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PHOTOGRAPH OF COMET B, 1881

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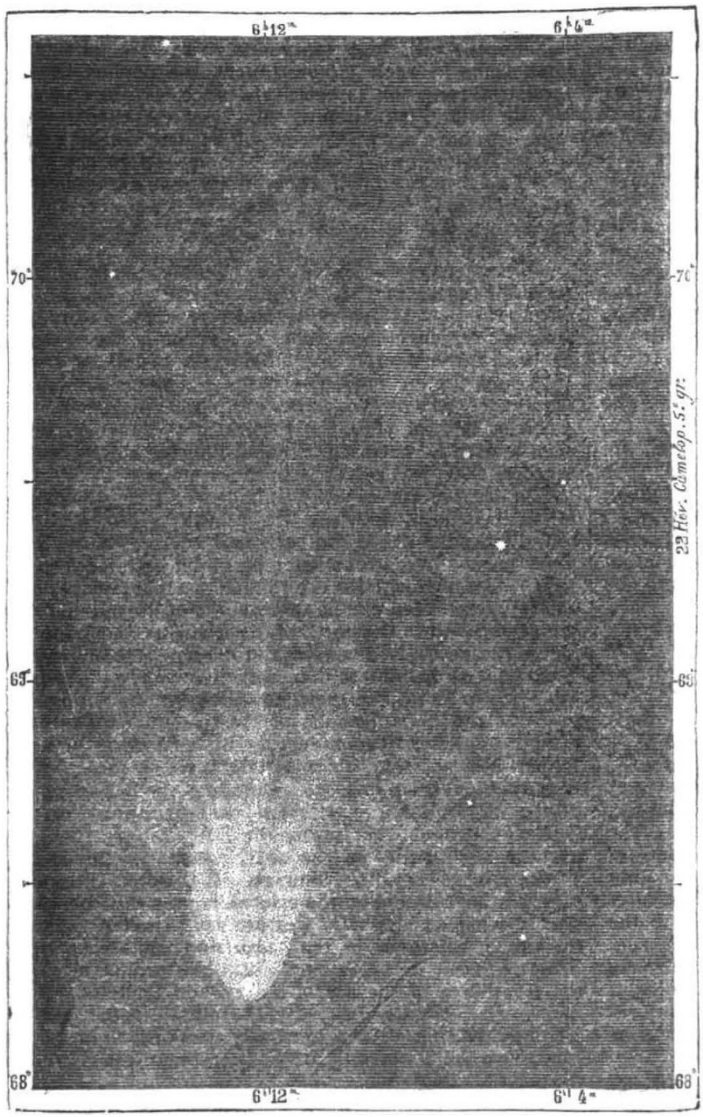

Facsimile of a photograph of the Great Comet B 1881, taken at the Observatory of Meudon, July 1, 1881.

ON ARTIFICIAL DEFORMATION OF THE HUMAN SKULL IN THE MALAY ARCHIPELAGO

MR. CROCKER mentioned, in the *Proceedings* of the Royal Geographical Society of London in the beginning of this year, that the Milanows, a coast tribe in North-West Borneo, between Bruni and Tandjong Agri, Sarawak, flatten their heads by means of pressure in infancy, but not to the extent of disfigurement, a custom, Mr. Crocker adds, which is peculiar to this tribe, and occurs nowhere else in the Archipelago.

This last statement induces me to show that, on the contrary, the custom is spread through the whole vast area from Sumatra to Timorlaut, and north to the Philippines; I even believe that it is not going too far to say that almost no large island within this region can be found, where the custom of artificial deformation of the skull is not, or has not been in use. Having treated of the geographical distribution of the custom all over the globe in a paper "Ueber künstlich-deformirte Schädel von Borneo und Mindanao im königl. anthropologischen Museum zu Dresden, nebst Bemerkungen über die Verbreitung der Sitte der künstlichen Schädel-Deformation," I shall restrict myself here to the Malay Archipelago.

