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Światowit 33, 143-174

1972

ŚWIATOWIT
Warszawa 1972 t. XXXIII

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1. INTRODUCTORY

The purpose of this paper is to present briefly the results of comparative analysis of racial structure of the two Precolumbian series of crania from Tlatilco, Mexico D.F. and Cerro de las Mesas, Vera Cruz.

The Tlatilco series descends from the famous cemetery of Preclassic Period located in a vicinity of Mexico City. Its middle phase (1100 - 600 B.C.) had been penetrated by archeologically evidenced strong influences of "Olmec" civilisation (see: R. Pina Chan, 1958).

The series from Cerro de las Mesas has been excavated by R. Stirling in 1940 - 41 and is dated on the Classic Period. First anthropological studies of both series were published by J. Faulhaber (1965) and J. Comas (1945) respectively. They have been again personally investigated by the present author during his stay in 1966 in the Department of Physical Anthropology of the National Institute of Anthropology and History (INAH) in Mexico. A general author's aim was to describe the internal phenotypical variability of these series in order to conceive their racial structure what might enlight, to some extent, a very complicated problem of origins of the creators of a mysterious and most ancient hitherto known in Mesoamerica — La Venta or "Olmec" civilisation. Consequently, there were examined crania aged from juvenis to senilis, in a set of classic diagnostic traits, both craniometric and cranioscopic ones (Tlatilco: 38 males and 62 females and, Cerro: 18 males and 7 females).

Thus, the following diameters have been measured according to R. Martin's technique: g-op, eu-eu, b-ba, ft-ft, zy-zy, zm-zm, n-pr, n-ns, nasal breadth, mf-ek and orbital height. The cranioscopic traits were appreciated by use of the special photographic scales of I. Michalski which make possible a more intersubjective estimation of descriptive features. The description included the set of following 29 traits (in brackets is given No of Michalski's scale): vertical cranial contour (No 1), contour of occiput (No 3), occipital protuberance (No 4), profile of occiput (No 6), size of mastoids (No 5), position

of parietals (No 7), inclination of forehead (No 9), profile of glabella (No 11), pterion region (No 12), prominence of maxilla (No 18), height of nasal root (No 19), prominence of nasal bones (No 20), shape of profile of nasal bones (No 21), position of nasal spine (No 22), prominence of nasal spine (No 23), development of supraorbital arcs (No 24), size of orbits (No 25), shape of orbits (No 26), breadth of nasal root (No 27), frontal shape of nasal bones (No 28), shape of nasal aperture (No 29), shape of lower margin of nasal aperture (No 30), depth of canine fossa (No 31), depth of maxillary incisure (No 32), shape of alveolar arc of maxilla (No 40), shape of alveolar arc of mandible (No 41), cofiguration of mandibular ramus (No 44), development of mental protuberance (No 45) and basal view of mandible (No 46).

Then, there were calculated 8 classic indices: cephalic, height-length, height-breadth, fronto-parietal, upper facial of Kollmann, upper facial of Virchow, nasal and orbital. Additionally, all the crania have been photographed by the present author in two views: frontal and lateral. At last, each more complete cranium has been characterised by, so called, Mean Position Index ($\bar{P}$) calculated on the basis of a set of diagnostic cranioscopic traits converted into special percentage scales (see: A. Wierciński, 1968). The index ($\bar{P}$) expresses the average distance between extreme individual variants of two racial varieties compared. There were taken into account the comparisons in the combinations of Yellow-White and, Black-Yellow varieties. For an illustration, the frequency distributions of 3 series of crania descending from Poland, Mongolia and Uganda have been cited as models which characterize a given racial variety of man. In the combination Yellow-White variety the value 0% of $\bar{P}$ denotes an extreme variant of the Yellow variety while that of 100% the upper limit of the White variety. Correspondingly, in the combination Black-Yellow variety, 0% of $\bar{P}$ denotes an extreme of the Black variety and 100% of $\bar{P}$ — the extreme variant of the Yellow variety. The value of 50% of $\bar{P}$ demonstrates a lack of discrimination between the two varieties compared, otherwise speaking, a strictly intermediate variant.

The racial analysis of both "Olmecoid" series of crania from Tlatilco and Cerro de las Mesas has included the following stages:

a) comparison of arithmetic means of diameters and indices calculated for deformed and undeformed crania of both sexes;

b) comparisons of frequency distributions of cranioscopic traits in relation to the mentioned above 3 series representing variability models of 3 racial varieties of man, tested by Chi-square;

c) application of Mean Position Index ($\bar{P}$) to discriminate the affinities between racial varieties in a set of traits, simultaneously treated;

d) diagraphical analysis of the distinguished intraserial groups of intervals of $\bar{P}$ values in relation to average characteristics of 3 racial varieties;

e) comparison of racial compositions of the series calculated by halving method of Michalski on the basis of individual typological analysis of the crania diagnosed according to the procedure of the Polish Comparative-Morphological School.

All the details of the conceptions and methods of racial analysis mentioned above have been discussed in a series of author's papers dealing with applications of anthropological data to ethnogenesis (see: A. Wierciński, 1962, 1963, 1964, 1965, 1965a, 1968, 1968a, and 1968b).

Also, it should be remembered that this paper includes only a brief summary of the results of complete elaborations of Tlatilco and Cerro de las Mesas series of crania which are just going to be prepared for printing.

As an elucidatory material, some physiognomical descriptions of realistic human representations of the ancient "Olmec" art have been compared with the results of craniological analysis. This material is derived from full-sculptures and stelas which have been personally examined by the present author at Jalapa and La Venta Museums, during his travell to Yucatan in May 1966.

2. AVERAGE CHARACTERISTICS OF THE SERIES

The average characteristics of both "Olmecoid" series from Tlatilco and Cerro de las Mesas have been presented in terms of arithmetic means calculated separately for males and females divided into two classes of artificially deformed and undeformed crania (inclusive slightly deformed in the latter class). Unfortunately, a too short valume of Cerro series does not permit to consider its absolute diameters and, so, only indices were analysed. Therefore, a main basis for our conclusions supply the data from Tlatilco.

Thus, the comparison presented in the table 1 reveals commonly observed sexual dimorphism in diameters and indices.

The indices of undeformed crania show a tendency towards mesocephaly, very high cranial vault, narrow to middle broad forehead, rather high face, medium broad nose and high orbits.

The differences between deformed and undeformed crania seem to be very regular. The greatest changes occur in neurocranium as shortening of maximum length (g-op) and enlarging the maximum breadth (eu-eu) and minimum frontal breadth (ft-ft). The bregmatic height (b-ba) is being only slightly changed. The changes in bieuronic diameter certainly are correlated with a slight enlarging of bizygomatic (zy-zy) and bizygomaxillar (zm-zm) diameters. The remaining splanchnocranial measurements do not show any remarkable and regular change.

Correspondingly, there are observed sharp differences in neurocranial indices. The deformed crania reveal strong brachycephaly, still higher cranial vault and narrower forehead associeted with some shortening of the face

Table 1

Average characteristics of Tlatilco and Cerro de las Mesas crania

Trait	Undeformed females $\bar{x}$ (n)	Deformed females $\bar{x}$ (n)	d_f	Tlatilco		d_m	Differnces		Cerro dx las Mesas
				Undeformed males $\bar{x}$ (n)	Deformed males $\bar{x}$ (n)		Undeformed m−f	Deformed m−f	
Maximum length (g-op)	168.7 (12)	154.2 (30)	+14.5	179.0 (13)	167.2 (16)	+11.8	+10.3	+13.0	
Maximum breadth (eu)-eu)	137.8 (13)	149.7 (35)	−11.9	138.7 (12)	150.5 (18)	−11.8	+0.9	+0.8	
Bregmatic height (b-ba)	134.8 (8)	135.5 (22)	− 0.7	139.7 (7)	143.4 (5)	− 3.7	+4.9	+7.9	
Minimum frontal breadth (ft-ft)	89.4 (9)	96.9 (27)	−7.5	95.5 (11)	97.0 (12)	−1.5	+6.1	+0.1	
Bizygomatic breadth (zy-zy)	130.0 (9)	134.4 (25)	−4.4	137.0 (6)	140.4 (5)	−3.4	+7.0	+6.0	
Bizygomaxillar breadth (zm-zm)	98.0 (10)	100.0 (30)	−2.0	102.4 (7)	103.9 (9)	−1.5	+4.4	+3.9	
Upper facial height (n-pr)	72.1 (10)	71.3 (29)	+0.8	73.1 (7)	74.3 (7)	−1.2	+1.0	+3.0	
Nasal height (n-ns)	54.2 (10)	52.4 (30)	+1.8	51.7 (7)	53.9 (7)	−2.2	−2.5	+1.5	
Nasal breadth	25.9 (10)	25.7 (34)	+0.2	25.9 (10)	26.4 (11)	−0.5	0.0	+0.7	Cerro de las Mesas
Orbital breadth (mf-ek)	41.8 (11)	41.7 (33)	+0.1	41.9 (8)	42.2 (9)	−0.3	+0.1	+0.5	males+females
									undeform. $\bar{x}$ (n) / deform. $\bar{x}$ (n) / d_{f+m}
Orbital height	36.0 (12)	35.9 (34)	+0.1	35.8 (8)	35.9 (9)	−0.1	−0.2	0.0	

