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Reinventing Mesolithic skulls in Lithuania: Donkalnis and Spiginas sites

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Introduction. The aim of the investigation was to bring into scientific circulation the craniometric characteristics of the Mesolithic crania from Lithuania and to interpret them against the ^{14}C-timed craniological background from adjacent territories.

Materials and methods. According to the ^{14}C dating, the attribution of Stone Age skulls from Lithuania was revised: the well known Kirsna skull, which had been considered to be Mesolithic, was found to belong to the Bronze Age (2895 ± 55BP), and new crania from Donkalnis and Spiginas (4050–6660 BP) (Lake Biržulis islands from West Lithuania) were analysed. Individual measurements of the crania are presented, the general anthropological analysis has been performed, female characteristics being calculated into male ones, and a pooled Mesolithic Lithuanian sample was formed.

Results. The mean values of Lithuanian Mesolithic skulls were compared with strictly ^{14}C-timed materials, expressing the data of separate samples in percentage of those in the Lithuanian sample. According to morphograms, the skulls from Skateholm (Sweden) are the closest. Among not strictly timed synchronous materials, the Ofnet (Germany) skulls are most similar. The possible reasons for mesobrachycrany in Mesolithic Lithuania are discussed, supposing it to be of a local European origin.

Conclusions. The analogy with the Scandinavian skulls is indicative of ancient interchange between gene pools on the western and eastern coasts of the Baltic Sea, while mesobrachycrany testifies to some influx of genes from Central Europe.

Key words: Lithuanian anthropology, craniology, Mesolithic, ^{14}C dating

INTRODUCTION

The Mesolithic, the middle phase of the Stone Age in North, Central and Eastern Europe, coincided with three climatic periods – Preboreal (10250–9000 BP), Boreal (9000–7700 BP) and Atlantic (7700–5100 BP). The early Preboreal corresponds to the Late Paleolithic, and the Late Preboreal and the Early Boreal coincide with the Early Mesolithic, while the Late Boreal corresponds to the Middle Mesolithic, and the Atlantic period coincides with with the Mesolithic.

The fluctuation of the Baltic Sea level in the Mesolithic period corresponds to the Preboreal, Boreal and Atlantic climate phases: Preboreal (with the Joldia Sea), Boreal (with Lake Ancylus) and Atlantic (with the Litorina Sea level) climate phases (1–3).

From the anthropological point of view, this phase of human history in Europe raises many unsolved problems. First of all, there is a relatively small number of well preserved skeletons; this is why each anthropological find is of great scientific value. It is especially true about the East Baltic coast where only the widely known Mesolithic burial site in Zvejnieki (Northern Latvia) was excavated. For a more detailed interpretation of antropological material from this site (and for elucidation of human history in Europe), comparable synchronous data from Lithuania, the most southern part of the region, are indispensable.

Secondly, the radiocarbone (^{14}C) dating becoming prevalent in archaeology brings many changes in the Stone Age anthropology. During the last century, and especially in its beginning, excavated skeletons somewhat lost their scientifical value because their dating was based on less precise criteria and is not trustworthy at present. On the other hand, when Stone Age bones are dated by the radiocarbone method, it turns out that they belong to quite a different age. For example, the skull from Kirsna, found in 1930 in southern Lithuania (4), was considered to be the most ancient find in the East Baltic area. After the Second World War, the Kir-

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sna skull was returned to scientific practice as a Mesolithic (5), its measurements were cited in numerous studies (6–8), whereas it is treated as a Mesolithic event in the recent publications (9). Its redating by the ^{14}C method, performed in Oxford (10), has shown that the skull is as old as 2895 ± 55 BP and belongs to the Bronze age (11), together with the skull from Turlojiškė which was considered to be Neolithic but now is dated to 2835 ± 55 BP (11). Until recently, all graves in Donkalnis have been treated as Neolithic and belonging to the Baltic Coastal culture (Haffküstenkultur) (12, 13); however, part of gaves in Donkalnis were dated as Mesolithic. The age of Mesolithic graves in Spiginas (14, 15) remained almost the same: only the grave № 2 was "rejuvenated" – it belongs to the Late Neolithic.

So, the necessity arose to dispel this tangle and to reinvent Lithuanian Mesolithic anthropological materials. The goal of the present investigation was to bring into scientific circulation the craniometric characteristics of all Mesolithic crania from Lithuania and to interpret them preliminarily against the background of synchronous finds in adjacent territories, namely those timed by the radiocarbone method. A more sophisticated analysis will be the next step of the investigation.

