

ARCL0098: Archaeometallurgy I: Mining and Extractive Metallurgy: Marcos Martinon-Torres

[View Online](#)

1.

Tylecote, R. F. The Early History of Metallurgy in Europe. Vol Longman archaeology series. Longman; 1987.

2.

Craddock, P. T. Early Metal Mining and Production. Edinburgh University Press; 1995.

3.

Roberts BW, Thornton CP, eds. Archaeometallurgy in Global Perspective: Methods and Syntheses. Springer; 2014. doi:10.1007/978-1-4614-9017-3

4.

Bayley, J., Crossley, David W., Ponting, Matthew, Historical Metallurgy Society. Metals and Metalworking: A Research Framework for Archaeometallurgy. Vol Occasional publication / Historical Metallurgy Society. Historical Metallurgy Society; 2008.
<http://hist-met.org/publications/hms-occasional-publications.html>

5.

Thilo R. Metals: Chemical analysis. In: Encyclopedia of Archaeology. ScienceDirect; 2008:1614-1620. doi:10.1016/B978-012373962-9.00188-6

6.

Craddock PT. Mining and smelting in Antiquity. In: Science and the Past. British Museum Press; 1991:57-73. <http://www.jstor.org/stable/10.3138/j.ctt2tv44s.9>

7.

Killick David, Fenn T. Archaeometallurgy: The Study of Preindustrial Mining and Metallurgy. Annual Review Of Anthropology. 2012;41:559-575.
[doi:10.1146/annurev-anthro-092611-145719](https://doi.org/10.1146/annurev-anthro-092611-145719)

8.

Lambert JB. Metals. In: Traces of the Past: Unraveling the Secrets of Archaeology through Chemistry. Vol Helix books. Addison-Wesley; 1997:168-213.
<https://contentstore.cla.co.uk//secure/link?id=b7834add-6536-e711-80c9-005056af4099>

9.

Archaeometallurgy: Guidelines for best practice. Historic England. Published online 30 April 2015.
<http://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/>

10.

Archaeometallurgy in Europe, Associazione italiana di metallurgia. Archaeometallurgy in Europe: International Conference, 24-25-26 September 2003, Milan, Italy : Proceedings. Associazione italiana di metallurgia; 2003.

11.

Archaeometallurgy in Europe, Associazione italiana di metallurgia. Archaeometallurgy in Europe: 2nd International Conference, Aquileia, Italy, 17-21 June 2007 : Selected Papers. AIM; 2007.

12.

Cech B, Rehren T, eds. Early Iron in Europe. Vol Monographies instrumentum. Éditions Monique Mergoil; 2014.

13.

Lang, Janet, Craddock, P. T. Mining and Metal Production through the Ages. British Museum; 2003.

14.

Hauptmann A, Modarressi-Tehrani D, International Conference Archaeometallurgy in Europe. Archaeometallurgy in Europe III: Proceedings of the 3rd International Conference ; June 29 - July 1, 2011. Vol Der Anschnitt : [...], Beiheft. Dt. Bergbau-Museum; 2015.

15.

Hošek J, Cleere H, Mihok L, Pleiner R, Archeologický ústav. The Archaeometallurgy of Iron: Recent Developments in Archaeological and Scientific Research. Institute of Archaeology of the ASCR; 2011.

16.

Humphris J, Rehren T. The World of Iron. Archetype; 2013.

17.

Craddock, P. T., Hook, Duncan R., La Niece, Susan. Metals and Mines: Studies in Archaeometallurgy. Archetype in association with the British Museum; 2007.

18.

Rehren, Thilo, Mei, Jianjun. Metallurgy and Civilisation: Eurasia and beyond : Proceedings of the 6th International Conference on the Beginnings of the Use of Metals and Alloys (BUMA VI). Archetype; 2009.

19.

Mitteldeutscher Archäologentag. Metals of Power – Early Gold and Silver [Metalle Der Macht: Frühes Gold Und Silber]. Vol Tagungen des Landesmuseums für Vorgeschichte Halle. (Meller H, Risch R, Pernicka E, eds.). Landesamt für Denkmalpflege und Archäologie

Sachsen-Anhalt, Landesmuseum für Vorgeschichte; 2014.

20.

Montero I, ed. Archaeometallurgy: Technological, Economic and Social Perspectives in Late Prehistoric Europe (TESME). *Trabajos de prehistoria. Trabajos de Prehistoria*. 2010;67(2). doi:10.3989/tp.2010.v67.i2

21.

Bayley J, Rehren T. Towards a functional and typological classification of crucibles. In: *Metals and Mines: Studies in Archaeometallurgy*. Archetype in association with the British Museum; 2007:46-55.

22.

Paul T. Craddock. Refractories: Ceramics with a Purpose. *The Old Potter's Almanack*. 2013;18(2):9-20.
<https://journals.ub.uni-heidelberg.de/index.php/opa/article/view/11962/5817>

23.

Paul T. Craddock. Refractories with a purpose II: ceramics for casting. *The Old Potter's Almanack*. 2014;19(1):2-17.
<https://journals.ub.uni-heidelberg.de/index.php/opa/article/view/14852/8729>

24.

Freestone I, Tite MS. Refractories in the ancient and preindustrial world. In: *High Technology Ceramics: Past, Present, and Future : The Nature of Innovation and Change in Ceramic Technology*. Vol Ceramics and civilization. American Ceramic Society; 1986:35-63.

25.

Kearns T, Martínón-Torres M, Rehren T. Metal to mould: alloy identification in experimental casting moulds using XRF. *Historical metallurgy: journal of the Historical Metallurgy Society* . 2010;44(1):48-58.

26.

Liu S, Wang K, Cai Q, Chen J. Microscopic study of Chinese bronze casting moulds from the Eastern Zhou period. *Journal of Archaeological Science*. 2013;40(5):2402-2414.
doi:10.1016/j.jas.2012.11.010

27.

Martinón-Torres M, Rehren T. Technical Ceramics. In: Roberts BW, Thornton CP, eds. *Archaeometallurgy in Global Perspective: Methods and Syntheses*. Springer; 2014:107-131.
<http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781461490173>

28.

Rademakers FW, Rehren T. Seeing the forest for the trees: Assessing technological variability in ancient metallurgical crucible assemblages. *Journal of Archaeological Science: Reports*. 2016;7:588-596. doi:10.1016/j.jasrep.2015.08.013

29.

Rehren T. Crucibles as reaction vessels in ancient metallurgy. In: *Mining and Metal Production through the Ages*. British Museum; 2003:207-215.

30.

Craddock P, Hook D. An economic history of the post-medieval world in 50 ingots: the British Museum collection of ingots from dated wrecks. *The British Museum Technical Research Bulletin*. 2012;6:55-68.
http://www.britishmuseum.org/research/publications/online_journals/technical_research_bulletin/bmtrb_volume_6.aspx

31.

Main Archaeo-Metallurgical Bibliography. Published 30 August 2004.
<http://users.ox.ac.uk/~salter/arch-metals/met-bib-ak.htm>

32.

Abstract of International Conservation Literature. <http://aata.getty.edu/Home>

33.

The Historical Metallurgy Society. <https://historicalmetallurgy.org/>

34.

HMS Datasheets. <https://historicalmetallurgy.org/publications/hms-datasheets/>

35.

JISCMail - ARCH-METALS List at WWW.JISCMAIL.AC.UK.
<https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=ARCH-METALS>

36.

Crew, Peter, Crew, Susan. Early Mining in the British Isles: Proceedings of the Early Mining Workshop at Plas Tan y Bwlch, Snowdonia National Park Study Centre, 17-19 November, 1989. Vol Plas Tan y Bwlch occasional paper. Plas Tan y Bwlch, Snowdonia National Park Study Centre; 1990.

37.

Knapp, Arthur Bernard, Piggott, Vincent C., Herbert, Eugenia W. Social Approaches to an Industrial Past: The Archaeology and Anthropology of Mining. Routledge; 1998.

38.

O'Brien, William. Bronze Age Copper Mining in Britain and Ireland. Shire; 1996.

39.

Piggott VC, Weisgerber G. Mining archaeology in geological context. The prehistoric copper mining complex at Phu Lon, Nong Khai Province, northeast Thailand. In: Metallurgica

Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:69-76.

40.

Timberlake S. Early mining research in Britain: The Development of the last Ten Years. In: Mining and Metal Production through the Ages. British Museum; 2003:22-42.
<https://contentstore.cla.co.uk/secure/link?id=3ee2dbf2-6336-e711-80c9-005056af4099>

41.

Timberlake, Simon, Mighall, Tim. Excavations on Copa Hill, Cwmystwyth (1986-1999): An Early Bronze Age Copper Mine within the Uplands of Central Wales. Vol BAR British series. Archaeopress; 2003. doi:<https://doi.org/10.30861/9781841714868>

42.

Craddock P. The development of early mining geology. In: Early Metal Mining and Production. Edinburgh University Press; 1995:23-31.
<https://contentstore.cla.co.uk/secure/link?id=ad40b8ab-6836-e711-80c9-005056af4099>

43.

Agricola, Georgius, Hoover, Lou Henry, Hoover, Herbert. De Re Metallica. The Mining magazine; 1912. <http://archive.org/details/georgiusagricola00agririch>

44.

Shackleton WG. Introduction and Chapter 1, Mineral deposits. In: Economic and Applied Geology: An Introduction. Croom Helm; 1986:1-18.

45.

Edwards, Richard, Atkinson, Keith. Ore Deposit Geology and Its Influence on Mineral Exploration. Chapman and Hall; 1986.

46.

Rehder J. High temperature technology in antiquity. In: The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy', Bochum 1995. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:305-315.

47.

Rehren Th. Ores from the ore washeries in the Lavriotiki. Metalla: Forschungsberichte des Deutschen Bergbau-Museums. 2002;9:27-46.

48.

