

**SUPPOSITION OF GENETIC CONNECTIONS
BETWEEN THE FINDS OF THE CEMETERY
AT MÉLYKÚT—SÁNCDÜLŐ (SOUTHERN HUNGARY)
ON THE BASIS OF BLOOD GROUPING ABO**

GY. FARKAS, I. LENGYEL and ANTÓNIA MARCSIK

*Department of Anthropology, Attila József University, Szeged;
Institute of Archaeology, Hungarian Academy of Sciences, Budapest*

(Received May 31, 1971)

In the vicinity of the village Mélykút, in the Southern part of Hungary between Rivers Danube and Tisza, altogether 54 graves were excavated in 1959 and 1968 (KÖHEGYI, 1960; 1969), partly from the late Sarmatian Age (7 graves), partly from the early Avar Period. The finds are deposited in Department of Anthropology, Attila József University, Szeged and their morphological and metric analyses have been concluded in the recent past (MARCSIK, in press). We do not wish to treat here, therefore, the results of evaluation of these finds with the traditional anthropological methods.

The primary aim of this paper is to attempt a more detailed analysis concerning the structure of the cemetery on the basis of the map of this Avar cemetery of low grave-number, as well as of the blood typing carried out by IMRE LENGYEL.

A	B	O	AB	NSe	
22,91 ⁰ / ₁₀₀	20,83 ⁰ / ₁₀₀	22,91 ⁰ / ₁₀₀	25,00 ⁰ / ₁₀₀	8,33 ⁰ / ₁₀₀	
p	q	r			x ² [1]
0,2302	0,2117	0,5579			12,77

P > 0,001 extreme significance

The results concerning the distribution of morphological sex, age, blood-groups and collagen-types are given in Table 1. We have taken into consideration also the morphological characteristics, anatomical variations, pathological deformities, as well as the result of the taxonomic determination, bringing them into connection with the archaeological furniture.

In the cemetery map of the excavation of 1968 (Fig. 1) it is obvious that the graves lie in the direction of NW—SE, in general along two lines that can easily be separated from each other. Consequently, we inferred that two large families were buried in this cemetery. It could also be ascertained on the basis of the decomposition quotient (LENGYEL, 1970) that within both families, advancing from NW to the direction SE, some chronological differences may be encountered, i. e., the direction of burials points from NW to SE. On that basis, the graves can be divided in both large families into four groups each

Table 1. Distribution of the morphological sex, age, blood-group and type-collagen of the finds from Mélykút—Sáncdűlő in 1968.

Number of grave	Morphological		Bloodgroup	Type of collagen
	sex	age		
4.	female	Ad.	B	c
8.	female	Ad.	A	c
9.	male	Ad.	NSe	a
10.	male	Mat.	O	a
11.	—	Inf. I.	A	d
12.	male	Ad.	O	a
13.	female	Mat.	AB	d
14.	female	Ad.	AB	c
15.	—	Inf. II.	O	b
16.	female	Mat.	O	a
16—17.	—	Inf. I.	AB	b
17.	female	Ad.	B	a
18.	—	Inf. II.	B	c
19.	male	Ad.	O	c
21.	male	Ad.	A	a
22.	female	Ad.	AB	d
23.	male	Mat.	NSe	b
24.	female	Juv.	A	a
25.	male	Mat.	O	d
26.	male	Mat.	NSe	a
27.	female	Ad.	O	b
28.	female	Juv.	A	c
29.	female	Ad.	AB	a
30.	female	Ad.	AB	b
31.	female	Mat.	A	a
32.	female	Mat.	A	c
33.	male	Mat.	B	a
34.	female	Mat.	B	d
36.	female	Ad.	O	d
37.	male	Mat.	NSe	a
38.	—	Inf. II.	A	a
38a.	female	Ad.	A	c
39.	female	Mat.	AB	d
40.	female	Mat.	B	a
41.	female	Ad.	O	b
42.	male	Mat.	B	b
43.	female	Ad.	B	a
44.	male	Ad.	A	c
45.	male	Ad.	AB	d
46.	female	Mat.	O	c
47.	female	Juv.	AB	a
48.	—	Inf. II.	B	a
49.	male	Juv.	B	c
50.	male	Ad.	AB	d
51.	male	Ad.	O	a
52.	female	Mat.	A	b
53.	—	Inf. I.	AB	b
54.	female	Ad.	AB	a

Grave 4 is from Sarmatic-Age (excavation 1959)

$$a = \alpha \quad c = \gamma$$

$$b = \beta \quad d = \delta$$

where between the first and last burials we can calculate an interval of 80 ± 20 years. The members of both families were therefore buried in that place in four periods, as rendered probable also by the fact that there can generally be observed greater distances between the graves separated chronologically within the families and in the cemetery map, as well.