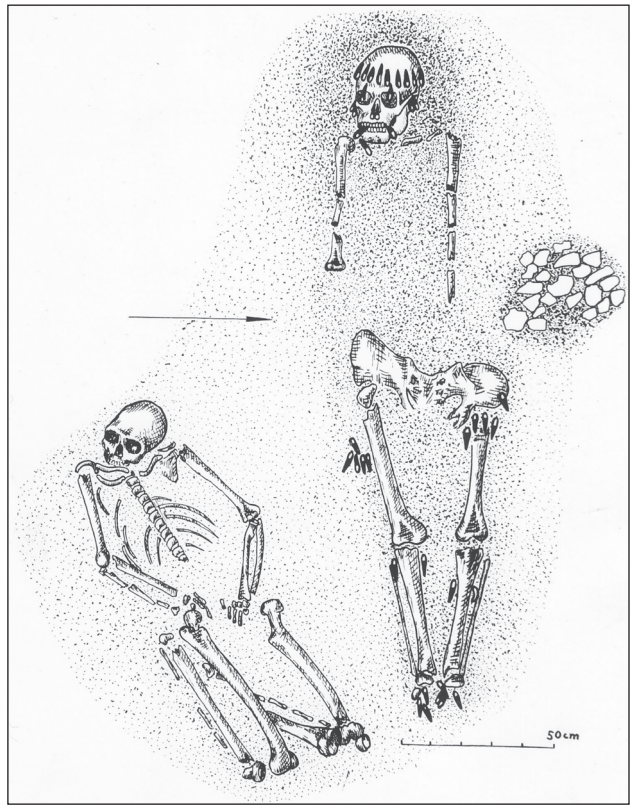

Fig. 1. The Donkalnis graves No. 2 and No. 3 *in situ*

MATERIALS AND METHODS

Two cemeteries in the Lake Biržulis region were found in Donkalnis (Fig. 1) and Spiginas, the two islands of the lake, in 1982 and 1990. They were excavated in a gravel layer 20–80 cm deep from the terrain. The borderlines of graves in oval or quadrangular shape were seen after removing the soil layer 20 cm deep. Most of the borderlines of graves from the Mesolithic period can be seen as ochre pits. Three Mesolithic graves were excavated in Spiginas (Nos. 1, 3 and 4) and five graves in Donkalnis (Nos. 2, 3, 4 and a double grave 5). Other graves belong to the Late Neolithic or were destroyed during the excavation of gravel.

The oldest burials in the East Baltic area are those from Zvejnieki; they belong to the Middle Mesolithic, i. e. the Boreal climatic period. There, the grave No. 305 belonged to 7412–7360 BC and the grave No. 170 was dated to 7260–7034 BC (2).

According to recent timing (Table 1), the earliest Spiginas (Nos. 3 and 4) and Donkalnis (Nos. 2 and 4) graves belong to the Late Mesolithic (first half of the Atlantic). All Mesolithic graves were strewn with red ochre. The Donkalnis graves Nos. 2 and 4 were the richest. They were decorated with 57 (grave No. 2) and 83 animal teeth (grave No. 4). The rich head decoration in the Donkalnis grave No. 2 (Fig. 2) and the intensive layer of ochre indicate that in these burials (like the grave No. 170 ir Zvejnieki, Latvia) leaders or other prominent members of the Donkalnis and Zvejnieki communities were buried.

Table 1. **Mesolithic graves from Lithuania**

	Donkalnis			Spiginas		
Grave No.	2	3	4	1	3	4
Gender	Male	Female	Male	Male	Female	Female
Age	20–25	25–30	50–55	35–45	?	30–35
Laboratory	CAMS-85221	CAMS-85220	OxA-5924	GIN-5569	OxA-5925	GIN-5571
Uncalibrated date bp	7405 + 45	5785 + 40	6995 + 65	5020 + 200	7780 + 65	7470 + 65
Uncalibrated date bc	5445 + 45	3835 + 40	5045 + 65	3070 + 200	5830 + 65	5520 + 60
Calibrated date BC	6377–6221	4706–4552	5980–5790	4050–3500	6660–6500	6400–6240
Status of the skull	Vault, mandible	Well preserved	Occipital bone	Unmeasurable fragments	Unmeasurable fragments	Well preserved

