-heads are unpopular, before the child is laid in its cradle its parents are accustomed to press its head if this shows any projections or seems badly formed. In the northern part of the island parents sometimes compress the heads of infants with soft young keladi leaves if they do not seem to them to be of the proper shape. In east Nias also a round head is admired and massage is practised in order to produce it. One hand is placed upon the forehead and the other at the back of the head. This manipulation takes place on the first day after birth and also when the child is washed.8

In Java also ten Kate has reported that the heads of

³ Marsden, p. 38; Kleiweg de Zwaan, 2, p. 18. Forms of head deformation are common throughout Indonesia, *cf. Encyclopædie van Nederlandsch-Indië*, &c., vol. III, p. 523; Meyer, 2, *Nature*, December 8, 1881, pp. 132-135; Friederici, p. 151, and for Indonesian skulls generally, *cf.* Swaving.

⁴ Kleiweg de Zwaan, 2, p. 15. ⁶ See Kleiweg de Zwaan, 2, p. 18.

⁵ Kleiweg de Zwaan, 2, p. 15. ⁷ Krämer, 3, p. 38.

⁸ Kleiweg de Zwaan, 1, pp. 231-232.

⁹ Kate, 2, p. 235.

infants are occasionally manipulated in order to give them a higher form than the normal; and lateral flattening from the same region has been noticed by Halbertsma. In Borneo artificial cranial deformation has long been known to exist, and the apparatus for effecting the distortion is carefully made and occasionally well carved. In 1881 Crocker 2 drew attention to the practice as existing among the Malanau of Sarawak, who live for the most part between the Redjang and Baram Rivers and who have been most affected by Muslim influence. They appear to be related to Klemantan stock but have long been in contact with Malay influence through commercial relations. Crocker stated that they had the custom of flattening the heads of their children and he described the apparatus. He says "It is considered a sign of beauty to have a flat forehead, and although chiefly practised on female children, boys are occasionally treated in the same manner. When a child is a few days old, an instrument is applied to the forehead, a small cushion being placed underneath, and under that again some green banana leaves. By an ingenious arrangement of strings equal pressure is brought to bear on the forehead, and the final tightening is done in front by a contrivance which has the same effect as a tourniquet. I have often watched the tender solicitude of the mother who has eased and tightened the instrument twenty times in an hour, as the child showed signs of suffering. chief object is to get the child to sleep with the proper amount of pressure on the instrument. Before the child is twelve months old the desired effect is generally produced, and is not altogether displeasing, as it is not done to the extent of disfigurement, which I believe to be the case amongst some of the American Indians."

Later observers have supplied us with further detail. Thus, the following year A. B. Meyer published a paper on cranial deformation among the Malanau in which he describes the apparatus (Jah). A cushion or pad was made out of

¹⁰ Halbertsma, p. 94. Cf. Bijlmer for the Timor Archipelago and see

p. 32.

A good example is seen in the British Museum. See fig. 21, p. 25 of

the British Museum Handbook to the Ethnological Collections.

