

**A CONTRIBUTION TO THE QUESTION OF THE BIOLOGICAL
CONTINUITY OF THE PREHISTORIC POPULATIONS IN THE EASTERN
PARTS OF THE CARPATHIAN BASIN
(Penrose analysis of anthropological series from cemeteries of the
Maros-Perjámos culture)**

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Abstract

A large number of Early and Middle Bronze Age anthropological series from cemeteries of the Maros-Perjámos Culture were compared with available series from the Neolithic period, and from the Copper, Bronze and Iron Ages in the Carpathian Basin. The results in part demonstrate the biological continuity of the autochthon population, and also point to the existence of alien elements in this culture. For purposes of analysis, the significance limit was set at 0.5%.

Key words: Penrose analysis, Carpathian Basin, Neolithic, Copper, Bronze and Iron Ages.

Introduction

Anthropological knowledge of the archaeologically well-researched Bronze Age in the Carpathian Basin is rather fragmentary, mainly because of the lack of material (ZOFFMANN, 1994). Merely to mention only the most important general works, Farkas used taxonomy to examine the origins of different populations, whereas Szathmáry approached the problem through statistics (FARKAS, 1975; NEMESKÉRI and SZATHMÁRY, 1987; SZATHMÁRY, 1987). The investigation has now been extended to more recent materials in an attempt to shed light on the biological interrelations between the given populations by using the Penrose analysis, comparing the 10 most important measurements of the skull. The present analysis is based upon the Maros-Perjámos Culture of the Early and Middle Bronze Age, for which cemeteries with high numbers of graves and published anthropological material are available (Csanytelek, Mokrin and Szőreg-C). Additional fragmentary series with compacted data were used from the cemeteries at Battonya, Deszk-A and Deszk-F. In the case of the Szőreg-C cemetery, it was possible to analyse series separately from the different consecutive periods. A comprehensive series (called the Maros series) has also been developed from the series listed, and was included in the analysis, serving as control series. Thus, a total

of 8 series from the Maros-Perjámos Culture were compared with 5 series from the Neolithic period, 2 series from the Copper Age, 3 from the Bronze Age and 5 from the Iron Age. These series are listed in Table 1. Where possible, both the male and female series were compared independently as well (Tables 2 and 3). For purposes of the analysis, the significance limit was set at 0.5%.

Results

1. The Neolithic series was shown by an earlier analysis to constitute an isolated block among series of other Neolithic populations (ZOFFMANN, 1992), and again (except for Hrtkovci-Gomolava) it displayed no significant links to the Maros-Perjámos Culture. On the other hand the Hrtkovci-Gomolava series of the Vinča-Pločnik phase, though from a notably earlier period, similarly to the indication of the series from the Bodrogkeresztúr and Baden Cultures, shows that, this culture, with its surviving autochthon population, might have contributed to the formation of the Maros Culture as its territorial predecessor.

2. The two Copper Age populations lack any significant mutual links (ZOFFMANN, 1992). On the other hand, their numerous connections towards the Bronze Age series indicate the local Copper Age origin of the populations participating in the genesis of the Maros Culture.

3. The Hurbanovo and Ottomány series representing the early Bronze Age do not exhibit significant similarities with the Maros Culture. However, the Maros-Perjámos series themselves are connected to each other with strong significance in many cases. The only exceptions are the series of Csanytelek and Szőreg-C3. In the former case, this phenomenon can be explained in part by the fact that the population using the cemetery belonged to several different archaeological cultures, and in part by the presence of the unique brachicrany (SZALAI, 1995). In the latter case, the explanation might be sought in the archaeologically separate third period of the Szőreg-C cemetery, dating from the late middle Bronze Age (ŞANDOR-CHICIDEAN and CHICIDEAN, 1989). The Tápé series of the Late Bronze Age Tumulus Culture demonstrates significant similarities in three cases, again indicating the continuity of the populations following one another in time and space.

