

Archaeometallurgy of the Vinča culture: a case study of the site of Belovode in eastern Serbia

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ABSTRACT: The site of Belovode came to fame within the archaeological community with the discovery of the earliest metallurgy so far known. The evidence is several pieces of copper slag dated to c5000 BC (Radivojević et al 2010). Extensive compositional, microstructural and provenance analyses of this material showed a consistent smelting technology over the c400 years of the site's occupation. This paper provides a detailed analytical account of 12 further samples from Belovode indicating copper mineral use and archaeometallurgical activities. Particular emphasis is given to production debris from the 'metallurgical' Trench 3, although other significant metallurgical contexts are also included. The overall aim is to investigate technological relationships between the specimens presented here and those previously published by Radivojević et al (2010). Their technological associations provide a more coherent image of the archaeometallurgical activities in this part of Eurasia at the dawn of metallurgy.

Introduction

The site of Belovode (c5350–4650 BC) is located in eastern Serbia and belongs to the Vinča culture, a Late Neolithic/Early Chalcolithic phenomenon which lasted for nearly a millennium in a large part of the northern and central Balkans (Fig 1). The Vinča culture material shows strong links to the contemporaneous Karanovo culture (phase III through to Kodžadermen-Gumelnița-Karanovo VI) in Bulgaria, Precucuteni-Tripolye A in Moldavia and Ukraine, and Dimini in Greece. The most distinctive links, amongst others, are in settlement patterns, pottery production and the earliest mass-production of metal objects in this part of the world. Almost five tonnes of extant copper implements from the 5th millennium BC Balkans are known today, comprising c4300 objects preserved in modern museum archives (Chernykh, 1978; Pernicka et al 1997; Ryndina 2009). These artefacts occur in typologically distinctive shapes and are made from copper from several Balkan deposits (Pernicka et al 1993; 1997).

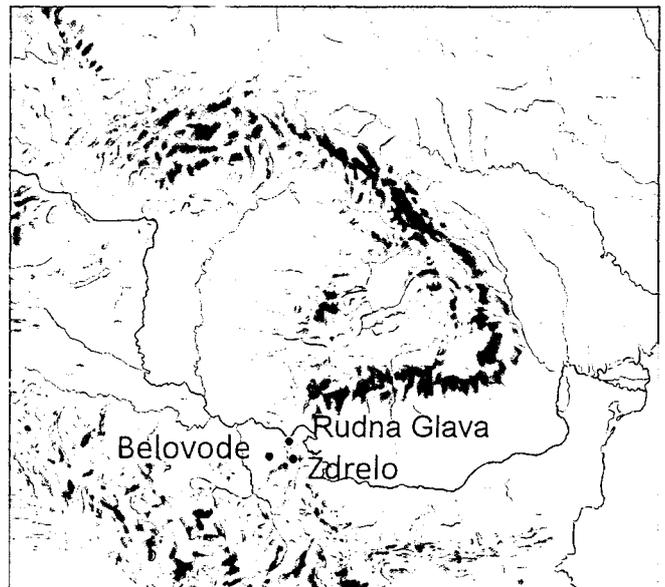


Figure 1: The Danube basin showing the location of Belovode and the Ždrelo and Rudna Glava mines. Base map © Zentai László, 1996

The periodisation of the Vinča culture has been developed by several scholars; the one followed here was