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THE METAL AGES AND MEDIEVAL PERIOD

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CHRONOLOGY OF THE CHALCOLITHIC AND THE EARLY BRONZE AGE IN THE URALS*

Sociocultural processes in the Uralian Chalcolithic were determined both by the evolutionary changes in the local post-Neolithic societies and by the migratory activity of the southern human groups, which fact makes the cultural and historical analysis of archeological records problematic. Until recently, the chronology and periodization of the Uralian Chalcolithic were based mainly on stratigraphy, artifacts typology, and intuition. In the article, we analyze more than 150 radiocarbon dates obtained for various Ural areas and adjacent territories. The Early Chalcolithic in the Volga-Ural area around the 6th/5th millenium cal BC boundary is associated with migration of human groups bearing the Syezzheye and Khvalynsk pottery traditions. In the second half of the 5th millennium cal BC, local Chalcolithic traditions were formed: Tok and Turganik of the Volga-Ural, comb and pseudo-cord of the Trans-Urals, Novoilyinskoye and Gari-Bor of the Kama area. The Early Chalcolithic in the Northern Kazakhstan appears to be the latest.

Keywords: *Chalcolithic, Urals, chronology, radiocarbon dates, ceramic traditions.*

Introduction

The chronology and periodization of the Early Metal Age in the Urals can be discussed only in the general context of Volga-Ural and West Siberian processes. In the southern part of the area, the Early Chalcolithic and then the Chalcolithic/Bronze Age boundary were marked by migratory activity, which resulted in the transformation of the economic and social system. In the northern part, the Neolithic/Chalcolithic transition was an evolutionary process. The appearance and composition of the archeological records were dramatically changed, which made correlation of various groups problematic. Pit graves contain a very small amount of the pottery that is the main cultural and diagnostic feature of the

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Chalcolithic sites. At the same time, the nature of the Chalcolithic burial-rite differs significantly from that of the Pit grave traditions.

Furthermore, there is a problem of periodization criteria (in terms of differentiation between the Chalcolithic and the Bronze Age), as the technological grounds offer no clear solution to this issue. The developments of copper and bronze metallurgy could be asynchronous, suggesting the co-existence of different technological traditions in the adjacent regions. One of the possible solutions might be radiocarbon dating of the cultural types (including direct determination of the pottery's absolute age) and correlation of the intervals resulting from summing up the probabilities. Without discussing the existing problems of this method, we emphasize that in the case of the Neolithic, such an approach proved to be effective (Vybornov, Mosin, Epimakhov, 2014).

Characteristics of the radiocarbon dating database

The source data on the Uralian Chalcolithic were collected in the second half of the 20th century. By the 1980s, the criteria for its identification had been determined, the key records materials had been published and the existing challenges had been identified (Bahder, 1961; Krizhevskaya, 1977; Eneolit…, 1980; Starkov, 1980; Volgo-Uralskaya Step…, 1982; Matyushin, 1982). In the absence of radiocarbon dates, the chronology and periodization of the Uralian Chalcolithic were mainly based on stratigraphy, artefacts typology, and intuition. Frequent co-occurrence of different types of pottery in the cultural layers made the chronological and cultural identification of Chalcolithic assemblages problematic. Series of radiocarbon dates obtained and published in the early 21st century (Vybornov, 2008; Kosintsev, 2008; Lychagina, 2011, 2013; Morgunova, 2011; Vorposy arkheologii…, 2011; Chernykh, Kuzminykh, Orlovskaya, 2011; Anthony, 2007; Kislenko, Tatarintseva, 1999; Shishlina et al., 2009) provided novel insights into the Uralian Chalcolithic.

By the time of this article, more than 150 dates (for 58 sites) were available for the region in question, grouped on an area basis (Volga-Ural, Kama, Trans-Urals, and Northern Kazakhstan; Fig. 1). In the case of the first two areas, data series were considered according to conventional cultural classification, while for the Trans-Urals, the entire sample was assessed since no significant chronological differences between individual groups were identified. Analyses of pottery (about a half), wood, charcoal, and bones (of animals and humans) were carried out in 13 laboratories. Share of AMS dates is low (12 %). Several highly overestimated and underestimated dates had to be rejected (less than 6 %). All dates were calibrated

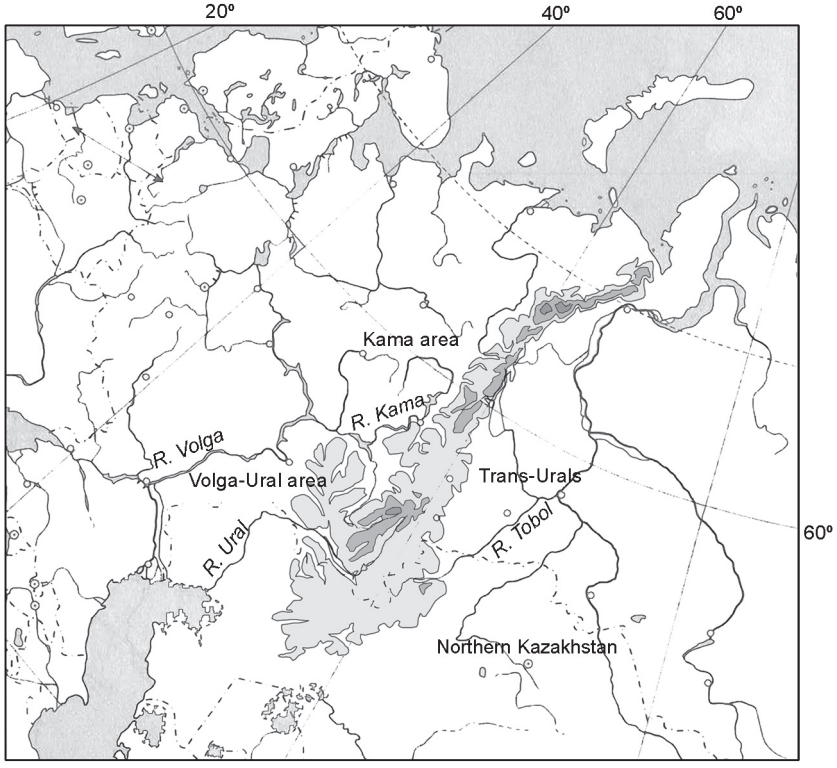

Fig. 1. Schematic map of the study region.