Rostoker W, Pigott V, Dvorak JR. Direct reduction to copper metal by oxide-sulfide mineral interaction. Archeomaterials. 1989;3:69-87.

49.

Artioli G, Angelini I, Tecchiati U, Pedrotti A. Eneolithic copper smelting slags in the Eastern Alps: Local patterns of metallurgical exploitation in the Copper Age. Journal of Archaeological Science. 2015;63:78-83. doi:10.1016/j.jas.2015.08.013

50.

Paul T. Craddock. From Hearth to Furnace: Evidences for the Earliest Metal Smelting Technologies in the Eastern Mediterranean. Paléorient. 2000;26(2):151-165.
<http://www.jstor.org/stable/41496588>

51.

Chernykh, E. N. Ancient Metallurgy in the USSR: The Early Metal Age. Vol New studies in archaeology. Cambridge University Press; 1991.

52.

Craddock Paul. Paradigms of metallurgical innovation in prehistoric Europe. In: The Beginnings of Metallurgy. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:175-192.

53.

Golden J, Levy TE, Hauptmann A. Recent Discoveries Concerning Chalcolithic Metallurgy at Shiqmim, Israel. *Journal of Archaeological Science*. 2001;28(9):951-963.
doi:10.1006/jasc.2000.0626

54.

Hauptmann, Andreas. *The Archaeometallurgy of Copper: Evidence from Faynan, Jordan*. Vol Natural science in archaeology. Springer; 2007.
<https://doi-org.libproxy.ucl.ac.uk/10.1007/978-3-540-72238-0>

55.

Hoppner B, Bartelheim M, Huijsmans M, et al. Prehistoric copper production in the Inn Valley (Austria), and the earliest copper in central Europe. *Archaeometry*. 2005;47(2):293-315. doi:10.1111/j.1475-4754.2005.00203.x

56.

Killick D. Science, Speculation and the Origins of Extractive Metallurgy. In: *Handbook of Archaeological Sciences*. John Wiley; 2001:483-492.
<https://contentstore.cla.co.uk//secure/link?id=9f2e5eae-5736-e711-80c9-005056af4099>

57.

Maddin R, Muhly JD, Stech T. Early metalworking at Cayonu. In: *The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy'*, Bochum 1995. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:37-44.

58.

Mei J. Early metallurgy in China: some challenging issues in current studies. In: *Metallurgy and Civilisation: Eurasia and beyond : Proceedings of the 6th International Conference on the Beginnings of the Use of Metals and Alloys (BUMA VI)*. Archetype; 2009:9-16.

59.

Murillo-Barroso M, Montero-Ruiz I. Copper Ornaments in the Iberian Chalcolithic: Technology versus Social Demand. *Journal of Mediterranean Archaeology*. 2012;25:53-73. doi:10.1558/jmea.v25i1.53

60.

Murillo-Barroso M, Martínón-Torres M, Massieu MDC, Socas DM, González FM. Early metallurgy in SE Iberia. The workshop of Las Pilas (Mojácar, Almería, Spain). *Archaeological and Anthropological Sciences*. 2017;9(7):1539-1569. doi:10.1007/s12520-016-0451-8

61.

Pernicka E, Begemann F, Schmitt-Strecker S. Eneolithic and Early Bronze Age copper artefacts from the Balkans and their relation to Serbian copper ores. *Praehistorische Zeitschrift*. 1993;68(1):1-54. doi:10.1515/prhz.1993.68.1.1

62.

Pigott VC, Ciarla R. On the origins of metallurgy in prehistoric Southeast Asia: the view from Thailand. In: *Metals and Mines: Studies in Archaeometallurgy*. Archetype in association with the British Museum; 2007:76-88.
<https://contentstore.cla.co.uk/secure/link?id=b2d980d9-9136-e711-80c9-005056af4099>

63.

Pryce TO, Pollard M, Martinon-torres M, Pigott VC, Pernicka E. SouthEast Asia's first isotopically defined prehistoric copper production system: when did extractive metallurgy begin in the Khao Wong Prachan Valley of central Thailand? *Archaeometry*. 2011;53(1):146-163. doi:10.1111/j.1475-4754.2010.00527.x

64.

Radivojevic R, Rehren T, Pernicka E. On the origins of extractive metallurgy: new evidence from Europe. *Journal of archaeological science*. 2010;37(11):2775-2787. doi:10.1016/j.jas.2010.06.012

65.

Radivojevic M, Rehren T, Kuzmanović Cvetković J, Jovanovic M, Northover P. Tainted ores and the rise of tin bronzes in Eurasia, c. 6500 years ago. *Antiquity*. 2013;87(338):1030-1045. doi:10.1017/S0003598X0004984X

66.

Benjamin W. Roberts. Production Networks and Consumer Choice in the Earliest Metal of Western Europe. *Journal of World Prehistory*. 2009;22(4):461-481.
<http://www.jstor.org/stable/25801284>

67.

Roberts B. Ancient technologies and archaeological cultures: understanding the earliest metals in Eurasia. In: *Investigating Archaeological Cultures: Material Culture, Variability, and Transmission*. Springer; 2011:137-150.
<http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781441969705>

68.

Roberts BW, Thornton CP, Pigott V. Development of metallurgy in Eurasia. *Antiquity*. 2009;83(322):1012-1022.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9437996&fileId=S0003598X00099312>

69.

Rothenberg B. Smelting furnaces and installations from the New Kingdom to the Early Islamic Period. In: *The Ancient Metallurgy of Copper: Archaeology, Experiment, Theory. Vol Metal in history*. Institute for Archaeo-Metallurgical Studies [and] Institute of Archaeology, University College, London; 1990:8-73.
<https://contentstore.cla.co.uk//secure/link?id=5ea152e0-7536-e711-80c9-005056af4099>

70.

Ruiz-Taboada A, Montero-Ruiz I. The oldest metallurgy in western Europe. *Antiquity*. 1999;73(282):897-903.
<http://search.proquest.com/docview/217555766/fulltext?accountid=14511>

71.

Stech T. Neolithic copper metallurgy in South West Asia. *Archeomaterials*. 1990;4:55-61.

72.

Stech T. Aspects of early metallurgy in Mesopotamia and Anatolia. In: *The Archaeometallurgy of the Asian Old World*. Vol University Museum symposium series. Museum University of Pennsylvania; 1999:59-71.

73.

Wayman ML, Duke MJM. The effects of melting on native copper. In: *The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy'*, Bochum 1995. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:55-60.

74.

Bass G. Prolegomena to a study of maritime traffic in raw materials to the Aegean during the 14th and 13th centuries BC. In: *Techne: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age : Proceedings of the 6th International Aegean Conference/6e Rencontre Égéenne Internationale Philadelphia, Temple University, 18-21 April 1996*. Vol *Aegaeum*. Université de Liège; 1997:153-170.

75.

Begemann F, Kallas K, Schmitt-Strecker S, Pernicka E. Tracing ancient tin via isotope analyses. In: *The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy'*, Bochum 1995. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:277-284.

76.

Branigan, Keith. *Aegean Metalwork of the Early and Middle Bronze Age*. Vol Oxford monographs on classical archaeology. Clarendon Press; 1974.

77.

Craddock PT, Meeks ND. Iron in Ancient Copper. *Archaeometry*. 1987;29(2):187-204.
doi:10.1111/j.1475-4754.1987.tb00411.x

78.

Crew P. The iron and copper slags at Baratti, Populonia, Italy. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1991;25:109-115.
<http://link.springer.com/article/10.1007%2Fs12520-010-0043-y>

79.

Diaz-Andreu M, Montero I. Metallurgy and social dynamics in the later prehistory of Mediterranean Spain. In: *Metals Make the World Go Round: The Supply and Circulation of Metals in Bronze Age Europe : Proceedings of a Conference Held at the University of Birmingham in June 1997*. Oxbow; 2000:116-132.
<https://contentstore.cla.co.uk//secure/link?id=9e47c996-8136-e711-80c9-005056af4099>

80.

Fang JL, McDonnell G. The colour of copper alloys. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2011;45(1):52-61.
<https://contentstore.cla.co.uk//secure/link?id=fcb26fdc-4a36-e711-80c9-005056af4099>

81.

Gale, N. H. *Bronze Age Trade in the Mediterranean*. Vol *Studies in Mediterranean archaeology*. Åstrom; 1991.

82.

Gale N. Archaeology, science-based archaeology and the Mediterranean Bronze Age metals trade: a contribution to the debate. *European Journal of Archaeology*. 2001;4(1):113-130. doi:10.1179/eja.2001.4.1.113

83.

Gale NH, Stos-Gale z, Raduncheva A. Early metallurgy in Bulgaria. In: *Mining and Metal*

Production through the Ages. British Museum; 2003:122-173.

84.

Georgakopoulou M, Bassiakos Y, Philaniotou O. Seriphos surfaces: A study of copper slag heaps and copper sources in the context of early Bronze Age Aegean metal production. *Archaeometry*. 2011;53(1):123-145. doi:10.1111/j.1475-4754.2010.00529.x

85.

Giumlia-Mair, Alessandra R., Lo Schiavo, Fulvia. The Problem of Early Tin. Vol BAR international series. Archaeopress; 2003. doi:<https://doi.org/10.30861/9781841715643>

86.

Bryan Hanks and Roger Doonan. From Scale to Practice: A New Agenda for the Study of Early Metallurgy on the Eurasian Steppe. *Journal of World Prehistory*. 2009;22(4):329-356. <http://www.jstor.org/stable/25801279>

87.

Hauptmann A, Rehren Th, Schmitt-Strecker S. Early Bronze Age copper metallurgy at Shahr-i Sokhta (Iran), reconsidered. In: *Man and Mining: Mensch Und Bergbau : Studies in Honour of Gerd Weisgerber on Occasion of His 65th Birthday*. Vol Veröffentlichungen aus dem Deutschen Bergbau-Museum Bochum. Deutsches Bergbau-Museum; 2003:197-213.

