

## CHAPTER VIII

ARTIFICIAL CRANIAL DEFORMATION IN MEXICO,  
CENTRAL AMERICA AND THE WEST INDIES.

IN the present notes on cranial deformation as we find it in Central America it will be impossible to enter into any of the controversies concerning the material culture, social organization and religious conceptions of the various peoples dwelling there before the advent of the Spaniards. For our purposes it will be sufficient, I think, to consider the custom as it appears upon the ancient monuments and then to discuss some of the references from the more important of the older authorities concluding with a glance at any remarks that some of the more modern writers may have made which add to our existing knowledge. There would appear some reason to believe on the basis of the archæological material at present discovered that the civilization of the Maya was the earliest of all the Central American higher cultures. The Maya area may be said to have comprised Yucatan and Campeche on the north; Tabasco and Chiapas on the west; together with what is now Guatemala, British Honduras, San Salvador and Northern Honduras. The Maya period may be divided into the two so-called Empires: the Old and the New, each of which may be sub-divided into three sections. Very roughly the epoch may be split up into three main divisions; the Early, Middle and Late Maya, the dating of each being still in dispute. If we assume that the date of the Early Maya is about A.D. 200, then Middle Maya would be about A.D. 800, and Late Maya anything from A.D. 1400 on. These later sites of the New Empire such as Mayapan, Izamal and Labna are found in the northern part of the Yucatan peninsula, although the famous site of Chichen Itza not far south is of the earlier period of the same Empire.

We do not know at present how precisely the Maya civilization originated. It appears as if it almost suddenly sprang into being, flourished and decayed. At any rate the

practice of flattening the skull seems to have been known from the earliest times.<sup>1</sup> If we can judge from the monuments the greatest pressure seems to have been exerted upon the forehead, a flat board secured to the head being probably responsible. In many cases the frontal bone slopes backward to an amazing extent, the nose often being in a line with the retreating forehead. Thus in Pl. XXIX we see a figure making one of the blood sacrifices so common during the Maya period. He holds a cord in his hands from which thick thorns project and he is passing this cord either through or over his tongue for the purpose of obtaining blood. This lintel from Menché which dates from about the Middle period of the Old Empire well illustrates the peculiar form of head which we are considering. Although the hinder part of the head is not wholly visible, what appears to be the back of the occiput, or at any rate a covering of that portion protrudes backward in the form of a cone, and a very similar appearance may be seen in the kneeling figure from a lintel of the same site which is reproduced here as Pl. XXVIII, *a*. This head is particularly striking. Beginning at the tip of the nose the head slopes backward almost in a straight line, the skull resembling an oblong box of which the two ends are represented by the facial portion from the tip of the nose to the chin, and at the back by the occiput. Less distorted heads can be seen in the two standing figures from the tablet from the Temple of the Sun at Palenque, which may also be said to date from the Middle period of the Old Empire and of which a reproduction appears here as Pl. XXVIII, *b*.

From the monuments themselves we have already seen that it is not clear as to the precise form of apparatus which was used for the purposes of deformation. There would not, however, seem very much doubt as to the kind of method employed. The old Spanish Franciscan Diego de Landa who dealt with the Maya people of Yucatan and who was Bishop of Merida about 1572, described how the natives of his day deformed the heads of their children. He describes the women as bringing up their children with the greatest roughness (*aspereza*) and says that as a rule the children went naked. Scarcely four or five days after birth the child was

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<sup>1</sup> Joyce, 2, p. 294.

stretched out upon a sort of little bed made of reeds or strips of other material, and then the head was placed between a couple of boards, one at the back and one at the front. These were then pressed together and fastened. For days at a time the child was thus left in suffering, and Bishop Landa adds that sometimes so much pain was caused that the children died, and that he himself saw one who had openings behind the ears, a condition of things which, it was reported, was not uncommon.<sup>2</sup>