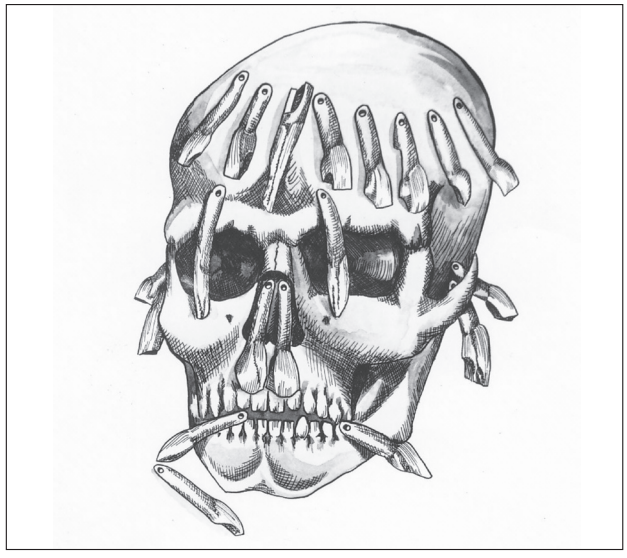

Fig. 2. Head decoration in the Donkalnis grave No 2

According to archaeological data, the Donkalnis grave No. 2 and the Spiginas grave No. 1 belong to the same period as the earlier mentioned graves, but according to radiocarbone dating they belong to the very end of the Mesolithic. The cultural attribution of the Spiginas, Donkalnis and Zvejnieki Mesolithic graves is not yet clear. We can only note that two arrowheads from the Spiginas grave No. 1 belong to people of the Kongemose time and may be dated to 5500–5000 BC, implying the possibility of cultural relations with the Mesolithic people of South Scandinavia.

The preservation of the skeletons in the graves differs: almost unspoilt crania were obtained in the Donkalnis grave No. 3 and the Spiginas No. 4, while only the vault and the mandible were present in the Donkalnis grave No. 2, the occipital part of the vault was found in the Donkalnis grave No. 4, and there were only immeasurable fragments in the Spiginas graves No. 1 and No.3. Measurements were made

Table 2. **Individual measurements of the skulls**

Trait after Martin		Donkalnis		Spiginas		Trait after Martin		Donkalnis		Spiginas	
		No. 2	No. 3	No. 3	No. 4			No. 2	No. 3	No. 3	No. 4
1.	g–op	189	186	–	170	38.	volume	1569	1375	–	1312
2.	g–i	188	177	–	166	43.	fmt–fmt	112	106	–	102
8.	eu–eu	147	148	–	141	45.	zy–zy	–	137(?)	–	127
9.	ft–ft	102	90	–	93	50.	mf–mf	–	–	–	17.5
10.	co–co	125	113	–	119	54.	nl–nl	–	24.5	–	24
11.	au–au	–	126	–	122	63.	enm–enm	–	40	–	–
12.	ast–ast	118	115	118	108	65.	kdl–kdl	–	117	–	117
16.	f. magnum	–	31	–	–	66.	go–go	111	102	–	106
17.	ba–b	139	126	–	–	67.	ml–ml	47	42	–	46
20.	po–b	121	110	–	113	68.		–	80	–	73
23.	g–op	535	517	–	498	68(1).		–	102	–	97
24.	po–b–po	325	299	–	303	69.	id–gn	–	–	–	30
25.	n–o	385	–	–	365	69(2).		30	27	33	29
26.	n–b	135	119	–	127	69(3).		11	9.5	11.5	14
27.	b–l	141	135	–	130	70.		–	62	–	59
28.	l–o	109	–	119	108	70a.		–	61	–	57
29.	n–b	117	103	–	107	71.		–	33	–	34
30.	b–l	126	117	–	112	8 : 1		77.8	78.0	–	82.9

Table 3. **General characteristics of Lithuanian Mesolithic skulls**

Trait after Martin		Males	Females	Pseudomales	Males and pseudomales total
1.	g–op	189.0 (1)	178.0 (2)	186.6 (2)	187.4 (3)
8.	eu–eu	147.0 (1)	143.0 (2)	148.1 (2)	147.7 (3)
17.	ba–b	139.0 (1)	126.0 (1)	32.0 (1)	135.5 (2)
45.	zy–zy	–	32.0 (2)	141.5 (2)	141.5 (2)
54.	nl–nl	24.5 (1)	24.2 (2)	24.3 (2)	24.4 (3)
8 : 1		77.8 (1)	80.4 (2)	79.7 (2)	79.1 (3)