88.

Hauptmann A. Developments in copper metallurgy during the fourth and third millennia BC at Feinan, Jordan. In: *Mining and Metal Production through the Ages*. British Museum; 2003:90-100.

89.

Haustein M, Gillis C, Pernicka E. Tin isotopy - A new method for solving old questions. *Archaeometry*. 2010;52(5):816-832. doi:10.1111/j.1475-4754.2010.00515.x

90.

Hunt Ortiz, Mark A. Prehistoric Mining and Metallurgy in South West Iberian Peninsula. Vol BAR international series. Archaeopress; 2003.
doi:<https://doi.org/10.30861/9781841715544>

91.

Keswani PS. Death, Prestige, and Copper in Bronze Age Cyprus. American journal of archaeology. 2005;109:341-401. <http://www.jstor.org/stable/40026118>

92.

Laughlin GJ, Todd JA. Evidence for Early Bronze Age tin ore processing. Materials Characterization. 2000;45(4-5):269-273. doi:10.1016/S1044-5803(00)00111-X

93.

Liu S, Rehren T, Pernicka E, Hausleiter A. Copper processing in the oases of northwest Arabia: technology, alloys and provenance. Journal of Archaeological Science. 2015;53:492-503. doi:10.1016/j.jas.2014.10.030

94.

Levy et al. TE. Early Bronze Age metallurgy: a newly discovered copper manufactory in southern Jordan. Antiquity. 2002;76(292):425-437. doi:10.1017/S0003598X00090530

95.

Roger Matthews and Hassan Fazeli. Copper and Complexity: Iran and Mesopotamia in the Fourth Millennium B.C. Iran: journal of the British Institute of Persian Studies. 2004;42:61-75. <http://www.jstor.org/stable/4300663>

96.

Martinón-Torres M, Rehren T. Technical Ceramics. In: Roberts BW, Thornton CP, eds. Archaeometallurgy in Global Perspective: Methods and Syntheses. Springer; 2014:107-131.
<http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781461490173>

97.

Moorey PRS. Metalworking: 3. Base metals, part iii: copper and its alloys. In: Ancient Mesopotamian Materials and Industries: The Archaeological Evidence. Clarendon Press; 1994:242-278.

<https://contentstore.cla.co.uk//secure/link?id=f20e44c9-4c36-e711-80c9-005056af4099>

98.

Muhly J. Copper and bronze in Cyprus and the Eastern Mediterranean. In: The Archaeometallurgy of the Asian Old World. Vol University Museum symposium series. Museum University of Pennsylvania; 1999:15-25.

99.

Müller R, Rehren Th, Rovira S. Almizaraque and the early copper metallurgy of southeast Spain: new data. Madrider Mitteilungen. 2004;45:33-56.

100.

Nezafati N, Pernicka E, Momenzadeh M. Ancient Tin: Old Question and New Answer. Published 2006. <http://www.cais-soas.com/CAIS/Science/tin.htm>

101.

Nocete. et al F. The smelting quarter of Valencina de la Concepción (Seville, Spain): the specialised copper industry in a political centre of the Guadalquivir Valley during the third millennium BC (2750-2500 BC). Journal of Archaeological Science. 2008;35(3):717-732. doi:10.1016/j.jas.2007.05.019

102.

O'Brien W. Resource availability and metal supply in the insular Bronze Age. In: The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy', Bochum 1995. Vol Der Anschnitt. Beiheft. Deutsches Bergbau-Museum; 1999:227-235.

103.

Ottaway B. Innovation, production and specialization in early Prehistoric copper metallurgy. *European Journal of Archaeology*. 2001;4(1):87-112.
doi:10.1179/eja.2001.4.1.87

104.

Ottaway BS, Seibel S. Dust in the wind: experimental casting of bronze in sand moulds. In: *Paléoméallurgie Des Cuivres: Actes Du Colloque de Bourg-En-Bresse et Beaune, 17-18 Octobre 1997*. Vol Monographies instrumentum. M. Mergoil; 1998:59-63.

105.

Pare, C. F. E. *Metals Make the World Go Round: The Supply and Circulation of Metals in Bronze Age Europe*. Oxbow; 2000.

106.

Pearce, Mark. Reconstructing prehistoric metallurgical knowledge: the northern Italian Copper and Bronze Ages. *European Journal of Archaeology*. 1998;1(1):51-70.
doi:10.1179/eja.1998.1.1.51

107.

Penhallurick, R. D., *Institute of Metals. Tin in Antiquity: Its Mining and Trade throughout the Ancient World with Particular Reference to Cornwall*. Institute of Metals; 1986.

108.

Phelps, William W., Lólos, Yannis, Vēchos, Giannēs, *Institouto Enaliōn Archaiologikōn Ereunōn. The Point Iria Wreck: Interconnections in the Mediterranean, ca. 1200 BC*. 2nd ed. Hellenic Institute of Marine Archaeology; 1999.

109.

Pigott VC. Reconstructing the copper production process as practised among prehistoric

mining/metallurgical communities in the Khao Wong Prachan Valley of central Thailand. In: Metals in Antiquity. Vol BAR international series. Archaeopress; 1999:10-21.
doi:<https://doi.org/10.30861/9781841710082>

110.

Pryce TO, Pigott VC, Martín-Torres M, Rehren T. Prehistoric copper production and technological reproduction in the Khao Wong Prachan Valley of Central Thailand. Archaeological and Anthropological Sciences. 2010;2(4):237-264.
doi:10.1007/s12520-010-0043-y

111.

Pulak C. The copper and tin ingots from the Late Bronze Age shipwreck at Uluburnun. In: Anatolian Metal I. Vol Veröffentlichungen aus dem Deutschen Bergbau-Museum Bochum. Deutsches Bergbau-Museum; 2000:137-157.

112.

Rehren Th, Hess K, Philip G. Fourth millennium BC copper metallurgy in Northern Jordan: The evidence from Tell esh-Shuna. In: The Prehistory of Jordan, II: Perspectives from 1997. Vol Studies in early Near Eastern production, subsistence, and environment. Ex Oriente; 1997:625-640.

113.

Renfrew, C. Cycladic Metallurgy and the Aegean Early Bronze Age. American Journal of Archaeology. 1967;71(1):1-20. <http://www.jstor.org/stable/501585>

114.

Rehren T, Boscher L, Pernicka E. Large scale smelting of speiss and arsenical copper at Early Bronze Age Arisman, Iran. Journal of Archaeological Science. 2012;39(6):1717-1727.
doi:10.1016/j.jas.2012.01.009

115.

Rohl B, Needham S. Lead isotope and chemical composition variation in ores and metals. In: The Circulation of Metal in the British Bronze Age: The Application of Lead Isotope

Analysis. Vol Occasional paper / British Museum. British Museum; 1998:3-8.
<https://contentstore.cla.co.uk//secure/link?id=013deb7a-7336-e711-80c9-005056af4099>

116.

Segal I, Rothenberg B, Bar-Matthews M. Smelting slag from prehistoric Site F2 and N3 in Timna, SW Arabah, Israel. In: *Metallurgica Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin*. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:223-234.

117.

Shennan S. Cost, benefit and value in the organization of early European copper production. *Antiquity*. 1999;73(280):352-363.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9434845&fulltextType=RA&fileId=S0003598X0008830X>

118.

Stos-Gale S, Macdonald C. Sources of metals and trade in the Bronze Age Aegean. In: *Bronze Age Trade in the Mediterranean: Papers Presented at the Conference Held at Rewley House, Oxford, in December 1989*. Vol *Studies in Mediterranean archaeology*. Åström; 1991:249-288.

119.

Thornton CP, Rehren T, Pigott VC. The production of speiss (iron arsenide) during the Early Bronze Age in Iran. *Journal of Archaeological Science*. 2009;36(2):308-316.
doi:10.1016/j.jas.2008.09.017

120.

Weeks, Lloyd R. *Early Metallurgy of the Persian Gulf: Technology, Trade, and the Bronze Age World*. Vol *American School of Prehistoric Research monograph series*. Brill; 2004.

121.

Weisgerber G, Yule P. Al-Aqir near Bahla' - an Early Bronze Age dam site with planoconvex 'copper' ingots. *Arabian Archaeology and Epigraphy*. 2003;14(1):24-53.

doi:10.1034/j.1600-0471.2003.00003.x

122.

Pulak, Cemal, Slotta, Rainer, Yalçın, Ünsal, Deutsches Bergbau-Museum Bochum. Das Schiff von Uluburun: Welthandel Vor 3000 Jahren : Katalog Der Ausstellung Des Deutschen Bergbau-Museums Bochum Vom 15. Juli 2005 Bis 16. Juli 2006. Vol Veröffentlichung aus dem Deutschen Bergbau-Museum Bochum. Deutsches Bergbau-Museum; 2005.

123.

Yener, K. Aslihan. The Domestication of Metals: The Rise of Complex Metal Industries in Anatolia. Vol Culture and history of the ancient Near East. Brill; 2000.

124.

Yener KA, Adriaens A, Earl B, Ozbal H. Analyses of metalliferous residue, crucible fragments, experimental smelts, and ores from Kestel tin mine and the tin processing site of Goltepe, Turkey. In: Mining and Metal Production through the Ages. British Museum; 2003:181-197.

125.

Anguilano L, Rehren Th, Muller W, Rothenberg B. Roman Jarosite exploitation at Riotinto(Spain). In: Archaeometallurgy in Europe: 2nd International Conference, Aquileia, Italy, 17-21 June 2007 : Selected Papers. AIM; 2009:21-29.

126.

Bartelheim M, Contreras Cortés F, Moreno Onorato A, Murillo-Barroso M, Pernicka E. The silver of the South Iberian El Argar Culture: A first look at production and distribution. Trabajos de Prehistoria. 2012;69(2):293-309. doi:10.3989/tp.2012.12093

127.