Skulls of uncertain age have been found in some quantities in the peninsula, the Archæological and Historical Museum of Yucatan possessing a fair collection. Some were found at Progreso when the harbour was being built, and many show the influence of deformation.<sup>3</sup> In one skull from Merida the frontal region showed much flattening, the parietals being forced backward and part of the occiput being made so flat that the skull remains quite steady when placed upon it.<sup>4</sup> The Maya were naturally a brachycephalic people and the custom of fronto-occipital compression would increase this racial characteristic, although it must be remembered that in many of the monuments compensation in growth seems to have taken place in a backward, rather than in a lateral direction, which suggests that boards may not have been exclusively used amongst the early Maya, but that a frontal board, together with a system of bandaging may have been employed.<sup>5</sup>

In Mexico also the practice of cranial deformation appears to have been carried on at a comparatively early period. Deformed skulls from the Valley of Mexico are numerous, but their date is uncertain and the archæological horizon does not seem to have been properly correlated with the skeletal material.<sup>6</sup> At San Juan Teotihuacan, Hrdlička found a number of artificially deformed crania, among which he says the feminine element predominated. The deformation was of

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<sup>2</sup> Landa, Cap. XXX, p. 180; Herrera Tordesillas, vol. IV, p. 169. Chavero in Riva Palacio, vol. I, Cap. 14, p. 231. Léon (p. 67) borrows his illustration from Catlin.

<sup>3</sup> See *Cabezas (Las) chatas*, pp. 248-249; and for similar skulls from Guatemala, see Schellhas and Virchow, 23.

<sup>4</sup> Virchow, 12, p. 453.

<sup>5</sup> Cf. Joyce, 4, p. 159, J. E. Thompson, p. 70.

<sup>6</sup> See Herrera and Cicero, p. 135. One skull in the National Museum at Mexico City (nr. 1070) has a C.I. of 109.09: cf. L. A. Gosse, 4.

the fronto-occipital type (boards), and in the male the frontal flattening was slight, while that of the occiput was marked, the conditions in the female being the reverse, both classes being brachycephalic. Skulls of this type have been found as far as Patzquaro with the ancient Tarasco and at Teotihuacan more than 50 per cent. of the crania found were deformed which suggests that the actual people of the district practised the custom and that it was not merely carried on by slaves from the east or south.<sup>7</sup>

The skulls from the Isla de los Sacrificios, near Vera Cruz, where the Spaniards first saw the gory remains of human sacrifice are unusually distorted, and Salas describes them as trilobed on account of the depressions doubtless left by the constricting bandages.<sup>8</sup> This again suggests that at least two important forms of cranial deformation were known in Central America from early times, that produced by boards and that produced by bandages. (Cf. the beautiful jadeite head from Palenque in Pl. XXX.)