Indices:											
breadth/length	82.0 (12)	94.6 (29)	−12.6	78.2 (12)	89.7 (15)	−11.5	−3.8	−4.9	82.6 (10)	93.7 (8)	−11.1
height/length	80.9 (7)	86.1 (21)	−5.2	79.0 (7)	88.4 (5)	−9.4	−1.9	−7.7	74.6 (4)	82.4 (2)	−7.8
height/breadth	99.1 (8)	90.8 (21)	+8.3	100.3 (7)	93.1 (5)	+7.2	+1.2	+2.3	95.0 (4)	87.7 (2)	+7.3
fronto-parietal	65.2 (9)	63.2 (24)	+2.0	68.9 (10)	64.8 (11)	+4.1	+3.7	+1.6	63.2 (8)	61.7 (7)	+1.5
upper facial of Kollmann	55.9 (8)	52.8 (25)	+3.1	53.4 (5)	52.8 (5)	+0.6	−2.5	0.0	54.7 (4)	51.(5)	+3.6
upper facial of Virchow	73.6 (10)	71.6 (28)	+2.0	71.5 (7)	71.2 (7)	+0.3	−2.1	−0.4	65.0 (6)	69.0 (5)	−4.7
nasal	47.7 (10)	48.6 (30)	−0.9	48.9 (7)	48.4 (7)	+0.5	+1.2	−0.4	46.5 (5)	47.9 (5)	−1.4
orbital	85.9 (10)	86.3 (33)	−0.4	84.2 (7)	84.6 (7)	−0.4	−1.7	−1.7	83.5 (5)	86.4 (5)	−2.9
Stature (Genoves' formulas)	151.9 (11)	154.0 (21)	−2.1	161.6 (7)	162.9 (8)	−1.3	+9.7	+8.9			

as measured by both upper facial indices of Kollmann and Virchow. The remaining nasal and orbital indices do not suffer any considerable change.

This information about the changes caused by artificial deformation among our "Olmecoid" series seems to suffice in order not to disturb much the course of racial analysis since, there appears an apparent regularity of differences between male and female crania, deformed and undeformed ones. Thus, diameters and indices of deformed crania can be converted into normal relations with a greater probability.

Now, it would be worthy to answer a question whether do exist some differences in a set of diagnostic cranioscopic traits jointly conceived by the distribution of individual values of Mean Position Index (P_{y-w}) calculated for the combination: Yellow-White variety for Tlatilco series (see: table 3). The results of calculations seem to allow a statement about a lack of significant differences between deformed and undeformed crania.

However, there may be observed an interesting and significant sexual differentiation between both these classes (see: table 4) confirmed by Chi-square test. It appears that deformation is being associated in Tlatilco with the female crania. Of course, this is a single observation and the problem should be investigated on different Mesoamerican series to ascertain any general rule.

Now, there may be described the average characteristics of our series in a set of facial cranioscopic traits (see: table 2). Their arithmetic means

Table 2

Average characteristics of Tlatilco and Cerro de las Mesas in cranioscopic traits (expressed in percentage scales)

Trait	Tlatilco		Cerro de las Mesas	
	males $\bar{x}$ (n)	females $\bar{x}$ (n)	males $\bar{x}$ (n)	females $\bar{x}$ (n)
18. Prominence-maxilla	46.1 (22)	43.5 (48)	40.5 (14)	31.7 (4)
19. Height-nas. root	51.7 (21)	38.0 (44)	48.4 (13)	32.2 (4)
20. Prominence-nose	61.9 (15)	44.6 (34)	64.7 (8)	41.2 (3)
22. Positipn-nas. spine	21.1 (19)	27.1 (38)	44.1 (11)	39.3 (4)
23. Prominence- „ „	34.5 (17)	37.2 (40)	34.5 (12)	32.2 (4)
30. Lower marg. nas. ap.	57.2 (23)	69.5 (48)	61.5 (16)	69.2 (4)
31. Depth-canine fossa	66.7 (23)	57.4 (53)	54.1 (15)	48.1 (3)
32. Depth-maxill. inc.	51.1 (20)	47.2 (52)	43.1 (16)	44.5 (3)

Table 3

Comparison of frequency distributions of Index $\overline{P}$ between deformed and undeformed crania (m+f) in Tlatilco

$\overline{P}_{y-w}$	deformed n	deformed %	undeformed n	undeformed %	
20 - 29.9	1	2.9	1	4.0	
30 - 39.9	11	31.4	4	16.0	
40 - 49.9	10	28.6	7	28.0	
50 - 59.9	6	17.1	7	28.0	
60 - 69.9	5	14.3	5	20.0	$\chi^2 = 1.32$
70 - 79.9	2	5.7	—	—	$0.3 > P\ (\chi)^2 > 0.2$
80 - 89.9	—	—	1	4.0	
Totals	35	100.0	25	100.0	

Table 4

Sexual dimorphism of deformed and undeformed crania (m+f) in Tlatilco

	deformed	undeformed	Totals	
males	7−	12+	19	
females	28+	13−	41	$\chi^2 = 5.27$
Totals	35	25	60	$0.05 > P\ (\chi)^2 > 0.02$

calculated for the values of Michalski's scales converted into percentages show a high degree of similarity between Tlatilco and Cerro de las Mesas. The "Olmecoid" crania, on the average, reveal strong or medium alveolar

prognathism, somewhat flattened or medium high nasal root combined with slightly or medium prominent nose and a tendency towards elevated and slightly prominent nasal spine. The lower margin of nasal aperture is bifurcated and moderately sharp while canine fossa and maxillary incisure are moderately deep. Such a constellation of traits are near to the characteristics of the Yellow variety. Some slight though regular differences between Tlatilco and Cerro series are based on greater alveolar prognathism lower nasal root, more sunken nasal spine and deeper canine fossa together with maxillary incisure of the latter series.

Yet, it might be useful to remark interestingly regular sexual dimorphism as revealed by certain cranioscopic features.

Thus, the female crania show always stronger prognathism, lower nasal root, less prominent nasal bones, sharper margin of nasal aperture and deeper canine fossa.

At last, there remains the stature of Tlatilco series (see: table 1) which was calculated as arithmetic mean from the lengths of the long bones remeasured by the present author. As a basis of calculations the tables of S. Genoves (1967) had been accepted. The stature of Tlatilco series shows low, though, non-pygmoid values in both sexes.

3. RESULTS OF COMPARATIVE ANALYSIS OF CRANIOSCOPIC TRAITS

A short space of this paper does not allow to consider all the details of comparative analysis of all the cranioscopic features examined among Tlatilco and Cerro crania. Thus, there will be presented below only some, most important results of this analysis which regard most diagnostic traits in distinguishing the racial varieties of man. The neurocranial characteristics have been excluded here owing to the changes due to artificial deformation.

The general results of the analysis represents table 5 which gives the estimations of frequency distributions by Chi-square test. A great mutual proximity of both "Olmecoid" series should be emphasized since they do not show significant differences in the frequency distributions of such traits as: prominence of maxilla, prominence of nasal bones, height of nasal root, breadth of nasal root, shape of lower margin of nasal aperture, prominence of nasal spine, depth of maxillary incisure and, most probably, shape of profile of nasal bones, frontal shape of nasal bones, shape of nasal aperture and shape of orbits. Out of 13 considered traits only two reveal significant differences, namely, position of nasal spine and depth of canine fossa.

Principally, the curves of both "Olmecoid" series are nearest to the Yellow variety model (Mongolia), especially, in prominence of maxilla, prominence of nasal bones, shape of nasal aperture, prominence of nasal spine and depth of maxillary incisure. However, remaining 8 traits reveal significant differences

Table 5

Comparison of estimations of frequency distributions of cranioscopic traits between Tlatilco, Cerro de las Mesas, Uganda, Mongolia and Poland (males+females)