Table 4. **Only ^{14}C dated comparative materials**

	Trait after Martin	Donkalnis, Spiginas (Lithuania)	Zvejnieki (Latvia)	Skateholm (Sweden)	Lepenski vir (Serbia)	Mugem (Portugal)	Peschanitsy Arkhangelsk region (Russia)
1.	g–op	187.4 (3)	194.1 (6)	188.7 (16)	195.7 (3)	183.5 (1)	186.1 (1)
8.	eu–eu	147.7 (3)	136.8 (6)	143.1 (12)	150.0 (3) ?	133.7 (1)	134.0 (1)
17.	ba–b	135.5 (2)	139.3 (6)	148.7 (2)	149.5 (2) ?	134.2 (1)	142.0 (1)
45.	zy–zy	141.0 (2)	137.9 (6)	142.1 (11)	155.0 (2) ?	124.5 (1)	139.0 (1)
48.	n–pr	–	72.9 (4)	74.4 (11)	70.0 (1)	69.0 (1)	78.0 (1)
51.	mf–ek	–	43.9 (6)	41.9 (6)	–	–	?
52.		–	30.6 (6)	31.9 (7)	–	–	?
54.	nl–nl	24.4 (3)	24.7 (5)	23.9 (8)	–	25.1 (1)	27.0 (1)
55.	n–ns	–	53.7 (4)	54.2 (7)	–	47.6 (1)	59.0 (1)
8 : 1		79.1 (3)	70.5 (6)	76.2 (12)	76.6 (3)	72.9 (1)	76.3 (1)
48 : 45		–	53.5 (6)	52.3 (10)	47.3 (1)	55.4 (1)	56.1 (1)
52 : 51		–	69.7 (6)	76.7 (6)	–	–	–
54 : 55		–	46.0 (4)	44.2 (7)	–	52.7 (1)	45.7 (1)

Table 5. **Comparative materials dated according to grave findings**

	Trait after Martin	Dolicho-cranes	Zvejnieki (Latvia) Dolicho mesocranes	Total	Oleniy Ostrov, Lake Ladoga (Russia)	Vasilyevka (Ukraine)			Janislawice (Poland)	Ofnet (Germany)	Hoedec, Teviec (France)
						I	III	Totall			
1.	g–op	192.0 (6)	183.2 (6)	187.6 (12)	188.1 (30)	195.2 (9)	194.1 (11)	194.6 (20)	173.0 (1)	188.5 (4)	188.2 (11)
8.	eu–eu	133.8 (5)	138.1 (7)	136.3 (12)	141.7 (27)	133.6 (8)	137.0 (11)	135.6 (19)	147.0 (1)	143.5 (4)	137.2 (11)
17.	ba–b	141.2 (5)	139.4 (7)	140.1 (12)	138.3 (7)	144.7 (3)	–	144.7 (3)	134.0 (1)	138.7 (3)	139.6 (8)
45.	zy–zy	137.6 (5)	136.3 (6)	136.9 (11)	142.9 (23)	40.6 (10)	141.0 (11)	140.8 (21)	138.0 (1)	136.2 (4)	139.3 (10)
48.	n–pr	74.8 (4)	67.5 (6)	70.4 (10)	70.9 (21)	73.3 (9)	70.1 (10)	71.7 (19)	65.0 (1)	–	–
51.	mf–ek	44.4 (5)	42.8 (6)	43.5 (11)	–	42.7 (9)	43.3 (15)	42.9 (24)	42.0 (1)	–	–
52.		32.6 (5)	32.1 (6)	32.3 (11)	33.7 (24)	33.3 (9)	32.6 (11)	32.9 (20)	32.0 (1)	–	–
54.	nl–nl	24.9 (5)	24.7 (7)	24.8 (12)	25.4 (21)	26.1 (3)	25.6 (10)	25.7 (13)	26.0 (1)	23.7 (3)	26.4 (9)
55.	n–ns	54.3 (5)	50.2 (7)	51.9 (12)	–	53.3 (7)	52.9 (14)	53.0 (21)	51.0 (1)	–	–
8 : 1		69.9 (5)	74.7 (6)	72.5 (11)	75.8 (27)	69.8 (8)	70.4 (11)	70.1 (19)	85.0 (1)	76.3 (4)	72.9 (11)

by ordinary methods of R. Martin; his numeration and symbols of craniometrical traits were used (Tables 2–5), the titles of the traits being omitted in order to economize the table space. The trail values of separate skulls and the mean values of the pooled craniological sample were evaluated using the scale of their variability in the world. In order to increase the respectability of the sample and to make preliminary generalizations, the measurements of the female skulls were calculated into male (further pseudomale) ones using the coefficients of sexual dimorphism.