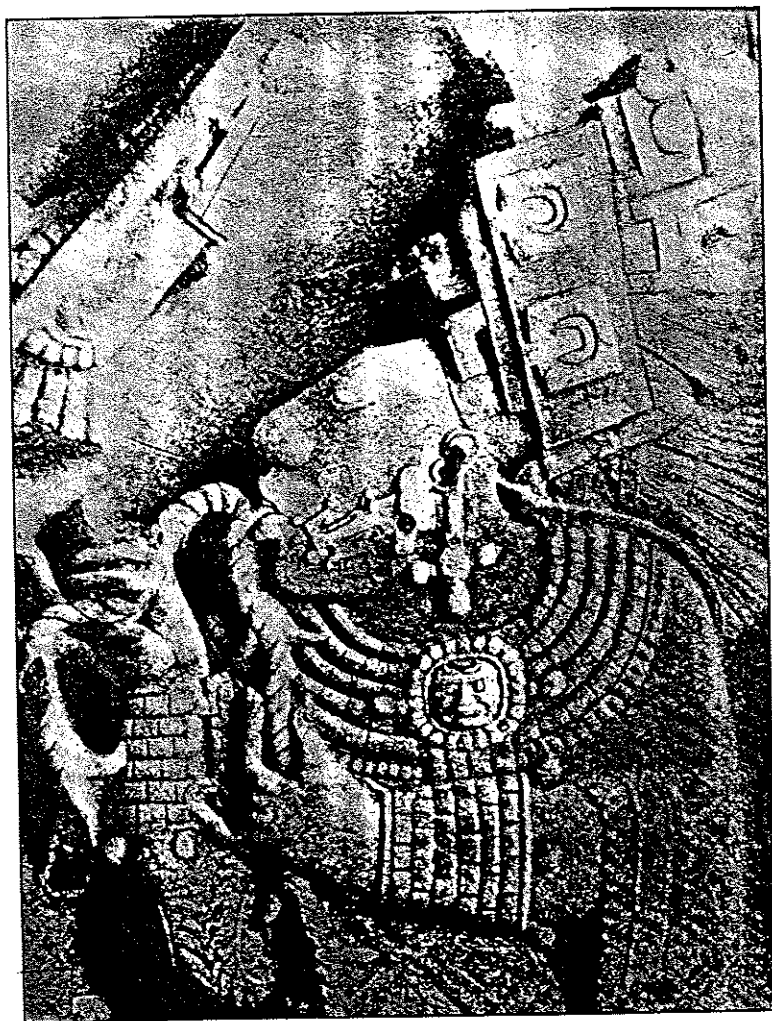
South-east of the Maya domains in Central America now lie the modern states of Nicaragua and Costa Rica. When the Spaniards arrived in this region the Nicaraos were occupying parts of the country and they also had the custom of deforming their heads. It is no doubt possible as Joyce points out<sup>9</sup> that the Nicaraos were an early wave of the tribal movements which culminated in the coming of the Aztecs. At any rate Oviedo reports an interesting conversation on the subject of deformation between one of the natives and an early Spanish missionary, who questioned him concerning the meaning of the custom. The native was asked why the heads of his countrymen were not like those of the Christians; and he replied that when the children were born, their skulls were plastic and so they could easily be moulded into shape, thus producing two bosses at either side and a great depression in the middle of the head extending from one side to the other (*con dos tolondrones á los lados dividiendo, é queda por medio de la cabeça un grand hoyo de parte á parte*). This is done he continued because our ancestors were told by the gods that if

<sup>7</sup> Hrdlička, 7, App., pp. 5-6: cf. Peñafiel, p. 37, and the Pls. 89 and 90.

<sup>8</sup> Salas, p. 163: Cf. Gratiolet who describes a skull from the neighbourhood of Orizaba.

<sup>9</sup> Joyce, 3, pp. 7-8.

PLATE XXIX.



*After*

*Maudslay.*

A Blood Sacrifice.

our heads were thus formed we should appear noble and handsome and better able to bear burdens.<sup>10</sup> Bancroft states, probably following Oviedo, that this flattening by boards was in order to obtain a sign of noble lineage,<sup>11</sup> and Squier reports the same conversation with Bobadilla just quoted, although he does not make any useful comment on the reasons given for the deformation.<sup>12</sup> Apparently the custom is still persisting in certain regions. In Managua, Lehmann reported that some of the natives possessed the custom,<sup>13</sup> and there is no doubt that in the more isolated districts there is the possibility of the distortion still being practised although not to the same extent as formerly. In the Sumo district in the east of Nicaragua one tribe at least, according to Joyce, practised deformation upon the heads of their children by pressing their infant skulls between pieces of wood and stones,<sup>14</sup> and Pim and Seeman state that the Mosquito also flattened the heads of their babies, although when they became adults their tangled hair concealed the signs of the deformation.<sup>15</sup>

In some parts of Costa Rica it appears that the custom was not usually practised although in the Talamancan area it was at one time apparently prevalent. A form of frontal deformation seems to have been the rule, and MacCurdy has suggested that connection with Peru might be established through an examination of the archaeological material, although the details are at present too scanty to be discussed.<sup>16</sup>

In considering the evidence for artificial cranial deformation on the mainland as it has been briefly sketched above, it will be seen that it first makes its appearance in the Early Maya period. Two methods, those by boards and bandages, are discernible, and it seems probable that the neighbouring parts of the country borrowed them from the central area and continued them with variations to the present day.

