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ART. XX.—*On the Bodily Proportions of Buddhist Idols in Tibet.* By EMIL SCHLAGINTWEIT, LL.D.

[Read 15th June, 1863.]

WE learn from the ancient legends, that in the very earliest periods of Buddhism relics and images of Buddha were highly honoured. The religious works recommend their worship, as also that of the monuments in which the relics are deposited; and we find it mentioned that the images sent to royal personages at their desire were previously inscribed with the sacred dogma, "Ye Dharma," &c., and similar formulas, in order to make those personages acquainted with the Bhuddist doctrines.<sup>1</sup> Such were the first objects of worship. In the seventh century A.D., however, this adoration and worship had already been considerably increased; for Thien Tshang, the Chinese pilgrim, mentions, that all the principal disciples of Sákya-muni were then addressed, as also the Bódhisattwas who had excelled in virtue and the sciences, as Manjusrí. "The Maháyána schools," he says, "have adored even all Bódhisattwas without any further distinction."

Modern Buddhism goes much further still. Besides the things and persons just mentioned, it worships the mythological Buddhas and Bódhisattwas preceding Sákya-muni, as well as those who will follow him; also a host of gods, spirits, and deified priests enjoying a local reputation for sanctity. It has further made, in order to facilitate the adoration of its many deities, representations of them in prodigious quantities. Copies are met with everywhere; not a temple but contains numbers of them; and they are also set up in private houses and in the open air.

An analysis of the bodily proportions of these representations, showing well-defined features belonging to two groups decidedly differing from each other, will be the object of the following pages. The difference between the plastic forms of the Buddhas and Bódhisattwas on the one hand, and those of Dragsheds, Genii, and Lamas on the other, has not yet been, as far as I know, examined by measurements, though in Tibet the forms are more worthy our attention, from the fact that the country is inhabited by a race of

<sup>1</sup> Burnouf, "Introduction," pp. 337-51. Sykes, "Miniature Chaityas and Inscriptions of the Buddhist religious dogma." Jour. R. As. Soc., vol. xvi, p. 37.

men widely differing in form and customs from the Indian races, among whom the Buddhist faith originated.<sup>1</sup>

My brothers had made it a particular object of their ethnographical researches, to take facial casts, moulded by a mechanical process from the living subjects;<sup>2</sup> and also to define, by minute measurements of the different parts of the head and body, the general bodily proportions of the various tribes. They were also allowed to take measurements of the statues of the Buddhas and of other pieces of sculpture representing divinities set up in the temples. These materials have proved a very welcome fund to me, as they have, taken together with analyses of images and the examination of the Buddhistical speculations respecting the external appearance of their royal founder, given me the opportunity of entering into a discussion of the ethnological characteristics of the various classes of deities represented.<sup>3</sup>

The artistic representations in human form of divinities, and the figures of heroes, we find to be, in every nation, the reproduction of its own peculiar type of features, unless history somewhat modifies this otherwise natural course. Instances of this latter case are, however, much less frequent than we might anticipate. The principal causes why history has not a greater influence on the adoption and employment by art of foreign types are, it may be supposed, the following:—Firstly, the employment of images of a foreign type can be but temporary; for, the peculiar bodily proportions of a people being constantly before the eyes of these artists, they are soon taken as the leading models. And secondly, the bodily proportions have shown but little variety for periods of unexpected length. Did not the type of a nation remain, indeed, comparatively unchanged during a long period of time, the retention or not of foreign elements in art could not be judged of at all. As a

<sup>1</sup> I here limit myself to an analysis of the human forms, referring, for varieties in attitude, dress, and emblems, to chapter xiv of my volume on Buddhism, entitled, "Buddhism in Tibet, illustrated by Literary Documents and Objects of Worship."

<sup>2</sup> The entire series of 275 facial casts (published in a metallic edition by F. A. Barth, Leipzig, and Trübner, London) are to be seen in the India Museum, London, and in various other Museums. In this reproduction four principal shadings are distinguished, corresponding to the variations of complexion.