Cohen CR, Rehren Th, Van Buren M. An archaeo-metallurgical study of the use of European furnaces in colonial Bolivia. In: Archaeometallurgy in Europe: 2nd International Conference, Aquileia, Italy, 17-21 June 2007 : Selected Papers. AIM; 2009:529-540.

128.

Bayley J. Medieval precious metal refining: archaeology and contemporary texts compared. In: Archaeology, History and Science: Integrating Approaches to Ancient Materials. Vol Publications of the Institute of Archaeology, University College London. Left Coast Press; 2008:131-150. <http://UCL.ebib.com/patron/FullRecord.aspx?p=677776>

129.

Boni M, Maio GD, Frei R, Villa IM. Lead isotopic evidence for a mixed provenance for Roman water pipes from Pompeii. *Archaeometry*. 2000;42(1):201-208. doi:10.1111/j.1475-4754.2000.tb00876.x

130.

Cochet, André, Pernot, Michel. Le Plomb En Gaule Romaine: Techniques de Fabrication et Produits. Vol Monographies instrumentum. Monique Mergoil; 2000.

131.

Cohen CR, Rehren T, Van Buren M. When the wind blows: environmental adaptability in current day silver production within the Bolivian Andes. In: Proceedings: ISA 2006 : 36th International Symposium on Archaeometry : 2-6 May 2006, Quebec City, Canada. Vol Cahiers d'archéologie du CELAT. CELAT, Université Laval; 2009:465-475.

132.

Craddock P, Catwright C, Eckstein K, et al. Simple sophistication: Mauryan silver production in North West India. *British Museum Technical Research Bulletin* 7. Published online 2013:79-93. http://www.britishmuseum.org/research/publications/online_journals/technical_research_bulletin/bmtrb_volume_7.aspx

133.

Durali-Mueller S, Brey GP, Wigg-Wolf D, Lahaye Y. Roman lead mining in Germany: its origin and development through time deduced from lead isotope provenance studies. *Journal of Archaeological Science*. 2007;34(10):1555-1567. doi:10.1016/j.jas.2006.11.009

134.

Hunter F, Davis M. Early Bronze Age lead — a unique necklace from southeast Scotland. *Antiquity*. 1994;68(261):824-830.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9423224&fulltextType=RA&fileId=S0003598X00047529>

135.

Liu S, Rehren T, Chen J, Et al. Bullion production in imperial China and its significance for sulphide ore smelting world-wide. *Journal of Archaeological Science*. 2015;55:151-165.
doi:10.1016/j.jas.2014.12.023

136.

Martinón-Torres Marcos, Thomas N, Rehren Th, Mongiatti A. Some problems and potentials of the study of cupellation remains: the case of post-medieval Montbéliard. *ArcheoSciences: Revue d'Archeometrie*. 2008;32:59-70.
<http://archeosciences.revues.org/948>

137.

Martinon-Torres M, Rehren T, Thomas N, Mongiatti A. Identifying materials recipes and choices: some suggestions for the study of archaeological cupels. *Archaeometallurgy in Europe: 2nd international conference, Aquileia, Italy, 17-21 June 2007 : selected papers*. Published online 2009.

138.

Murphy S, Baldwin H. Early lead smelting sites in the Swaledale area of Yorkshire. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2001;35(1):1-22.
<https://contentstore.cla.co.uk//secure/link?id=ac98f2d5-4a36-e711-80c9-005056af4099>

139.

Merkel JF. Imperial Roman production of lead and silver in the northern part of Upper Moesia (Mt. Kosmaj area). *Glasnik: Srpsko arheološko društvo*. Published online 2007:39-78.

140.

Pernicka E, Rehren T, Schmitt-Strecker S. Late Uruk silver production by cupellation at Habuba Kabira, Syria. In: *Metallurgica Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin*. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:123-134.

141.

Ploquin A, Bailly-Maitre MC, Allee P, eds. Mines et metallurgies anciennes du plomb dans leurs environnements. Apports des methodes contribuant a leur etude. Special issue of *ArcheoSciences: Revue d'Archeometrie*. 2010;34. <http://archeosciences.revues.org/2574>

142.

Rehren T, Prange M. Lead metal and patina: a comparison. In: *Metallurgica Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin*. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:183-196.

143.

Rehren T, Schneider J, Bartels C. Medieval lead-silver smelting in the Siegerland, West Germany. In: *Historical Metallurgy: Journal of the Historical Metallurgy Society*. Vol 33. Historical Metallurgy Society; 1999:73-84.
<https://contentstore.cla.co.uk//secure/link?id=ae98f2d5-4a36-e711-80c9-005056af4099>

144.

Rehren T. The production of silver in South America. *Archaeology international*. 2011;13/14:76-86. doi:10.5334/ai.1318

145.

Schultze CA, Stanish C, Scott DA, Et al. Direct evidence of 1,900 years of indigenous silver production in the Lake Titicaca Basin of Southern Peru. *Proceedings of the National Academy of Sciences*. 2009;106(41):17280-17283. doi:10.1073/pnas.0907733106

146.

Mary Van Buren, Barbara H. Mills. Huayrachinas and Toco chimbos: Traditional Smelting Technology of the Southern Andes. *Latin American Antiquity*. 2005;16(1):3-25. doi:10.2307/30042484

147.

Wood JR, Charlton MF, Murillo-Barroso M, Martínón-Torres M. Iridium to provenance ancient silver. *Journal of Archaeological Science*. 2017;81:1-12. doi:10.1016/j.jas.2017.03.002

148.

Pernicka E. Provenance and recycling of ancient silver. A comment on "Iridium to provenance ancient silver" by Jonathan R. Wood*, Michael F. Charlton, Mercedes Murillo-Barroso, Marcos Martínón-Torres. *J. Archaeol. Sci.* 81, 1–12. *Journal of Archaeological Science*. Published online August 2017. doi:10.1016/j.jas.2017.07.004

149.

Wood JR, Charlton MF, Murillo-Barroso M, Martínón-Torres M. Gold parting, iridium and provenance of ancient silver: A reply to Pernicka. *Journal of Archaeological Science*. Published online August 2017. doi:10.1016/j.jas.2017.07.005

150.

Wyttenbach A, Schubiger PA. Trace element content of Roman lead by neutron activation analysis. *Archaeometry*. 1973;15(2):199-207. doi:10.1111/j.1475-4754.1973.tb00090.x

151.

Zori C, Tropper P. Silver lining: evidence for Inka silver refining in northern Chile. *Journal of Archaeological Science*. 2013;40(8):3282-3292. doi:10.1016/j.jas.2013.03.020

152.

Alipour R, Rehren T. Persian Pulād Production: Chāhak Tradition. *Journal of Islamic Archaeology*. 2014;1(2):231-261. doi:10.1558/jia.v1i2.24174

153.

Benoit, Paul, Fluzin, Philippe. *Paléoméallurgie Du Fer et Cultures*. Association pour l'Edition et la Diffusion des Etudes Historiques; 1995.

154.

Biggs L, Bellina B, Martínón-Torres M, Pryce TO. Prehistoric iron production technologies in the Upper Thai-Malay Peninsula: metallography and slag inclusion analyses of iron artefacts from Khao Sam Kaeo and Phu Khao Thong. *Archaeological and Anthropological Sciences*. 2013;5(4):311-329. doi:10.1007/s12520-012-0115-2

155.

Blakelock E, Martínón-Torres M, Veldhuijzen HA, Young T. Slag inclusions in iron objects and the quest for provenance: an experiment and a case study. *Journal of Archaeological Science*. 2009;36(8):1745-1757. doi:10.1016/j.jas.2009.03.032

156.

Buchwald, Vagn Fabritius, Kongelige Danske videnskabernes selskab. *Iron and Steel in Ancient Times*. Vol Historisk-filosofiske skrifter. Det Kongelige Danske Videnskabernes Selskab; 2005.

157.

Cech B, Rehren T, eds. *Early Iron in Europe*. Vol Monographies instrumentum. Éditions Monique Mergoil; 2014.

158.

Cleere H. Ironmaking in the economy of the ancient world: The potential of archaeometallurgy. In: *The Crafts of the Blacksmith*. UISPP Comité pour la Sidérurgie Ancienne and the Ulster Museum; 1984:1-6.

159.

Charlton MF, Crew P, Rehren T, Shennan SJ. Explaining the evolution of ironmaking recipes – An example from northwest Wales. *Journal of Anthropological Archaeology*.

2010;29(3):352-367. doi:10.1016/j.jaa.2010.05.001

160.

Charlton MF, Blakelock E, Martínón-Torres M, Young T. Investigating the production provenance of iron artifacts with multivariate methods. *Journal of Archaeological Science*. 2012;39(7):2280-2293. doi:10.1016/j.jas.2012.02.037

161.

Craddock, P. T. *Early Metal Mining and Production*. Edinburgh University Press; 1995.

162.

Crew P. The experimental production of prehistoric bar iron. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1991;25(2):21-36.
<https://contentstore.cla.co.uk//secure/link?id=b298f2d5-4a36-e711-80c9-005056af4099>

163.

Crew P. Aspects of the iron supply. In: *Danebury: An Iron Age Hillfort in Hampshire, Vol.6: A Hillfort Community in Perspective*. Vol CBA research report. Council for British Archaeology; 1995:276-286.
<https://contentstore.cla.co.uk//secure/link?id=5d25630c-8e36-e711-80c9-005056af4099>

164.

Dieudonne-Glad N, Conte P. Smithing at the priory of Lavinadiere, Correze, France, 13th and 16th centuries. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2011;45(1):1-7.

165.

Dungworth D, Mephram L. Prehistoric iron smelting in London: evicence from Shooters Hill. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2012;46(1):1-8.

166.