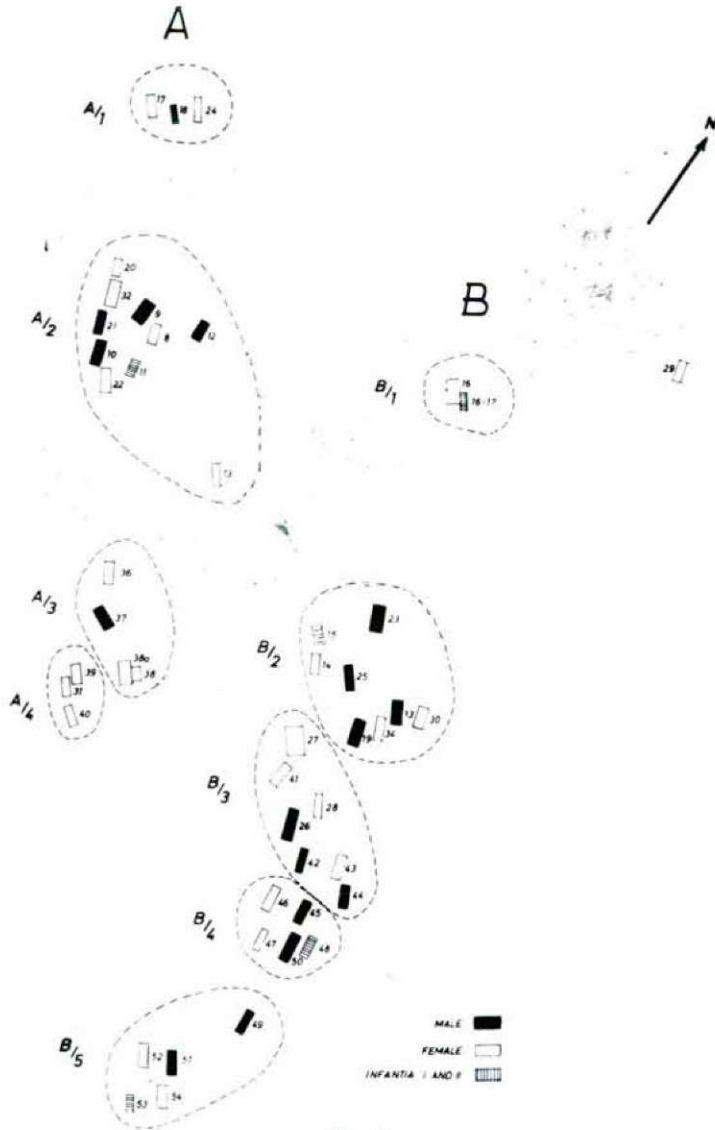


Fig. 1

If our suppositions are reliable, then advancing from NW to SE, there are genetic connections within the families on the basis of ABO blood grouping. As in the cemetery there were burials in four different periods, it may be supposed that the graves representing the single families in the periods are only meaning some proportion of the number of family members.

It appears on the basis of the cemetery map that there is some phase displacement between the beginnings of the two family-burials as the family located on the NW—SE side of the cemetery began the burying in this area earlier than the other family located east from there.

After these preliminary remarks, on the basis of blood typings (FARKAS, 1970), we supposed the following genetic connections.

A) In case of the family located on the NW—SE side:

1. Among the graves of first family (graves 17, 18 and 24), located to the most NW, supposing a father of blood group AB, there can be established two generations. Generations F_1 from which the child finds of graves 18 and 24 originated, is represented by the female find of grave 17 and the supposed father, as parents (Fig. 2). This supposition is confirmed also by that in case of all the three finds a somewhat protruding, knobby protuberantia mentalis can be found. At graves 17 and 18, planocipitalia may be observed.

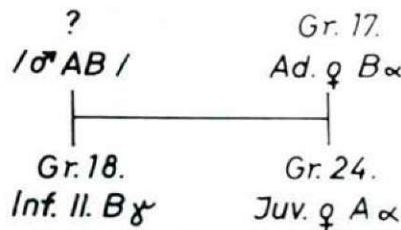


Fig. 2

2. Within the family, the second group that can be separated chronologically, is represented by ten graves (graves 8, 9, 10, 11, 12, 13, 20, 21, 22, 32). On the basis of these graves we concluded that the individuals buried in graves 13, 20, 21 and 22 were brothers and sisters, rendered probable partly by their chronological conformity and partly by their identical taxonomic characteristics.

