

Anthropological Characterization of Few Local Populations of Middle North Bulgaria after Archive Materials from 1943-1944

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Anthropological data of archive materials from 1943-44, collected by G. Markov, a student of acad. M. Popov in Middle North Bulgaria are processed and analyzed. They include of 284 men – 238 Bulgarians, 23 Turks and 23 so-called Lovchanski Pomaks. The analysis showed significant differences between the three ethnic groups and between the local groups of Bulgarians themselves. Migrations from Southern Bulgaria and from Northwestern Bulgaria, as also in the Middle North Bulgaria itself have been traced. Sharp social urban-rural differences in height have been found. The results of the study are an interesting testimony of centuries of demographic and processes in Middle North Bulgaria.

Key words: ethnic anthropology, Michalski's methods, Middle North Bulgaria, migration history, social differences.

Introduction

National wide ethnoanthropological surveys have been conducted in Bulgaria – of acad. Stefan Vatev around 1899, of acad. Methody Popov at 1938-43, of Aris Poulianos at 1963 and the National Anthropological Program at 1989-1993 [11, 12, 16, 17]. Their results show that the anthropological structure of the present Bulgarian population is very heterogeneous in territorial aspect. Unfortunately, the results of these studies are published only at national and regional level. Only few data are published on local level [11, 16]. The survey of Krum Dronchilov [2] perhaps the best exact and best known outside Bulgaria, presents anthropological data on local level, but does not cover the territory of Middle North Bulgaria. The materials of the extensive local anthropological studies of Peter Boev, Luchia Kavgazova and their collaborators, collected during the 1970s and 1980s are only partly published and also do not cover the territory of Middle North Bulgaria [4, 5, 6]. Resent review and analysis of some incomplete data of Methody Popov study also support the idea that more attention to the investigation of the anthropology of local Bulgarian populations should be paid [14].

Materials and Methods

In the archives of the Institute of Morphology at 1980s by the author a folder of unpublished anthropological materials collected in November 1943-January 1944 have been found. According to oral information these data have been collected by a student of acad. Methody Popov, named Georgi Markov (but not Metody Popov's student and well known cytologist, who in 1959 published the general results of Metody Popov's survey [11].

There were 284 individual anthropological cards in the folder but 285 according the label, one card was probably lost in the period since the investigation until now. They content anthropological data of men only despite the numbering and some information about relatives on the card show that women have been also studied. Probably their data were in other folder which has not survived.

The anthropological cards present data of 284 adult men – 238 Bulgarians, 23 Turks and 23 so-called Lovchanski Pomaks. The terrain study has begun in November in the village Toros (Lukovit county) in November 1943 (Pomaks and local Orthodox Bulgarians), then continued in Pleven in December 1943 (Bulgarians and Turks) and ended in January 1944 in the village Mihaltsi (Pavliveni county).

The anthropological cards contain data about the birth place of the parents of the investigated persons. Thus they can be distributed after their origin in few local samples (**Fig.1**).

Only the major anthropological traits are processed and analyzed in this paper. The analysis of the anthropological structure has been made according to the methodic of Michalski [3, 7, 9, 10]. In the methodic are made some minor modifications, which are described in previous article of the author [15].

On the base of the established elementary anthropological structure euclidean distances have been calculated as a measure of anthropological similarity between subsamples.

Results and Discussion

According to their anthropological traits and basically on the pigmentation all subsamples belong to the populations with mixed Southeuropoid and Northeuropoid traits (**Table 1**). Eastern Eurasian traits are rare – mostly the relatively high protrusion of the cheekbones.

Despite their small number the few Bulgarians originating from South Bulgaria significantly differ from the Bulgarians of Northern Bulgaria, especially in their headform. The prevalence of a mesocephalic anthropological populations in South Bulgaria and of brachycephals in North Bulgaria is well established by all major ethnoanthropological studies [11, 12, 15, 16, 17]. On the other hand, the Bulgarians from North Bulgaria also are not a homogeneous group as locally and individually as the standard deviation of cephalic index present. In fact they are as heterogeneous as the population of Switzerland with its four ethnic groups and many isolated cantons [13, 15]

The analysis of the elementary anthropological structure (**Table 2**) presents a very interesting pattern. In South Bulgarians prevails the combination of Nordic (a) and Mediterranean elements (Ibero-Insular – e, and Oriental – k). Thus they belong to the populations of the wide zone of Atlanto-Pontic populations, named after its distribution [1]. In Bulgarians from North Bulgaria, whoever prevail combination of

Nordic, Armenoid (Balvano-Caucasian –h) and Laponoid (l) element. Thus they belong to the populations of Central Europe [1].