To begin with Borneo: I procured last year a skull from Sarawak, over which a basket of ratan was so closely twisted, that it could but with difficulty be freed. When taken out I immediately perceived that it must have been artificially deformed; the whole occiput was flattened in a way which could not have been due to other causes. This skull (Fig. 1) must have hung a long time in the basket over a fireplace, for it was blackened and dusty all over. The direction of the pressure in youth had been, besides perpendicularly from behind, from the right side and below, for the right basal portion is totally distorted.

Wishing to know something positive as to the custom in Borneo, I wrote to the well-known naturalist and collector, Mr. Everett, who is now living in Papan, North Borneo, and who sojourned a long time in Sarawak before. Mr. Everett had the kindness to answer, in a letter dated August 25, 1880: "With regard to the custom of flattening the skull, I have heard that it is

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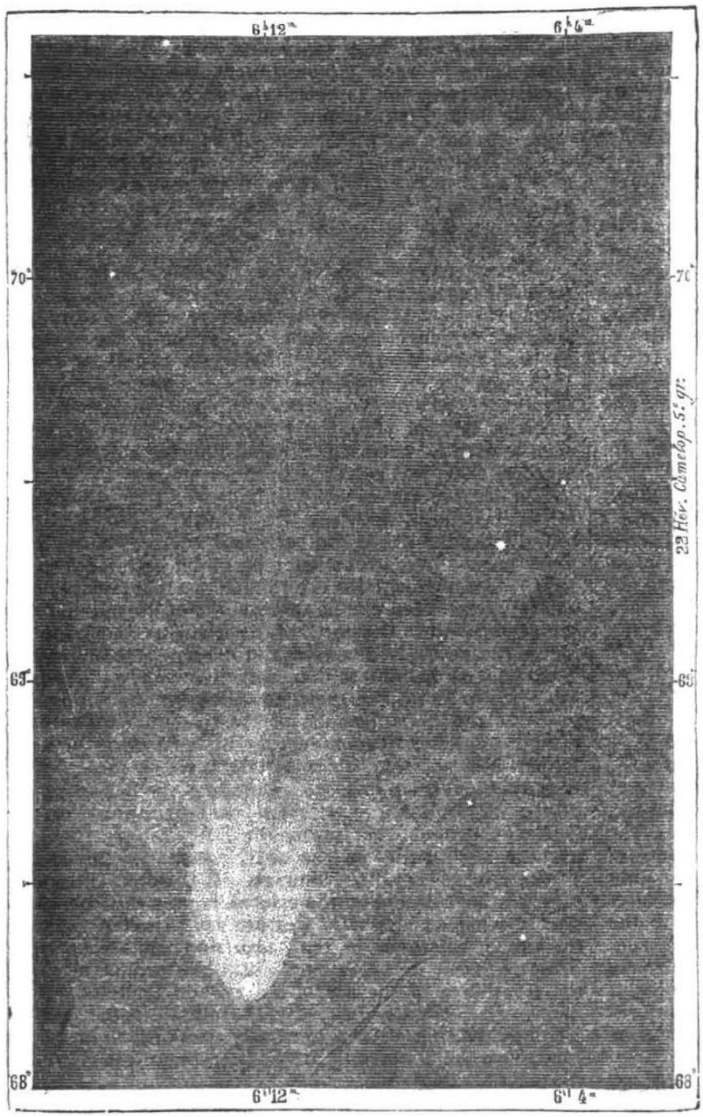

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practised by the Kanowits and Malanau tribes in Sarawak." In consequence of this information I asked Mr. C. C. de Crespigny of Sarawak, a gentleman who has already (in 1876) published some account of the Malanaus in the *Journal* of the Anthropological Institute of Great Britain, to forward, if possible, the instrument with

