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ANTHROPOLOGICAL STUDY OF MEDIAEVAL CEMETERIES NO. 1 AND NO. 3 NEAR DEVNYA (BULGARIA)

ABSTRACT. — The skeletons from two proto-Bulgarian cemeteries dated to the 8th–9th c., at Devnya are examined. The archeological finds are crasse, and mainly proto-Bulgarian pottery has been found. Necropolis No. 1 reveals burials with cremation, skeletal inhumation and mixed burials. Necropolis No. 2 shows burials with cremation, skeletal inhumation and three kenotaphions. Few of the skeletons are pseudohockers. Multilations of the lower extremities (cut foot) and also ritually destroyed parts of the corpse have been found in these two cemeteries. Artificial deformation of the head, of macrocephalic type, has been discovered. In the majority of cases it is of a high form: a total of 39.4% of all the skeletons, the percentage for men being 21.7%, for women 18.5% and for children 100%. This also proves the proto-Bulgarian character of the burials and of the ethnic provenience of the skulls.

The racial typology, carried out by the method of Debetz and of Boev, shows a mixed series of the first racial order — Europoid form with Mongoloid admixtures. The racial types of the second order characterize the proto-Bulgarians: besides hybrid Europoid-Mongoloid racial types we find also Turanid racial types. North-Iranic racial types, characteristic for the Alanians, have also been found. This shows that at Devnya were present besides proto-Bulgarians also Alano-Sarmatians whose mixed breeding had already started. This is probably the character of the proto-Bulgarian tribes comprising Bulgarians and Barsilians with weak Alania admixture.

KEY WORDS: *Protobulgars — Devnya cemetery.*

The two cemeteries were excavated in 1969 by D. Dimitrov. Necropolis Nr. 1 is situated about 1.5 km west of Poveľyanovo, and No. 3 at the same distance south-east of it. The bone material from the building site of the "Cherno More" Manometer Plant 4.5 km west of the centre of Varna has also been studied. On the basis of the pottery discovered in the cemeteries, D. Dimitrov dated the finds to the second half of the 8th and the beginning of the 9th c. (We are indebted to senior research associate D. Dimitrov for the bone material placed at our disposal for study and for dating of the sites.) Anthropologist D. Piperkova took part in the excavations.

Of the bone material obtained from cemeteries No. 1 and No. 3, 66 skeletons proved to be suitable for anthropological study. Twenty male, 21 female and 16 infant skeletons from necropolis No. 1, and 5 male and 6 female from necropolis No. 3 were examined. Two skulls — one male and one female — from the necropolis with two burial rites, situated some 4.5 km west of the centre of the town of Varna, at the building site of the "Cherno More" Manometer Plant, were also studied. Owing to the fragmentary condition of two of the skulls from necropolis No. 1 their age could not be established. What impresses one in the study of the craniological material is the large amount of artificially

deformed skulls (26 in all, or 39.4%), including 5 male, 5 female and 16 children, the percentage in the children's skulls being the highest (100%). In men the percentage of the artificially deformed skulls is 21.7% and in women 18.5% (Tables 1-3).

The artificial character of these changes in the head shape is beyond any doubt. The basically circular deformation had been caused by bandaging the child's head, as documented by the well-expressed conical form of the skull (macrocephalic type). The custom of artificial deformation of the head was practised from antiquity not only by the Eastern people but was also known in Europe. The invasion by the Huns in the 4th-5th c. caused the movement of a large number of peoples whereby the custom of artificial deformation of the head was further disseminated among the popula-

tions of Eastern and Central Europe. Boev's studies prove that the custom of artificial deformation of the head was not applied in Bulgaria by the Thracians and the Slavs but was brought to the Balkan Peninsula by the military-administrative confederation of the Huns (Boev 1957). The presence of artificially deformed skulls is, therefore, of particular interest in the anthropological and especially in the ethnogenetic respect.

