

Bronze Age metal circulation in China

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The Shang (c. 1500–1045 BC) and Zhou dynasties (c. 1045–771 BC) of China are famous for their sophisticated ritual bronze vessels. Sourcing the leaded tin-bronze has, however, proved to be a challenge. A new systematic approach to metal chemistry uses trace elements and isotopes to characterise the underlying circulation pattern. It reveals the complexity of the copper sources on which the late Shang capital at Anyang depended for its bronzes, suggesting the transport of copper from distant regions in the south, on the Yangtze, and from north-east China. The new interpretational system furthers our understanding of the network on which successive Chinese dynasties depended for copper, lead and tin, and attempts to give equal weight to the archaeological and chemical data.

Keywords: China, Bronze Age, metal chemistry, flame, network

Copper groups

Copper Group (CG) 1: copper.

Copper Group (CG) 2: copper with arsenic.

Copper Group (CG) 3: copper with antimony.

Copper Group (CG) 4: copper with silver.

Copper Group (CG) 5: copper with nickel.

Copper Group (CG) 6: copper with arsenic and antimony.

Copper Group (CG) 7: copper with antimony and silver.

Copper Group (CG) 8: copper with silver and nickel.

Copper Group (CG) 9: copper with arsenic and silver.

Copper Group (CG) 10: copper with antimony and nickel.

Copper Group (CG) 11: copper with arsenic and nickel.

Copper Group (CG) 12: copper with arsenic, antimony and silver.

Copper Group (CG) 13: copper with antimony, silver and nickel.

Copper Group (CG) 14: copper with arsenic, antimony and nickel.

Copper Group (CG) 15: copper with arsenic, silver and nickel.

Copper Group (CG) 16: copper with arsenic, antimony, silver and nickel.

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