

# Odontological Data for the Chernyakov Culture Population

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The Chernyakov culture is one of the most striking cultural history formations of the first half of the first millennium AD in southeastern Europe. During the period when it flourished (third to fourth centuries AD), the Chernyakov Culture was spread over a large part of Ukraine, Moldavia, some adjacent regions of Poland, Romania, and Russia.

Three local groups have been defined on the basis of characteristics of burial patterns, ceramics, and dwelling construction in the middle of sites of the Chernyakov Culture. These three groups are connected with definite regions: the northwestern Black Sea Region; the district between the Dniester, Pruth, and Danube Rivers; and the forest steppe zone of the Ukraine (Baran, 1981). In the opinion of the majority of contemporary investigators, Iran language-speaking Scythians and Sarmatians, Thracians (Getae), eastern Slavic Antes tribes, and Goths (an eastern German tribe, which moved from southeastern Scandinavia to southeastern Poland and Volyn' at the end of the second to third centuries AD) participated in the formation of the Chernyakov Culture (Baran, et al., 1990).

## MATERIALS AND METHODS

The materials discussed in this paper are derived from cranial collections from nine Ukrainian Chernyakov cemeteries: Zhurovka, Chernyakov, Pereyaslav-Khmel'nitski' (Middle Podneprov'e), Boromlya, Uспенka, Sad (Levoberezh'e), Gavrilovka (Lower Podneprov'e), Kholmskoe, and Koblevo (northwest Black Sea region). The collections which I studied (160 skulls total) are curated in the Sector of Paleoanthropology of the Institute of Archaeology of the Ukrainian Academy of Sciences in Kiev and in the Scientific Research Institute and Museum of Anthropology of Moscow State University in Moscow. For comparison, I used Graver's (1987) data for a pooled series from Budesht and Malaesht Cemeteries in Moldavia. The location of these cemeteries is shown in Figure 1.

My research program included the following morphological dental features: diastema between the upper central incisors; crowding of the lateral incisors; form of the lingual surface of the upper incisors<sup>1</sup>; reduction of the lateral incisors; form of the upper molars<sup>2</sup>; Carabelli's cusp on the first upper molars<sup>3</sup>; form of the lower molars<sup>3</sup>; distal trigonid crest, deflecting wrinkle of the metaconid, and inner middle extra cusp<sup>4</sup> on the first lower molars; and enamel extensions on the upper and lower molars.

I also studied the odontoglyphic traits of position of the second furrow of the metaconid on the first lower molar and type of structure of the first furrow of the paracone on the first upper molar<sup>5</sup>. Classification of the morphological dental features was done using the system set up by A.A. Zubov (1968, 1973)<sup>6</sup>.

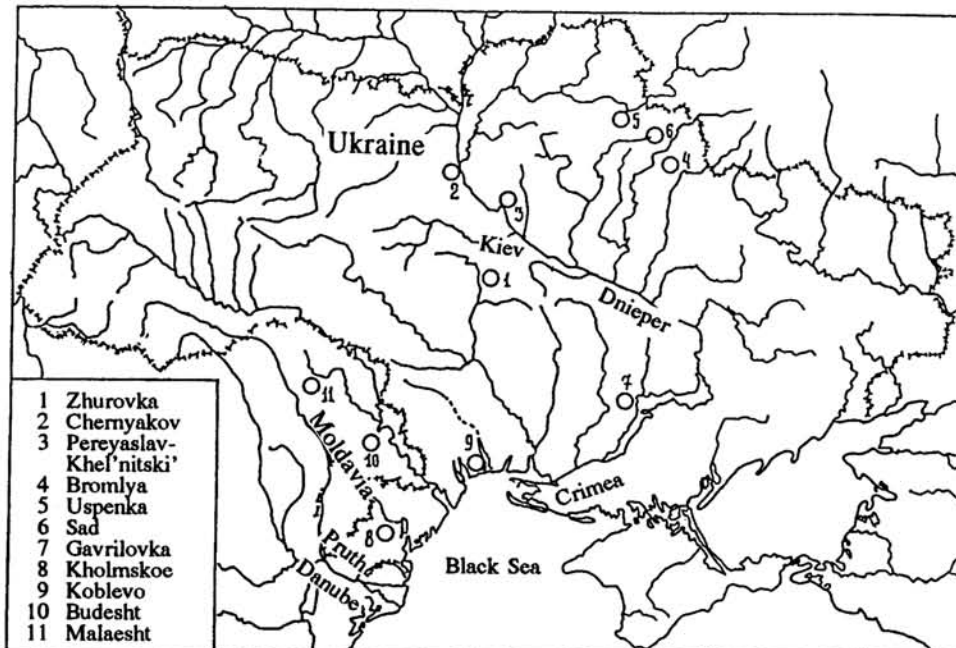


Fig. 1. Map of Ukraine and Moldavia with locations of cemeteries discussed in the text.

## RESULTS AND DISCUSSION

Analysis of the main odontological traits in these series indicated that their frequencies fit within the range characteristic for the European race. In addition, definite geographical regularities occur in the distribution of frequencies, thereby supporting the definition of three regional complexes in the area of the Chernyakov Culture. These complexes are Podneprov'e, Levoberezh'e, and Danube-Dniester.

The first complex, the Podneprov'e, occurs in the Zhurovka, Chernyakov, and Pereyaslav-Khmel'nits series. On a European scale, this complex is characterized by an average amount of reduction of the lower first molar, moderate percentages of traits which originate in the East (shovel-shaped upper central incisors, distal trigonid crest, deflecting wrinkle, etc.), moderate frequencies of Carabelli's cusp, and a moderately low frequency of variant 2(II)med<sup>7</sup>. A similar combination of features has been described as the Central European odontological type<sup>8</sup> (Zubov, 1979). According to my data, one of the modifications of the Central European type is characteristic for tribes of the Scythian Era (1,000 BC) of Middle Podneprov'e. This provides reason to think that the odontological type of the Podneprov'e Complex was formed on a local Scythian base.