12 Crocker, p. 199, &c. Everett reported that the Kanowits also had the same custom. See Meyer, 2, p. 132.

fresh, soft fleshy leaves and laid between the pad of the Jah and the head of the child. He notes that girls only are deformed and thus it would appear that the practice is not of universal application.¹³ The same year Meyer published an enlarged paper on cranial deformation with special reference to Borneo, giving a better idea of the nature of the apparatus employed. Similarly, Hose and McDougall in their book on Similarly, Hose and McDougall in their book on the pagan tribes of Borneo, describe the Malanau custom of flattening the skulls of their children. They report that some of the Malanau, living near the mouths of the Muka, Oya and Bintulu rivers of Sarawak, have the habit of flattening the heads of their children, especially of the females. flattening is produced at an early age by a process begun during the first month of life. Pressure is applied to the head by means of an apparatus which is fixed to the skull some fifteen minutes at a time and lasting over successive periods. Compression takes place when the child is asleep and is immediately relaxed if the child is awakened or cries. The deforming apparatus, usually called tadal consists of a stout flat wooden bar nine inches long and some three inches wide at its middle part. On the under side of this central portion a soft pad is affixed, and it is this pad which rests on the infant's A 1 shaped strap of soft cloth is fastened by its upper margin to the middle of the upper edge of the wooden bar and "each end of its horizontal strip is continued by a pair of strings which pass through holes in the ends of the The strings are brought together on the front of the bar at its middle and passed through the centre of a copper coin or other hard disc. The bar is applied transversely to the forehead of the infant; the vertical strap runs back over the sagittal suture; the transverse strap is drawn tightly across the occiput, and the required degree of pressure is gradually applied by twisting the coin round and round on the front of the bar, and so pulling upon the strings which connect the ends of the bar on the forehead with the ends of the strap across the occiput" (cf. Pl. XXV, a). The motive underlying the practice is said to be a desire to enhance the beauty of the child by insuring that its face shall be like the moon. The Malanau, according to Hose and McDougall, are a round-

¹³ Meyer, 4, p. 163.

¹⁴ See Meyer, 3; cf. Read, in JAI, 1890, XIX, 53-54.

headed people, and it is the desire to accentuate this characteristic which is the basis of the practice, according to the belief of these two writers.¹⁵

Again, Hose, in his Natural Man, describes the apparatus. He says that among the Malanau of Sarawak there exists the curious habit of broadening the heads of children, especially of girls. The apparatus used consists of a flat bar of wood about seven inches long and three inches broad at its widest point. On the inside is a soft pad, while on the outside are strings which are brought round to the front of the bar, where they are tied together through a copper coin, which is perforated in the centre, extra pressure being applied by the twisting of the coin. He describes them as a handsome people with a typical roundness of head and breadth of brow, and he suggests that by this artificial process, they would seem to have tried to perpetuate a racial peculiarity. The apparatus is applied usually within the first month after birth, and it would seem that if the operation is carried on for about fifteen minutes, on from ten to twenty successive days, it is enough to bring about the desired result. The pressure is applied while the child sleeps and is at once relaxed if it appears to be excessive.16

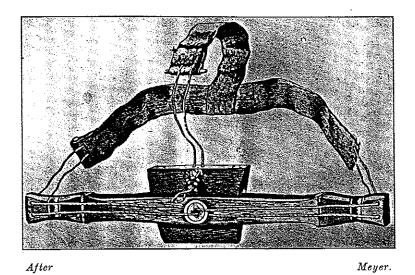
Roth, too, in his account of the natives of Sarawak and British North Borneo, quotes both Crocker and Hose, stating that the brachycephalic Malanau consider flat faces more beautiful than those not so formed.17 Again, Furness, when describing the home life of some of the Borneo people points out that they are accustomed to flatten the foreheads of their female infants. The process, he says, is commenced fifteen days after birth and is continued for several months. Compression is maintained only during sleep, and the Malanau declare that a forehead thus flattened imparts to the face a very beautiful and mild expression. (See Pl. XXV, b.) The result of the practice, according to Furness, does not appear to be that claimed by the Malanau. "I did not observe any deformity of the foreheads in adults," he remarks, "or even in the young girls." 18 How far this opinion can be supported I am not prepared to say, but I am inclined to doubt that the

¹⁷ H. L. Roth, vol. II, p. 79.

¹⁵ Hose and McDougall, vol. I, pp. 48-50.

¹⁶ Hose, p. 86.

¹⁸ Furness, pp. 158-159.



a

Malanau Apparatus for Head Deformation.



