Archaeometallurgical Studies in China: Some Recent Developments and Challenging Issues

Jianjun Mei, Pu Wang, Kunlong Chen, Lu Wang, Yingchen Wang, Yaxiong Liu

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Archaeometallurgical Studies in China: Some Recent Developments and Challenging Issues

Jianjun Mei[a,b], Pu Wang[a], Kunlong Chen[a], Lu Wang[a], Yingchen Wang[a], Yaxiong Liu[a]

[a] The Institute of Historical Metallurgy and Materials,
University of Science and Technology Beijing, 100083, China
[b] The Needham Research Institute, Cambridge, United Kingdom

Abstract

On the basis of a review of major researchachievementsover the past ten years, this paper discusses some challenging issues in current studies of ancient Chinese metallurgy, with a focus on the beginnings of bronze metallurgy in China, regional bronze technologies during the Shang dynasty, early developments of iron technology, emergence of lost-wax casting technology, manufacturing techniques of gold objects, and Qin metallurgy. It will also offer some observations on future directions for the study of ancient Chinese metallurgy.

Keywords: archaeometallurgy; early China; ancient metallurgy; bronze technology; lost-wax casting;

1. Introduction

The beginning of archaeometallurgical studies in China can be traced back to the 1950s, when for the first time a metallurgical examination of dozens of iron objects of the Warring States and Han periods recovered all over China was carried out (Hua *et al*. 1960). The systematic application of modern analytical techniques to the examination of ancient metals from archaeological excavations only appeared in the late 1970s, in which the Archaeometallurgy Group of the Beijing University of Iron and Steel Technology (BUIST), established in 1974, played a leading role, as evidenced by the publication of both *A Brief History of Chinese Metallurgy* and *Ancient Metallurgy in China* (BUIST 1978).

During the 1980s and 1990s, considerable progress in the study of ancient Chinese metallurgy was made both in China and abroad, with the international conference series '*Beginning of the Use of Metals and Alloys* (BUMA)' being established by Professors Tsun Ko (Ke Jun) and Bob Maddin in 1981, and becoming a significant platform for scholarly exchanges between the East and the West (Maddin 1988). The middle and late 1990s witnessed the publication of a number of major scholarly treatises (Wagner 1993; Li 1994; USTB 1994; Su *et al*. 1995; Hua 1999), which demonstrated a substantial step forward in studies of ancient Chinese metallurgy.