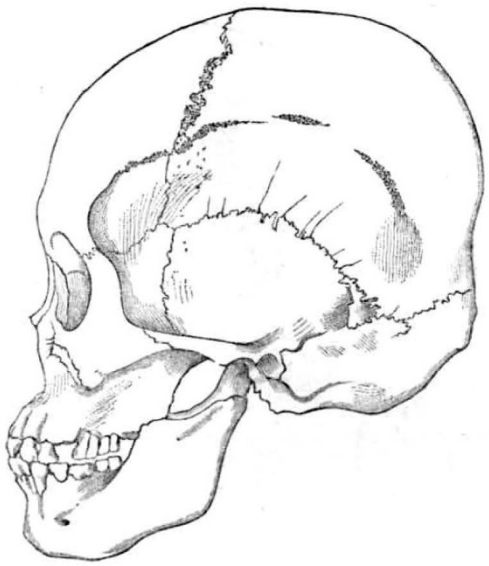

FIG. 1.—Artificially deformed skull from Sarawak, Borneo.

which the artificial deformation is effected; and Mr. de Crespigny was so obliging as to fulfil my wish and to write on April 8, 1881: "I am sending by this post the little instrument you desired me to procure for you, used by the Malanau women in flattening the heads of their female children, in order that their appearance may correspond with their parents' idea of beauty."

The instrument (Fig. 2) is by no means roughly made, but so well adapted to the purpose that one must regard it as the result of the exertions of many generations. I am sorry that Mr. de Crespigny, to whom I am so much indebted, did not add a note as to the way in which the apparatus is applied to the child's head. I suppose that this is wrapped up in cushions and laid with the occiput on the square wooden part of the apparatus *a*; the bandage *b*, made of blue cotton, then being tied round the forehead, the bandage *c* over the whole head from the forehead to the occiput, and the threads, fastened at the end of *c*, drawn through the holes in *a*, and finally through the square hole of a Chinese coin, behind which they are knotted together with some glass beads. Two sets of holes in the longitudinal part of the wooden instrument allow the degree of pressure to be regulated. The apparatus is very accurately cut and polished. The length is 325 millimetres, length and breadth of the square middle part 90 and 60 mm. respectively, the length of the frontal band 315, of the sagittal band 190 mm.

In the mean time Prof. Flower, in his interesting essay ("Nature Series"), "Fashion in Deformity, as illustrated in the Customs of Barbarous and Civilised Races," mentioned, on the authority of Mr. H. B. Low, that in the neighbourhood of Sarawak the deformations are made purposely; and I therefore do not doubt that the custom is a common one in that country. Perhaps a very asymmetrical skull in the Vrolik collection of Amsterdam, from Banjermassin in South-Eastern Borneo, may be artificially deformed. I have not yet succeeded in finding another trustworthy report of the same custom in Borneo from other tribes, but am sure that we shall soon hear from other quarters of the same, attention once being directed to the question.

Proceeding from Borneo to the Philippine Islands in the north, we have ample materials from that group of islands. I procured, in the year 1872, in the island of

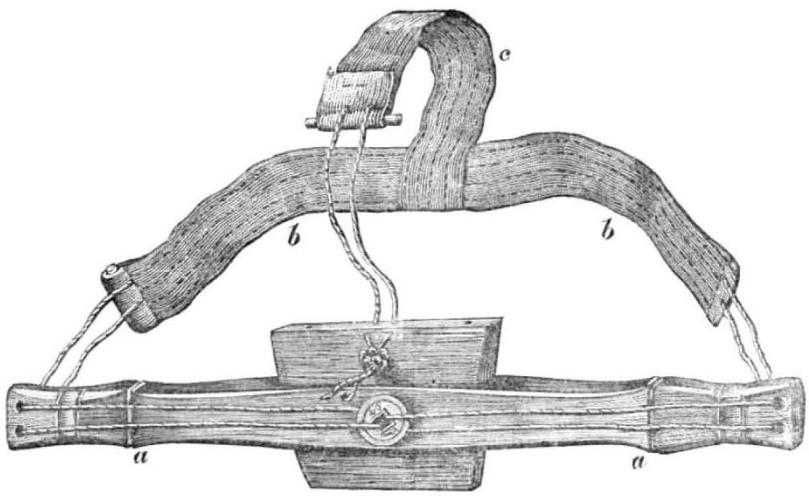

FIG. 2.—Instrument for deforming the heads of infants, used by the Malanaus on Borneo.