After b Deforming the Head in Borneo.

compression has no effect upon the skull. Duckworth, in describing a cranium found in a Niah cave in the Baram River district, notes the fronto-occipital flattening and compares the distortion to that found in skulls coming from British Columbia, Jamaica and Peru. Such deformation, he says, is found throughout the district among modern skulls, although it is not so extreme in form.¹⁹

Passing from Borneo to Celebes the same custom comes immediately into evidence. Here artificial cranial deformation is spread among different tribes. In Minahassa, Wilken has reported that in some districts the natives who practise circumcision and are noted for their industry of metal working press the foreheads of their children with a board. This occurs about a week after birth. The board is bound round with cloth and is fastened securely against the forehead. When the child is washed in the morning the board is loosened but is again secured, and this continues for fifty or sixty days. In the district dialect of Passan and Ratahan the custom, which was formerly a prerogative of the nobility, is known as "taleran." Similarly Riedel elsewhere reports that in north Celebes the heads of children are occasionally bound round with thongs made of the bark of a tree (Sponia sp.) and the head is then clamped both in front and behind between a couple of boards (see Pl. XXVI, b). These remain four to five months in position, the resulting breadth of head being considered a sign of beauty. There appears to be some evidence that the practice was unknown among the autochthonous people but was introduced from without.21

In Bwool elaborate methods are employed for deforming the head. Here the upper class families are very particular as to the slope of the heads of their offspring, and the cradles

have ingenious attachments.22

¹⁹ Duckworth, 2.

²⁰ Wilken, 1, p. 374: *Cf.* Hickson, 1, p. 293, and Hickson, 2, in JAI, 1890, XIX, 53: Kleiweg de Zwaan, 2, p. 7.

Riedel, 1, pp. 110-111.

Sarasin, vol. I, pp. 171-172. Hoëvell reports that in the case of a cradle in which a child was undergoing deformation, a piece of wood was fastened to the upper head board by strings and a roll of sago leaf lay across the cradle under the infant's neck. The chest was also being compressed by a square piece of wood inside a piece of sago-fibre cloth, and this is fastened to both sides of the cradle. The child's arms were tied down and

Although for many years the inhabitants of Bwool have been mingling with the other people their skull type is very characteristic, a fact which results from their system of deformation. The heads of the children are clamped between boards,23 a practice which lasts some eighteen to twenty days at a stretch. Before binding the child it is washed with great ceremony in a copper basin and then laid in its cradle, where it lies often for as long as a month,24 and sometimes much longer. These cradles are very curious. Several have been brought to Europe and Kruyt, for example, secured one in which boards were used to flatten both head and chest. He made inquiries and was informed that the custom was very ancient, but that where boys were concerned it was dying out. The treatment, it was said, used to continue for some seven months at a time and sometimes for even longer. eastern district of Bwool, namely, Kaidipan and Bolaang-itam, the custom also exists. 25

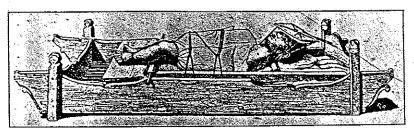
In central Celebes among various peoples the heads of boys are deformed by being pressed between three boards during the first forty days after birth. One board is placed on the top of the head and one on either side. This custom is supposed to inspire terror in enemies and thus it happens that the girls submit to a different kind of deformation. Here a piece of dried earth or brick (sun-dried) called porempe is wrapped round with bark and bound on the forehead to make it broader and thereby to increase its beauty. It is kept in place usually for four or five months at a time.26 In central Celebes, Toradja babies are firmly fastened in their cradles and always lie on their backs. Kruyt himself says that the custom of flattening the head among these people has in view an artificial increase in breadth, and thus the cradle-board becomes an intentional factor in deformation. The baby lies on a hard under-surface. The cradle itself consists of two boards, standing vertically on their long sides,

the spaces between its body and the sides of the cradle were filled in with long narrow pillows. It was said that the treatment began a week after birth and was continued for at least six months. (See Hoëvell and cf. Gatschet, pp. 223-224, Schmeltz, p. 193, and see Pl. XXVI, a.)

Riedel, 2, p. 196: cf. Kleiweg de Zwaan, 2, p. 7.