<sup>3</sup> The ethnographical materials collected by my brothers during their travels will be the object of vol. viii of the "Results of a Scientific Mission to India and High Asia." Such of the numeric values as were wanted here for comparing the measurements of the sculptures with the mean proportions of the Brahmans (the purest caste of the Hindus), and of individuals of the Tibetan race, have been calculated for the purpose at once.

peculiarly striking instance of the constancy of national type, I mention the results obtained from the inspection and comparison of works of Egyptian sculpture.<sup>1</sup> They show, although somewhat disguised under the monumental form, the features of the present inhabitants of those regions, as well as of the various neighbouring nations with whom their ancestors had come in contact.

A tendency to adopt in religious images the figure peculiar to the artist's own nation, is observed wherever foreign images have been introduced together with foreign worship. The images display the characteristics of the nation now executing them; the proportions of the body and the features may become somewhat idealized.<sup>2</sup> Garments, however, ornaments, arms, and the like, remain recognizable as of foreign origin.

But it is a peculiarity of the religious representations of Tibetan Buddhism, that they display two well-defined co-existing types, the one showing the Tibetan features, the other having retained the marks of Indian origin. To an eye practised in the examination of minor features in ethnography, the respective geographical origins of the two prototypes present themselves distinctly enough; and even intelligent natives, on their attention being directed to the leading characteristics, soon learn how to distinguish the types. Nevertheless, great precaution is necessary in touching on so delicate a consideration. Questions of ideal modifications have to be discussed and settled here, as in nearly every analysis of artistic

<sup>1</sup> As the principal works which treat of these interesting and delicate questions, I quote "Types of Mankind," and "Indigenous Races," by Nott and Gliddon. As another phenomenon in corroboration of the comparative invariability of the original type, may be quoted the Jewish colonies in India, whose members have preserved the Semitic features, and even the fair complexion, wherever they have abstained from intermarriages with natives; but have become assimilated in form to the natives where intermixture with them has taken place.

<sup>2</sup> As a curious and till now isolated instance of an apparent deviation in sculpture from the *natural proportions*, I may here mention that my brother Hermann observed in the Niniveh sculptures that the foot was considerably longer than the ulna; whilst arbitrary deviations in this respect from nature in sculpture most generally show the opposite error. It must be added, however, that as yet it appears impossible to decide whether this deviation is based upon a real anatomical feature or not, as no human remains from these countries, nor portraits of the Ninivites by other nations which would corroborate it, are to be seen even in the rich oriental museums of London. Perhaps the continued researches and important discoveries in these regions made by Sir Henry Rawlinson, to whom my brother had occasion to communicate his remark, will one day assist in deciding the question. Foreign nations figured as prisoners by the artists of Niniveh have not these exceptional proportions; this decidedly increases their importance wherever we meet with them.

works, before one enters upon a comparison of positive data. And this, probably, has been the obstacle to the explanation of forms at first sight appearing altogether unusual, as well as arbitrary.<sup>1</sup>

The Bhot race, belonging to the Turanian family, has been so often described in detail that I shall confine myself, in my remarks on this people, to what is absolutely necessary. The Bhots are characterised by broad features, prominent cheekbones, and oblique eyelids, the orbits and eyeballs, however, being unaffected thereby. I may add as other features less striking, perhaps, but not less typical, that in the Bhot race the ear is comparatively longer, the mouth broader, and the lower jaw, with the chin, decidedly weaker. Now in all the representations of the Buddhas and Bóddhisattwas, we meet, on the contrary, with features reminding us of the type of the Indian races of Aryan origin—the high and open forehead, with a broad, symmetrical, and prominent chin. My analytical remarks in reference to the measurements given will also prove that the body, too, of the Buddhas presents many other not accidental analogies with the bodily proportions of the Aryan family of mankind. Dragsheds, Genii, and Lamas, on the contrary, show the Tibetan character.