Gassmann G. Recent discoveries and excavations of 6th -2nd century BC furnaces in SW Germany. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2002;36(2):71-77.
<https://contentstore.cla.co.uk//secure/link?id=af98f2d5-4a36-e711-80c9-005056af4099>

167.

Hendrickson M. A transport geographic perspective on travel and communication in Angkorian Southeast Asia (ninth to fifteenth centuries). *World Archaeology*. 2011;43(3):444-457. doi:10.1080/00438243.2011.605846

168.

Hošek J, Cleere H, Mihok L, Pleiner R, Archeologický ústav. *The Archaeometallurgy of Iron: Recent Developments in Archaeological and Scientific Research*. Institute of Archaeology of the ASCR; 2011.

169.

Huang X, Qian W, Wei W, Guo J, Liu N. 3D numerical simulation on the flow field of single tuyere blast furnaces: A case study of the Shuiquangou iron smelting site dated from the 9th to 13th century in China. *Journal of Archaeological Science*. 2015;63:44-58.
doi:10.1016/j.jas.2015.08.009

170.

Humphris, Jane, Rehren, Thilo. *The World of Iron*. Archetype; 2013.

171.

Joosten, Ineke. *Technology of Early Historical Iron Production in the Netherlands*. Vol Geoarchaeological and bioarchaeological Studies. Institute for Geo- and Bioarchaeology, Vrije Universiteit; 2004.

172.

Lang J. Roman iron and steel: A review. *Materials and Manufacturing Processes*. 2017;32(7-8):857-866. doi:10.1080/10426914.2017.1279326

173.

Martinon-Torres M, Rehren T. Analytical study of iron slag from the Novgorod hinterland. In: *The Archaeology of Medieval Novgorod in Context: Studies in Centre/Periphery Relations*. Oxbow; 2008:185-194.

https://ucl.primo.exlibrisgroup.com/discovery/fulldisplay?docid=cdi_proquest_ebookcentral_chapters_5846057_19_9&context=PC&vid=44UCL_INST:UCL_VU2&lang=en&search_scope=MyInst_and_CI&adaptor=Primo%20Central&tab=Everything&query=any,contains,Analytical%20study%20of%20iron%20slag%20from%20the%20Novgorod%20hinterland

174.

Nørbach, Lars Christian. *Prehistoric and Medieval Direct Iron Smelting in Scandinavia and Europe: Aspects of Technology and Society*. Vol Acta Jutlandica. Aarhus University Press; 2003.

175.

Park JS, Rehren T. Large-scale 2nd to 3rd century AD bloomery iron smelting in Korea. *Journal of Archaeological Science*. 2011;38(6):1180-1190. doi:10.1016/j.jas.2010.12.007

176.

Paynter S. Regional variations in bloomery smelting slag of the Iron Age and Romano-British periods. *Archaeometry*. 2006;48(2):271-292. doi:10.1111/j.1475-4754.2006.00256.x

177.

Paynter S. Romano-British workshops for iron smelting and smithing at Westhawk Farm, Kent. *Historical metallurgy: journal of the Historical Metallurgy Society*. 41(1):15-31.

178.

Paynter S. Innovations in bloomery smelting in iron Age and Romano-British England. In: *Metals and Mines: Studies in Archaeometallurgy*. Archetype in association with the British Museum; 2007:202-210.

179.

Pleiner, Radomír. Iron in Archaeology: The European Bloomery Smelters. Archeologický ústav AVČR; 2000.

180.

Pleiner, Radomír. Iron in Archaeology: Early European Blacksmiths. Archeologický ústav AV ČR; 2006.

181.

Pryce, T. O. Natapintu, S. Smelting Iron from Laterite: Technical Possibility or Ethnographic Aberration? Asian Perspectives: Journal of Archeology for Asia & the Pacific. 2009;48(2):249-264. <http://www.jstor.org/stable/42928763>

182.

Rehren Th, Papakhristu O. Cutting edge technology – The Ferghana Process of medieval crucible steel smelting. Metalla: Forschungsberichte des Deutschen Bergbau-Museums. 2000;7:55-69.

183.

Rostoker, William, Bronson, Bennet. Pre-Industrial Iron: Its Technology and Ethnology. Vol Archeomaterials monograph. [Archeomaterials]; 1990.

184.

Rovira S, Lopez-Medina M, Roman-Diaz MP, Martinez-Padillar C. Los Callejones: a Roman Republican iron mining and smelting centre in the south east of the Iberian Peninsula. Historical metallurgy: journal of the Historical Metallurgy Society. 2004;38(1):1-9. <https://contentstore.cla.co.uk//secure/link?id=b198f2d5-4a36-e711-80c9-005056af4099>

185.

Sim, David, Ridge, Isabel. Beyond the Bloom: Bloom Refining and Iron Artifact Production in the Roman World. Vol BAR international series. Archaeopress; 1998.
doi:<https://doi.org/10.30861/9780860549017>

186.

Tylecote RF. Forging and hammering techniques. In: The Early History of Metallurgy in Europe. Vol Longman archaeology series. Longman; 1987:243-279.
<https://contentstore.cla.co.uk//secure/link?id=923ea999-5d36-e711-80c9-005056af4099>

187.

Rehren T, Belgia T, Jambon A, Et al. 5,000 years old Egyptian iron beads made from hammered meteoritic iron. Journal of Archaeological Science. 2013;40(12):4785-4792.
doi:10.1016/j.jas.2013.06.002

188.

Veldhuijzen HA, Rehren Th. Slags and the city: early iron production at Tell Hammeh, Jordan and Tell Beth-Shemesh, Israel. Metals and mines: studies in archaeometallurgy. Published online 2007:189-201. <http://www.ironsmelting.net/www/smelting/index.html>

189.

Waldbaum J. The coming of iron in the eastern Mediterranean. The archaeometallurgy of the Asian old world. 1999;University Museum symposium series:27-57.

190.

Muhly, James David, Wertine, Theodore A. The Coming of the Age of Iron. Yale University Press; 1980.

191.

Young T. Some preliminary observations on hammerscale and its implications for understanding welding. Historical metallurgy: journal of the Historical Metallurgy Society. 2011;45(1):26-41.

192.

Young T, Poyner D. Two medieval bloomery smelting sites in Shropshire: the adoption of water power for iron smelting. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2012;46(2):78-97.

193.

Belford D. Hot blast iron smelting in the early 19th century: a re-appraisal. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2012;46(1):9-18.

194.

Crossley D. The blast furnace at Rockley, South Yorkshire. *The Archaeological journal*. 1995;152(1):381-421. doi:10.1080/00665983.1995.11021434

195.

Dillmann P, perez A, Vega E, et al. Understanding the Walloon method of iron refining: archaeological and archaeometric experiments, phase 1. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2012;46(1):19-31.

196.

Gelegdorj E, Chunag A, Gordon RB, Park JS. Transitions in cast iron technology of the nomads in Mongolia. *Journal of Archaeological Science*. 2007;34(8):1187-1196. doi:10.1016/j.jas.2006.10.007

197.

Hayman, Richard. *Ironmaking: The History and Archaeology of the Iron Industry*. Tempus; 2005.

198.

Starley D. Determining the Technological Origins of Iron and Steel. *Journal of Archaeological Science*. 1999;26(8):1127-1133. doi:10.1006/jasc.1999.0408

199.

Wagner DB. Chinese blast furnaces from the 10th to the 14th century. Historical metallurgy: journal of the Historical Metallurgy Society. 2003;37(1):25-37.

200.

Wagner, D.B. Science and Civilisation in China. Vol. 5: Chemistry and Chemical Technology. Part 11: Ferrous Metallurgy. Cambridge University Press; 2008.

201.

Bisson, Michael S., Vogel, Joseph O. Ancient African Metallurgy: The Socio-Cultural Context. AltaMira; 2000.

202.

Ver un reduction des prejuges et la fonte des antagonismes: un bilan de l'expansion de la metallurgie du fer en Afrique sub-Saharienne. Journal of African archaeology. 2012;10.

203.

Craddock PT. New paradigms for old iron: thoughts on E. Zangato & A.F.C Holl's 'On the iron front'. Journal of African archaeology. 2010;8:29-36.

204.

Chirikure S. Indigenous Mining and Metallurgy in Africa. Vol Indigenous knowledge library. Cambridge University Press; 2010.

205.

Chirikure S. Geochemistry of Ancient Metallurgy: Examples from Africa and Elsewhere. In: Treatise on Geochemistry. Elsevier; 2014:169-189.
https://ucl.primo.exlibrisgroup.com/view/action/uresolver.do?operation=resolveService&package_service_id=14355564180004761&institutionId=4761&customerId=4760&VE=true

206.

Shadreck Chirikure and Thilo Rehren. Ores, Furnaces, Slags, and Prehistoric Societies: Aspects of Iron Working in the Nyanga Agricultural Complex, AD 1300-1900. *The African Archaeological Review*. 2004;21(3):135-152. <http://www.jstor.org/stable/25130799>

207.

Chirikure Shadreck, Burrett Rob, Heimann RB. Beyond furnaces and slags: a review study of bellows and their role in indigenous African metallurgical processes. *Azania: Archaeological Research in Africa*. 2009;44(2):195-215. doi:10.1080/00671990903047108

208.

Humphris J, Martínón-Torres M, Rehren T, Reid A. Variability in single smelting episodes – a pilot study using iron slag from Uganda. *Journal of Archaeological Science*. 2009;36(2):359-369. doi:10.1016/j.jas.2008.09.020

209.

Humphris J, Carey C. New methods for investigating slag heaps: Integrating geoprospection, excavation and quantitative methods at Meroe, Sudan. *Journal of Archaeological Science*. 2016;70:132-144. doi:10.1016/j.jas.2016.04.022

210.