We now pass to the West Indian Islands. In both the Greater and Lesser Antilles, the Carib and the Arawak formed the main stock, the Lucayan of the Bahamas being Arawak and practising cranial deformation. The Arawak family were

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<sup>10</sup> Oviedo y Valdés, Lib. XLII, Cap. III, vol. IV, p. 54: Ed. Ternaux-Compans, p. 71.

<sup>11</sup> Bancroft, vol. II, pp. 731-732.

<sup>13</sup> Lehmann, p. 535.

<sup>14</sup> Joyce, 3, p. 33.

<sup>15</sup> MacCurdy, 2.

<sup>12</sup> Squier, vol. II, p. 345.

<sup>15</sup> Pim & Seeman, p. 308.

in possession of the Greater Antilles from which they were later driven by the Carib. Columbus when he saw some of the former wrote of them that they had "foreheads and heads much broader than any people" he had hitherto seen.<sup>17</sup> Their skulls were artificially flattened to so great a degree that the distinction between the frontal and coronal portions of the frontal bone were obliterated. Males seemed to have suffered more than females, and occasionally the occiput was also modified through artificial compression.<sup>18</sup> Edwards, in his history of the British colonies in the West Indies, in speaking of the Carib says that on the birth of a child its tender and flexible skull was confined between two small pieces of wood, which, applied before and behind and firmly fastened together on each side, raised the forehead and caused it and the hinder part of the skull to resemble two sides of a square, "an uncouth and frightful custom still observed, if I am rightly informed, by the miserable remnant of Charaibes in the Island of St Vincent."<sup>19</sup> Other writers told the same story concerning the Carib. Thus the Dominican Labat finds their foreheads rather extraordinary in appearance on account of their flatness and he says that children had boards tied tightly upon their heads.<sup>20</sup> Similarly Leblond describes the practice but in rather greater detail. He says that in one place he came to a village where he was shown a new-born child. The unfortunate infant had its head compressed between two light but solid pieces of wood, one in front and one behind and firmly fastened together with strong fibre. The boards were also fitted with cotton pads in order that the head of the child might not be injured. In the piece of wood at the back a neat hole was drilled to prevent the occipital protuberance from being flattened, and no anatomist, according to Leblond could have made one better. When he arrived at the village the child was sleeping in a hammock, but it soon awoke and, with its bloodshot eyes almost starting out of its head, began to howl lustily. On being suckled it grew quiet but the eyes remained more prominent than they should have been normally.

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<sup>17</sup> Columbus, p. 26: *cf.* Winsor, p. 219: La Bret, p. 41.

<sup>18</sup> Brookes, pp. 216-217.

<sup>19</sup> B. Edwards, vol. I, p. 43: *cf.* Las Casas, 1, p. 396: Las Casas, 2, Apol. Hist., Cap. XXXIV, vol. 66, pp. 390 ff.

<sup>20</sup> Labat, Vol. II, p. 72.

On inquiry Leblond learnt that the boards were kept in place for nine days at a time: then they were taken off and subsequently soon replaced, until the head seemed to the parents to be satisfactorily formed, when they were finally discarded. That occasionally the device was worn for some time may be seen from the fact that Leblond saw several children wearing the boards at the age of three or four months.<sup>21</sup>

It would seem that the Carib, or at least some of the tribes related to them, were accustomed to practise two forms of head deformation: the fronto-occipital form produced by the application of boards to the head, and a simple frontal flattening, which also may have been caused by a board, and which resulted in great width in the occipital region.<sup>22</sup>