4. From among the available Iron Age series the Gomolava series shows significant links to the series of the Maros Culture. This series dates from that phase of the Bosut Culture when the ethnic groups coming from the East (from the territory that is now Romania) had not yet reached the Sarmia, i. e. the vicinity of Gomolava. Thus, an ethnic continuity between the Bronze and Iron Ages in these parts is readily presumable. Series from the Mezőcsát Culture and the Scythian Age give no Penrose links. However, there are significant links in the cases of the two Late Iron Age Celtic series; the Transdanubian Celts especially exhibit many links to the Bronze Age populations of the southern part of the Great Plain, despite their chronological and

Table 1. Penrose distances of the Maros-Perjámos series (males and females).

	Maros Culture	Battonya +Deszk-A	Csany-telek	Mokrín	Szőreg C	Szőreg C1	Szőreg C2	Szőreg C3
1./ NEOLITHIC PERIOD								
Lengyel Culture: Aszód' 83 (ZOFFMANN, manuscript)	0.393	0.700	1.031	0.400	0.385	0.399	0.464	1.095
Lengyel Culture: Mórág-B.1 (ZOFFMANN, manuscript)	0.380	0.737	1.024	0.352	0.384	0.418	0.530	0.969
South-Transdanubian Lengyel Culture (ZOFFMANN, 1984)	0.250	0.526	0.774	0.175	0.284	0.331	0.377	0.671
Tisza Culture (Zoffmann, 1992)	0.245	0.455	1.078	0.275	0.230	0.202	0.277	0.973
Vinča-Pločnik Culture: Hrkovci-Gomolava (ZOFFMANN, 1984)	0.270	0.587	1.117	0.129	0.317	0.233	0.454	0.794
2./ COPPER AGE								
Bodrogkeresztúr Culture (ZOFFMANN, 1992)	0.134	0.302	1.235	0.196	0.134	0.124	0.171	0.702
Baden+Kostolac+Cojofeni Cultures (ZOFFMANN, 1992)	0.113	0.227	0.761	0.174	0.164	0.351	0.277	0.240
3./ BRONZE AGE								
Hurbánovo Culture: Bajč-Ragona (HANAKOVÁ et al., 1973)	0.185	0.219	0.762	0.218	0.273	0.393	0.464	0.387
Otományi Culture (ZOFFMANN, manuscript)	0.558	0.363	0.792	0.772	0.570	0.989	0.691	0.383
Maroš Culture: Battonya+Deszk-A+Deszk-F (ZOFFMANN, manuscript)	-	-	-	-	-	-	-	-
Maros Culture: Csanytelek (SZALAI, 1995)	-	0.814	-	-	-	-	-	-
Maros Culture: Mokrin-Lalina humka (FARKAS and LIPTÁK, 1972)	-	0.203	0.857	-	-	-	-	-
Maros Culture: Szőreg-C (FARKAS, 1975)	-	0.109	0.852	0.118	-	-	-	-
Maros Culture: Szőreg-C1 (FARKAS, 1975)	-	0.270	1.366	0.119	-	-	-	-
Maros Culture: Szőreg-C2 (FARKAS, 1975)	-	0.152	1.084	0.205	-	0.128	-	-
Maros Culture: Szőreg-C3 (FARKAS, 1975)	-	0.288	0.546	0.379	-	0.726	0.538	-
Tumulus Culture: Tápé-Szentségláegető (FARKAS and LIPTÁK, 1975)	0.136	0.183	1.063	0.218	0.143	0.197	0.077	0.474
4./ IRON AGE								
Bosut Culture: Hrkovci-Gomolava (ZOFFMANN, in press)	0.161	0.357	0.728	0.233	0.177	0.380	0.288	0.431
Mezőcsát Culture (ZOFFMANN, in press)	0.282	0.326	0.532	0.470	0.303	0.680	0.415	0.421
Scythians (ZOFFMANN, in press)	0.302	0.220	0.930	0.506	0.333	0.641	0.412	0.366
Transdanubian Celts (ZOFFMANN, in press)	0.065	0.074	0.753	0.136	0.091	0.260	0.182	0.206
Slovakian Celts (ZOFFMANN, manuscript)	0.122	0.263	0.764	0.069	0.212	0.292	0.377	0.250

Table 2. Penrose distances of the Maros-Perjámos series (males).