For comparison, exclusively ^{14}C-dated materials were taken from the literature, as is sometimes practised in archaeology (17). R. Denisova, a Latvian anthropologist, published individual measurements of 14 male and 6 female skulls from Zvejnieki (Latvia); all of them were considered to be Mesolithic at that time (18). New radiocarbon dates (19–21) demonstrate that undoubtedly Mesolithic are only four male (Nos. 2, 39, 154 and 170) as well as two female (Nos. 57 and 76) graves. After converting female measurements into pseudomale ones, a pooled series was made and the mean values were calculated (Table 4). The Mesolithic inhumations in Skateholm (Sweden) are quite exactly dated, the mean values of traits were calculated in a sample of 16 male crania using published individual measurements (21). Materials from the well-known burial site in Lepenski vir (Serbia) were taken from the publication by Zh. Gavrilović and I. Schwidetzky (22). The skull from Peschanitsa (Archangelsk region, Russia) was dated to 9890 ± 120 BP (17) and analysed in detail (9). Concerning more remote Mesolithic sites, we have found a well-timed sample from Mugem (Portugal), consisting of eight male skulls dated to 7350 ± 350; unfortunately, it is not clear whether or not the date is calibrated, counted before Christ or before present. The sample was investigated by D. Ferembach in 1974; its mean measures were taken from A. X. La Cunha (23).

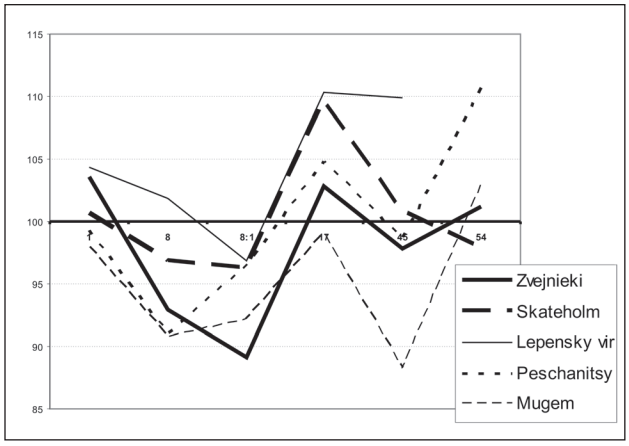

Fig. 3. Comparison of ^{14}C timed skulls (% of the Lithuanian sample)

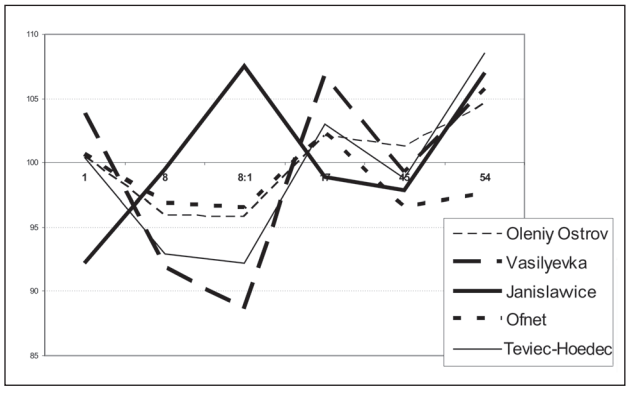

Fig. 4. Comparison of not ^{14}C timed skulls (% of the Lithuanian sample)

In some cases, in order to analyse our data, other European ^{14}C-dated materials or from archaeological finds were requested (Table 5). First of all, the mean values of craniometrical traits in the pooled Zvejnieki series of skulls were used (18). The biggest North-East European burial site in Oleniy Ostrov (Lake Onega, Russia) is dated to 9910 ± 80 BP (17); the skulls were described by V. P. Yakimov in 1960; however, it is not clear whether the whole craniological material belongs to the same period. There are no ^{14}C dates for the cites Vasilyevka I and III situated in the Dnieper basin (Ukraine); the crania were analysed by T. S. Konduktorova in 1957 and I. I. Gokhman in 1966. The mean values for the skulls from Oleniy Ostrov and Vasilyevka were taken from R. Denisova (7). Though the dating of the cranium from Janislawice (Poland) had been questionable, it was used in the present work because it is quite important for the biological history of the region (24). For general orientation, the mean values were calculated from individual measurements of skulls excavated in three more Mesolithic sites – Ofnet (South-East Germany, Bavaria), Hoedec and Teviec (North-West France, Brittany) (25, 26).

The fragmentariness of the craniological materials presented here did not enable us to use more sophisticated statistical methods; after all, we have not pursued this goal. Separate samples were compared from the general morphological point of view: the mean values of their craniometrical traits were expressed as the percentage of those in the Lithuanian series from Donkalnis and Spiginas (Figs. 3, 4).