The Pomaks from Toros Village present well expressed Atlanto-Pontic combination. Thus there are close to the people from South Bulgaria, not to North Bulgarians (**Tables 3, 4, Figs. 2, 3**). This should not surprise us – the origin of this local group is from Islamized Paulicians, which had migrated from South to North Bulgaria in the second half of the 14th century [18].

It is interesting that the Turks investigated in Pleven (with origin in Pleven, Nikopol, Svishtov and Russe) we find the Centraleuropean combination of elements and there are close to the North Bulgarians (**Tables 3, 4, Fig. 3**). Whether this is because of the predominantly local origin and intermixing with local Orthodox Bulgarians or because of migrations of Islamized Hungarian population to Danube valley towns in the beginning of 18th century [8] we could not be sure.

Other interesting finding is that the native Bulgarians from the city of Pleven are not similar to the rural population in Pleven county but to the Bulgarians from Teteven county. This could be due to an old migration from the poor in land Teteven county to the city of Pleven. The rural people from Pleven county did not migrate to the county center because Pleven county was affluent in land (**Table 4, Fig.2**).

The population of the village Mihaltsi presents well expressed similarity to the population of Northwest Bulgaria (**Table 4, Fig.2**). It also could be due to an old migration. Unfortunately we could not find a mention about such a migration or about the origin of the first settlers of the village in the available literature.

May be the reproductive isolation (because of confessional reasons) of Toros Pomaks from their Orthodox neighbors was not complete – they are very different from all North Bulgarian populations but the smallest distance is whoever to the Bulgarians from Toros (**Table. 4**). Or we can suppose that a part of the Paulicians in Toros has not been Islamized but has been converted to Orthodoxy.

There are also well expressed social (urban-rural) differences in the physical development of the men under study. The men from the city of Pleven have a height of 178,2 cm (**Table 1**) one standard deviation above the average height of the whole sample. The shortest are the Turks, the Pomaks (marginalized after the Liberation of Bulgaria social groups) and of the village Mihaltsi – about two standard deviations under Pleven men and one standard deviation below the average of the whole sample.

Conclusion

The processing and analysis of the archive anthropological data of men from Middle North Bulgaria shows significant differences between ethnic groups and between local Bulgarian Subsamples. The mesocephalic inhabitants of Southern Bulgaria differ from the brachycephals of Northern Bulgaria. The mesocephalic Pomaks and the subbrachycephalic Bulgarians from the village of Toros (mixed Bulgarian-Pomak) are also closest to them. Apparently, this is due to a common origin from the Paulicians of Southern Bulgaria who moved to North in 14th century. The city of Pleven differs sharply from its rural surrounding probably because of migration from Teteven county. Also the inhabitants of the village Mihaltsi probably migrated from Northwestern Bulgaria. Sharp social urban-rural differences in height have been found. The results of the study are an interesting testimony of centuries of demographic and ethnographic processes in Middle North Bulgaria.

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Table 1. Major anthropological traits and indices in the population under study