Trait	Black variety Uganda	Yellow variety Mongolia	White variety Poland	Tlatilco with Cerro	Remarks
18. Prominence-maxilla:					
Chi-square Tl. with-	57.07	0.34	22.31	2.80	Tlatilco nearest to Yellow, Cerro shifted somewhat toward Black curve.
Probability	$P<0.01$	$0.90>P>0.80$	$P<0.01$	$0.20<P<0.37$	
Chi-square Ce.with-	28.14	3.85	18.29		
Probability	$P<0.01$	$0.22>P>0.14$	$P<0.01$		
20. Prominence-nose:					Tlatilco indistinguishable from Cerro-both of them very similar to Yellow but with extremes penetrating Black and White curves.
Chi-square Tl. with-	27.28	3.85	33.65	0.01	
Probability	$P<0.01$	$0.22>P>0.14$	$P<0.01$	$0.90<P<0.95$	
Chi-square Ce. with-	17.31	2.48	29.32		
Probability	$P<0.01$	$0.10<P<0.20$	$P<0.01$		
21. Profile-nose:					Tlatilco and Cerro show the same curve with two peaks corresponding to Black and White curves.
Chi-square Tl. with-	5.21	6.02	21.73	most probably	
Probability	$0.02<P<0.05$	$0.01<P<0.02$	$P<0.01$	insignificant	
Chi-square Ce. with-	like Tlatilco	like Tlatilco	like Tlatilco		
28. Shape-nasal bones:				most probably	Tlatilco similar to Cerro with peculiar peak at the place of overlapping of Black and White curves.
Chi-square Tl. with-	14.29	35.05	14.00	insignificant	
Probability	$P<0.01$	$P<0.01$	$P<0.01$		
Chi-square Ce. with-	like Tlatilco	like Tlatilco	like Tlatilco	like Tlatilco	
19. Height-nasal root:					Tlatilco similar to Cerro located between Yellow&Black and White curves.
Chi-square Tl. with-	21.17	14.90	35.78	1.02	
Probability	$P<0.01$	$P<0.01$	$P<0.01$	$0.70>P>0.50$	
Chi-square Ce. with-	15.40	12.50	12.79		
Probability	$P<0.01$	$P<0.01$	$P<0.01$		
27. Breadth-nasal root:					Tlatilco and Cerro similar to themselves, partly overlapping with Black and partly with White curve in the extremes.
Chi-square Tl. with-	7.45	18.24	16.84	2.00	
Probability	$0.02<P<0.05$	$P<0.01$	$P<0.01$	$0.30<P<0.50$	
Chi-square Ce. with-	2.04	7.92	2.10		
Probability	$0.30<P<0.50$	$0.01<P<0.02$	$0.30<P<0.50$		

29. Shape-nasal aperture:					A greater similarity of Tlatilco and Cerro to themselves and Yellow curve. some penetration of White curve
Chi-square Tl. with-	21.82	2.70	6.35	most probably	
Probability	P<0.01	0.20<P<0.30	0.02<P<0.05	insignificant	
Chi-square Ce. with-	like Tlatilco	like Tlatilco	like Tlatilco		
30. Lower margin nas. ap.	44.24	7.25	1.58	0.68	Tlatilco similar to White curve while Cerro shows specific shape.
Probability	P<0.01	0.02<P<0.05	0.80<P<0.90	0.30<P<0.50	
Chi-square Ce. with	0.67	7.40	1.55		
Probability	0.30<P<0.50	P<0.01	0.16<P<0.30		
22. Position-nasal spine:					Tlatilco very similar to White curve while Cerro even more shifted toward White curve extreme.
Chi-square Tl. with-	23.87	10.11	1.71	3.87	
Probability	P<0.01	P<0.01	0.30<P<0.50	0.02<P<0.05	
Chi-square Ce. with-	20.73	14.67	1.63		
Probability	P<0.01	P<0.01	0.20<P<0.30		
23. Prominence-nas. spine:					Tlatilco and Cerro very similar to Yellow curve but one extreme of Tlatilco penetrates far White curve.
Chi-square Tl. with-	47.27	4.68	17.78	0.41	
Probability	P<0.01	0.05<P<0.10	P<0.01	0.50<P<0.70	
Chi-square Ce. with-	17.92	1.28	4.28		
Probability	P<0.01	0.20<P<0.30	0.02<P<0.05		
26. Shape-orbita:					Tlatilco and Cerro almost identical; both reveal specific peak above maximum of White curve.
Chi-square Tl. with-	25.58	41.52	10.52	most probably	
Probability	P<0.01	P<0.01	P<0.02	insignificant	
Chi-square Ce. with-	like Tlatilco	like Tlatilco	like Tlatilco		
31. Depth-canine fossa:	significant				Tlatilco very similar to Yellow curve while Cerro shows specific peak above the maximum of White curve.
Chi-square Tl. with		4.80	16.38	7.51	
Probability		0.17<P<0.26	P<0.01	P<0.01	
Chi-square Ce. with	insignificant	7.75	1.03		
Probability		P<0.01	P=0.30		
32. Depth-maxill. inc.:					Tlatilco and Cerro rather similar to Yellow curve though Cerro more shifted toward White curve.
Chi-square Tl. with-	37.09	0.29	12.51	0.94	
Probability	P<0.01	0.80<P<0.90	P<0.01	0.30<P<0.50	
Chi-square Ce. with	9.88	1.15	1.99		
Probability	P<0.01	0.20<P<0.30	P=0a16		

Table 6

Frequency distributions of Mean Position Index ($\overline{P}$) between pairs of racial varieties

$\overline{P}$	Black-Yellow				Yellow-White			
	Uganda	Tlatilco	Cerro Mongolia		Mongolia	Tlatilco	Cerro	Poland
0 - 9.9	1.0	—	—	—	1.6	—	—	—
10 - 19.9	7.6	—	—	—	3.2	—	—	—
20 - 29.9	21.9	—	—	—	20.6	3.1	5.9	—
30 - 39.9	35.2	3.2	—	—	34.9	28.1	5.9	—
40 - 49.9	23.8	17.5	11.8	6.4	25.4	26.6	29.4	6.0
50 - 59.9	9.5	44.4	52.9	20.6	14.3	20.3	41.1	25.0
60 - 69.9	1.0	19.0	23.5	36.5	—	17.2	17.6	45.7
70 - 79.9	—	12.7	11.8	33.4	—	3.1	—	22.4
80 - 89.9	—	1.6	—	3.2	—	1.6	—	0.9
90 - 99.9	—	1.6	—	—	—	—	—	—
Totals (n)	105	63	17	63	63	64	17	116

$\chi^2_{T-C}=0.01$	$0.95>P\,(\chi^2)>0.90$	$\chi^2_{T-C}=1.49$	$0.20<P\,(\chi^2)<0.30$
$\chi^2_{U-C}=$highly significant	$P\,(\chi^2)<0.01$	$\chi^2_{M-C}=14.64$	$P\,(\chi^2)<0.01$
$\chi^2_{M-C}=8.38$	$P\,(\chi^2)<0.01$	$\chi^2_{P-C}=19.42$	$P\,(\chi^2)<0.01$
$\chi^2_{U-T}=80.77$	$P\,(\chi^2)<0.01$	$\chi^2_{M-T}=14.64$	$P\,(\chi^2)<0.01$
$\chi^2_{M-T}=18.51$		$\chi^2_{P-T}=63.17$	$P\,(\chi^2)<0.01$

and a presence of both Black and White varieties components might be suspected. The latter concusion could be inferred from the far reaching extremes of "Olmecoid" curves which, in some cases, do penetrate White (Poland) or Black (Uganda) curves. All these remarks are included in the table 5. In order to analyse more deeply this rather strange situation the frequency distributions of Mean Position Index ($\overline{P}$) have been considered in the comparisons between Yellow-White and Black-Yellow varieties (see: table 6) estimated by Chi-square test respectively. The results appear to be very regular and seem to verify our suppositions. First of all, both "Olmecoid" series do not differ significantly from themselves in the two intervarietal comparisons. At the same time, more informative and discriminant values of $\overline{P}$ (which is being treating all the traits simultaneously have shown very significant differences in relation to all 3 racial varieties since, in both comparisons our two "Olmecoid" distributions occupied, more or less, an intermediate position. A more detailed analysis of some extreme parts of the curves by Chi-square test proves a presence of Black and White variety component in Tlatilco. In the first case, value of Chi-square in the place below 50% of $\overline{P}_{y-w}$ equals to 4.97 with one degree of freedom and, in the place of White variants, i.e. above 50% of $\overline{P}_{y-w}$ it equals to 4.33 with one degree of freedom. These results denote that, at least, Tlatilco series shows the significant positive surpluses of the crania which are characterised by whole complexes of traits typical for the Black or the White variety (see: figs 1 - 2).

This conclusion may be ascertained still by use of diagraphic method of least differences of J. Czekanowski. The basis of calculations is constituted

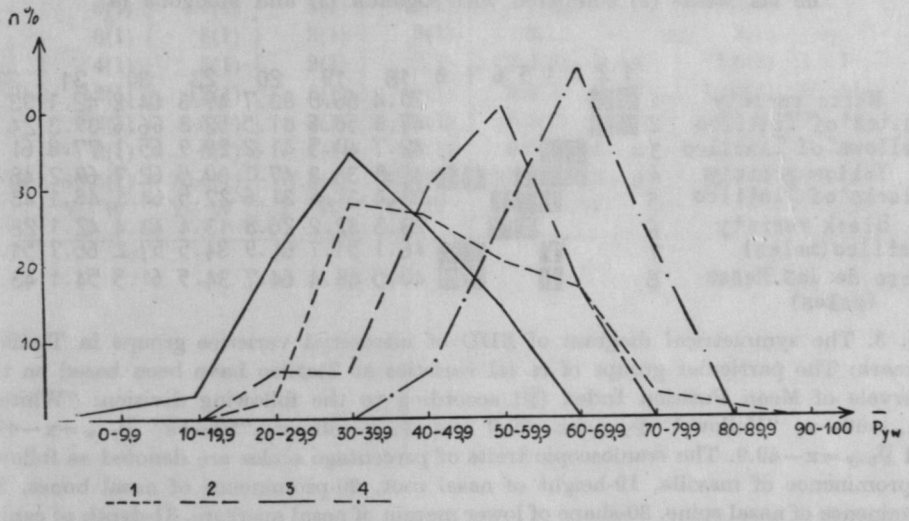


Fig. 1. The frequency distributions of Mean Position Index ($\overline{P}$) of Tlatilco (1), and Cerro de las Mesas (2)ń compared with Mongolia (3) and Poland (4)

by the arithmetic means of 7 diagnostic cranioscopic traits (see: table attached to fig. 3).