METHODS

The anthropological study was carried out by the classical methods (Alekseev, Debetz 1964), whereas for the artificially deformed skulls a broader anthropological programme was applied (Ginzburg

TABLE 1. Measurements of the skulls from the mediaeval cemeteries No. 1 and No. 3 at Devnya

No. after Martin	Measures	men	women	men	women	men	women
1.	Length	16	19	183,12	177,63	9,48	13,01
8.	Breadth	18	19	138,94	132,95	8,77	8,77
17.	Basion-bregma height	6	5	137,00	129,00	6,57	16,00
5.	Length of skull base	6	5	103,50	99,60	5,54	10,74
20.	Porion-bregma height	2	3	120,50	112,00	4,95	3,60
9.	Minimal frontal breadth	13	21	95,92	92,76	2,75	5,19
45.	Bizygomatic diameter	8	8	125,75	122,50	7,55	5,66
48.	Upper facial height	6	6	73,33	66,66	4,55	3,72
47.	Total facial height	6	5	120,33	106,80	7,47	1,79
50.	Biorbital breadth	8	9	20,0	19,44	2,51	1,67
55.	Nasal height	7	7	52,28	52,28	4,15	4,50
54.	Nasal breadth	7	7	25,14	24,43	1,57	2,30
51.	Orbital breadth	8	12	41,75	41,08	2,38	3,63
51a.	Orbital breadth from mf	—	4	—	38,50	—	3,10
52.	Orbital height	9	11	33,16	32,18	1,78	3,74
77.	Nasomalar angle	2	4	140,50	141,00	8,49	2,94
	Zygomaxillary angle	2	3	135,00	136,67	1,41	8,08
72.	Facial angle	3	5	82,67	81,50	3,21	2,80
73.	Midfacial angle	3	5	85,00	84,20	3,46	3,11
74.	Alveolar angle	2	5	79,50	76,00	3,54	7,84
75.	Angle of nasal bones	—	2	—	62,00	—	14,14
DC.	Dacryal chord	1	4	18,00	19,25	0	1,53
DS.	Dacryal height	1	4	11,00	10,00	0	1,0
57.	Symotic chord	2	5	7,50	11,50	0,70	4,58
SS.	Symotic height	2	5	4,75	4,90	1,06	2,52

TABLE 2. Indices of the skulls from the mediaeval cemeteries No. 1 and No. 3 at Devnya

No. after Martin	Indexes	men	women	men	women	men	women
8 : 1.	Cranial	16	18	76,50	76,20	8,50	5,98
17 : 1.	Length-height from basion	6	5	75,24	76,00	4,55	6,49
17 : 8.	Length-breadth from basion	6	5	96,58	99,14	7,60	3,90
9 : 8.	Transversal fronto-parietal	13	18	69,08	70,25	5,04	2,92
47 : 45.	Facial	4	4	91,25	85,92	2,24	3,23
48 : 45.	Upper facial	3	5	56,22	53,97	2,90	3,33
52 : 51.	Orbital from maxillo-frontale	8	11	78,91	78,65	3,45	9,27
54 : 55.	Nasal	6	7	48,52	47,09	5,56	4,90
20 : 1.	Length-height from porion	2	3	63,93	66,45	2,87	3,41
20 : 8.	Length-breadth from porion	2	3	82,43	80,07	10,51	4,17
MS : 50.	Maxillo-frontal	—	5	—	40,86	—	5,59
DS : 49a.	Dacryal	1	3	61,11	58,09	0	9,57
SS : 57.	Symotic	2	4	62,95	44,82	7,93	18,12

TABLE 3. *Descriptive characters of the skulls from the mediaeval cemeteries No. 1 and No. 3 at Devnya*