Iles L, Martínón-Torres M. Pastoralist iron production on the Laikipia Plateau, Kenya: wider implications for archaeometallurgical studies. *Journal of Archaeological Science*. 2009;36(10):2314-2326. doi:10.1016/j.jas.2009.06.023

211.

Killick D. What do we know about African iron working? *Journal of African archaeology*. 2004;2(1):97-112. <http://www.jstor.org/stable/43135336>

212.

David Killick. Cairo to Cape: The Spread of Metallurgy Through Eastern and Southern Africa. *Journal of World Prehistory*. 2009;22(4):399-414.
<http://www.jstor.org/stable/25801281>

213.

Killick D. Invention and Innovation in African Iron-smelting Technologies. *Cambridge Archaeological Journal*. 2015;25(01):307-319. doi:10.1017/S0959774314001176

214.

Killick D, Miller D. Smelting of magnetite and magnetite-ilmenite iron ores in the northern Lowveld, South Africa, ca. 1000 CE to ca. 1880 CE. *Journal of Archaeological Science*. 2014;43:239-255. doi:10.1016/j.jas.2013.12.016

215.

La Niece S, Hook DR, Craddock PT, British Museum. *Metals and Mines: Studies in Archaeometallurgy. Archetype in association with the British Museum*; 2007.

216.

MacDonald KC, Vernet R, Martínón-Torres M, Fuller DQ. Dhar Néma: from early agriculture to metallurgy in southeastern Mauritania. *Azania: Archaeological Research in Africa*. 2009;44(1):3-48. doi:10.1080/00671990902811330

217.

Duncan E. Miller and Nikolaas J. Van Der Merwe. Early Metal Working in Sub-Saharan Africa: A Review of Recent Research. *The Journal of African History*. 1994;35(1):1-36.
<http://www.jstor.org/stable/182719>

218.

Rehren T, Charlton M, Chirikure S, Humphris J, Ige A, Veldhuijzen HA. Decisions set in slag: the human factor in African iron smelting. In: *Metals and Mines: Studies in Archaeometallurgy. Archetype in association with the British Museum*; 2007:211-218.
<http://www.ironsmelting.net/www/smelting/index.html>

219.

Schmidt, Peter R. Iron Technology in East Africa: Symbolism, Science, and Archaeology. Indiana University Press; 1997.

220.

Serneels V. The massive production of iron in the Sahelian belt: Archaeological investigations at Korsimoro (Sanmatenga – Burkina Faso). *Materials and Manufacturing Processes*. 2017;32(7-8):900-908. doi:10.1080/10426914.2016.1244842

221.

Woodhouse J. Iron in Africa: the metal from nowhere. In: *Transformations in Africa: Essays on Africa's Later Past*. Leicester University Press; 1998:160-185.
<https://contentstore.cla.co.uk/secure/link?id=817f0495-3d0b-e811-80cd-005056af4099>

222.

Zangato E. On the iron front: new evidence from North-Central Africa. *Journal of African Archaeology*. 2010;8:7-23.

223.

Thilo R. Metals: Chemical analysis. In: *Encyclopedia of Archaeology*. ScienceDirect; 2008:1614-1620. <http://linkinghub.elsevier.com/retrieve/pii/B9780123739629001886>

224.

Bottaini C, Vilaça R, Schiavon N, et al. New insights on Late Bronze Age Cu-metallurgy from Coles de Samuel hoard (Central Portugal): A combined multi-analytical approach. *Journal of Archaeological Science: Reports*. 2016;7:344-357. doi:10.1016/j.jasrep.2016.05.009

225.

Bray PJ, Pollard AM. A new interpretative approach to the chemistry of copper-alloy objects: Source, recycling and technology. *Antiquity*. 2012;86(333):853-867.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9423556&fullt>

extType=RA&fileId=S0003598X00047967

226.

Pollard AM, Bray P, Gosden C, Wilson A, Hamerow H. Characterising copper-based metals in Britain in the first millennium AD: a preliminary quantification of metal flow and recycling. *Antiquity*. 2015;89(345):697-713. doi:10.15184/aqy.2015.20

227.

Bayley, J., Butcher, S. Roman Brooches in Britain: A Technological and Typological Study Based on the Richborough Collection. Vol Reports of the Research Committee of the Society of Antiquaries. Society of Antiquaries of London; 2004.

228.

Dungworth D. Roman Copper Alloys: Analysis of Artefacts from Northern Britain. *Journal of Archaeological Science*. 1997;24(10):901-910. doi:10.1006/jasc.1996.0169

229.

Dungworth D. Iron Age and Roman Copper Alloys from Northern Britain. *Internet Archaeology* 2. Published online 1997.
http://intarch.ac.uk/journal/issue2/dungworth_toc.html

230.

Frame L. Metallurgical investigations at Godin Tepe, Iran, Part I: the metal finds. *Journal of Archaeological Science*. 2010;37(7):1700-1715. doi:10.1016/j.jas.2010.01.030

231.

Jouttijärvi A. Roman alloying practice. *Materials and Manufacturing Processes*. 2017;32(7-8):813-826. doi:10.1080/10426914.2017.1279325

232.

Martinón-Torres M, Li XJ, Bevan A, Xia Y, Zhao K, Rehren T. Forty Thousand Arms for a Single Emperor: From Chemical Data to the Labor Organization Behind the Bronze Arrows of the Terracotta Army. *Journal of Archaeological Method and Theory*. Published online 2012. doi:10.1007/s10816-012-9158-z

233.

Murillo-Barroso M, Pryce TO, Bellina B, Martinón-Torres M. Khao Sam Kaeo – an archaeometallurgical crossroads for trans-asiatic technological traditions. *Journal of Archaeological Science*. 2010;37(7):1761-1772. doi:10.1016/j.jas.2010.01.036

234.

Pagès G, Dillmann P, Fluzin P, Long L. A study of the Roman iron bars of Saintes-Maries-de-la-Mer (Bouches-du-Rhône, France). A proposal for a comprehensive metallographic approach. *Journal of Archaeological Science*. 2011;38(6):1234-1252. doi:10.1016/j.jas.2010.12.017

235.

Scott, David A. *Metallography and Microstructure of Ancient and Historic Metals*. Getty Conservation Institute; 1991.
http://www.getty.edu/conservation/publications_resources/pdf_publications/pdf/metallography.pdf

236.

Bayley J. Medieval precious metal refining: archaeology and contemporary texts compared. In: *Archaeology, History and Science: Integrating Approaches to Ancient Materials*. Vol Publications of the Institute of Archaeology, University College London. Left Coast Press; 2008:131-150. <http://www.UCL.eblib.com/patron/Read.aspx?p=677776&pg=1>

237.

Cech B. A roman gold mining district in eastern Austria. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2012;46(2):66-77.

238.

Hosler, Dorothy. *The Sounds and Colors of Power: The Sacred Metallurgical Technology of Ancient West Mexico*. MIT Press; 1994.

239.

Jansen M, Aulbach S, Hauptmann A, et al. Platinum group placer minerals in ancient gold artifacts – Geochemistry and osmium isotopes of inclusions in Early Bronze Age gold from Ur/Mesopotamia. *Journal of Archaeological Science*. 2016;68:12-23.
doi:10.1016/j.jas.2016.02.004

240.

La Niece S, Meeks N. Diversity of Goldsmithing Traditions in the Americas and the Old World. In: *Precolumbian Gold: Technology, Style and Iconography*. British Museum Press; 2000:220-239.
<https://contentstore.cla.co.uk//secure/link?id=9f52d9dc-6336-e711-80c9-005056af4099>

241.

Lechtman H. The Gilding of metals in pre-Columbian Peru. In: *Application of Science in Examination of Works of Art: Proceedings of the Seminar September 7-16, 1965*. [Museum of Fine Arts]; 1973:38-52.

242.

Lechtman, Heather. Pre-Columbian Surface Metallurgy. *Scientific American*. 1984;250(6):56-63. doi:10.1038/scientificamerican0684-56

243.

Leusch V, Armbruster B, Pernicka E, Slavcev V. On the Invention of Gold Metallurgy: The Gold Objects from the Varna I Cemetery (Bulgaria) - Technological Consequence and Inventive Creativity. *Cambridge Archaeological Journal*. 2015;25(01):353-376.
doi:10.1017/S0959774314001140

244.

Maldonado Blanca, Rehren Thilo. Early copper smelting at Itziparátzico, Mexico. *Journal of*

Archaeological Science. 2009;36(9):1998-2006. doi:10.1016/j.jas.2009.05.019

245.

Martinon-Torres M, Rehren T. Trials and errors in search of mineral wealth: metallurgical experiments in early colonial Jamestown. *Rittenhouse: journal of the American Scientific Instrument Enterprise*. 2007;21:82-97. <http://discovery.ucl.ac.uk/93675/>

246.

Martinón-Torres M, Rojas RV, Cooper J, Rehren T. Metals, microanalysis and meaning: a study of metal objects excavated from the indigenous cemetery of El Chorro de Maíta, Cuba. *Journal of Archaeological Science*. 2007;34(2):194-204. doi:10.1016/j.jas.2006.04.013

247.

Martinon-Torres M, Cooper J, Valcarcel Rojas R, Rehren Th. Diversifying the picture: indigenous responses to European arrival in Cuba. *Archaeology international*. 2008;(10):37-40.

248.

Martinón-Torres M, Valcárcel Rojas R, Sáenz Samper J, Guerra MF. Metallic encounters in Cuba: The technology, exchange and meaning of metals before and after Columbus. *Journal of Anthropological Archaeology*. 2012;31(4):439-454. doi:10.1016/j.jaa.2012.03.006

249.

Martinón-Torres M, Uribe-Villegas MA. The prehistoric individual, connoisseurship and archaeological science: The Muisca goldwork of Colombia. *Journal of Archaeological Science*. 2015;63:136-155. doi:10.1016/j.jas.2015.08.014

250.

McEwan, Colin, British Museum. *Precolumbian Gold: Technology, Style and Iconography*. British Museum Press; 2000.