The diagram has been constructed according to the matrix of Σ DD-distances calculated for all the pairs of average characteristics of intraserial groups of racial varieties of "Olmecoid" series in relation to those of Poland, Uganda and Mongolia male series. The groups of the diagram have been

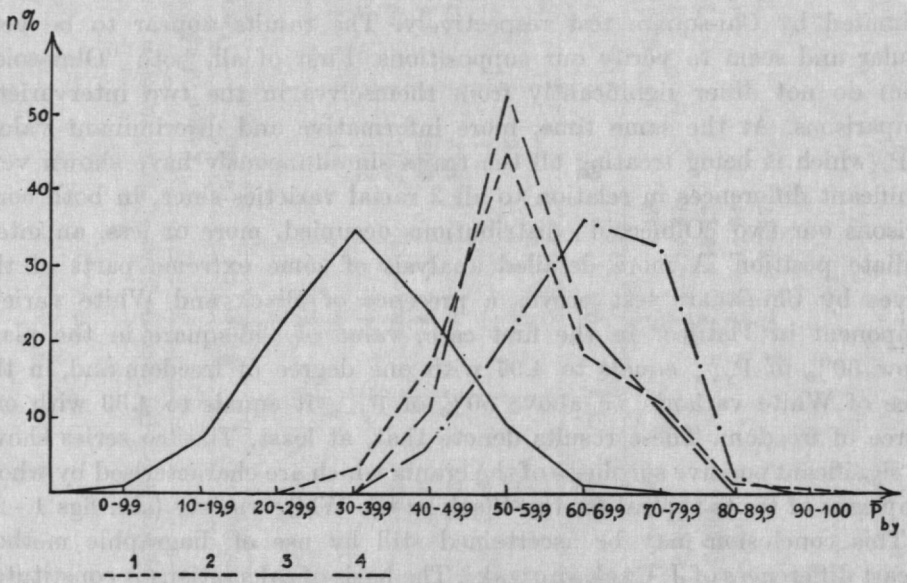


Fig. 2. The frequency dostributions of Mean Position Index ($\overline{P}$) of Tlatilco (1) and Cerro de las Mesas (2) compared with Uganda (3) and Mongolia (4)

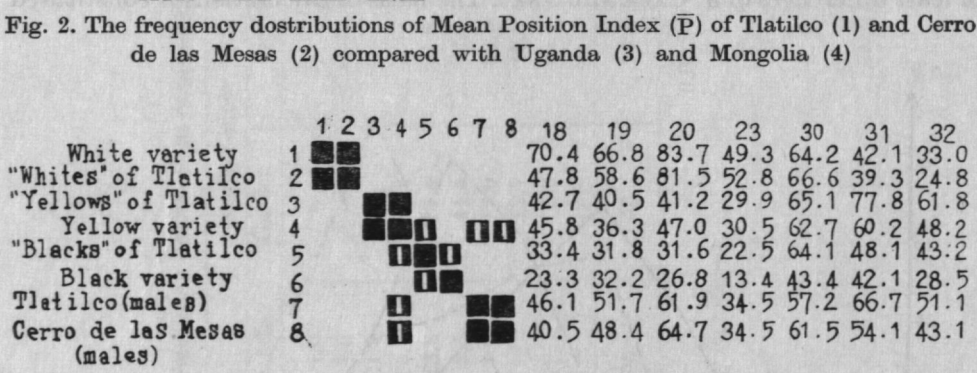


Fig. 3. The symmetrical diagram of ΣDD of intraserial varieties groups in Tlatilco. Remark: The particular groups of racial varieties at Tlatilco have been based on the intervals of Mean Position Index ($\overline{P}$) according to the following division: "Whites" $\overline{P}_{y-w}=60-x$; "Yellows" $\overline{P}_{y-w}=x-39.9$ and $\overline{P}_{b-y}=50-x$; "Blacks" $\overline{P}_{y-w}=x-49.9$ and $\overline{P}_{b-y}=x-49.9$. The cranioscopic traits of percentage scales are denoted as follows: 18-prominence of maxilla, 19-height of nasal root, 20-prominence of nasal bones, 23-prominence of nasal spine, 30-shape of lower margin of nasal aperture, 31-depth of canine fossa and 32-depth of maxillary incisure. The comparative average characteristics of 3 racial varieties are based on the series from Poland, Uganda and Mongolia respectively

Table 7

Average characteristics of the racial types distinguished at Tlatilco series

Trait / Racial type / Sex / Deformation	Subpacific (LZ) males+females		Dongolan (HX)		HL	ZX	LX	Ainuid (P)	PI	PZ	Subainuid (PZ)	HN	Armenoid (H)		Anatolian (HZ)		Pacific (Z)	
	deformed	undeformed	females deformed	f. undef.	f. undef.	f. def.	f. sl. def.	m. undef.	m. undef.	f. def.	m=f undeformed	m+f deformed	m. undef.	f. def.	m. sl. def.	f. def.	m+f undeformed	m+f deformed
1. cephalic index	93.8(12) 82 - 105	85.8(7) 81 - 94	97.6(7) 94 - 104	80.7(1)	83.7(1)	84.2(1)	79.8(1)	74.3(1)	72.2(1)	88.2(1)	78.7(5) 75 - 81	101.6(2) 100 - 103	88.3(1)	112.4(1)	85.9(1)	96.6(1)	77.1(1) —	87.5(2) 82 - 92
2. height-length index	92.5(10) 80 - 93	85.5(4) 82 - 88	89.1(4) 78 - 96	80.1(1)	79.8(1)	74.3(1)	—	78.2(1)	71.1(1)	81.8(1)	81.6(4) 77 - 83	88.1(2) 87 - 89	83.6(1)	95.6(1)	—	81.1(1)	— —	79.0(1) —
3. height-breadth index	91.4(10) 85 - 104	98.8(4) 93 - 102	93.7(4) 85 - 103	99.3(1)	95.7(1)	81.2(1)	—	105.3(1)	98.9(1)	92.7(1)	104.0(4) 100 - 105	86.5(2) 85 - 87	94.7(1)	85.1(1)	—	84.3(1)	— —	85.7(1) —
4. fronto-parietal index	64.5(12) 59 - 72	62.8(7) 60 - 65	60.8(7) 57 - 65	70.9(1)	67.7(1)	60.4(1)	67.7(1)	66.9(1)	73.0(1)	—	68.1(5) 64 - 72	61.2(2) 60 - 62	64.2(1)	61.7(1)	—	59.1(1)	63.1(1) —	67.8(2) 64 - 70
5. upper facial of Kollm.	53.9(11) 50 - 58	53.3(4) 48 - 56	50.9(7) 45 - 53	47.4(1)	55.2(1)	51.1(1)	49.6(1)	49.6(1)	53.5(1)	50.4(1)	55.7(4) 54 - 56	55.2(2) 54 - 56	52.7(1)	53.0(1)	52.9(1)	57.4(1)	61.2(1) —	53.0(2) 52 - 53
6. upper facial of Virch.	71.8(13) 68 - 80	72.5(6) 68 - 80	69.8(8) 61 - 75	66.7(1)	70.7(1)	67.7(1)	64.7(1)	67.0(1)	74.5(1)	68.0(1)	72.0(5) 64 - 77	75.6(2) 74 - 76	69.0(1)	69.3(1)	67.6(1)	74.3(1)	80.5(2) 76 - 85	73.0(2) 72 - 73
7. nasal index	48.2(13) 43 - 53	48.0(6) 44 - 59	52.3(9) 46 - 59	54.7(1)	49.1(1)	52.9(1)	63.6(1)	54.4(1)	48.3(1)	49.1(1)	47.0(5) 44 - 50	50.5(2) 50 - 50	46.9(1)	45.1(1)	47.2(1)	42.9(1)	45.2(2) 42 - 47	41.3(2) 38 - 43
8. orbital index	87.7(13) 80 - 95	86.4(6) 80 - 92	87.6(9) 81 - 95	87.8(1)	82.9(1)	82.9(1)	79.1(1)	81.4(1)	88.6(1)	79.1(1)	82.5(5) 79 - 86	74.5(2) 72 - 76	88.1(1)	85.7(1)	90.0(1)	86.4(1)	86.9(2) 84 - 89	85.9(2) 85 - 86
9. prominence-maxilla (18)	8.2(13) 4 - 11	8.6(7) 4 - 12	6.9(8) 4 - 11	4(1)	4(1)	7(1)	5(1)	7(1)	7(1)	10(1)	8.2(6) 4 - 10	10(2) 9 - 11	9(1)	8(1)	9(1)	7(1)	8.0(2) 6 - 10	9.0(2) 6 - 12
10. height-nasal root (19)	3.8(13) 2 - 7	4.0(6) 3 - 5	3.4(7) 2 - 5	3(1)	4(1)	2(1)	2(1)	4(1)	2(1)	4(1)	4.7(6) 4 - 7	3(2) 2 - 4	7(1)	6(1)	7(1)	3(1)	3(1) —	3.5(2) 3 - 4
11. prominence-nose (20)	9.3(8) 4 - 13	9.0(5) 5 - 13	7.7(6) 2 - 13	— —	17(1)	5(1)	6(1)	—	12(1)	—	9.5(6) 5 - 16	9.5(2) 7 - 12	18(1)	18(1)	14(1)	12(1)	5(1) —	12.0(2) 7 - 17
12. position-nasal spine (22)	2.6(12) 1 - 7	3.2(6) 1 - 7	2.5(8) 1 - 6	1(1)	3(1)	3(1)	1(1)	2(1)	2(1)	5(1)	3.0(6) 2 - 6	2.5(2) 2 - 3	6(1)	4(1)	8(1)	1(1)	1(1) —	2(1) —
13. prominence-nasal sp. (23)	3.3(12) 2 - 5	3.5(6) 3 - 5	3.1(8) 1 - 6	3(1)	8(1)	3(1)	2(1)	3(1)	3(1)	5(1)	4.5(6) 3 - 6	3.5(2) 3 - 4	6(1)	8(1)	3(1)	3(1)	3(1) —	3(1) —
14. breadth-nasal root (27)	1.5(13) 1 - 3	2.8(5) 1 - 5	1.6(9) 1 - 4	1(1)	3(1)	1(1)	1(1)	1(1)	1(1)	4(1)	1.7(6) 1 - 3	1.0(2) 1 - 1	4(1)	5(1)	2(1)	2(1)	2.5(2) 1 - 4	1.0(2) 1 - 1
15. lower margin nas. ap. (30)	10.4(13) 7 - 13	10.0(5) 7 - 13	10.3(8) 9 - 12	7(1)	11(1)	8(1)	10(1)	10(1)	9(1)	9(1)	8.0(6) 5 - 14	9.0(2) 8 - 10	12(1)	12(1)	5(1)	10(1)	9.0(2) 9 - 9	10.0(2) 9 - 11
16. depth-canine fossa (31)	7.5(13) 3 - 10	6.3(7) 3 - 9	4.2(9) 1 - 6	8(1)	8(1)	6(1)	1(1)	1(1)	10(1)	6(1)	7.8(6) 6 - 10	3.0(2) 2 - 4	2(1)	5(1)	7(1)	10(1)	8.5(2) 8 - 9	8.5(2) 7 - 10
17. depth-maxill. inca (32)	5.5(13) 3 - 9	6.3(7) 5 - 9	4.1(9) 3 - 5	6(1)	3(1)	5(1)	3(1)	6(1)	2(1)	2(1)	4.4(6) 1 - 10	4.5(2) 3 - 6	2(1)	6(1)	1(1)	6(1)	6.0(2) 6 - 6	7.5(2) 7 - 8
18. Mean Position Ind. (P) of combination of. variet.	46.4(13) 24 - 72 Y - W	46.8(7) 23 - 59 Y - W	45.7(9) 38 - 50 B - W	47.8(1) B - W	68.9(1) Y - W	53.7(1) B - Y	47.6(1) B - Y	62.6(1) Y - W	41.6(1) Y - W	66.8(1) Y - W	54.9(6) 40 - 69 Y - W	47.4(2) 45 - 49 B - Y	86.5(1) Y - W	76.6(1) Y - W	67.3(1) Y - W	47.7(1) Y - W	35.4(2) 33 - 37 Y - W	42.2(2) 30 - 53 Y - W