In Cuba a good deal of evidence has been collected to illustrate the practice as it formerly obtained in this island. Skulls showing extreme elongation were found by Rodriguez-Ferrer in a cave at the end of Cape Maisi, and similar examples are now in the Museum at Havana.<sup>23</sup> All the sites associated with Tainan (Arawak) culture show skulls exhibiting frontal flattening, and Harrington reports the discovery of a cranium which he believes to be associated with the Ciboney culture,<sup>24</sup> this being probably earlier than the Tainan. Again, Bachiller y Morales points out that others besides the Arawak appear to have deformed their heads during the early days of Cuban civilization.<sup>25</sup> In Jamaica also the excavator's spade has revealed a similar state of affairs. Sir W. H. Flower, when examining skulls from the Halberstadt Cave, noticed that five out of six adult crania exhibited frontal deformation, produced presumably by a board upon the forehead,<sup>26</sup> and Haddon, in his notes upon the craniology of the aborigines, confirms Flower's observations. In an examination of a number of crania he came to the conclusion that all were probably artificially deformed, although in a few instances the effects of the distortion were slight. The general result of the compression was to flatten the lower portion of the

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<sup>21</sup> Leblond, vol. I, pp. 197-199.

<sup>22</sup> See Cornilliac, p. 151: Verrier; Joyce, 3, p. 228.

<sup>23</sup> Rodriguez-Ferrer, Cap. IV, p. 215; Joyce, 3, p. 228; Poey, vol. I, p. 150. Cf. Montané.

<sup>24</sup> Harrington, vol. II, pp. 416; 315.

<sup>25</sup> Bachiller y Morales, p. 154.

<sup>26</sup> Flower, 4, pp. 697-698. Cf. Joyce, 3, p. 228.

frontal bone, but "along the anterior margin of the coronal suture there is a slight swelling which, in front of the bregma, often expands into a broad triangular area, the apex of which passes mesially forwards and may extend to the level of the frontal eminences." Posterior to the coronal suture, and along the anterior border of the parietal bones, a somewhat broad shallow depression is to be observed, which is often interrupted in the sagittal line "by a very slight median keel." Thus, according to Dr. Haddon, the deformation observed in skulls from Jamaica is a composite one, consisting of a combination of simple frontal flattening with the bandage constriction common to France and the Caucasus, although instead apparently of elongating the skull, it appears to make it shorter.<sup>27</sup>

In S. Domingo, Thamara noted the practice of deforming the head in 1556. He states that certain of the population have their foreheads narrowed artificially by lateral compression, and like other authors he comments upon the fact that under the constriction the eyes protrude from the head (*saltar los ojos*).<sup>28</sup> Here skulls exhibiting fronto-occipital flattening have been discovered in certain caves, and Oviedo had already noted that when children were born both their foreheads and occiputs were pressed so that their heads were flattened in front and behind and this resulted in the skull remaining deformed.<sup>29</sup> Charlevoix confirmed this statement, adding that the heads of the children were squeezed between their mother's hands and also between two small boards so that gradually their skulls became flattened.<sup>30</sup> Similarly, in Puerto Rico, flattened skulls have been discovered associated, as in Cuba, with the Tainan culture.<sup>31</sup> Abbad y Lasierra reported in 1788 that in this country the people were accustomed to flatten their heads both in front and behind and that thereby a conical shape was produced.<sup>32</sup>

In the Lesser Antilles, which were colonized from South America at a later period than the larger group, the same custom is found. Among the so-called Black Carib in Martinique Chanvalon noted the custom of flattening the

<sup>27</sup> Haddon, 2, p. 23.

<sup>28</sup> See Llenas; Oviedo y Valdés 2, Lib. III, Cap. V, p. 68.

<sup>29</sup> Charlevoix, vol. I, pp. 36-37.

<sup>30</sup> Abbad y Lasierra, p. 27.

<sup>31</sup> Thamara, p. 253.