251.

Mitteldeutscher Archäologentag. Metals of Power – Early Gold and Silver [Metalle Der Macht: Frühes Gold Und Silber]. Vol Tagungen des Landesmuseums für Vorgeschichte Halle. (Meller H, Risch R, Pernicka E, eds.). Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte; 2014.

252.

Plaza MT, Martinon-Torres M. Metallurgical traditions under Inka rule: a technological study of metals and technical ceramics from the Aconcagua Valley, Central Chile. *Journal of Archaeological Science*. 2015;54:86-98. doi:10.1016/j.jas.2014.11.029

253.

Ramage, Andrew, Cowell, M. R., Craddock, P. T. King Croesus' Gold: Excavations at Sardis and the History of Gold Refining. British Museum Press in association with Archaeological Exploration of Sardis, Harvard University Art Museums; 2000.

254.

Cardale de Schrimpff, Marianne, Bray, Warwick. Calima and Malagana: Art and Archaeology in Southwestern Colombia. Pro Calima Foundation; 2005.

255.

Thibodeau AM, Killick DJ, Ruiz J, et al. The strange case of the earliest silver extraction by European colonists in the New World. *Proceedings of the National Academy of Sciences*. 2007;104(9):3663-3666. doi:10.1073/pnas.0607297104

256.

Martinon-Torres M, Uribe Villegas MA. Composition, colour and context in Muisca votive metalwork (Colombia, AD 600-1800). *Antiquity*. 2012;86(333):772-791.
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9423537&fulltextType=RA&fileId=S0003598X00047918>

257.

Boiurgarit D, Thomas N. From laboratory to field experiments: shared experience in brass cementation. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2011;45(1):8-16.

258.

Craddock P, Zhou W. Traditional Zinc Production in Modern China: Survival and Evolution. In: *Mining and Metal Production through the Ages*. British Museum; 2003:267-292.

259.

Craddock P, Eckstein K. Production of brass in Antiquity by direct reduction. In: *Mining and Metal Production through the Ages*. British Museum; 2003:230-216.

260.

Craddock PT, British Museum. 2000 Years of Zinc and Brass. Vol Occasional paper / British Museum. Rev. ed. British Museum; 1998.

261.

Dungworth D. Roman Copper Alloys: Analysis of Artefacts from Northern Britain. *Journal of Archaeological Science*. 1997;24(10):901-910. doi:10.1006/jasc.1996.0169

262.

Dungworth D. Iron Age and Roman Copper Alloys from Northern Britain. *Internet Archaeology*. 1997;(2). doi:10.11141/ia.2.2

263.

Martinón-Torres M, Rehren T. Agricola and Zwickau: theory and practice of Renaissance brass production in SE Germany. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2002;45(36):95-111.

264.

Ponting M. Keeping up with the Romans? Romanisation and Copper Alloys in First Revolt Palestine. IAMS Newsletter. (22):3-6.
http://www.ucl.ac.uk/iams/newsletter/accordion/journals/iams_22/iams_22_2002_ponting

265.

Ponting MJ. Roman military copper-alloy artefacts from Israel: questions of organization and ethnicity. Archaeometry. 2008;44(4):555-571. doi:10.1111/1475-4754.t01-1-00086

266.

Rehren T. Small Size, Large Scale Roman Brass Production in Germania Inferior. Journal of Archaeological Science. 1999;26(8):1083-1087. doi:10.1006/jasc.1999.0402

267.

Rehren T. The same... but different: A juxtaposition of Roman and Medieval brass making in Central Europe. In: Metals in Antiquity. Vol BAR international series. Archaeopress; 1999:252-257.
<https://contentstore.cla.co.uk/secure/link?id=cc2c1c27-8136-e711-80c9-005056af4099>

268.

Rehren T, Martín-Torres M. Naturam ars imitata: European brassmaking between craft and science. In: Archaeology, History and Science: Integrating Approaches to Ancient Materials. Vol Publications of the Institute of Archaeology, University College London. Left Coast Press; 2008:167-188. <http://UCL.ebib.com/patron/FullRecord.aspx?p=677776>

269.

Thornton CP, Ehlers C. Early brass in the ancient Near East. IAMS Newsletter. 2003;(23):3-8.
http://www.ucl.ac.uk/iams/newsletter/accordion/journals/iams_23/iams_23_2003_thornton_ehlers

270.

Welter JM. The zinc content of brass: a chronological indicator. Techne: La Science au

Service de L'Histoire de L'Art Et des Civilisations. 2003;18:27-36.

271.

Zacharias S. Brass making in medieval western Europe. In: All That Glitters: Readings in Historical Metallurgy. Metallurgical Society of the Canadian Institute of Mining and Metallurgy; 1989:35-40.

272.

Zhou W, Martinon-Torres M, Chen J, Liu H, Li Y. Distilling zinc for the Ming Dynasty: the technology of large scale zinc production in Fengdu, southwest China. Journal of Archaeological Science. 2012;39(4):908-921. doi:10.1016/j.jas.2011.10.021

273.

La Niece S, Hook DR, Craddock PT, British Museum. Metals and Mines: Studies in Archaeometallurgy. Archetype in association with the British Museum; 2007.

274.

Bayley J. Innovation in later medieval urban metalworking. Historical metallurgy: journal of the Historical Metallurgy Society. 1996;30(2):67-71.
<https://contentstore.cla.co.uk//secure/link?id=fbb26fdc-4a36-e711-80c9-005056af4099>

275.

Bayley J, White H. Evidence for workshop practices at the Tudor mint in the Tower of London. In: The Renaissance Workshop. Archetype Publications in association with the British Museum; 2013:138-143.

276.

Hogarth D. Martin Frobisher's largest 'gold mine' in Baffin Island. Historical metallurgy: journal of the Historical Metallurgy Society. 1999;33:85-92.

277.

Martinon-Torres M. The tools of the chymist: archeological and scientific analyses of early modern laboratories. In: Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry. Science History Publications/USA; 2007:149-163.

278.

Martinón-Torres M. Some recent developments in the historiography of alchemy. *Ambix*. 2011;58(3):215-237. doi:10.1179/174582311X13129418299063

279.

Martinon-Torres M. Inside Solomon's House: An Archaeological Study of the Old Ashmolean Chymical Laboratory in Oxford. *Ambix*. 2012;59(1):22-48.
doi:10.1179/174582312X13296104891436

280.

Martinon-Torres M, Rehren Th, Sigrid von Osten S von O. A 16th century lab in a 21st century lab: archaeometric study of the laboratory equipment from Oberstockstall (Kirchberg am Wagram, Austria). *Antiquity*. 2003;77(298).
<http://antiquity.ac.uk/projgall/martinon/index.html>

281.

Martinon-Torres M, Rehren Th. Alchemy, chemistry and metallurgy in Renaissance Europe. A wider context for fire assay remains. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2005;39(1):14-31.

282.

Martinon-Torres M, Rehren T. Post-Medieval crucible production and distribution: A study of materials and materialities. *Archaeometry*. 2009;51(1):49-74.
doi:10.1111/j.1475-4754.2007.00380.x

283.

Mongiatti A, Martinon-Torres M, Rehren Th. Testing ores for gold and silver in Renaissance Austria: new techniques, new discoveries. In: Proceedings: ISA 2006 : 36th International Symposium on Archaeometry : 2-6 May 2006, Quebec City, Canada. Vol Cahiers

d'archéologie du CELAT. CELAT, Université Laval; 2009:444/37-444/46.

284.

Rehren Th. Alchemy and fire assay - an analytical approach. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1996;30(2):136-142.
<https://contentstore.cla.co.uk//secure/link?id=fdb26fdc-4a36-e711-80c9-005056af4099>

285.

Budd PD, Ottaway BS. The properties of arsenical copper alloys: implications for the development of Eneolithic metallurgy. In: *Archaeological Sciences 1989: Proceedings of a Conference on the Application of Scientific Techniques to Archaeology*, Bradford, September 1989. Vol Oxbow monograph. Oxbow; 1991:132-142.
<https://contentstore.cla.co.uk//secure/link?id=9d472646-7736-e711-80c9-005056af4099>

286.

J. A. Charles. Early Arsenical Bronzes-A Metallurgical View. *American Journal of Archaeology*. 1967;71(1):21-26. <http://www.jstor.org/stable/501586>

287.

Northover P. Properties and use of arsenic-copper alloys. *Archäometallurgie der alten Welt: Beiträge zum Internationalen Symposium 'Old World Archaeometallurgy'*, Heidelberg 1987. 1989;Der Anschnitt, Beiheft:111-118.

288.

Young SMM, O'Brien W. Arsenical copper in early Irish metallurgy. In: *Metals in Antiquity*. Vol BAR international series. Archaeopress; 1999:33-42.
doi:<https://doi.org/10.30861/9781841710082>

289.

Bayley J. Innovation in later medieval urban metalworking. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1996;30(2):67-71.
<https://contentstore.cla.co.uk//secure/link?id=fbb26fdc-4a36-e711-80c9-005056af4099>

290.

Bourgarit D, Thomas N. Late medieval copper alloying practices: a view from a Parisian workshop of the 14th century AD. *Journal of Archaeological Science*. 2012;39(10):3052-3070. doi:10.1016/j.jas.2012.04.009

291.

Brownsword R. Medieval metalwork: an analytical study of copper-alloy objects. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2004;38(2):84-105.

292.

Dungworth D, Nicholas M. Caldarium? An antimony bronze used for medieval and post-medieval cast domestic vessels. *Historical metallurgy: journal of the Historical Metallurgy Society*. 2004;38(1):24-34.
<https://contentstore.cla.co.uk/secure/link?id=d060ccd0-7106-e811-80cd-005056af4099>

293.