received by use of dendrite method of division of J. Perkal. The results of grouping in the diagram are fully concordant with those obtained in previous analyses. Thus, all the 3 intraserial "Olmecoid" characteristics distinguished by intervals of $\overline{P}$ values are connected with corresponding averages of the 3 racial varieties while, the average characteristics of both total "Olmecoid" series constitute separate group connected with the model of Yellow variety.

At the end, the following general conclusions may be drawn:

a) a core of both "Olmecoid" series is constituted by the Yellow variety components;

b) both "Olmecoid" series reveal significantly assessed presence of the components of the Black and White varieties.

4. THE RESULTS OF INDIVIDUAL TYPOLOGICAL ANALYSIS

The present author is fully aware of all the difficulties which will bear a task of a description of results of the individual typological analysis for the foreign reader, usually not accustomed with taxonomic procedure of the Polish Comparative-Morphological School. It is being especially difficult since we deal with its first application to Amerindian data. However, in this paper only a summary of the results of typologisation is possible. Therefore, a reader who will feel a greater interest in procedure should look for suitable information in the references cited below. The course of our typological analysis has been basically determined by the findings of cranioscopic investigation as they were listed above. The typological diagnoses of more complete crania were based on constellations of indices and cranioscopic traits together with values of Index ($\overline{P}$). The quantitative descriptions of the racial types distinguished in more numerous Tlatilco series represents table 7. It includes names and symbols of the types according to the nomenclature of the Polish Comparative-Morphological School and, a foreign reader should keep in his mind that they denote simply characteristic complexes of phenotypical traits which have been distinguished independently on any ethnic, geographic, social or linguistic affinity.

The typological and racial compositions of both analysed series represents table 8. The racial compositions were calculated by use of halving method of Michalski which expresses an intermediate position of morphology of the racial types between two assumed main racial elements. Of course, both kinds of compositions of Cerro de las Mesas possess only very rough approximative value owing to too small volume of this series.

However, some general regularity is being clearly visible. A most frequent type in the both "Olmecoid" series appears to be Subpacific (LZ) type which shows an intermediate position between Laponoid (L) and Pacific (Z) racial elements. It seems to indicate the affiliations of a core of our ancient Mexican

populations with Pacific North-Eastern Asia. A very interesting is rather numerous occurence of Subainuid (PZ) type together with a presence of classic Ainuid (P) element as well as, with Ainuid-Arctic (PI) type. The Arctic (I) component is evidenced by typically mongoloid and crude face combined with strong dolichocephaly and tent-like occipital view. The frequencies of the latter types seem to connect a portion of racial structure of "Olmecoid" populations with "paleoainuid" and "paleoarctic" populations of North-Eastern part of Asia. Perhaps, they represent a most archaic, dolichocephalic, half-White and half-Yellow Paleoindian big-game hunters. This is evidenced by the find of Tepexpan Man which represents the affinities of Subainuid (PZ) type according to the diagnosis of the present author who has had an opportunity to reexamine its cranium.

At last, among "Olmecoid" skulls there appears very strange in Meso-

Table 8

Typological and racial compositions of Tlatilco and Cerro (m+f)

Type Racial element	Tlatilco n	 %	Cerro de las Mesas n	 %
Subpacific (LZ)	20	38.5	7	63.6
Dongolan (HX)	10	19.2	—	—
Subainuid (PZ)	7	13.5	3	27.3
Pacific (Z)	4	7.7	—	—
Armenoid (H)	2	3.9	—	—
Armenoid-Bushmen. (HN)	2	3.9	1	9.1
Anatolian (HZ)	2	3.9	—	—
Alpine (HL)	1	1.9	—	—
Ainuid (P)	1	1.9	—	—
Ainuid-Arctic (PI)	1	1.9	—	—
Laponoid-Equatorial (LX)	1	1.9	—	—
Pacific-Equatorial (ZX)	1	1.9	—	—
Racial composition:				
Laponoid (l)		21.2		31.8
Armenoid (h)		18.3		4.5
Ainuid+Arctic (p+i)		10.6		13.6
Pacific (z)		36.5		45.5
Equatorial+Bushmenoid (x+n)		13.5		4.5
Totals (n)		52		11

Comparison of empirical and theoretical frequencies:		
Types: L+P+Z+PL+PZ+LZ	empirical 0.451	theoretical 0.466
Types: H+X+HX	0.231	0.101

america racial types which reflect phenotypically complex of traits of the White or Black variety. The two crania from Tlatilco (figs 12 - 13) with exception of a tendency towards mesognathism, reveal the whole constellation of Armenoid (H) element traits. Both of them show strong brachycephaly (one seems to be undeformed), high cranial vault, narrow forehead, medium high face with deep or medium deep canine fossa and maxillary incisure, very high and narrow nasal root, extremely prominent nasal bones of diconcave shape with rounded top and S-profile, sharp margin of nasal aperture with prominent nasal spine, narrow nose and high orbits. The values of their Index $\overline{P}$ between Yellow-White variety are very far exceeding the intermediate value of 50%, so, they show a clear shifting towards extreme morphotypes of the White variety.