Before entering into details, I wish to say a few words on the numbers laid down in the following tables. In order to facilitate an immediate comparison, these numbers are made to represent only *proportional values*. The absolute dimensions were referred, by division by the total height, to that total height here taken as unit; and they can be re-obtained at once by multiplying the respective numbers by the total height, which before was used as a divisor. Its mean value for the Brahmans measured is 5 feet 6 inches (English); for the Bhots, 5 feet 4 inches. For the statues the absolute values are of much less importance. It is here particularly necessary to keep in view that objects of coarse workmanship and of very small dimensions were avoided, as such things could not be considered as presenting a fair average. As an approximate mean value of absolute height I may name 3 to 4 feet for Group C, and 2 to 3 feet for Group D. Group C includes, besides, two statues from Burmah, exceeding 10 feet in height,<sup>2</sup>

<sup>1</sup> I limit myself here almost exclusively to Tibetan Buddhism. China, Japan, and Ceylon, as also the Indian Archipelago, have gods of their own; and these latter show, as was to be expected, types differing from those of the Tibetan representations.

<sup>2</sup> Sculptured figures of Buddha of enormous dimensions are not rare either in Burmah or Tibet. An album of ninety-six photographs by Colonel Trype, of

which were presented to my brother Hermann by Dr. Mouat, who obtained them when accompanying the army in the expedition against Rangoon. The measurements of these two statues were only taken into calculation because a careful comparison with figures of Buddha measured in Tibet have proved them to have almost identical proportions; and they have, besides, the advantage of furnishing, by their size, definite values.

The first and second columns of the tables contain the means of different measurements of the human figure. The Brahman dimensions are based upon five high-caste individuals of perfectly pure race; the Bhot upon twenty-seven, limited also to persons of pure (Tibetan) type, although they include natives of the tract of country extending from the Eastern Himálaya to Western Tibet. The third column of the tables shows the mean measurements of plastic representations, partly also of pictorial ones, the latter being of Buddhas and Bódhisattwas. The fourth column gives the same for Dragsheds, Genii, and Lamas.

The number of measurements taken from living individuals was limited to such parts of the body as by a varied and most detailed examination had been found to be characteristic.<sup>1</sup> In the present comparison with statues, such parts of the body had to be excluded which cannot be well defined in clothed or draped sculptures.

In reference to the terminology used in the dimensions, a few words of explanation will be sufficient.

By vertex is to be understood the place of junction of the principal cranial bones at the crown of the head, coinciding with the whorl of the hair.

The antero-posterior diameter is the line connecting the central part of the forehead with the line of junction of the head with the nape of the neck.

The distances from the crown of the head to the trochanter,

which the Madras Government ordered several copies for official distribution, contains numerous instances of such figures varying from 20 to 40 feet in height. They are sometimes in a sitting, sometimes in a standing attitude. In Tibet my brothers saw an unusually large figure in the temple at Leh. The statue represents Buddha in meditation (in a sitting attitude), and is a little larger than the temple itself, a part of the head going through a hole in the roof into the open air. The composition of this statue is not less curious than its dimensions; the body and legs are formed by a framework of wood, draped with cloth and paper, while the head, arms, and feet are the only parts moulded in clay.

<sup>1</sup> For the anatomical definition of the parts measured, and for the instruments employed, see Hermann de Schlagintweit's Memoir in Bär and Wagner, "Bericht über die anthropologische Versammlung in Göttingen," 1861.

and from the trochanter to the ground, give together the total height of the man. The trochanter is the prominent part of the thigh-bone near its upper end at the hip-joint.

The total span is the distance from the tip of one middle finger to that of the other, the arms being stretched out to their full length in a horizontal position. In statues the total span had to be obtained by adding the length of hands and arms to the breadth of the torso at the shoulders.

The ulna is one of the two bones of the fore-arm; its ends are marked by the elbow and the prominence of the wrist-joint on the side of the little finger.

It is evident that in comparing relative values, the amount of difference has not the same importance for all the parts measured. For, if the object in itself is already diminutive, a small difference is in such a case of the same value as a much larger one in others.

### 1. DIMENSIONS OF THE HEAD.

(Total height of the body=1.)