Luzon, in the province of Bataan in Zambales, from graves in the forest, twelve skulls of Negritos, nearly all of which are more or less artificially deformed. Prof. Virchow is of opinion that the flattening of the occiput and the broadening of the hinder parts of some of the skulls is so strong as to make them in a high degree similar to certain deformed skulls from Peru. The flattening of the occiput is very obvious in some of the portraits of Negritos which I sketched on the spot, three of which are represented in Figs. 3–5.

It has been known since the seventeenth century that the custom is in vogue on the Philippine Islands. M. Thévenot in his valuable work, "Relations de divers Voyages curieux" (1664), in the part, "Relation des isles Philippines faite par un Religieux qui y a demeuré 18 ans," says in his old French: "Ils auoient accoustumé dans quelques-vnes 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'estendit en long; ils luys aplatissoient aussi

le front, croyant que c'estoit vn trait de beauté le a'auoir ainsi." Artificially deformed skulls have further been procured by Doctors Schetelig and Jagor, about the year 1860, from caves on the islands of Samar, Leyte, and Luzon, and from Bicol and Cimarron graves (Cimarrons being hybrids between Negritos and Bicols) in Albay on Luzon. An Igorrotes skull from West Luzon, which I brought home, is, according to Prof. Virchow, so small as to suggest that it has not its natural form. From the south-west of the large island of Mindanao Professors de Quatrefages and Hamy have described two deformed Hilloonas (Negrito?) skulls, and the Dresden Museum possesses two enormously deformed skulls from a cave

FIG. 3.

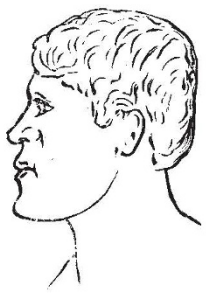

FIG. 4.

FIG. 3.—Negrito, man, Luzon. FIG. 4.—Negrito, young woman, Luzon.

near Lianga in South-East Mindanao, procured by Prof. Semper.

One of these (Fig. 6) has been pressed from the front to the occiput for the special purpose, at the same time, of flattening the whole head. The hinder parts of the parietals slope down nearly perpendicularly at the tubera, and the occiput has no prominence at all. The other (Fig. 7) has been acted upon from below and behind and from the front, and, at the same time, by a broad bandage across the parietals behind the coronal suture, where a deep depression occurs. The tubera parietalia are blown up similar to those of skulls from the Gulf of Mexico,

FIG. 5.—Negrito, man, Luzon.

which Dr. Gosse called "têtes trilobées." Therefore it cannot be doubted that the custom has been, and is in use nearly everywhere on the Philippine Islands.

Not less so in the island of Celebes, which is nearly united to the Mindanao by some smaller groups of islands, which may be considered as stepping-stones. Mr. Riedel of Gorontalo informed us in the year 1871 that the inhabitants of Buol, Kaidipan, and Bolang-itam in North Celebes wind round the heads of their children the smoothed bark of the Lahendong tree, and afterwards press it between two wooden planks, which are fastened in front and occiput. The heads are broadened by this process, which is considered a peculiar attraction; the child is treated in this way from four to five months. Mr. Riedel even forwarded a model of a cradle, as used in Buol for deforming the heads of noblemen's children; the instrument remains fastened for six to eight weeks, and the children are only freed every second day to be bathed. Mr. Wilken recorded the same custom from

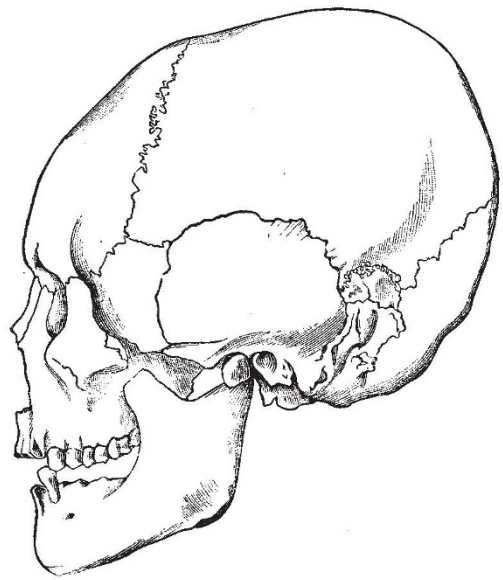

FIG. 6.—Artificially deformed skull from a cave near Lianga, Mindanao.