Another serious typological question bear undoubted influences of the Black variety. The Pygmoid (O) or Negritoid component should be excluded since there is a lack of association with very low stature or small cranial dimensions of these crania which reveal Black variety traits, though, in a majority of cases, there appears a combination with meso-or brachycephaly. The latter observation seems to eliminate any strongly dolichocephalic element. If so, a most probable diagnosis would be an overpreponderant presence of, so called, Equatorial (X) racial element of which ancient concentration's place is middle part of Western Sudan and Southern border of Sahara. However, a most strange fact is a numerous occurence of Dongolan (HX) type among Tlatilco crania which seems to exceed a probability of random combining of racial elements. In order to verify this impression, there were calculated the theoretical frequencies of particular types distinguished at Tlatilco assumming random associations of racial elements. The result is really striking. The sums of empirical frequencies of typically Asiatic types: L+P+Z+ +PL+PZ+LZ equals to 0.451 while its expected value is 0.466. But, the sum of our strange types: H+X+HX equals empirically to 0.231 what is more than twice of theoretical figure — 0.101. Therefore, it might be suspected that a main „Amerindian" core of our "Olmecoid" series consists of l, z and p racial elements and it has been stabilized before the appearance of Armenoid (h) and Equatorial (x) influences Now, it would be worthy to consider the racial compositions which represent, in a somewhat distorted way, the internal phenotypical variability of the studied series expressed in terms of extreme complexes of traits, i.e.-racial elements. First of all, a greater similarity of both "Olmecoid" series to themselves should be ascertained. It is based on highest frequencies of the Pacific (z) and Laponoid (l) elements and equal frequencies of Ainuid (p) one. The differences in the frequencies of Armenoid (h) and Equatorial (x) elements are due, perhaps, rather to a greater sampling error which burdens Cerro de las Mesas.

At the end, the following typological conclusions may be advanced:

a) racial structures of Tlatilco and Cerro de las Mesas are very similar to each other and they reveal undoubtedly strong typological heterogeneity;

b) an archaic background of their racial structures is constituted by Ainuid (P), Arctic (I) and Pacific (Z) racial elements which probably characterised the mesolithic American big-game hunters;

c) a next migratory wave which brought a fresh portion of the Pacific (Z) together with Laponoid (L) has inmixed into this background;

d) a third new and strange, perhaps, non-Asiatic human group has introduced the shares of Armenoid (H) together with Equatorial (X) and, possibly, Bushmenoid (N) elements.

It should be remembered that the results of this racial analysis based on the applications of the principles of the Polish Comparative-Morphological School with its distinctive and refined individual typology detached of any social, ethnic, linguistic or geographic division of mankind — are hardly comparable with the raciological studies of other anthropologists. Also, there is no place to present here a vast anthropological literature dealing with a very complicated problem of origin and racial structure of different Amerindian populations which has been so excellently reviewed by J. Comas (1961) and S. Genoves (1967a), as well as, summarized briefly by the present author (A. Wierciński, 1964).

However, it might be mentioned that our results correspond partly to conceptions of J. Birdsell (1951) who had ascertained, besides Mongoloids and Australoids, a share of Amuryans in the formation of most ancient Amerindians. Even more coincidencies may be assessed with the results of Hooton's (19) subtle typological analysis of Pecos'crania. Thus, his racial types like: Pseudo-Negroid, Pseudo-Australoid, Longfaced Europeans and Pseudo-Alpins, correspond roughly to the shares of our Equatorial, Ainuid, Armenoid and Laponoid+Pacific components. Hitherto, the crania of both "Olmecoid" series do not show Hooton's Basket Maker type though its presence might be possibly expected among Candelaria dolichocephals. In this case, it would correspond to the Berberic (B) element of the Polish anthropology.

5. SOME EXAMPLES OF RACIAL PHYSIOGNOMIES OF HUMAN REPRESENTATIONS OF THE "OLMEC" ART.

It is well known fact that besides, more or less, pathological dwarfs and ,,baby faces" the ancient "Olmec" art include wonderful and very expressive, realstic representations of human figures. Many of them have been investigated by the present author in Jalapa and La Venta from the anthropological standpoint. In order to enlight the results of the present craniological study, there have been selected several very instructive examples of sculptures and bas-reliefs on stellas.

They may be divided into 3 different groups according to their affinities between 3 racial varieties of man: White, Yellow and Black.

A. BLACK VARIETY GROUP

This large group may be nicely exemplified by Monolith F form Santiago Tuxtla, a kneeling figure carved at stella from Alvarado and, a "colossal" Olmec head.

Fig. 4. Monument F from Santiago Tuxtla. Late Classic Period (VI - IX A.D.) — a representative of Equatorial (X) element

Monolith F (fig. 4) represents full sculpture of a lying human figure with bound hands on the back and face shoven forward. Its physiognomy may be described as follows: low and sloping back forehead with flattened glabella and definitely low and broad nasal root, nose very broad and short, strongly flattened and slightly convex with thick, fleshy nasal wings and rounded nostriles, upper skin-lip short and strongly procheilic, lips very thick, long and typically everted, face broad, pentagonoid and with total prognathism.

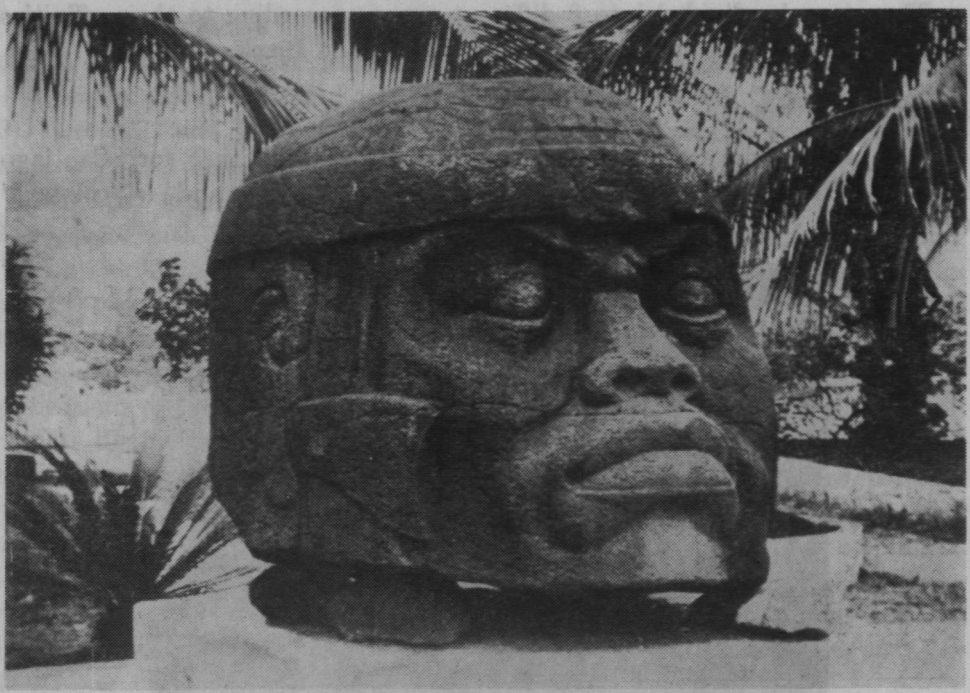


Fig. 5. Colossal "Olmec" head — a representative of Dongolan (HX) type

Unfortunately, a naturalistic expression of a great pain which characterizes this face makes difficult a description of the eye-frame which is half-closed, oblique and with swollen upper eye-lid. However, a lack of epicanthus fold should be stressed. The hair is short and, perhaps, curly, somatotype is rather athletic.

The second example (fig. 8) of kneeling figure carved at the stella from Alvarado in lateral view (bas-relief) reveals deformed head with short, perhaps curly hair, short and medium prominent, convex (?) nose with very flattened, nasal root, rounded, medium low forehead, prognathous face with very strongly everted, thick lips and receding chin.

A very similar type represents colossal "Olmec" head reproduced as fig. 5 where widely opened, reversely oblique eye-fissure and only slightly developed eye-lid fold should be remarked. The facial and other traits of Monument F correspond to the description of Equatorial (X) racial element while both latter human figures seem to represent Dongolan (HX) type from its Equatorial wing (hX).

Of course, there exist much more human representations with Black variety features, especially, a large series of famous colossal "Olmec" heads which show too, in some cases, the influences of White or Yellow variety though always, more or less, dominated by a Negroid appearance.

Fig. 6. Cranium No 25 from Tlatilco. Preclassic Period — a representative of Dongolan (HX) type

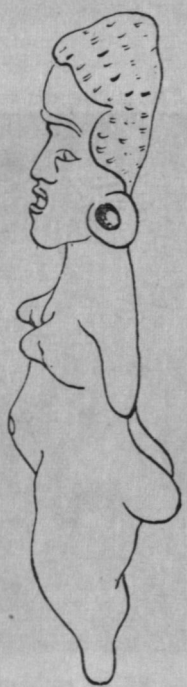
Fig. 7. Cranium No 68 from Tlatilco. Preclassic Period — a representative of Dongolan (HX) type

A presence of the representatives of the Black variety in the middle phase of Preclassic Period in Tlatilco is evidenced by some figurines, usually female. Fig. 9 represents one of them with very clear Negroid traits and even showing

a steatopygy. Probably, we deal here with a representative of our Bushmenoid-Armenoid (HN) type distinguished too among craniological data from Tlatilco.