The second complex, the Levoberezh'e, occurs in the Boromlya, Uspenka, and Sad series, which are close to one another. The Levoberezh'e Complex is characterized by a moderately high frequency of reduction of the lower first molar, very high percentage of Carabelli's cusp, fairly high frequency of some eastern traits<sup>9</sup>, and a very low percentage of variant 2(II)med. This combination of traits is characteristic for the western branch of the southern gracile type<sup>10</sup>, which existed in the Ukraine during the Eneolithic in the course of the Eneolithic-Bronze Age. According to my data, during first millennium BC to the beginning of the first millennium AD, features of the Levoberezh'e Complex were widespread among some Scythian and especially Sarmatian tribes of the Ukraine (Segeda, 1991; Segeda and Litvinova, 1991). Thus, results of this study indicate that the odontological type of the Chernyakov people of Levoberezh'e was formed through the interaction of two components: Scythian and Sarmatian.

The third odontological complex, the Danube-Dniester, is found in the Kholmokoe, Budesht-Malaesht, and the Koblevo series, which is near them. Characteristic traits are a high percentage of reduction of the upper molars, absence of eastern features, and a high percent of Carabelli's cusp and variant 2(II) med. Presently, there are no data in the literature, in which we can find a similar combination of features. Possibly, a Getae (Thracian) component is situated at its base.

The Gavrilovka series, however, is characterized by a very distinctive combination of traits, which does not possibly belong to any of the defined complexes.

In the physical anthropological literature of the last decade, the question of the role of the Goths in the formation of the Chernyakov Culture has come up repeatedly (Konduktorova, 1972; Alekseeva, 1973). However, the lack of a source study basis has hindered the solution of this problem. With the help of a Polish colleague, a worker in the Department of Polish Archaeology of M. Kyuri-Skladov Lublin University, I had the opportunity to become familiar with a craniological collection from Maslomench Group burials (70 skulls). According to Kokowski (1987), Goths probably took part in formation of the Maslomench Group and local tribes assimilated them.

Analysis of the odontological features of the pooled series of skulls from Maslomench cemeteries showed that the frequencies were characteristic of the northern gracile type<sup>11</sup>, which occurs in the population of Scandinavia, the southeastern Baltic region, and some other regions (Zubov, 1979; Gravere, 1987). In the combination of major features, the Maslomench group is quite distinguished from members of all three regional complexes of Chernyakov peoples mentioned above. This indicates that a Goth (eastern German) morphological component did not play a substantial role in the formation of the physical make-up of the Chernyakov Culture population. Moreover, individual traits of the northern gracile type show up in skulls from the cemetery near the village of Gavrilovka, which agrees with the results of craniological investigations (Konduktorova, 1972).

The question about the participation of Slavic tribes in the formation of the Chernyakov culture is quite interesting. The comparative analysis shows considerable similarity between the Chernyakov and Ancient Russian population of Middle Podneprov'e, and presents evidence in favor of their genetic relationship. This means that Slavs either assimilated part of the Chernyakov peoples and acquired their traits, or were part of the conglomerate of tribes who formed the Chernyakov Culture. The last seems more likely, since the Central

European odontological type, characteristic for the Chernyakov and Ancient Russian population of Podneprov'e, the historical heart of the Ukraine, was broadly dispersed among the ancient and contemporary Eastern Slavic groups (Zubov, 1979; Gravere, 1987).

As a whole, the odontological data substantially broaden the conception of the physical anthropological composition and genetic sources of the population of the Chernyakov Culture.

### TRANSLATOR'S NOTES

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- <sup>1</sup>Form of the lingual surface of the upper incisors is shoveling.  
<sup>2</sup>Form of the upper molars refers to relative size of the hypocone.  
<sup>3</sup>Form of the lower molars means cusp number and groove pattern.  
<sup>4</sup>Inner middle extra cusp is cusp 7 or tuberculum intermedium.  
<sup>5</sup>Zubov (1977) contains a discussion of odontoglyphics in English.  
<sup>6</sup>For definitions of Zubov's trait rankings and their correspondences with the ASU and Dahlberg system in English see Table 1 in Haeussler and Turner (1992)  
<sup>7</sup>2(II)med is notation for an odontoglyphic trait on the metaconid (med) of lower molars. 2(II) indicates that furrow 2 (a second order furrow that occurs closer to the fovea centrale than furrow 1) goes into furrow II (a first order furrow that separates the protoconid from the metaconid).  
<sup>8</sup>Central European odontological type has a low frequency of upper central incisor shoveling, weak lateral incisor reduction, low percentages of lower molar six cusps, deflecting wrinkle, and distal trigonid crest, and high 2(II)med (Zubov, 1979).  
<sup>9</sup>Eastern traits are high frequencies of upper central incisor shoveling, and lower molar six cusps, deflecting wrinkle, and distal trigonid crest (Zubov, 1979).  
<sup>10</sup>Southern gracile type has gracile upper incisors, low percent of Carabelli's trait, some increase of cusp 7, and low percent 2(II)med (Zubov, 1979).  
<sup>11</sup>Northern gracile type has a slight amount of upper lateral incisor reduction, high percent of Carabelli's trait, and "increased gracility", moderately high deflecting wrinkle, low distal trigonid crest, and high 2(II)med on the lower molars (Zubov, 1979)

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