Character	Shape or size	Men		Women		Total	
		number	%	number	%	number	%
Shape of skull	ovoid	12	66,67	13	59,09	25	83,33
Shape of occiput	rounded	4	22,22	8	36,36	12	40,00
	roof-like	2	11,11	—	—	2	6,66
	bulged	5	27,78	2	9,09	7	23,33
Protuberantia occipitalis externa (0—5)	0	1	5,55	1	4,54	2	6,66
	1	8	4,44	8	36,36	16	53,33
	3	1	5,55	—	—	1	3,33
Inclination of the forehead (1—3)	1	4	22,22	14	63,63	28	93,33
	2	3	16,67	2	9,09	5	16,66
	3	4	22,22	—	—	4	13,33
Glabella	1	7	38,89	12	54,54	19	63,33
	2	3	16,67	3	13,63	6	20,00
	3	2	11,11	—	—	2	6,66
Arcus superciliares	1	6	33,33	10	45,45	16	53,33
	2	3	16,67	5	22,72	8	26,66
	3	2	11,11	—	—	2	6,66
Shape of nasal aperture	pear-like	4	22,22	2	9,09	6	20,00
Nasal bones	straight	1	5,55	—	—	1	3,33
	concavo convex	—	—	1	4,54	1	3,33
Nasal spine	1	1	5,55	—	—	1	3,33
	2	1	5,55	—	—	1	3,33
Lower margin of nasal aperture	antropine	4	22,22	1	4,54	5	16,66
Fossa canina	medium deep	4	22,22	—	—	4	13,33
	deep	2	11,11	3	13,63	5	16,66

1949) which made possible the determination of the degree and of the character of the deformation. The diagnosis was made by the method of Boev (Boev 1972) and Debetz (1948). The results of the measurements are shown in tables 4—5.

DESCRIPTION OF THE MALE SKULLS

The skulls are of medium robusticity, of average length and breadth, that is mesocranial. The cranial length varies from 170 mm to 196 mm, and the breadth — from 128 mm to 156 mm. The height from the basion is considerable (with limits from 127 mm to 145 mm) and characterises the skulls as hypsicranial and metriocranial. The vault of the skull is high (from 117 mm to 124 mm), hypsicranial and metriocranial. The foreheads are broad and moderately inclined, eurymetopic. The forehead angle varies from 77° to 83°. The superciliary and occipital reliefs are moderate. The faces are high and narrow, leptoprosopic. The upper facial height varies from 68 mm to 81 mm, and the cheek-bone diameter — from 118 mm to 137 mm. The orbits are medium-sized, slightly rounded in shape, mesoconch. The nasal aperture is of medium breadth — from 23 mm to 28 mm, mesorrhine, with a lower margin of antropine shape. The dimensions of the alveolar arch and the palate determine the skulls as brachyuranic and brachystaphyline. The lower jaw is distinguished by medium arge bigonial breadth

(from 86 mm to 115 mm). The vertical profile of the face is mesognathous both by the 40 : 5 index and the facial angle. The alveolar part of the face is prognathous. The fossa canina is of medium depth. The horizontal profile of the face is moderately expressed.

DESCRIPTION OF THE FEMALE SKULLS

The skulls are of medium robusticity, long, narrow and medium high that is mesocranial, hypsicranial and acrocranial. The length of the skull varies from 163 mm to 208 mm, and the breadth from 119 mm to 148 mm. Cranial vault is high (109 mm to 116 mm). The foreheads are of medium breadth, slightly inclined, eurymetopic. The forehead angle varies from 82° to 89°. The superciliary and occipital reliefs are poorly expressed. The faces are low and of medium breadth, mesoprosopic. The upper facial height and the cheek-bone breadth are medium, that is mesen. The orbits are slightly rounded, of medium breadth and low, mesoconch. The nasal aperture is medium wide and high — messorrhine, with a lower margin of antropine type. The alveolar part of the maxilla and the palate are characterised as brachyuranic and brachystaphyline. The lower jaws of the female skulls are of medium bigonial width. The vertical profile of the face is mesognathous, both by its 40 : 5 index and the

TABLE 4. *Measurements of the artificially deformed skulls from the mediaeval cemeteries No. 1 and No. 3 at Devnya*