<sup>32</sup> Fewkes, p. 30.

PLATE XXX.



*Museum of the American Indian, Heye  
Foundation.*

A Jadeite Head from Palenque.

heads of infants between two boards thus rendering the head "difforme et monstrueuse." This custom he says gives them a certain advantage, for by it they distinguished themselves from negro slaves and thereby escaped servitude at the hands of Europeans.<sup>33</sup> Du Tertre, in his history of certain of the islands of the Lesser Antilles, has also described how the foreheads and noses of certain of the inhabitants are flattened "de l'artifice de leurs mères," who mould the heads and features of their children with their hands.<sup>34</sup> Again L. de Poincy declares that they have both foreheads and noses artificially flattened. This is produced during infancy and whilst the children are being suckled and when the operation is complete the result is regarded as the last word in beauty and perfection.<sup>35</sup> Similarly Davies, of doubtful reliability, says that as soon as the infant is born its forehead is flattened by its mother, the resulting form of head being considered very beautiful, and he goes on to say that the natives affirm that it "facilitates their shooting up to the top of a tree standing at the foot of it, wherein they are extremely expert as being brought up to it from their childhood."<sup>36</sup> As regards the latter explanation we have nothing to say except that it is very improbable and that little value can be attached to it.

From the few notes collected above upon the practice of cranial deformation in Central America and the West Indian Islands, it is clear that the custom was at one time very widely spread not only upon the mainland but also in the Greater and Lesser Antilles. In spite of the evidence, however, certain authors have denied that the Carib deformed their heads. As early as 1789, Arthaud maintained that the effect was due to natural conformation and was certainly not the result of artificial distortion,<sup>37</sup> and in 1885, Armas made a similar denial saying that the story was first started by Oviedo,<sup>38</sup> a theory combated by Montalvo,<sup>39</sup> to whom Armas subsequently replied. It is not easy to understand how these denials gained currency in view of the evidence afforded by archaeological excavation, but doubtless the material then was

<sup>33</sup> Chanvalon, pp. 39-40.

<sup>34</sup> Du Tertre, 1, pp. 398, 415: cf. Du Tertre, 2, vol. II, pp. 357-358, 374.

<sup>35</sup> See *Antilles, Histoire naturelle*, &c., p. 437.

<sup>36</sup> J. Davies, Bk. II, p. 338.

<sup>37</sup> Arthaud. <sup>38</sup> Armas, p. 10: cf. Nadaillac, p. 374.

<sup>39</sup> Montalvo.

not nearly as extensive as it is now. Anyone at all acquainted with the small figurines and statuettes found in such profusion in Central America<sup>40</sup> can scarcely deny that the heads as represented exhibit a series of strange conformations similar in many respects to those described by the old chroniclers. It is quite certain that the custom was at one time practised as described, and, as we have seen, analogies in other parts of the world are by no means lacking. As we shall observe in our consideration of the custom in South America the practice is found in Colombia and also in Guiana, and in this connection it should be remembered that the vast continent to the south played a considerable part in the peopling of the Antilles. There would seem no reason to doubt that the population of the Early Maya Period was much addicted to the custom, if we can judge from the evidence of the monuments, and it seems unlikely that their practices were wholly without influence upon neighbouring populations.

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<sup>40</sup> A good collection from Ancient Central America is in the British Museum, and the Pinart Collection, in which bilobed heads are very common, is in the Musée d'Ethnographie, Trocadero, Paris. It might be thought that some of the heads were exaggerated in their breadth and doubtless this is the case, but it must be remembered that skulls from Guatemala having a C.I. of 123 have been recorded (VBG, 1901, p. 284). An interesting example of early art in this connection is the pre-Columbian statuette from Tampico which shows a woman apparently moulding the head of an infant which is carved as having its skull between two objects. This piece is now in the museum at Annecy. See Regnault 10, and *cf.* Amic, who mentions apparatus used by the Carib.