Sample	N	Height, cm	Head length	Head breadth	Cephalic index		Face breadth	Face height	Facial index	Nasal height	Nasal breadth	Nasal index	Eye color	Hair color	Skin color	Hair form	Nasal profile	Cheekbone protrusion
					mean	SD												
Bulgarians	238	172,6	183,9	155,8	84,8	3,9	141,8	123,0	86,8	58,2	36,3	62,5	6,7	51,1	10,9	2,3	60,2	2,1
South Bulgaria	12	171,1	186,0	150,9	81,2	2,6	138,0	122,3	88,7	56,1	36,7	65,9	7,8	48,3	11,3	2,5	54,6	2,2
North Bulgaria	226	172,6	183,8	156,1	85,0	3,9	142,0	123,0	86,7	58,3	36,2	62,3	6,7	51,3	10,8	2,3	60,5	2,1
Toros village	21	172,3	188,2	154,9	82,4	3,8	142,3	123,9	87,2	58,1	37,2	64,0	7,0	51,0	10,2	2,1	66,4	1,7
Lukovit county	18	173,2	182,4	155,4	85,3	3,8	141,4	122,0	86,4	59,5	36,4	61,3	6,4	44,4	10,0	2,3	67,5	1,8
NorthWest Bulgaria	20	174,6	183,4	158,6	86,5	3,3	141,9	123,1	86,9	57,8	36,5	63,3	7,1	45,0	10,9	2,3	60,0	2,0
Teteven county	10	176,1	180,8	156,0	86,3	2,8	140,5	125,3	89,2	60,9	35,9	59,1	8,1	51,0	9,5	2,0	65,5	1,9
Pleven city	23	178,2	186,6	156,5	83,9	4,1	140,0	124,0	88,6	61,0	36,4	59,9	7,6	51,3	10,9	2,4	60,4	1,6
Pleven county	60	172,5	184,2	156,5	85,1	4,3	142,9	122,8	86,9	57,5	36,2	63,3	5,8	52,1	11,5	2,3	58,8	2,3
NorthEast Bulgaria	30	173,3	184,3	156,3	84,9	3,4	143,4	122,5	85,6	57,8	36,3	63,2	6,4	53,3	11,4	2,1	59,7	2,4
Mihaltsi Village	44	167,7	180,8	155,5	86,1	3,5	141,9	123,4	86,8	57,8	36,0	62,5	7,0	54,5	10,5	2,3	56,9	2,5
Pomaks	23	167,4	184,1	147,9	80,4	3,2	139,5	124,0	88,9	59,6	38,1	64,3	9,2	47,2	11,6	2,1	73,3	1,8
Turks	23	165,0	180,1	151,7	84,3	4,2	137,6	124,4	90,5	58,1	35,7	61,7	7,6	52,6	11,1	2,2	67,4	2,6

Remarks: All measurements except height in mm, all indices – in %, – eye color - after Martin; hair color - after Michalski (10 hell blond, 70 – black); skin color after von Luschan; hair form: 1 – straight hard, 2 – straight soft, 3 wavy and so on; nasal profile after Michalski (10 – very concave, 100 – strongly convex); cheekbone protrusion: 1-3, 3 – strong;

Table 2. Elementary anthropological structure after Michalski

Sample	n	Anthropological elements, %										Eastern complex, %	South complex, %	Formula
		a Nordic	y Cromagnoid	b Berberic*	e Mediterranean*	k Oriental*	h Armenoid*	l Laponoid	m Mongolic*	z Pacific	q Uraloid			
Bulgarians	238	31,4	0,5	0,8	6,5	7,0	26,3	13,9	8,1	3,3	2,2	27,4	56,0	ah(l)
South Bulgaria	12	35,4	-	-	14,6	12,5	6,2	8,3	8,3	8,3	6,2	31,2	48,5	a(ek)
North Bulgaria	226	31,2	0,6	0,9	6,1	6,7	27,3	14,2	8,1	3,3	2,0	27,2	56,4	ah(l)
Toros village	21	32,1	-	-	15,5	10,7	20,2	7,1	3,6	2,4	8,3	21,4	59,1	ah(ek)
Lukovit county	18	40,3	2,8	-	5,6	-	23,6	16,7	4,2	6,9	-	27,8	40,4	ah(l)
NorthWest Bulgaria	20	38,8	-	-	6,2	2,5	23,8	16,2	7,5	2,5	2,5	28,8	44,1	ah(l)
Teteven county	10	42,5	-	-	5,0	7,5	30,0	10,0	5,0	-	-	15,0	50,0	ah(l)
Pleven city	23	42,4	2,2	3,3	4,3	9,8	25,0	9,8	2,2	1,1	-	13,0	48,8	ah
Pleven county	60	22,5	-	1,2	5,4	6,2	30,4	17,1	11,2	5,4	0,4	34,2	65,8	ha(lm)
NorthEast Bulgaria	30	20,8	0,8	-	7,5	9,2	30,8	17,5	8,3	1,7	3,3	30,8	68,7	ha(l)
Mihaltsi Village	44	34,1	-	1,1	2,8	6,8	27,8	12,5	11,4	1,1	2,3	27,3	53,1	ah(lm)
Pomaks	23	44,6	1,1	3,3	16,3	8,7	5,4	8,7	-	3,3	8,7	20,7	42,5	a(e)
Turks	23	27,2	-	-	10,9	5,4	23,9	12,0	6,5	3,3	10,9	32,6	59,7	ah(leq)