Measures after Martin	Males					Females				
	781	783	785	788	807a	793	800	807	816	823
1	181	176	169	—	179	157	172	182	175	182
8	142	142	143	—	137	138	131	136	137	143
9	98	103	95	—	94	93	92	97	92	98
17	132	147	129	—	150	134	—	—	138	—
20	120	122	111	—	—	112	—	121	117	118
26	135	121	123	—	133	123	123	123	130	—
27	126	126	115	126	128	130	128	130	114	—
28	134	125	113	110	117	107	103	112	120	—
29	122	107	107	—	123	114	113	118	117	—
30	109	112	100	107	109	102	110	115	100	—
31	112	100	94	91	102	92	91	98	—	—
45	140	135	134	—	—	—	—	—	—	—
47	120	129	128	—	—	106	—	—	—	—
48	77,2	75,2	69	—	—	63,2	—	—	—	—
51	47,1	42,5	44	—	—	40	—	—	—	—
52	34,8	37	32	—	—	33	—	—	—	—
54	27,2	30,1	30	—	—	25	—	—	—	—
55	57,2	58,7	65	—	—	44,2	—	—	—	—
23	520	515	503	—	507	478	—	510	492	—
32	65	67	67	—	—	70	—	—	—	—
32 ₁	60	61	60	—	—	62	—	49	—	—
33-1	150	149	135	—	145	145	—	135	139	150
33-4	126	115	127	—	134	125	—	133	129	—
32-1a	48	48	39	—	47	41	—	—	49	—
77	134	136,5	149	—	—	137	—	—	—	—

facial angle. The alveolar part of the face is prognathous. Fossa canina is of medium depth. The horizontal profile of the face is well expressed. The zygomaxillary angle varies from 132° to 146°, and the nasomalar — from 138° to 144°.

It may be said generally for the series that the skulls of both sexes are mesocranial, hypsicanial and acrocranial. In the males the faces are high and narrow and in the females — low and of medium breadth. The medium bigonial breadth of the lower jaw is characteristic of both sexes. The vertical profile of the face is mesognathous, with well-expressed alveolar prognathism.

DESCRIPTION OF THE ARTIFICIALLY DEFORMED SKULLS

The metric characteristics and the results of the variational-statistical analysis of the male artificially deformed skulls show that irrespective of the elongation of the skull by the deformation, the longitudinal diameter is small and the transversal one is medium-sized. This shows that the deformation in this case was carried out with brachycranial or mesocranial but not with dolichocranial skulls. This is confirmed also by the value of the cranial index

TABLE 5. *Indices of the artificially deformed skulls from mediaeval cemeteries No. 1 and No. 3 at Devnya*

No. after Martin	Male					Female				
	781	783	785	788	807a	793	800	807	816	823
8 : 1	78,45	80,68	84,62	—	76,54	87,90	76,16	74,72	78,28	78,57
17 : 1	72,93	83,52	76,33	—	83,80	85,35	—	—	78,85	—
17 : 8	92,95	103,52	90,20	—	109,49	97,10	—	—	100,72	—
20 : 1	66,30	69,32	65,68	—	69,27	71,33	—	66,48	66,85	64,83
20 : 8	84,50	85,91	77,62	—	90,51	81,15	—	88,97	85,40	82,51
9 : 45	70,00	76,29	70,89	—	—	72,39	3,40	—	—	—
40 : 5	—	78,09	—	—	—	78,09	—	—	—	—
48 : 45	55,14	55,70	51,49	—	—	54,11	—	—	—	—
47 : 45	85,71	95,55	95,52	—	—	92,26	2,29	—	—	—
52 : 51	73,88	71,62	72,72	—	—	82,50	—	—	—	—
54 : 55	47,55	51,10	46,15	—	—	56,56	—	—	—	—
Degree of deformation	84,15	86,93	80,84	—	87,72	84,37	—	—	83,92	—

which determines the skulls as brachycranial, hypsicranial and acrocranial. The height from the basion and that of the cranial vault are high. The curve of the frontal squama according to the nasion-bregma angle is small and consequently the foreheads are strongly flattened and fairly inclined. The faces are high and of medium breadth as a result of which they are narrow (leptoprosopic). The vertical profile is slightly protruding and varies within the determined mesognathous and orthognathous limits. The nasal aperture is very broad and very high, mesorrhine. The orbits are of medium breadth and high, chamaeconch. The curve of the squama occipitalis is medium-sized. According to the Ginsburg-Zirov classification the male skulls are included in the hypomacrocranial group.