RESULTS

The cerebral part of the male cranium from the Donkalnis grave No. 2 (Table 2) is long, wide and high, the widdth of the forehead and the back of the head are very large, and they determine the large horizontal, sagittal and transverse arches as well as the big skull capacity. The parietal segment of the sagittal arch (b–l) is the longest, followed by the frontal one (n–b), the occipital arch (l–o) being the shortest. The skull is notable for its mesocranial shape. The face and its details are immeasurable; according to the fragments, the bigonial distance (go–go) of the mandible is very large, the mental width can be evaluated as large, and the thickness of its body is medium. So, a hypermorphical mesocranial Caucasoid with a large mandible was burred in this grave.

The cerebral part of the female skull from the Donkalnis grave No. 3 is characterised by a very large length and width, by a medium height and a rather large circumference. The forehead is of average width, and therefore the transverse arch is moderately long. The occipital part of the vault is very wide. The shape of the skull is mesocranial. It was possible to measure only the frontal and parietal segments of the sagittal arch, the latter being longer than the previous, though questionable, the bizygomatic breadth seems to be very large, the nose is moderately wide, the bicondylar and bigonial distances of the mandible are large, the mental width and the body thickness being pretty small. So, a hypermorphical, mesocranial, wide-faced female with a large mandible was buried in this grave.

In the Donkalnis grave No. 4, only an occipital bone of a man was preserved. Judging by its size, the back of the head of this individual was very wide, as was characteristic of the two above-mentioned skulls. It is possible to suppose that the rest of the vault measurements were large.

In the Spiginas graves Nos. 1 and 3, only immeasurable fragments of crania were unearthed. The female skull from the grave No. 4 can be characterized anthropologically quite well. Its vault is of a medium length, a very large width, branhycrany, rather large height and capacity. Its circumference and transverse arch are of a medium size, while the sagittal arch is long. The length of the frontal and parietal segments of the arch is almost the same, while its occipital part is the shortest. The forehead and the back of the head are uniformly wide. The bizygomatic breath may be characterized as being between moderate and high values, the nose seems to be of average breadth. The bicondylar and bigonial diameters of the mandible are large, the mental breadth is medium, its body is high and thick. So, a mesomorphic, brachycranial, wide-faced female with a massive mandible was buried in the Spiginas grave No. 4.

Thus, the crania from both Mesolithic sites are quite similar. Though not numerous, the pooled Mesolithic sample

(Table 3) enables to assess the craniometrical peculiarities of the population. There, Mesolithic men in Lithuania were notable for hypermorphy (long, very wide, moderately high vault). The large biparietal width predicted its mesobrachycranial shape. The population was wide-faced; unfortunately, the facial details were immeasurable, with an exception of nasal breadth which can be evaluated as large.

After collation of ^{14}C-dated samples (Table 4, Fig. 3), it is possible to maintain that all of them differ from the Lithuanian series mostly by the width of the vault and the face. In all cases (with an exception of the Lepensky vir), the width of the vault is less, and this determines the lower value of the cranial index: the shape of the skull is either dolichocranial (Zvejnieki, Mugem) or mesocranial (Skateholm, Lepensky vir and Peschanitsy). The Lithuanian sample differs from the others for a rather small height of the vault and a somewhat wider face. It is necessary to point out that the smallest difference comes to light between the morphograms of the Lithuanian and the Skateholm series: they vary mostly in the width of the vault. It is noteworthy that the bizygomatical distance of the samples almost coincides (141.0 and 142.1).

Concerning the less reliably dated radiological materials (Table 5, Fig. 5), the Ofnet sample (South-East Germany) stands most closely to the Lithuanian one: it differs in a somewhat lower value of the width and the index of the vault as well as in a narrower face. The other crania have a narrower, longer and higher vault. The hyperbrachycranial skull from Janislawice (Poland) as well as a hypermorphic hyperdolichocranial pooled sample from Vasilyevka I and III (Ukraine) are most remoted. Moreover, they look like antipodes according to all craniometrical traits. Though the Oleniy Ostrov series stands closer to the Lithuanian one, nevertheless, it differs in a narrower, longer and higher vault (the bizygomatical distance coincides). However, it is not possible to draw a more strict conclusion because the dating of the Oleniy Ostrov site is quite general, and it seems that anthropological materials from better dated graves are not amended.