Synonyms: Berberic = Mediterranean, Mediterranean = Ibero-insular, Oriental = Eastern Oriental, Armenoid = Balcano-Caucasian, Mongolic ^ typical Mongoloid

Remarks: Eastern complex = l+m+z+q, Southern complex = (b+e+k+h)/(a+y+b+e+k+h), formula – elements over 20% and in brackets element from 10 to 20%.

Table 3. Matrix of Czekanowski, euclidean distances, summarized, %

Sample	Pomaks	South Bulgaria	Turks	North Bulgaria
Pomaks	0			
South Bulgaria	14,7	0		
Turks	27,5	22,6	0	
North Bulgaria	30,2	25,4	11,8	0

Table 4. Matrix of Czekanowski – euclidean distances, all samples, %

Sample	Pomaks	SBg	Toros	Turks	Pleven-county	NEBg	Pleven city	Teteven county	Mihaltsi village	NWBg	Lukovit county
Pomaks	0										
SBulgaria	14,7	0									
Toros village	20,2	16,5	0								
Turks	27,5	22,6	11,3	0							
Pleven-county	38,9	31,7	23,4	16,1	0						
NEBulgaria	38,4	31,9	21,5	14,5	7,0	0					
Pleven –city	24,9	25,7	18,7	21,4	24,5	25,1	0				
Teteven county	29,4	29,2	20,2	21,1	22,8	23,7	7,5	0			
Mihaltsi village	31,5	27,1	19,2	15,3	13,8	15,9	14,0	11,6	0		
NW/Bulgaria	26,0	24,5	18,5	16,0	18,8	20,6	12,8	11,7	10,0	0	
Lukovit county	26,9	26,5	21,9	19,9	21,5	24,1	14,2	14,3	15,1	7,3	0



Fig. 1. Bulgaria at 1940s - administrative division and territorial distribution of the analyzed in this paper subsamples

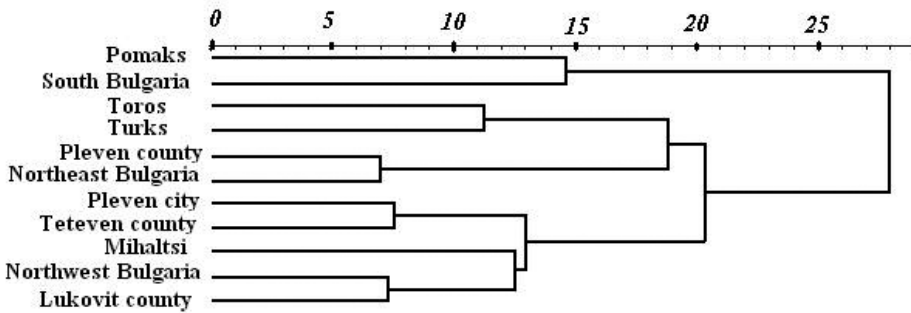


Fig. 2. Cluster analysis of the subsamples under study – euclidean distances, weighted pair group method of analysis (WPGMA)

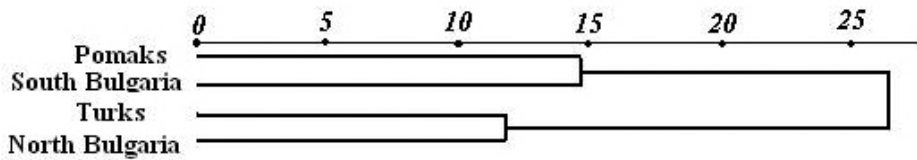


Fig. 3. Cluster analysis of generalized subsamples under study – euclidean distances, weighted pair group method of analysis (WPGMA)