The female deformed skulls have suffered considerable damage. They are characterized as medium-long, medium-broad and very high by measure 17 and 20, mesocranial, hypsicranial, acrocranial. The curve of the frontal squama is by the nasion-bregma angle small and the foreheads are flattened and rather inclined. The faces are low. The orbits are of medium breadth and height, mesoconch. The nasal aperture is of medium breadth and very low, chamaerrhine. The curve of the squama occipitalis is medium. According to the Ginsburg-Zirov classification the female skulls are also hypomacrocranial.

The deformation index is approximately the same in both sexes. The so-called "forme élevée" is a form frequently encountered in both sexes.

RACIAL DIAGNOSIS AND ETHNOGENETIC CONCLUSIONS

As regards race the series from Devnya (first and third cemeteries) and from Varna (the "Cherno More" Manometer Plant) are mixed racial types of the first order between the big Europoid and Mongoloid races. Through a detailed racial analysis of the second and third orders appear the racial types of the two big races. Of the big Europoid race are recognized the proto-Mediterraneans, Mediterraneans and Dinaric-Mediterraneans. They were formed on the Balkan Peninsula as early as the Chalcolithic period (5th millennium B.C.) and were the basic and characteristic components of the Thracian population. The Mediterranean race is typical for the population ranging from Gibraltar to India, and its presence in the Balkan Peninsula, therefore, may speak also for migration. As far as the Dinaric-Mediterranean racial type is concerned, it was formed locally. The same holds true about the proto-Mediterranean racial type which is the prototype of the Mediterranean race in prehistoric Bulgaria. The Nordic racial type was brought by the Slavs and the Alano-Sarmatians who appeared in Balkan peninsula after the end of the 5th century. A.D. The North-Iranian racial type was not of an indigenous origin and was brought by the Alano-Sarmatian tribes. Concerning the Turanid race, it was typical of the proto-Bulgarian tribes. The proto-Bulgarians

were often of mixed racial types of the two big races — the Europoid and the Mongoloid. This is the condition found in the majority of skulls. The hybridisation took place many generations ago and it is on account of this that the basic racial types of the two big races cannot be distinguished in them. This situation is found also with the proto-Bulgarians because their origin goes back before their coming to the Balkan peninsula — already in Turkestan.

The racial-typological analysis of the data from the cemeteries near Devnya has shown the presence of the three basic components that took part in the formation of the Bulgarian people — proto-Bulgarians with very weak admixtures of Alano-Sarmatians, Slavs and Thracians. On the basis of the burial rite and the funerary objects the cemeteries explored are referred to the proto-Bulgarians. This means that the Mediterranean and the Dinaric-Mediterranean races were incorporated in the proto-Bulgarian population before its arrival in the Peninsula. This probably took place in the territories of the USSR and Romania where the proto-Bulgarians assimilated Thracians. It is more likely that the Mediterranean race was included in the proto-Bulgarian population already in Turkestan by the Iranic-speaking tribes incorporated in its ethnogenesis. These racial types were typical of the Bulgarians and the Barsilians, while the North-Iranic were typical of the Suvarians (Savirians) who were called "White Huns", i.e. blond. Probably in the case of Devnya No. 1 and No. 3 these are the burials of Bulgarians and Barsilians. As is known, part of these two tribes formed, together with the Suvarians, the Volga Bulgaria. Part of the Bulgarians and the Barsilians came to the Balkan Peninsula with Khan Asparukh. It is also believed that Khan Boris bore name of the totem of the Barsilian tribe — the tiger or leopard ("bars" in the proto-Bulgarian language).

The Alano-Sarmatian admixture has been established chiefly from the presence of the North-Iranic race, characteristic for them. This also explains the presence of skeletons of great height in the cemeteries near Devnya. It is known that the proto-Bulgarians were of short stature whereas the Alano-Sarmatians were of medium height or tall. The majority of the proto-Bulgarians bore the mixed racial characters of the Turks that we have also established in the cemeteries near Devnya.

The proto-Bulgarian character of the cemeteries has been confirmed also by the presence of artificially deformed skulls which are typical of the proto-Bulgarians.

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