Fig. 8. "Olmec" stella from Alvarado with representatives of Dongolan (HX) type (knelling figure) and Subpacific (LZ) type (standing figure), accirding to M. Covarrubias, 1957

Fig. 9. A small female figurine from Tlatilco showing characteristics of Armenoid-Bushmenoid (HN) type, according to R. Pina Chan, 1958



B. WHITE VARIETY GROUP

This group repeats one and the same racial type which closely approaches the characteristics of Armenoid (H) element. A first example could be a small

Fig. 10. "Olmaec" stella from La Venta with a representative of Armenoid (H) element, according to M. Covarrubias, 1957

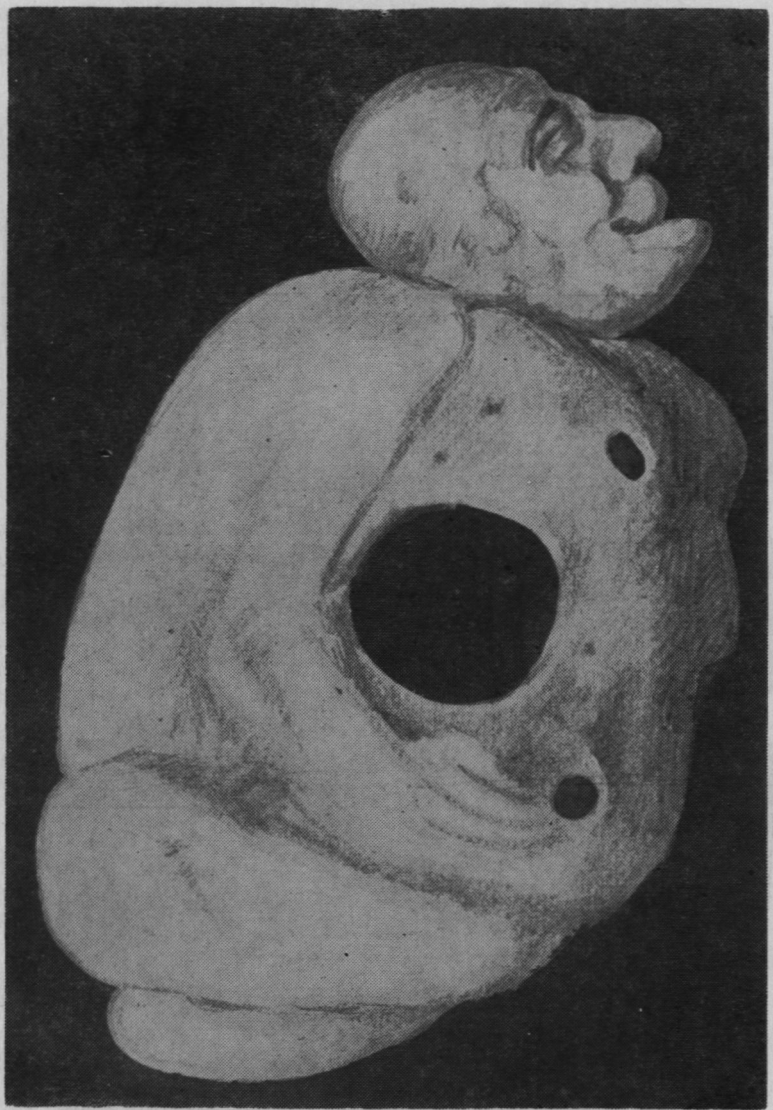


Fig. 11. Small figurine of "Huehueteotl" from Acayuca, Late Classic Period (VI - IX A.D.) — a representative of Armenoid (H) element

figurine of Huehueteotl from Acayuca (fig. 11) dated on the Late Classic Period (VI-IX A. D.). It shows natural (?) brachycephaly with flattened occipital region, medium high and sloping back forehead with marked superciliary arcs, very prominent, convex nose with high and narrow nasal root and sunken nasal tip, long and wavy hair. A pointed beard is present. The eye-frame is typically Europoid with a lack of eye-lid fold. Upper skin-lip is convex, face long and orthognathous. Quite analogical complex of traits reveals face profile

Fig. 12. Cranium No 143 from Tlatilco — a representative of Armenoid (H) element

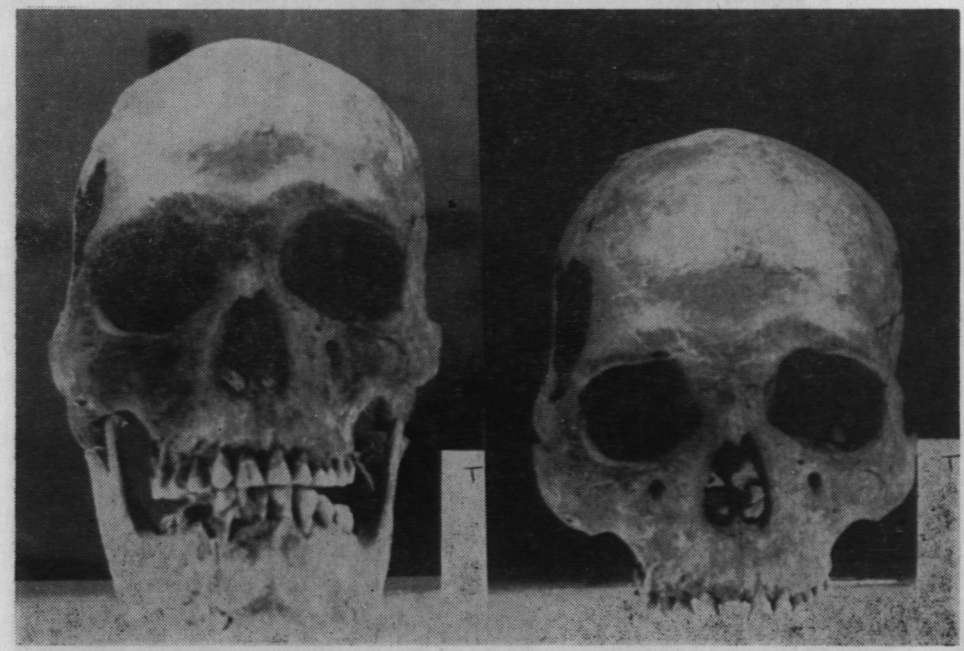


Fig. 13. Cranium from Tlatilco No 148 — a representative of Subainuid type (PZ)

of an adult male (fig. 10) with a rich head-dress carved at the stella from La Venta. There must be still emphasized rather full and procheilic lips and humpbacked, very strongly prominent nose with fleshy nasal wings.

Another example of Europoid outlook may be mentioned. It is a famous stella with "Traveller" from La Venta covered with glyphs.

Fig. 14. Cranium from Tlatilco No 87 — a representative of Subainuid (PZ) type

Fig. 15. Cranium from Tlatilco No 169 — a representative of Anatolian (HZ) type

Fig. 16. A representative of Anatolian (HZ) type — Egyptian from Gharbiya, according to I. Michalski, 1964

Fig. 17. Representative of Anatolian (HZ) type, from las Limas, Late Preclassic Period according to A. Medellin Zanil, 1965.

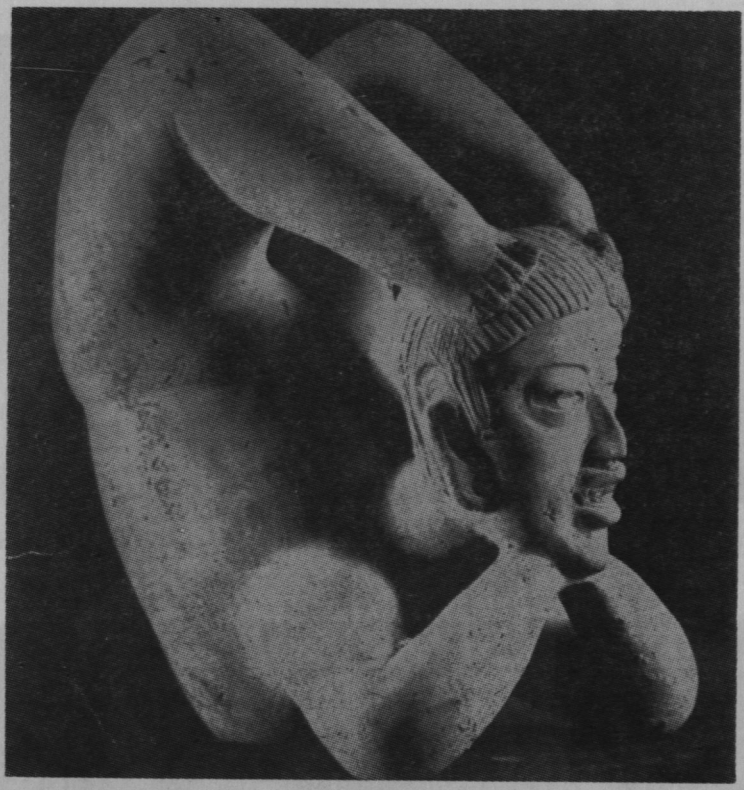


Fig. 18. Representative of Anatolian (HZ) type, from Preclassic Tlatilco an acrobath

C. YELLOW VARIETY GROUP

This is a largest group with two prominent examples. One of them represents famous ,,Wrestler'' from Southern Vera Cruz (fig. 19) with bald or completely shaven head which is brachycephalic and with short, sparse, "Chinese" beard. The face is medium long and mesognathous with prominent cheeck bones, typically mongoloid eyeframe, long, medium prominent and slightly convex nose but with low nasal root. Exactly the same configuration of traits is reproduced by a standing figure of a male (fig. 8) carved at the mentioned above stella from Alvarado.

