

SUPPOSITION OF GENETIC CONNECTIONS OF BRONZE-AGE FINDS ON THE BASIS OF BLOOD-GROUPINGS

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On the occasion of palaeoanthropological investigations, it is more and more required of the research workers to-day to perform a biological reconstruction, too, of the population studied. By means of the usual metric and morphologic methods that task cannot be solved completely. We can obtain, anyway, more information about the finds with the complex osteochemical method spreading more and more in this country and applied to the fossil material by I. LENGYEL (LENGYEL—NEMESKÉRI, 1963). The advantage of this method is to furnish rather exact information on the age of decease, sex, and blood-groups by means of a quantitative and qualitative determination of the citrate content, inorganic elements of bones, as well as by blood-grouping.

In the cemetery from the late Bronze Age excavated in the findspot Széntégláégető, in the vicinity of the village Tápé beside Szeged (Southern Hungary), as well, these determinations have been carried out by I. LENGYEL. Here we do not want to treat fully the results of that as they will be contained in the monograph about the cemetery, in the publication of the much more authentic author.

It is to be mentioned, at any rate, concerning the material that in the cemetery the decomposition of finds was at a very much advanced stage, we have succeeded, therefore, in performing the taxonomical analysis only on eighty-one individuals from the 579 graves excavated (FARKAS—LIPTÁK, in the press). We had therefore to look for another way for revealing the connections. It seemed to us to be suitable for that an observation according to which the presence or absence of sixteen morphological characteristics occurred alternately in the finds. After marking these characteristics to the single graves, we found that some characteristics were missing from some graves close to one another, that is to say, from a larger area of the cemetery or, on the other hand, they occur — as distinguished from the graves lying in the adjacent area.

As a consequence of this realization, the author of the present paper has divided the cemetery into thirteen smaller areas that — in his opinion — can be demarcated well. He has supposed that these may have been burial-places of clans. On that basis, however, it was also to be supposed that within these clannish areas there had been buried more families.

After a more intensive observation it turned out that there might be found grave-groups consisting of four to eight graves and placed approximately in the shape of an ellipse within the burial-place of clan, and on them there could be observed some morphological characteristics that were missing from the finds of the adjacent graves. We cannot verify, of course, the genetic connection of these graves on the basis of morphological characteristics.

As, anyway, I. Lengyel was so good to make the results of his ABO blood-group determination of the finds available for us, these connections seem — at least in the cases investigated so far — to be doubtless. Our supposition is based on the following.

We have learned from the investigations of the establishment of ancestry what kind of blood-groups the children of parents of a given blood-group may have. We are mentioning in this regard the following arrangement (FEHÉR—FARKAS, 1956):

Mother	Child	Father	
		possible	impossible
O	O	O, A, B,	AB
A	O	O, A, B,	AB
B	O	O, A, B,	AB
O	A	A, AB	O, B
A	A	O, A, B, AB	—
B	A	A, AB	O, B
AB	A	O, A, B, AB	—
O	B	B, AB	O, A
B	B	O, A, B, AB	—
AB	B	O, A, B, AB	—
A	AB	B, AB	O, A
B	AB	A, AB	O, B
AB	AB	A, B, AB	O
A	B	B, A	O, A

Knowing these connections, and selecting three grave-groups on the basis of the cemetery map, we have got the following result:

1. At the North-Western end of the cemetery, there are placed the following graves:

grave 351: male of 40—50, blood-group: AB

grave 353: male of 40—50, blood-group: A

grave 354: female of 20—30, blood-group: B

grave 355: male of 30—40, blood-group: B

On the basis of the evaluation data of the skeletons, there are possible two alternatives (Fig. 1).

a) According to one of them, they may have been brothers, resp. sisters. In that case it is to be supposed that one of the parents was of blood-group B and the other of blood-group AB.