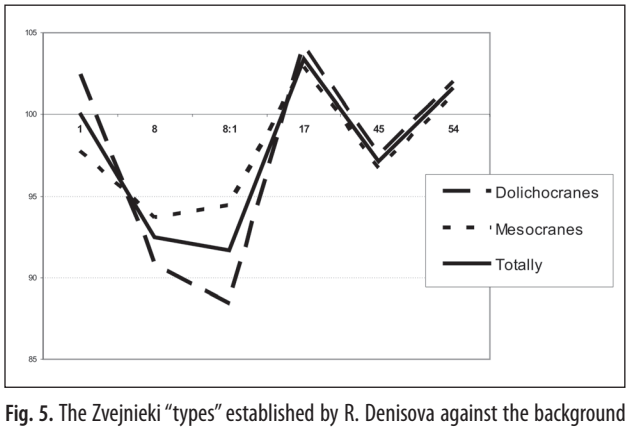

Fig. 5. The Zvejnieki "types" established by R. Denisova against the background of world-wide variability

DISCUSSION

First of all, the mesobrachycrany of Mesolithic Lithuanian population must be discussed. It might emerge as a result of an epochal trend (brachycranisation), it might occur due to the inflow of some Mongoloid element, or it must be treated as a phenomenon of local origin.

To all appearances, the brachycranization took place throughout the whole Mesolithic period; it was noted also in Central Europe, and the changes in skull shape had been linked with climate (brachycephaly is more common in the zone of a cold climate). Nevertheless, this presumption was not corroborated, and the reasons of brachycranization remain unclear (26). The process was noted also in Lithuania: on the basis of materials from four burial grounds used in the 1st and 2nd millennia A. D., it came to light that the cranial index increased by 7% between the Roman period and Mediaeval times, i. e. a shift from dolichocrany to mesocrany occurred (27). It should be noted that the cranial index in Mediaeval Lithuania was approximately 77.0, i. e. the same as in the skulls from the Donkalnis graves Nos. 2 and 3 (77.8 and 78.0), but less than in the female cranium from the Spiginas grave No. 4 (82.9). Consequently, mesocrany in Mesolithic Lithuanians was caused either by an uneven development of cranial shape in various historical periods or was not related to this process at all. The latter presumption may be supported by the fact that an earlier (6400–6240 BP) woman in the Spiginas grave No. 4 was brachycranial (82.9), while in the later (4706–4552 BC) Donkalnis grave No. 3 a mesocranial woman (78.0) was buried. In a broader sense, a very old (9890 BC) skull from Peschanitsy is stored out for mesocrany (76.3), although the craniological material from Skateholm and Lepenski vir (5410 BP) 4 thousand years younger (and synchronous with Donkalnis) is mesocranial, too (76.2 and 76.6, respectively).

There is quite a small probability that mesobrachycrany might be a result of some Mongoloid admixture. Unfortunately, we were unable to measure the angles of the vertical and horizontal face profiles, but analysis of Mesolithic Latvian materials does not prove a direct link between cranial shape and the flatness of the face. There, in three of the four ^{14}C-dated Zvejnieki skulls, the horizontal profile of the face was flattened (the values of the nasomaxillary angle are respectively 142.0, 141.0 and 149.4, those of the zygomaxillary angle being 124.78, 130.6 and 131.0), while the vault shape was dolichocranial (970.5, 70.4 and 74.7), the nasal angle being satisfactorily expressed (nasal angle in the grave No. 57 amounts to 14º). Noteworthy, a slight flattening of the horizontal profile was detected in Neolithic Scandinavia (28) where a Mongoloid admixture is more than doubtful.

M. I. Uryson (29) has noted that the ratio of frontal, parietal and occipital segments of the vault varies in the main racial stems. There, the parieto-sagittal index (percentage of parietal arch to sagittal one) is usually almost equal to the fronto-sagittal index, and the occipito-sagittal index is

significantly lower in Caucasoids and Negroids, while in Mongoloids the parietal part of the sagittal arch is much shorter than the frontal one and is almost equal to the occipital part. It is risky to judge about the Mongoloid character of a separate skull, nevertheless, it is interesting to note that the values of the fronto-sagittal, parieto-sagittal and occipito-sagittal indices are respectively 35.1%, 36.6% and 28.3% in the skull No. 2 from Donkalnis and 34.8%, 35.6% and 26.6% in the skull No. 4 from Spiginas. Hence, the ratio between the elements of the sagittal arch of the vault seems to be Caucasoid.

So, the third possibility is the most plausible: during the Mesolithic, in Europe there coexisted two cranial shapes – dolichocranial and mesobrachycranial. The latter ones are respected by Peschanitsy (76.3), Lepensky vir (76.6), Skateholm (76.2), Ofnet (76.3), Oleniy Ostrov (75.9), Janislawice (85.0). R. Denisova (7) specifically looked for mesobrachycranial skulls in Central Europe, and she has presented the following examples: Plans – 86.4, Spandan – 88.4, Demitz – 79.8. The prevalent opinion is that brachycranial forms in Europe are of local origin, and they are linked with solute type mesocranes of the Upper Paleolithic (30). Moreover, brachycrany emerged in West Europe earlier than in East Europe, and in many regions of Europe brachycrany was becoming apparent from the Late Paleolithic till now; nevertheless, it is uncertain whether or not the process was smooth (31).