	Maros Culture	Mokrin	Szőreg C	Szőreg C2
1./ NEOLITHIC PERIOD				
Lengyel Culture: Mörágy-B.1 (ZOFFMANN, manuscript)	0.574	0.494	0.680	0.843
South-Transdanubian Lengyel Culture (ZOFFMANN, 1984)	0.455	0.286	0.533	0.550
2./ COPPER AGE				
Bodrogkeresztúr Culture (ZOFFMANN, 1992)	<u>0.071</u>	<u>0.111</u>	<u>0.121</u>	<u>0.164</u>
Baden+Kostolac+Coțofeni Cultures (ZOFFMANN, 1992)	<u>0.105</u>	0.213	0.150	0.229
3./ BRONZE AGE				
Hurbanovo Culture: Bajč-Ragona (HANAKOVÁ et al., 1973)	0.275	0.369	0.324	0.532
Maros Culture: Mokrin-Lalina humka (FARKAS and LIPTÁK, 1972)	-	-	-	-
Maros Culture: Szőreg-C (FARKAS, 1975)	-	0.213	-	-
Maros Culture: Szőreg-C2 (FARKAS, 1975)	-	0.233	-	-
Tumulus Culture: Tápé-Széntégláégető (FARKAS and LIPTÁK, 1975)	0.256	0.452	0.326	0.245
4./ IRON AGE				
Scythians (ZOFFMANN, in press)	0.310	0.500	0.313	0.420
Transdanubian Celts (ZOFFMANN, in press)	<u>0.101</u>	0.179	<u>0.145</u>	0.172
Slovakian Celts (ZOFFMANN, manuscript)	0.227	0.222	0.380	0.425

Table 3. Penrose distances of the Maros-Perjámos series (females).

	Maros Culture	Csanytelek	Mokrin	Szőreg C	Szőreg C3
1./ NEOLITHIC PERIOD					
Lengyel Culture: Mörágy-B.1 (ZOFFMANN, manuscript)	0.327	0.939	0.402	0.309	0.976
Tisza Culture (ZOFFMANN, 1992)	0.305	0.987	0.400	0.214	1.232
2./ COPPER AGE					
Baden+Kostolac+Coțofeni Cultures (ZOFFMANN, 1992)	0.225	0.489	0.297	0.358	0.409
3./ BRONZE AGE					
Maros Culture: Csanytelek (SZALAI, 1995)	-	-	-	-	-
Maros Culture: Mokrin-Lalina humka (FARKAS and LIPTÁK, 1972)	-	0.768	-	-	-
Maros Culture: Szőreg-C (FARKAS, 1975)	-	0.650	<u>0.125</u>	-	-
Maros Culture: Szőreg-C3 (FARKAS, 1975)	-	0.580	0.557	-	-
Tumulus Culture: Tápé-Széntégláégető (FARKAS and LIPTÁK, 1975)	<u>0.096</u>	0.632	0.169	<u>0.162</u>	0.392
4./ IRON AGE					
Bosut Culture: Hrtkovci-Gomolava (ZOFFMANN, in press)	0.229	0.431	0.417	0.333	0.499
Slovakian Celts (ZOFFMANN, manuscript)	0.195	0.459	0.240	0.293	0.638

geographical distances. Having come from outside the Carpathian Basin, the Celts must have assimilated the peoples found here in great numbers. According to indirect evidence, the pre-Celtic populations of the eastern and western parts of the Carpathian Basin must have been biologically similar. Consequently, the Celtic invasion of the Carpathian Basin must have brought cultural and social rather than ethnic changes.

Conclusions

The above results, which correspond in part to the previous anthropological investigations (FARKAS, 1975; SZATHMÁRY, 1987) and are mostly in accordance with the archaeological data (TROGMAYER, 1985; ŞANDOR-CHICIDEAN and CHICIDEAN, 1989; KOVÁCS, 1994), unambiguously demonstrate the survival of the Copper Age population into the Bronze Age. This population, mixing to only a slight extent or not at all with alien populations that appeared in the Maros-Perjámos Culture (Csanytelek and Szőreg-C3), played an important role in the formation of the late Bronze Age Tumulus Culture and the early Iron Age Bosut Culturé. Later, having survived the invasions of the Mezőcsát Culture and the Scythian populations, this autochthonous population somehow became one of the determining components of the late Iron Age Celtic civilisation of the Carpathian Basin.

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