

ANTHROPOLOGY AND PALEOGENETICS

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NONMETRIC DENTAL TRAIT DISTRIBUTION IN THE NEOLITHIC POPULATIONS OF SOUTHWESTERN SIBERIA*

The article explores dental affinities of people associated with three Neolithic cultures of southwestern Siberia. At least three morphological components were revealed. The first, evidently derived from the Upper Paleolithic population of the Altai-Sayan Highland, is found in the Baraba forest-steppe. The second, related to Baikal Mongoloids, is present in people representing the Kuznetsk-Altai and Bolshemys cultures. The third component, revealing affinities with the Mesolithic people of northeastern Europe, was detected in the Vengerovo-2a group.

Keywords: Nonmetric dental traits, Neolithic, Kuznetsk-Altai culture, Bolshemys culture, Middle Irtysh culture, Altai-Sayan Highland, Baraba forest-steppe, Western Siberia.

Introduction

Human dental remains examined in this article come from burials associated with the Neolithic cultures distributed in two contiguous geographic areas of Eurasia—the southern fringes of the Western Siberian Plain and the northern part of the Altai-Sayan Highland. In archaeological and anthropological studies, these two areas taken together are often referred to as southwestern Siberia (Chikisheva, 2012: 21). Their environments are to some extent similar across a large territory stretching from the Ural Mountains to the Yenisei River and are characterized by predominantly

forest-steppe landscapes and a generally continental climate. This broad similarity notwithstanding, the territory falls into several provinces differing in terms of environment and population history. Despite the lack of complete geographic isolation, ethnic, cultural, and genetic differences between populations inhabiting these provinces were always present and were largely determined by environmental variation within the forest-steppe zone.

Because the amount of Neolithic dental remains representing humans who inhabited three provinces of Western Siberia—the Baraba forest-steppe, the Kuznetsk Basin, and the Ob Plateau (Barnaul-Biysk area)—is considerable, we used them to assess the relationship between biological and cultural variation. The burial grounds from which the remains originate

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represent several archaeological cultures, whose overlapping distribution areas do not correspond to geographic provinces. Therefore, cultural attribution is problematic in certain cases. Previously we published data concerning pooled samples from the Baraba forest-steppe, the northern Altai piedmont and the Kuznetsk Basin. In the present study these were supplemented by a new material stemming from recent excavations. Pooled series were subdivided with regard to cemeteries or to groups based on archaeological typology and location (Ibid.: Tables 14, 15). Certain specimens showing heavy attrition were excluded.

Materials

Nine cemeteries from which the dental remains originate are listed in Table 1 with their radiocarbon dates and cultural attribution.

Baraba forest-steppe. Dental remains from four burial grounds were available: Sopka-2/1, Protoka-1, Korchugan-1a, and Vengerovo-2a (Table 1). Most calibrated radiocarbon dates of those cemeteries fall within the range from the second half of the 7th to the late 5th millennia BC, Sopka-2/1 burial 68 being the earliest (second half of 7th–early 6th millennia BC) (Molodin, 2001: 117; Marchenko, 2009). Dates of Protoka-1 fall into two clusters relating to the last third of the 6th and to mid-5th millennia, respectively (Marchenko, 2009). Korchugan-1a dates to the second quarter and mid-6th millennium BC (Ibid.). Two dates for Vengerovo-2a span the interval from the first half of the 6th to late-5th millennium BC (Molodin et al., 2012).

The cultural attribution of cemeteries is debatable. V.I. Molodin, while mentioning the ethnic heterogeneity of the Baraba population, believes that all Neolithic traditions of that area belong to a single cultural community stretching from eastern Ural to the Ob Basin. In his view, Sopka-2/1 and Korchugan-1a are similar to sites of the Verkhneobskaya (Upper Ob) Neolithic culture (Molodin, 2001: 26–27). N.V. Polosmak, who excavated Protoka-1, attributes it to the Sredneirtyshskaya (Middle Irtysh) culture and mentions its resemblance to Sopka-2/1, claiming that the cultural ties of those groups were directed mainly to the northwest (Polosmak, Chikisheva, Balueva, 1989: 91). This view is supported by craniometric resemblance between samples from the respective cemeteries. In addition, crania from Korchugan-1a resemble those from Ust-Isha, which represent the Kuznetsk-Altai culture of the Ob Plateau (Molodin, Chikisheva, 1996).

The cemetery closest to Vengerovo-2a in terms of ground structures and secondary burials is Protoka-1, whereas the decoration of pottery links Vengerovo-2a to the Avtodrom-2/1 settlement (Molodin et al., 2011) associated with the Artyn Late Neolithic tradition (Bobrov, Marochkin, 2011a, b). The analysis of cranial and postcranial remains excavated at Vengerovo-2a during the first field season indicated their similarity to those from Protoka-1 (Chikisheva, Zubova, Pozdnyakov, 2011). During the following two seasons (2012–2013), which had considerably enlarged the skeletal collection, it became evident that the Vengerovo-2a population was biologically heterogeneous (Pozdnyakov, Chikisheva, Zubova, unpublished).

Table 1. Radiocarbon dates and cultural affiliation of cemeteries

| Cemetery | Culture | Radiocarbon dates | Region |
|--|----------------|--|-------------------------|
| Sopka-2/1 | Sredne-Irtysh | 7235 ± 100 BP (Marchenko, 2009) | Baraba Lowland |
| Korchugan-1a | Same | 6740 ± 100 BP (Ibid.) | Same |
| Protoka-1 | " | 6200 ± 80, 6335 ± 200, 5450 ± 200 BP (Ibid.) | " |
| Vengerovo-2a | ? | 5363–5301, 5358–4864 BC (Molodin et al., 2012) | " |
| Itkul (Kostenkova Izbushka, Bolshoy Mys) | Bolshemys | 5081–4443, 4557–4040, 5083–4516 BC (Marochkin, 2014) | Upper Ob (Barnaul) |
| Solontsy-5 | Kuznetsk-Altai | 4850–4502 BC (Ibid.) | Altai northern piedmont |
| Ust-Isha | Same | 4333–3639, 4072–3637 BC (Ibid.) | Same |
| Lebedi-2 | " | No data | Kuznetsk Basin |
| Vaskovo-4 | " | Same | Same |

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