A very similar, yet more mongoloid outlook, may be seen at a male figure sitting in an oriental position in the front of "B" altar from La Venta (fig. 20).

At last, there may be quoted two representatives of the Anatolian (HZ) type. One of them is a sitting "Priest" from Las Limas dated by Zenil on the Late Preclassic Period. It shows strongly artificially deformed, head elongated and oblique eye-fissure with Mongoloid frame, clearly procheilic upper skin-lip, flattened, long and subtly rounded face with rather prominent, strongly

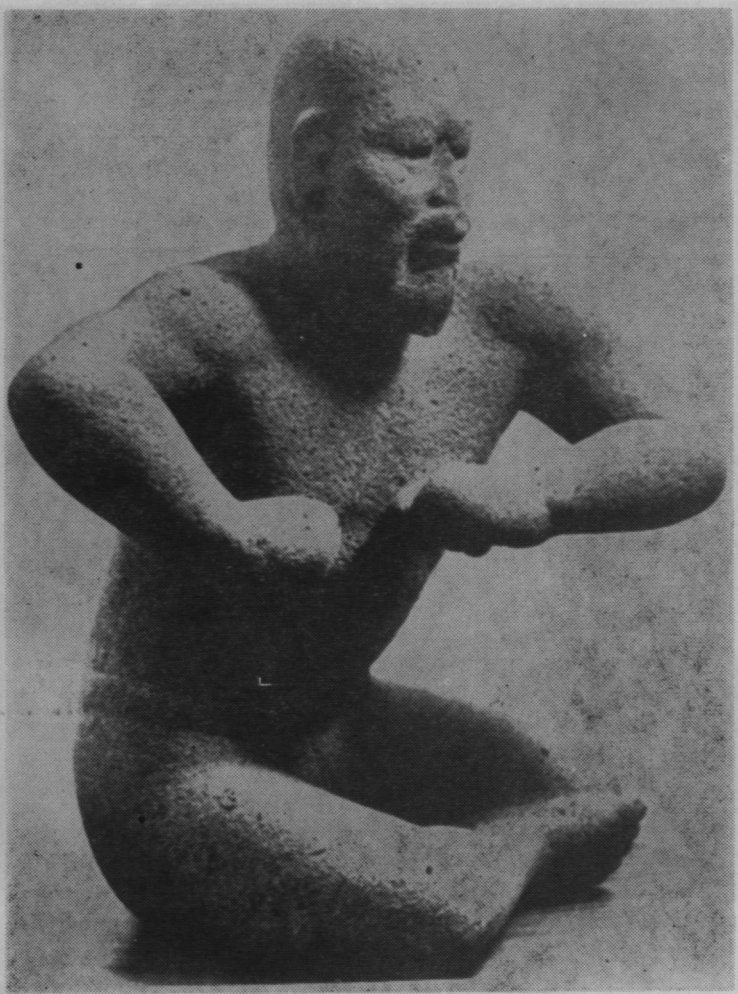


Fig. 19. Figure of wrestler from Southern Veracruz – a representatiwe of Subpacific (LZ) type, according to M. Covarrubias, 1957

convex nose with medium high nasal root. Strictly the same set of racial traits reveals wonderfully sculptured "Acrobath" from Tlatilco with still longer and less flattened face.

At the end of these raciological considerations on some remarkable examples of the "Olmec" realistic art, it should be most firmly emphasized that they exhibit complexes of traits which strictly correspond to the racial types distinguished in the course of craniological analysis of Tlatilco and Cerro de las Mesas. The present author, however, has been unable to distinguish the outlook of Subainuid (PZ) type among the investigated art's pieces.

Fig. 20. Central figure from Altar „B" at La Venta – a representative of Subpacific (LZ) type, according to M. Covarrubias, 1957

6. CONCLUSIONS

All the results of this racial analysis of "Olmecoid" series of data may be be summarized as follows:

a) both „Olmecoid" series of crania from Tlatilco and Cerro de las Mesas are very similar to each other in a large set of diameters, indices and cranioscopic traits;

b) both these series, on the average, approximate the characteristics of the Yellow variety though the representatives of the Black and White varieties are present too;

c) individual typological analysis has revealed a wide array of racial types which were precised as derivations of the following main racial elements:

Pig. 21. Cranium from Tlatulco No 56 – a representative of Subpacific (LZ) type

Pacific (Z), Laponoid (L), Arctic (I), Ainuid (P), Armenoid (H), Equatorial (X) and Bushmenoid (N);

d) commonest intermediate types appear to be: Subpacific (LZ), Dongolan (HX) and Subainuid (PZ);

e) racial physiognomies of realistic human representations of the ancient "Olmec" art correspond strictly to the racial types which exhibit craniological materials.

All these results have provoked the present author to advance the following working ethogenetical hypotheses:

a) first waves of paleo-mesolithic hunters in America were composed mainly of dolicho-mesocephalic racial elements i.e. Ainuid (P), Arctic (I), and Pacific (Z) though slight admixtures of Laponoid could not be excluded too; they sonnect them with North-Eastern and Eastern Asia (especially, the Pacific chores and islands, from Japan accross Sachalin to Kuriles);

b) next migratory waves brought a new portion of Pacific (Z) together with Laponoid (L) elements;

c) these two groups of racial structures created Amerindian agricultural populations of Preclassic Period;

d) some Chinese influences of Shang Period could penetrate Mesoamerica bringing classic extreme representatives of Pacific (Z) element;

e) a strange transatlantic, more or less, sporadic migration did occur which could be evidenced by a combination of Equatorial (X)&Bushmenoid (N) elements with Armenoid (H) one constituting most specific Dongolan (HX) intermediate type;

f) highly heterogeneous racially populations of ,,Olmecs" had been created at the Gulf Coast in the Early Preclassic Period, as a result of a metisation process of all the racial structures mentioned above;

g) "Olmec" or La Venta civilisation arose as a consequence of intermingling process of civilisatory impulses of Shang China and megalithic ideas of "Prospectores" from Mediterranean Bassin which have been superimposed on early phases of Preclassic Amerindian Agriculturalists.

The present author is ready to take a heavy risk of a possible severe discussion which might evolve around the hypotheses mentioned above, as well as, the methods and concepts of the racial analysis of the Polish compararative-Morphological School. However, it seems useful in science to start with less probable hypothesis of which verification is easier.

At any rate, any working hypothesis may be advanced if the paths of its verification is being shown. If so, the present author wants to propose the following ways of verification of his hypotheses:

a) individual typological analysis of all the discovered Paleoindian skeletal remains will reveal the presence of Ainuid (P), Artic (I) and Pacific (Z) components as leading racial elements;

b) contemporary relictous populations from California will exhibit, at least, first two out of the set of mentioned above racial elements;

c) Northern border of Black variety components will not exceed New Mexico;

d) Armenoid and Equatorial together with Bushmenoid complexes of trait could not be interpreted as results of a natural polymorphism caused by natural selection in Mesoamerica;

e) both these racial elements were absent in Eastern or North Eastern ancient populations of Asia but both of them would be discovered among ancient populations of III-II Millennium B. C. of Iberian Peninsula which had to be connected racially too with South-Western Sudan and North-Western corner of Africa;

f) after archeological stratification of Tlatilco skeletons it would appear that our Dongolan (HX) type would firstly occur in the Middle. Preclassic Period;

g) there would exist a cline of decreasing frequencies of Pacific (z) element starting with the area of Guerrero State, accross Mexico Valley to Tabasco and Vera Cruz.

ACKNOWLEDGEMENTS

The present author would like to express his best thanks to Dr E. Davalos Hurtado, the Director of the National Institute of Anthropology and History in Mexico for His kind invitation and financial support of author's scientific

stay in Mexico, as well as, to Prof. Dr A. Romano, the Head of the Department of Physical Anthropology at INAH who gave all the possible help and kind permission to study Precolumbian collections of crania, then, to Prof. Dr F. Montemayor, the Director of the National School of Anthropology whose friendly advices and other assistance helped very much the studies on "Olmec" art. Also, author thanks to all the Members of Scientific Staff of the Department mentioned above for Their great technical help. At last, the present author is much indebted to Prof. Dr Otto Zerries from Munich and Organisation Committee of this Congress who made possible to report this paper at the Congress thankfully to Their kind invitation and financial help for the author's participation. Another help was given by Prof. Dr J. Comas from the Autonomic National University in Mexico by sending to the author excellent publications dealing with the problems of Mesoamerican anthropology and archeology.

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