For ascertaining the genetic connection of graves, we have to suppose a mother of blood group A and a father of blood group AB. Descendants of these may have been the finds of graves 13, 20, 21 and 22. The male of age matusus and of blood group A, buried in grave 21, forms the parent-couple with the female of blood group A with characteristics differing taxonomically from those of his (grave 32): their children belonged to generation F_3 and buried in graves 8, 9 and 12. From among the four brothers and sisters mentioned above, the adult female of blood group AB, buried in grave 22, together with the male of blood group O, buried in grave 10, are representing the second parent-couple whose child is the young person of blood group A buried in grave (Fig. 3).

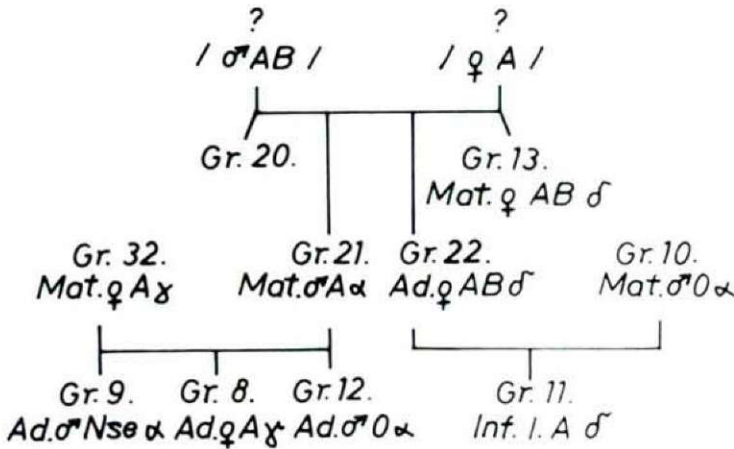


Fig. 3

The genetic connection of the find of graves 21 and 22 is supported by the knobby protuberantia mentalis, too, little protruding on the mandible, apart from the fact that both of them can be ranked into the gracile Mediterranean race. At the find of graves 10 and 11, between whom a parent-child connection is supposed, on the mandible a border can be found. The supposed mother, buried in grave 32, transmitted her collagenous type as a consequence of her spondylosis also to his (supposed) child buried in grave 8.

3. Two different groups chronologically differing from each other also belong to this group. Graves 31, 36, 37, 38, 38a, 39 and 40 may be classed among the older and therefore earlier buried group, the same as a supposed father of blood group B. The parent-couple is represented by the female find of blood group O from grave 36, and by the NSe male find from grave 37. The female of blood group A grave 38a may be originated from these. This forms together with the supposed father of blood group B, the second parent-couple whom the persons buried in graves 38, 39, 31 and 40 may have descended from.

The finds of graves 38a and 36 can be classified into the Pamirian race, with both of them curvoccipitalia being found. On the basis of the excavation record, also the uncovering of the find of the male supposed must have taken place but the material of that grave is not available for us. At the finds of graves 38a and 39, there is knobby protuberantia mentalis. The individuals buried in graves 31, 39 and 40 may be determined in all the three cases females of maturus age and, in addition, at the finds of graves 31 and 40 also the type-collagens agree. That consequently supposes genetic connection. These three females separate chronologically, as well, from the seven graves mentioned previously (Fig. 4).

This large family (group A) is comparatively poor in archeological furniture. In our opinion these were buried first in this area. That is supported also by that, within the group, there are also graves that may chronologically be dated to have been contemporary with the Sarmatians (17, 18, 22, 24 and 13).

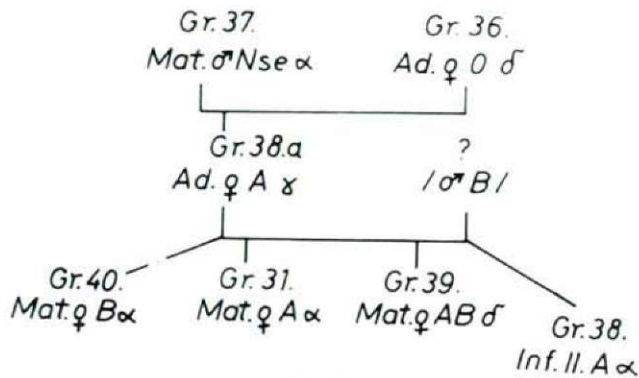


Fig. 4

B) The other large family is located east from the group marked with A. That can be also divided chronologically into four parts.