Objects measured.	A. Brahmans.	B. Bhots.	C. Buddhas, Bodhisattvas.	D. Dragheda, Genii, Lamas.
Periphery round the forehead ..	0·322	0·345	0·350	0·420
From the { orbital margin ..	0·103	0·111	0·110	0·131
vertex { base of the nose ..	0·126	0·131	0·140	0·150
to the { mouth ..	0·133	0·140	0·150	0·152
{ chin ..	0·145	0·149	0·166	0·160
Diameter at the temples ..	0·078	0·083	0·088	0·100
Diameter, antero-posterior ..	0·105	0·114	0·114	0·130
Eyes, distance of exterior corners..	0·055	0·065	0·071	0·087
„ interior do. ..	0·021	0·022	0·023	0·030
„ length of the eye ..	0·017	0·022	0·024	0·029
Malar, or cheek bones, breadth ..	0·064	0·078	0·081	0·090
Nose, breadth ..	0·022	0·023	0·025	0·029
„ length ..	0·029	0·038	0·035	0·033
Ear, length..	0·035	0·040	0·110	0·070

The numbers in the table show that *all* the dimensions of the head are greater in both groups of the figures than in the groups of the living beings. The figures have, in general, the head much *too large* in proportion to their height; but the deviations are not the same in each group. The most arbitrary form is that of the ear; thus, by the lobe of the ear being perforated for the reception of ornaments, and its being extended to an unusual length, it sometimes reaches down to the shoulders. The eyes, too, are extremely

large, and have in both groups a decided, though unequally strong, Bhotian type. They show the outer angles raised, the horizontal axis inclined, and a great length. The effect of these dimensions becomes still more striking by the eyes being very often only partly open. The periphery round the forehead, the diameter at the temples, and particularly the antero-posterior diameter, are much less increased in the Buddha figures, Group C, than in those of the Dragsheds and Lamas, Group D. The parts least differing in the different types are the mouth, the cheek bones, and the breadth of the nose between the eyes, as well as at its base. Group D has these latter, however, a little larger.

On examining the general character of the head in the respective groups, we find in Group C the vertical length of the head comparatively greater, and the head itself of a more oval form. Group D has the head horizontally elongated—a form characteristic also of the Bhot race, Group B; in both these the forehead is low, and the jaw-bone weak. The distance from the vertex to the orbital margin, and to the base of the nose, is greater in Group D than in Group C; the distance from the vertex to the chin, on the contrary, is considerably less in Group D; it exceeds the distance to the mouth by 0·016 in Group C, and only by 0·008 in Group D. The pure Brahman type, A, has the respective difference 0·012.

## 2. DIMENSIONS OF THE BODY.

Objects measured.	A. Brahmans.	B. Bhots.	C. Buddhas, Bodhisattwas.	D. Dragsheds, Genil, Lamas.
Total height .. ..	1·000	1·000	1·000	1·000
Crown of the head to trochanter ..	0·446	0·449	0·430	0·410
Trochanter to ground .. ..	0·554	0·551	0·570	0·590
Total span of extended arms ..	1·025	1·069	1·080	1·117
Length of arm .. ..	0·433	0·451	0·449	0·430
„ ulna .. ..	0·165	0·164	0·149	0·155
„ hand .. ..	0·107	0·110	0·110	0·111
Foot, length .. ..	0·144	0·145	0·140	0·144
„ breadth .. ..	0·057	0·058	0·050	0·051

In reference to the dimensions of the body we see, as a peculiarity of the figures, that the upper part of the body is too short. I found this to be more frequently the case with comparatively small figures than with larger ones. The total span of the extended arms is too large; less on account of a disproportionate



dimension of the arms—which in Group D have even a tendency to be below the average—than on account of a great and somewhat exaggerated breadth of the chest. The difference in the length of the arms, and the greater shortness of the upper part of the body, may be considered as the principal distinctive marks for the two classes in reference to the body; the following deviations from nature are nearly the same for both classes of images. The fore-arm is decidedly too short. The hand, when well executed, differs but very little; but in badly executed figures it is occasionally a little too long. The foot is tolerably well proportioned both in length and breadth, though in small figures its dimensions frequently exceed the mean proportion, particularly as regards the length; but these must be considered arbitrary, as dimensions below the average are scarcely less frequent in large-sized figures.

Details concerning the conventional or canonical costume of these statues, the objects which they hold in their hands, &c., might be added in great variety, and could easily be shown to corroborate the distinctions I have endeavoured to establish here by their *bodily proportions*; it will be sufficient, however, to refer the reader to the various and important researches published at various times in the volumes of the Society's Transactions and Journal.

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