Finally, it is necessary to discuss why the Lithuanian Mesolithic materials do not conform with the Latvian Zvejnieki site, the closest neighbour. It is notable that in the Zvejnieki graves that were dated not by ^{14}C but according to casement, two anthropological complexes were defined by R. Denisova in 1975: the earlier hyperdolichocranial type with a moderate width and a sharp vertical and horizontal profile, and a later mesocranial type with a wide and flattened face (18). The analysis was carried out on the basis of the correlation coefficients, and, to all appearances, the author has not avoided some subjectivity: the existence of two cranialogical complexes in Zvejnieki seems rather questionable. This presumption can be supported by a comparison of morphogrammes (Fig. 3). There, both dolichocranial and mesocranial skulls from Zvejnieki deviate from the Lithuanian ones to different extent but in the same direction, while the curve of the pooled Zvejnieki sample is in the middle between the curves of the two "types". It is evident that they are not different types, but border variants of the same craniological complex. Covering the angles of the vertical and horizontal profiles, they have no decisive value in racial diagnosis without connection with the general skull morphology. Moreover, the nasomaxillary and zygomaxillary angles were not stable: at least in Lithuania, they kept increasing during the last two millennia (25). In addition, the flattening of the upper part of the face, defined by the nasomaxillary angle, was characteristic of Neolithic Scandinavia (26), i. e. of the region in which a Mongoloid admixture is more than incredible.

It should be noted that the similarity of the Lithuanian Mesolithic series to the Ofnet (Germany) crania is not unexpected. There, the tooth peculiarities of the Donkalnis and the Spiginas populations correspond to the Middle European odontological type (15). It suits very well the logic of facts: the last glacier stepped back from the South to the North, that is why the influx of population to the Eastern Baltic coast from the south and the south-west (i. e. Central Europe) is quite probable.

CONCLUSIONS

1. The Mesolithic humans in Lithuanian cemeteries (Donkalnis and Spiginas) were characterised by hypermorphy, mesobrachycrany and a wide face and belonged to robust round-headed Caucasoids.

2. Analogous skull shape is characteristic of Scandinavian population (Skateholm) implying an ancient interchange between gene pools on the West and East coasts of the Baltic Sea.

3. Mesobrachycrany of Lithuanian skulls endicates some influx of genes from Central Europe.

4. To avoid ravelled and unfounded generalizations, it is recommended to compare only strictly dated (^{14}C) craniological materials

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NAUJI MEZOLITO RADINIAI LIETUVOJE: DONKALNIS IR SPIGINAS

Santrauka

Tikslas. Šio tyrimo tikslas yra įtraukti į mokslinę apyvartą Lietuvos mezolitinių kaukolių kraniometrines charakteristikas ir įvertinti jas gretimų teritorijų radiokarboniniu metodu datuotos kraniologinės medžiagos atžvilgiu.

Tyrimo medžiaga ir metodai. Radiokarboniniu metodu buvo iš naujo datuotos Lietuvoje iškastos akmens amžiaus kaukolės. Žinoma Kirsnos kaukolė, kuri iki šiol buvo laikyta mezolitine, paaiškėjo beesanti žalvario amžiaus (2 895 ± 55 BP). Donkalnyje ir Spigine (Biržulio ežero salose) rasti palaidojimai datuojami 4 050–6 660 BP. Perskaičiavus moterų kaukolių matmenis į vyriškų ir taip sudarius bendrą lietuvišką seriją, pateikti individualūs kaukolių matmenys ir atlikta bendra antropologinė analizė.

Rezultatai. Lietuviškų mezolitinių kaukolių požymių vidurkiai buvo palyginti su griežtai C14 datuota medžiaga, lyginamųjų serijų vidurkiai išreikšti lietuviškos serijos vidurkių procentais. Morfogramoje akivaizdu, kad kaukolės iš Skateholmo (Švedija) yra artimiausios lietuviškai serijai. Tarp ne radiokarbonu datuotų to paties laiko kraniologinių serijų Ofneto (Vokietija) serija yra artimiausia. Aptariamos galimos Lietuvos mezolitinių kaukolių mezobrachikranijos priežastys. Daroma prielaida, kad ji yra europinės kilmės.

Išvada. Analogija su kaukolėmis iš Skandinavijos byloja apie genų mainus tarp vakarinio ir rytinio Baltijos jūros krantų, o mezobrachikranija rodo buvus genų „prietaką" iš Vidurio Europos.