1. In the most NW part of the line we have found only a single grave (16) that may be determined to be of the Avar Period. Although beside this grave there was excavated also another find, the orientation of that differs from the graves coming from the Avar Period, and may be dated also on the ground of the decomposition quotient to be chronologically younger — a Sarmatian one. There is a similar situation at grave 29. On the basis of the female find of matus age excavated from grave 16 it is very difficult to draw any conclusion. It may be anyway supposed that this may have been a member of a parent-couple. The grave chronologically agrees with the graves of A/2 group.

2. In approximately southern direction from the grave mentioned, in a rather great distance, we find a group consisting of eight graves, chronologically of about the same age as group A/3 (graves 14, 15, 19, 23, 25, 30, 33, 34). This group is first of all interesting because the definitely Mongolid find of grave 25 is of central situation and the other seven graves surround it. As in case of the latter ones we have not been able to discover any Mongolid features, it seems to be probable that that Mongolid individual, by the way buried with gold furniture, may have held some leading role, and the persons buried around

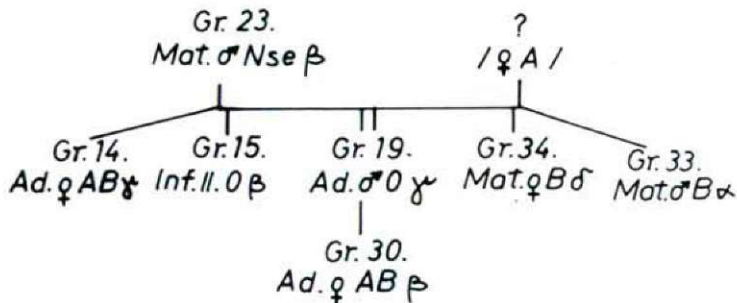


Fig. 5

him have been his subordinates. It is an add thing about this find that a „trepanation” round the foramen magnum can be found on the cranium.

On the basis of the above data, the following genetic connection may be supposed (Fig. 5).

The members of the parent-couple must have been the NSe father (probably of blood group) buried in grave 23 and an unknown mother (probably of blood group A). The descendants of these parents may have been the individuals buried around grave 25. This is also supported by the fact that the finds of graves 14, 23, 30, 33, 34 are very similar to one another as to their morphological features. From taxonomical point of view, the characteristics of the gracile Mediterranean and those of the Nordoid race are to be recognized on them.

Taking into consideration the archaeological records, it does not seem impossible, either, that the wife of the male individual in grave 25 was the adult female buried in grave 14 because only in these two graves of this grave-group were found any gold furniture.

3. The third group of this family is formed by seven graves that may be considered to have the same chronological age as group A/4 (graves 26, 27, 28, 41, 42, 43 and 44).

As on the basis of the morphological characteristics the finds of graves 26, 27 and 28 are very similar and, at the same time, at the finds of graves 26 and 42 sutural bones could be found, respectively, from a taxonomical point of view, one of them can be determined as Nordoid and the other as Atlanto-Mediterranean, we have supposed the following genetic connections (Fig. 6).

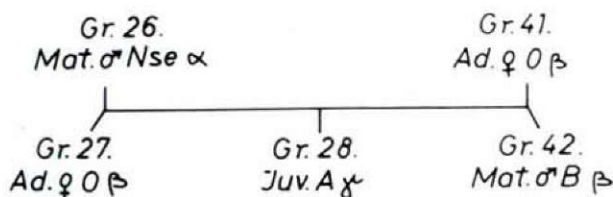


Fig. 6

The parent-couple are represented by the female find of grave 41 and the male find of grave 26. This individuals buried in graves 27, 28 and 42 may have descended from then. The other parent-couple are respresented by the individuals of the other graves (43 and 44). From them may have descended the members of the following group B/4.

4. Into this group five finds (graves 45, 46, 47, 48 and 50) were classified. On the basis of the above data, these individuals descended from the male, respectively female member of graves 43 and 44 (Fig. 7). This supposition is supported by that the finds of graves 44 and 50, as well, may be ranked among the Pamirian race and they seem to agree to a great extent in morphological features.