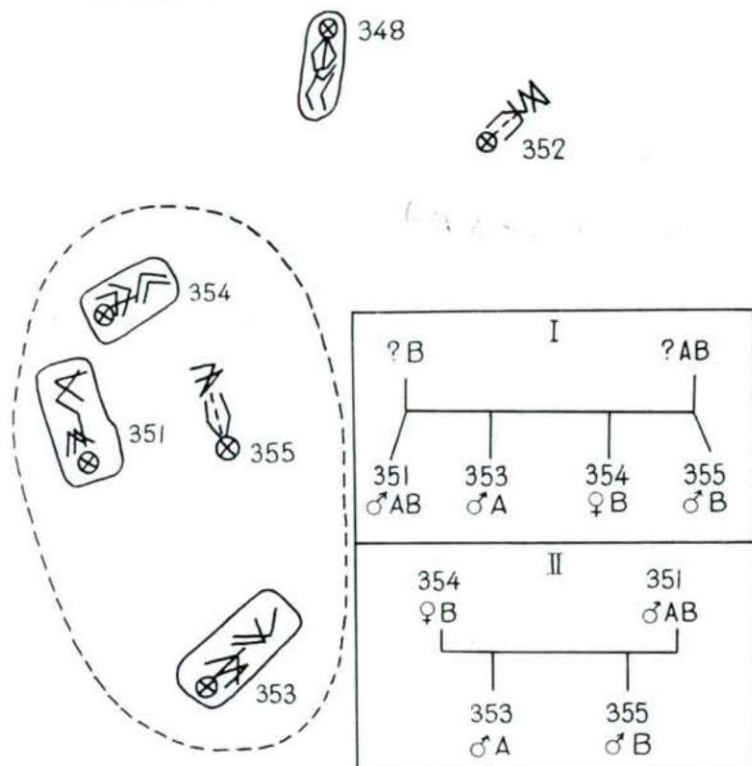


Fig. 1

b) According to the other possibility, the parents are represented by the female find of grave 354 and the male find of grave 355; their descendants may have been the individuals buried in graves 353 and 355.

Both alternatives are possible on the basis of the blood-group connections given above.

2. In the middle line of the cemetery, directed NW-SE, on the NW side of the cemetery, there are placed the following graves:

grave 373: female of 15-25, non secretor (NSe)

grave 374: male of 22-40, non-secretor (NSe)

grave 388: female of 20-30, blood-group: O

grave 389: child of 0-7, blood-group: O

grave 416: male of 40-50, blood-group: O

grave 609: male of 20-30, blood-group: O

grave 610: female of 25-35, non-secretor (NSe)

On the basis of data at our disposal we are supposing that the female individual of grave 610 and the male one of grave 416 were the parents having, in the sense of the above-mentioned data, five descendants (Fig. 2). The relationship is particularly proved by this group: a mother of blood-group O and a father of blood-group O can namely have only a child of