²⁴ Reidel, 2, p. 205.

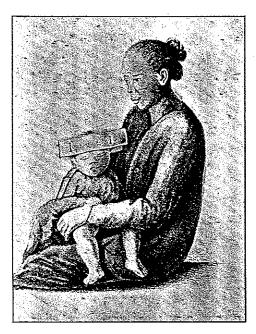
Kleiweg de Zwaan, 2, p. 7: cf. Reidel, 5, p. 69.
 Riedel, 3, p. 215; cf. Kleiweg de Zwaan, 2, p. 7.



After

 ${\it Ho\"evell}.$

A Bwool Cradle.



b Deforming the Head in Celebes.

the ends being cut out into horn or scroll patterns and decorated with all kinds of leafy ornament (lofwerk). The two long boards are fastened together by a couple of cross battens, so that a kind of sledge is formed. In addition a third transverse batten is affixed on which lies a small block made of strips of bamboo. On this the child lies, with its knees bent over a cross-piece. On the pieces of bamboo is a covering made of sago palm leaves, and in order to make the child secure two pieces of split leaf stalk are put next to it. As a rule the head rests upon a covering of leaves on which a piece of beaten bark is laid. A couple of holes are cut out from the side boards through which the bands are drawn which are brought diagonally over the child's chest and prevent it from getting up or moving. Cradles among the Toradja are often inherited which causes much value to be attached to them on account of the amount of use which families have made of them.27

In south-east Celebes among the Bantik and Bugi similar customs are found and Riedel records that in the Tomboeloe

dialect the apparatus is called pepeseh.28

Among the Galela of Halmahera and Tobelo it is reported that after the bath the head of the child is massaged and rounded. Should the nose not be satisfactory it is often manipulated and pulled upwards. How long this treatment of the infant is continued is not clear.²⁹

Again in the Sula Islands, which lie to the east of Celebes and to the north of Buru, the child is daily laid upon the outstretched legs of its mother and washed with cold water. After this it is smeared with a sort of fat and then rubbed and massaged, the head being pressed with previously warmed hands in order to make it round. The nose also is kneaded, pinched and pulled upwards, and the breasts of the young girls are pulled downwards to make them pendent.³⁰

Passing from the Sula Islands to Ceram (Seran) and the neighbouring islands, where occipital deformation has been observed, 31 we come to Timor-Laut (Tenimber), where the

²⁷ Kleiweg de Zwaan, 2, pp. 6-7.

²⁸ Riedel, 4, p. 11; cf. Dusseau, p. 105; Meyer, 1, p. 203.

¹⁹ Riedel, 4, p. 11.

⁵⁰ Riedel, 6, p. 401: cf. Macgowan, 1, p. 105: Werner, p. 20.

⁸¹ Virchow, 8, p. 77: cf. Kleiweg de Zwaan, 2, p. 6.

occipital and parieto-occipital regions of children's heads are flattened. This flattening is said to be the result of apparatus affixed to cradles,³² and also manipulation of the head, so as to

make it round, has been reported. 33

Similarly, in the Kei Islands, moulding of infants' heads is practised. Here round and flattened forms are popular, with protruding ears and a flattened occiput which, when in line with the neck, is considered very handsome. The heads of children are also compressed by pads, and the bandages remain in place some forty days and are only removed when it is necessary to wash the child.³⁴

We now pass to the Philippine Islands. In an eighteenth century "Relation des Isles Philipines," which is attributed by Father P. Pastells to Diego Bobadilla, an account is printed

of cranial deformation in this locality. We read:

"Ils avoient accoustumé dans quelques unes de ces Isles, de mettre entre deux ais la teste de leurs enfans, quand ils venoient au monde, et la pressoient ainsi, afin qu'elle ne demeura pas ronde, mais qu'elle s'étendit en long; ils lui applatissoient aussi le front, croyant que c'estoit un trait de beauté de l'avoir ainsi." 35