5. Group 5 of the second family is represented by five individuals (graves 49, 51, 52, 53, 54). This group chronologically agrees with the finds of group

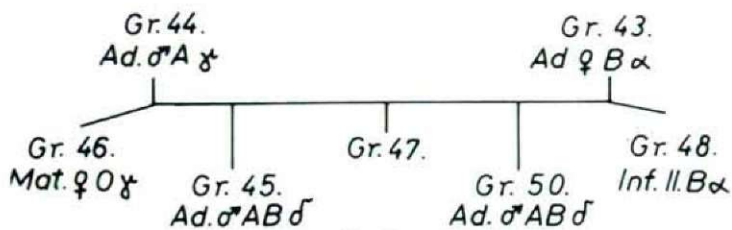


Fig. 7

B/3. It may be imagined, therefore, that this group meant perhaps the origin of a new large family. Anyway, on the basis of blood groups, there may be supposed a genetic connection between them, as well (Fig. 8).

In this case, the male find of grave 51 and the female find of grave 54 are forming the parent-couple whom the individuals of graves 49 and 52 descended from. The latter one, in case of a supposed father of blood group A or AB can be considered as a member of a newer parent-couple, having as descendant the subadult individual of grave 53.

It is characteristic of both large families that the descendants can be found either north or south of the parents supposed, although group B/2 is an exception. It is striking, too, that in the cemetery the female members of the parent-

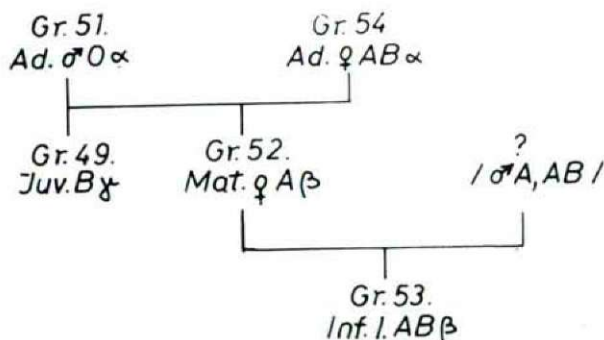


Fig. 8

couples assumed by us are generally buried on the NW side as compared to their probable husbands. And if the matter in question is the situation of two parent-couples then the graves are located along the NW-SE line in the way that the males lie in the middle and the females NW, respectively SE from there. This system of burying may be correct even if the parents not buried but supposed by us are included in this arrangement.

Summing up the discussed data, we have to emphasize that our expounded idea concerning the funeral rites is a working hypothesis founded on genetic connections supposed on the basis of the blood group system ABO that can be determined exactly. At any rate, this cemetery differs from other cemeteries

of the Avar Period excavated so far in Hungary even in respect of the extremely low number of graves and that they are located in the cemetery map in groups that are in a distance from one another. We should think, therefore, that the two families have temporarily returned to the area of burying. Perhaps, owing to the highly developed animal husbandary at the Avars they turned out their animals to grass occasionally in that field, and buried in the same place their family members if they had died at the same time. Our supposition is supported by the topographical conditions of the area, as well: the burial place was not marshy, it suited therefore exactly for being used as a pasture.

To be sure, our working hypothesis may only mean an example for one of the burial rites of cemeteries from the Avar Period if we get similar further data from the analysis of other cemeteries, as well.

We wish to express our thanks to MIHÁLY KŐHEGYI for authorizing the publication of the cemetery map and for making the excavation records available for us.

References

- FARKAS, Gy. (1970): Supposition of genetic connections of Bronze-Age finds on the basis of blood-groupings. — *Acta Biol. Szeged*, 16, 149—154.
- KŐHEGYI, M. (1960): Mélykút-Sáncdülő. *Archäologische Forschungen im Jahre 1959. Römerzeit. B. Grosse Ungarische Tiefebene.* — *Arch. Ért.* 87, 236.
- KŐHEGYI, M. (1969) Mélykút-Sáncdülő. *Archäologische Forschungen im Jahre 1968. Römerzeitliches Barbaricum.* — *Arch. Ért.* 96, 258.
- LENGYEL, I. (1970): A Lepenski-Vir lelőhelyen feltárt csontvázletek laboratóriumi vizsgálatának előzetes eredményei (Preliminary report about the laboratorial examination of the bone finds discovered in Lepenski-Vir). — *Anthrop. Közl.* 14, 181—188.
- MARCSIK, A. (in press): A mélykúti avarkori temető embertani anyagának vizsgálata (The anthropological investigation of a cemetery at Mélykút from the Avar Period). — *Anthrop. Közl.*

Address of the authors:

DR. GY. FARKAS

DR. ANTONIA MARCSIK

Department of Anthropology, A. J. University,
Szeged,

DR. I. LENGYEL

Institute of Archaeology, Hungarian Academy of Sciences,
Budapest, Hungary