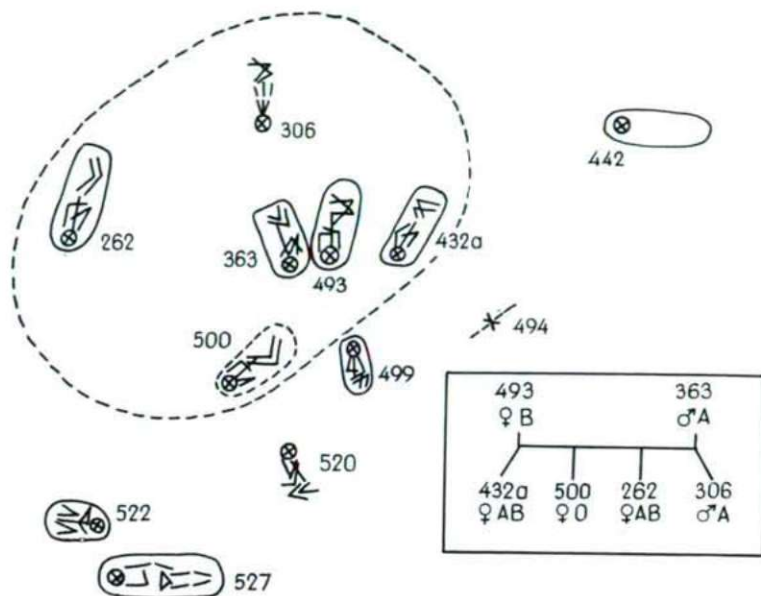


Fig. 2

blood-group O. The finds of the five graves mentioned either belong to blood-group O or they are „non-secretors” that is to say, there is ruled out in advance any possibility of their belonging either to blood-groups A, B or to blood-group AB, although their belonging to the blood-group O is not proved, either.

3. At the SE-end of the cemetery, there is placed a group consisting of six graves, for which the following data are known:

grave 262: female of 10–15, blood-group: AB

grave 306: male of 20–30, blood-group: A

grave 363: male of 45–55, blood-group: A

grave 432a: female of 30–40, blood-group: AB

grave 493: female of 22–40, blood-group: B

grave 500: female of 25–35, blood-group: O

As to these graves, there may be supposed the following connection (Fig. 3). The parents are represented by the female find of grave 493 and male find of grave 363. They may have had four descendants, *viz.*: the female finds of graves 432a and 500, the male find of grave 306, and the female find of grave 262.

In respect of the localization of the single graves within the three grave-groups, as well as in that of the summaries supposed we are referring to the Figures.

As seen from the examples above, there may be supposed family relations within a cemetery by means of suitable informations. On that basis, in the described cemetery at Tápé from the late Bronze-Age, we could render highly probable the supposition that there had taken place, a burial according to families placing the graves approximatively in the shape of an ellipse. Also more families were buried together, again in a larger area, similarly approximatively in the shape of an ellipse, and these families together had obviously formed a common clan.

A more detailed analysis — after supposing the abovementioned genetic connection — may furnish information also on the general age of life, the number of children in a family, number of families, the age in which the cemetery was in use, the size of population using the cemetery, the incidence of some diseases in the single families, etc.

On the basis of all these, the complex osteochemical investigation elaborated and applied by I. LENGYEL, may therefore prove in concrete cases to be even more efficient and fruitful than expected. In that way, we have got a new method that promotes in high degree the biological reconstruction of the extinct populations.

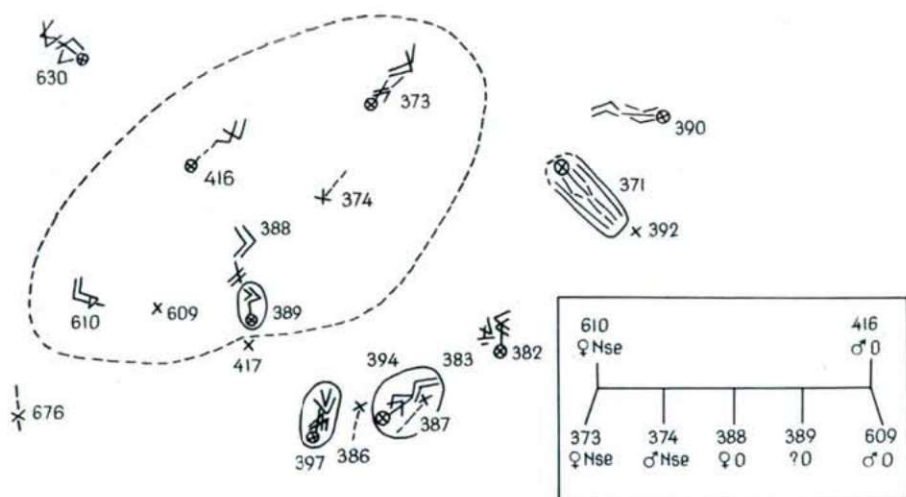


Fig. 3

In case of the mentioned population at Tápé from the late Bronze-Age there is necessary, of course, to get on with evaluating in details the cemetery map. We want to report in details on the results of that evaluation after finishing that work.

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