Passan and Ratahan in the Minahassa, in North Celebes, the last-named spot being quite near Panghu, a place where Mr. Wallace made one of his celebrated collections ("Malay Archipelago," vol. i. p. 408). Mr. Wilken says that the process is continued from fifty to sixty days, and that the flattening of the forehead is called "taleran," the common people practising it very generally now. The

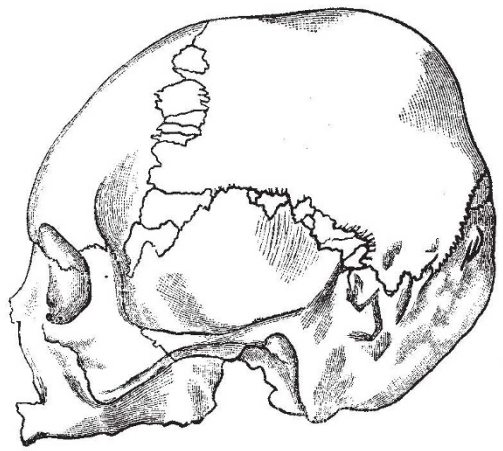

FIG. 7.—Artificially deformed skull from a cave near Lianga, Mindanao.

same custom is in use still with other tribes of the Minahassa and the surrounding countries. Finally, Mr. Riedel could prove it among peoples called Toragi, Tondai, Torau, and Tomori in Central Celebes, where the heads of the boys are pressed laterally and from behind, "that they may become good warriors," and the foreheads of the girls broadened "to increase the beauty of the

women"; the process is continued from four to five months.

Besides this direct information there is an artificially deformed skull of an "Alifuru," from Celebes in the Hildesheim Museum; and of a Bugis from South Celebes, in the Vrolik Collection of Amsterdam, the descriptive catalogue saying: "Plus que tout autre ce crâne fait l'effet d'avoir été comprimé à son jeune âge par une grande force agissant d'arrière en avant." Dr. Barnard Davis remarks on a skull from Makassar, in South Celebes: "Has an extensive parieto-occipital flattening; the result is a brachycephalism which scarcely seems compatible with undesignedness." No doubt this is proof enough to justify the opinion that the custom is spread over the whole island of Celebes.

As to Sumatra Marsden has often been quoted, "that the women have the custom of compressing the heads of children newly born, whilst the skull is cartilaginous, which increases their natural tendency to that shape."

From Java it has been made known by Professors van der Hoeven, Swaving, Halbertsma, and Zuckerkandl, that a considerable proportion of the skulls from that island are asymmetrical, viz. 60 per cent., and that of three awry skulls two are flattened on the left side. Prof. Halbertsma supposes that this asymmetry comes from the child's position on its left side while sleeping; Prof. Zuckerkandl is of opinion that it comes from pressure during birth; whereas Prof. Rolleston, whose premature death we deeply deplore, expressed the following view:—"The wish to keep the right arm free causes the left arm to be usually employed for carrying a child; the pressure of a sling used in aid of the left arm would come to bear mainly on the left side of the child's head, and the observed flattening would thus be accounted for." However this may be, the asymmetry does not appear to occur as a result of designed deformation; but Dr. Swaving concedes that the midwives try to change the form of the head in the newly-born child by pressure; Dr. Gosse saw a Javanese skull with occipito-nasal deformation, and perhaps this question must be more thoroughly studied on the spot to get a better insight.

Dr. Davis says of a skull from the island of Bali:—"Approaches closely to the American crania deformed by occipito-frontal pressure; it is so great as to render it very difficult to look upon the distortion as unintentional."

The Dresden Museum possesses a skull from the island of Ceram, and another one from Boano, near Ceram, which appear to be artificially deformed; further, two skulls of the same kind from the island of Flores among ten specimens. Of a skull from the island of Timor, Dr. Davis says: "Of extraordinary form and proportions, being extremely brachycephalic, and exhibiting a large parieto-occipital flattening." Finally, the Dresden Museum recently got from the Timorlaut Island group two skulls which undoubtedly are artificially deformed.