Later investigations confirmed the story of the old chronicler. Numbers of artificially deformed skulls have been discovered in the islands. The deformation is usually of the fronto-occipital type: the foreheads are exceedingly retreating and the backward elongation reminds one forcibly of similar examples in the Caucasus and on the north-west coast of America.³⁶ It appears that formerly artificial cranial deformation was practised all over the Philippines.³⁷ Montano reports that some skulls were discovered in the province of Albay (Luzon) in two caves situated on the island of Cagraray, near the north coast of the Gulf of Albay. Three types of crania were distinguished, but the common feature in all was frontooccipital flattening, and in the majority of cases both canines and incisors were lacking.38 In certain of the older burials it has been said that Chinese and Korean pottery has been discovered with the deformed crania, but I have not seen the statement substantiated.39 In modern times the custom of

Forbes, H. O., pp. 315-316.
 Pleyte, 2, p. 817: cf. Kleiweg de Zwaan, 2, p. 5; Pleyte, 1, p. 60.

^{**} Relation des Isles, &c., p. 6: cf. Virchow, 4, p. 204.

** Cf. Virchow, 3, p. 151.

** Montano, pp. 59 ff.: cf. Bauer.

** Mason in Virchow, 25, p. 516.

pressing children's heads between boards is still known in the Philippines, and in one case a skull was found with a C.I. of 100. Although the most common form of deformation is that indicated above other types are occasionally to be met with. Thus in some the forehead is normally vaulted, whilst the occiput is steep and flat and in others the forehead is flat whilst the occiput is only slightly depressed. Transverse circular depressions are occasionally to be observed posterior to the coronal suture and near to bregma, which suggest that the application of bandages was not unknown in the Philippines, although sometimes simple occipital flattening is remarked, which may be due to the involuntary application of the cradle board.

In New Guinea little evidence appears to be available that the practice of head deformation was widespread at any period of its history. It is true that certain natives living on islands in the Fly are said to mould the heads of their children,42 but in the Mandated Territory of New Guinea the custom is reported by Neuhauss to be absent. He says that the only cranial peculiarity to be observed here consists of a transverse groove across the vault of the skull which corresponds to the place over which a band passes from which burdens are suspended, although I do not know at what age children are accustomed to begin to bear heavy loads in this manner.43 Nevertheless skulls have been found in various parts of New Guinea which exhibit signs of deformation and which may perhaps have belonged to an earlier stratum of the population. Thus in a part of New Guinea formerly belonging to Germany (Kaiserin-Augusta River) three skulls were found which were clearly deformed and which the natives vaguely said belonged to a bush tribe inland.44 Again Spittal, when examining fourteen skulls which were said to have come from New Guinea, states that eight showed signs of artificial deformation. Occipital and fronto-occipital flattening were observed, and in one case a shallow transverse constriction about the coronal

⁴⁰ Kleiweg de Zwaan, 2, p. 9: cf. Koeze, p. 221, &c.

Mission de M. Marche, pp. 435-436: cf. Sullivan, 1, p. 34.

<sup>Beaver, p. 169.
Neuhauss, vol. I, p. 194: Miklouho-Maclay, p. 627. Cf. Wilken, 2, vol. IV, p. 350, for the same practice in other parts of Indonesia.
Reche 2, p. 114, and cf. Mannucci, p. 159 and pp. 175 ff.</sup>

suture was remarked. Moreover a fairly deep groove across the forehead immediately above the orbits suggests that the depression noted by Neuhauss may actually occur in the bones of the skull as we have already seen has been reported among the Ainu.⁴⁵

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We will now proceed to the Torres Straits where cranial deformation has been reported by a number of competent observers. Both in the Prince of Wales' Group and at Cape York Macgillivray noticed a peculiar form of head which in these regions is considered the highest ideal of loveliness. When seen at Cape York the method employed to produce this shape was somewhat as follows. The mother of the child. whose head is to be shaped, applies pressure both on the forehead and occiput with her hands, and this simple manual pressure is supposed to influence the growth of the head so that a fronto-occipital flattening is achieved and the skull rendered proportionately broader and higher than the normal.46 Similarly Miklouho-Maclay in 1880, remarked the same custom at Mabuiag. During the first few weeks after birth the heads of infants were being compressed by their mothers in order to give to them a conical shape. He himself saw the process being performed daily upon a great number of children and he was convinced that the resulting deformation was due to the manual pressing and moulding alone. Tr. A. C. Haddon came to the same conclusion during the Cambridge Expedition to Torres Straits. In Mabuiag, he reports, and probably elsewhere among the Western Islands where brachycephalic people have entered, heads had to be low in the forehead (atad paru), flat at the back and not too well developed above. Cranial deformation (paru luaian) produced by skilful manipulation was practised by the natives. The process is described as follows. On the occipital protuberance (kote) of the infant the mother placed her left hand, her right at the same time smoothing down the forehead and the region of the frontal fontanelle. A firm massage was also applied to the head "from the outer margin of the orbits backwards along its lateral surface and from the same point forwards and downwards along the side of the face following roughly the direction of the jaws." There appeared to be no particular

Miklouho-Maclay, pp. 627-628.

⁴⁵ Spittal, p. 92. ⁴⁶ Macgillivray, vol. II, p. 12.

times at which these manipulations were carried out. They went on whenever the mother felt inclined either in the day time or during the night, and they only ceased when that part of the skull in the neighbourhood of the bregma no longer bent under the pressure. It is said at Mabuiag that the people of Boigu, Dauan, Saibai, Badu, Moa, Waiban, Muralug, Mowata and Tureture deform the head in a similar manner but that the bushmen of Masingara do not have the custom, although it has been reported at Parama, Kiwai, &c. The people of Mabuiag are said to have despised the Australians from the mainland on account of the shapes of their heads ** which rather suggests that the latter did not practise artificial cranial deformation.

In the Louisiade Archipelago Macgillivray noticed that some of the light-coloured natives had very narrow and receding foreheads together with great occipital width which gave the impression that they had been artificially flattened. At a later time the same form of head was observed among

somewhat smaller people with dark-coloured skin.49

In the preceding paragraphs we have seen how the custom of artificial cranial deformation is distributed in Indonesia and how traces of it can still be discerned in New Guinea. The practice can be traced from Malaya through Sumatra, Java, Borneo, Celebes to the eastern shores of New Guinea and the

Philippines.

Macgillivray, vol. I, p. 189.

Two main methods are distinguishable. There is firstly, the drastic method of compressing the heads of infants by means of boards attached to the cradle and tied down by cords passing through lugs in the cradle framework. A variation of this method consists of the use of boards and pads made up into separate pieces of apparatus, as amongst the Malanau of Borneo, and also perhaps occasionally two simple pieces of wood are used for compressing front and back of the child's head; and secondly, the attempt to fashion and mould the head by means of manipulation, pressing or kneading. Doubt-

⁴⁸ Haddon in Reports of the Cambridge Anthropological Expedition, &c.. vol. IV, pp. 7-8. *Cf.* Haddon, 1, p. 369, where he notices that the men of certain of the Western Islands have their hair cut in various styles, of which one was apparently on the lines of the fronto-occipital deformation which was formerly practised.

less, also, the influence of the cradle-board is to be distinguished, but this is comparatively unimportant for our purposes when we consider the intentional methods described above. It would not seem improbable that the custom has spread from island group to island group in the course of centuries or even in shorter periods. The custom is so similar to those we know elsewhere and the methods are so uniform that it is not easy to accept Flower's dictum that it originated independently from some natural impulse common to the human race. However that may be, we can but consider the observed facts, and so we will pass on to examine this strange practice as it is carried on in Melanesia, Micronesia and Polynesia, if indeed we shall find it in any of these island groups.

^ω Flower 1, p. 34.