I will not proceed further on to New Guinea, because this would lead me into the Papuan or Melanesian region, where, as well as on many islands of the South Sea, the custom prevails; but I only proposed to show its being far spread through the Malay Archipelago. I do not doubt that more information will come from this region, if only the attention of residents and explorers in future is directed to the question, and if more skulls are forwarded to scientific men and institutions.

A. B. MEYER

NOTES

EVERYTHING in connection with the Crystal Palace Electrical Exhibition appears to be progressing most satisfactorily. All the available space has been allotted to exhibitors, and many applications for room have had to be refused. The best positions have been given to the first applicants, and from appearances there is little doubt but that this exhibition will be a success. As an Electric Light Exhibition it will surpass that in Paris, because the peculiarities of the building permit direct comparisons being made, and allow of each different system having a portion of the building allotted to itself. Thus the whole of the nave will be divided off, each part to a different system, while all the different courts, the Alhambra Court, the Pompeian Court, and others, will have a separate and distinct system applied to its illumination. There does not appear to be in the world a building more suited for the display of the electric light than the Crystal Palace with the far-famed courts referred to. There is little hope of any show being made before the commencement of the ensuing year, but there is strong reason to believe that some portion of the building will be illuminated by the electric light at Christmas time. Not only has the Postmaster-General consented to make an extensive show, but the War Department have now agreed to exhibit, and there is every probability that this display will be most interesting. Had our War Department made an exhibition in Paris it would have undoubtedly outshone the displays of other governments in this section. A great feature of the exhibition will be the external exhibits. A tramway is about to be constructed along the whole terrace, on which a coach will run by the aid of Faure batteries. An electric railway, which was such an attraction at Paris, will continue to whirl passengers about by the energy produced by Siemens' currents. Although the exhibition will contain a great display of apparatus relating to all the applications of electricity, it will be an Electric Ligh Exhibition, and the numerous lamps and machines for the production of the light will be the great attraction to the public.

MR. LIVINGSTONE, Master of the Public Schools, Fort William, having kindly offered to the Scottish Meteorological Society to climb Ben Nevis once a month, whenever practicable, to read the thermometers left on the top of the Ben, made his first ascent on Saturday last. He left Fort William at 8.15 a.m., and returned at 4.5 p.m. The ascent to 2200 feet was easily accomplished, the real difficulties being encountered above this height, owing to the snow which covered the higher parts of the Ben. A shower of rain fell at the lake on the way up. At this point, as had been done by Mr. Wragge, observations were taken, and the temperature of the air found to be 37°·0, and that of the water 38°·3. On reaching the spring, which is 3363 feet high, the temperature of the air was 30°·0, and that of the spring 35°·6, or a degree higher than in the middle of June. The summit was reached at 1 p.m., the wind being north-west the temperature of the air 26°·5, and the plateau covered with snow to a depth of 2 feet. The protecting cage for the thermometers and other instruments was found all right. The maximum thermometer read 44°·0, and the minimum 14°·1—these being the extremes of temperature since Mr. Wragge made his last observation in the end of October.

IN a few days the Russian expedition to the mouth of the Lena to establish a magnetical and meteorological observatory on Weyprecht's plan is to start from St. Petersburg. The route is by rail to Nishni-Novgorod, thence by sleigh to Perm, by rail to Yekaterineburg, by sleigh to Irkutsk, where they are expected to arrive in January, and stay till May to complete their outfit, secure the services of five soldiers, and train them to meteorological observation. Meanwhile a barge is to be built or bought at Katschug, on the Lena, where the navigation of this river begins. The party, on descending the river, will stop for some time at Irkutsk, to make further preparations. The length of the route, and especially the difficulty of transportation by land without railways, make the Russian expedition the most difficult of the Arctic expeditions on Weyprecht's plan. Petroleum is wanted to give a good, clear light, and 2½ tons of it will