Rehren T. The same.... but different: A juxtaposition of Roman and Medieval brass making in Central Europe. In: *Metals in Antiquity*. Vol BAR international series. Archaeopress; 1999:252-257.
<https://contentstore.cla.co.uk/secure/link?id=cc2c1c27-8136-e711-80c9-005056af4099>

294.

Budd et al P. The early development of metallurgy in the British Isles. *Antiquity*. 1992;66(252):677-686. doi:10.1017/S0003598X00039375

295.

Chernych EN. Some of the most important aspects and problems of early Metal Age studying. In: *Die Anfänge Der Metallurgie in Der Alten Welt = The Beginnings of Metallurgy in the Old World*. Vol *Forschungen zur Archäometrie und Altertumswissenschaft*. Verlag Marie Leidorf; 2002:25-31.

296.

Craddock PT. Copper smelting in Bronze Age Britain: Problems and Possibilities. In: Early Mining in the British Isles: Proceedings of the Early Mining Workshop at Plas Tan y Bwlch, Snowdonia National Park Study Centre, 17-19 November, 1989. Vol Plas Tan y Bwlch occasional paper. Plas Tan y Bwlch, Snowdonia National Park Study Centre; 1990:69-71.

297.

O'Brien, William, Brindley, Anna L. Ross Island: Mining, Metal and Society in Early Ireland. Vol Bronze Age studies. Dept. of Archaeology, National University of Ireland, Galway; 2004.

298.

Murillo-Barroso M, Pryce TO, Bellina B, Martínón-Torres M. Khao Sam Kaeo – an archaeometallurgical crossroads for trans-asiatic technological traditions. *Journal of Archaeological Science*. 2010;37(7):1761-1772. doi:10.1016/j.jas.2010.01.036

299.

Piggott VC, Ciarla R. On the origins of metallurgy in prehistoric Southeast Asia: the view from Thailand. In: *Metals and Mines: Studies in Archaeometallurgy*. Archetype in association with the British Museum; 2007:76-88.
<https://contentstore.cla.co.uk//secure/link?id=b2d980d9-9136-e711-80c9-005056af4099>

300.

Pryce TO, Piggott VC, Martínón-Torres M, Rehren T. Prehistoric copper production and technological reproduction in the Khao Wong Prachan Valley of Central Thailand. *Archaeological and Anthropological Sciences*. 2010;2(4):237-264.
doi:10.1007/s12520-010-0043-y

301.

Joyce C. White and Elizabeth G. Hamilton. The Transmission of Early Bronze Technology to Thailand: New Perspectives. *Journal of World Prehistory*. 2009;22(4):357-397.
<http://www.jstor.org/stable/25801280>

302.

Bareham T. Bronze casting experiments. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1994;28(2):112-116.
<https://contentstore.cla.co.uk//secure/link?id=08725dcf-4a36-e711-80c9-005056af4099>

303.

Crew P. The experimental production of prehistoric bar iron. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1991;25(2):21-36.
<https://contentstore.cla.co.uk//secure/link?id=b298f2d5-4a36-e711-80c9-005056af4099>

304.

Ottaway, Barbara S., Wang, Quanyu. Casting Experiments and Microstructure of Archaeologically Relevant Bronzes. Vol BAR international series. Archaeopress; 2004.
doi:<https://doi.org/10.30861/9781841716763>

305.

Pryce TO, Bassiakos Y, Catapotis M, Doonan RC. 'De Caerimoniae' Technological choices in copper-smelting furnace design at early Bronze Age Chrysokamino, Crete. *Archaeometry*. 2007;49(3):543-557. doi:10.1111/j.1475-4754.2007.00319.x

306.

Aldenderfer M, Craig NM, Speakman RJ, Popelka-Filcoff R. From the Cover: Four-thousand-year-old gold artifacts from the Lake Titicaca basin, southern Peru. *Proceedings of the National Academy of Sciences*. 2008;105(13):5002-5005.
doi:10.1073/pnas.0710937105

307.

Benson, Elizabeth P., Dumbarton Oaks. Pre-Columbian Metallurgy of South America: A Conference at Dumbarton Oaks, October 18th and 19th, 1975. Dumbarton Oaks Research Library and Collections, Trustees for Harvard University; 1979.

308.

Maldonado B, Rehren T, Howell P. Archaeological copper smelting at Itziparatzico, Michoacan, Mexico, in Vandiver. In: Materials Issues in Art and Archaeology VII: Symposium Held November 30-December 3, 2004, Boston, Massachusetts, U.S.A. Vol Materials Research Society symposium proceedings. Materials Research Society; 2005:231-240.

309.

Martinon-Torres M, Valcarcel Rojas R, Rehren T. Metals, microanalysis and meaning: a study of metal objects excavated from the indigenous cemetery of El Chorro de Malta, Cuba. *Journal of archaeological science*. 2007;34(2):194-204.
doi:10.1016/j.jas.2006.04.013

310.

Schultze CA, Stanish C, Scott DA, Rehren T, Kuehner S, Feathers JK. Direct evidence of 1,900 years of indigenous silver production in the Lake Titicaca Basin of Southern Peru. *Proceedings of the National Academy of Sciences*. 2009;106(41):17280-17283.
doi:10.1073/pnas.0907733106

311.

Shimada I, Gordus A, Griffin JA, Merkel JF. Sican alloying, working and use of precious metals: an interdisciplinary perspective. In: *Metals in Antiquity*. Vol BAR international series. Archaeopress; 1999. doi:https://doi.org/10.30861/9781841710082

312.

Garcia-Guinea J, Correcher V, Rojas RM, Et al. Chemical tracers in archaeological and natural gold: Aliseda Tartessos treasure and new discovered nuggets (SW Spain). *Gold Bulletin*. 2005;38(1):23-28. doi:10.1007/BF03215224

313.

Guerra MF, Calligaro T. Gold and cultural heritage objects: a review of studies of provenance and manufacturing technologies. *Measurement science and technology*. 1990;(14):1527-1537. doi:10.1088/0957-0233/14/9/305

314.

Guerra MF, Calligaro T, Perea A. The treasure of Guarrazar: Tracing the gold supplies in the Visigothic Iberian peninsula. *Archaeometry*. 2007;49(1):53-74.
doi:10.1111/j.1475-4754.2007.00287.x

315.

Rehren T, Temme M. Pre-Columbian gold processing at Putushio, South Ecuador: the archaeometallurgical evidence. In: *Archaeometry of Pre-Columbian Sites and Artifacts: Proceedings of a Symposium Organized by the UCLA Institute of Archaeology and the Getty Conservation Institute, Los Angeles, California, March 23-27, 1992*. Getty Conservation Institute; 1994:267-284.

316.

et al GM. Early copper and Brass in Senegal. In: *Society, Culture, and Technology in Africa. Vol MASCA research papers in science and archaeology*. MASCA, University of Pennsylvania Museum of Archaeology and Anthropology; 1994:45-62.

317.

Augustin F. C. Holl. Early West African Metallurgies: New Data and Old Orthodoxy. *Journal of World Prehistory*. 2009;22(4):415-438. <http://www.jstor.org/stable/25801282>

318.

Miller DE, Van Der Merwe NJ. Early Metal Working in Sub-Saharan Africa: A Review of Recent Research. *The Journal of African History*. 1994;35(01).
doi:10.1017/S0021853700025949

319.

Begemann F. Tracing tin via isotope analyses. In: *The Beginnings of Metallurgy: Proceedings of the International Conference 'The Beginnings of Metallurgy', Bochum 1995. Vol Der Anschnitt. Beiheft*. Deutsches Bergbau-Museum; 1999:277-284.

320.

Giumlia-Mair, Alessandra R., Lo Schiavo, Fulvia, International Congress of Prehistoric and Protohistoric Sciences. Le Problème de l'étain à l'origine de La Métallurgie: The Problem of Early Tin. Vol BAR international series. Archaeopress; 2003.
doi:<https://doi.org/10.30861/9781841715643>

321.

Haustein M, Gillis C, Pernicka E. Tin isotopy: A new method for solving old questions. *Archaeometry*. 2010;52(5):816-832. doi:10.1111/j.1475-4754.2010.00515.x

322.

Yener, K. Aslihan. The Domestication of Metals: The Rise of Complex Metal Industries in Anatolia. Vol Culture and history of the ancient Near East. Brill; 2000.

323.

Barnard, Noel, Bulbeck, David. Ancient Chinese and Southeast Asian Bronze Age Cultures: The Proceedings of a Conference Held at the Edith and Joy London Foundation Property, Kioloa, NSW, 8-12 February, 1988 /: Conference Papers. SMC; 1996.

324.

Chen K, Rehren T, Mei J, Zhao C. Special alloys from remote frontiers of the Shang Kingdom: scientific study of the Hanzhong bronzes from southwest Shaanxi, China. *Journal of Archaeological Science*. 2009;36(10):2108-2118. doi:10.1016/j.jas.2009.04.016

325.

Kunlong Chen. Indigenous production and interregional exchange: late second-millennium BC bronzes from the Hanzhong basin, China. *Antiquity*. 90(351):665-678.
doi:<http://dx.doi.org/10.2307/3250165><http://dx.doi.org/10.1016/j.jas.2009.04.016><http://dx.doi.org/10.1016/j.jas.2009.04.017>

326.

Chen K, Liu S, Li Y, Mei J, Shao A, Yue L. Evidence of arsenical copper smelting in Bronze

Age China: A study of metallurgical slag from the Laoniupo site, central Shaanxi. *Journal of Archaeological Science*. 2017;82:31-39. doi:10.1016/j.jas.2017.04.006

327.

Liu S, Wang K, Cai Q, Chen J. Microscopic study of Chinese bronze casting moulds from the Eastern Zhou period. *Journal of Archaeological Science*. 2013;40(5):2402-2414. doi:10.1016/j.jas.2012.11.010

328.

Mei, Jianjun. *Copper and Bronze Metallurgy in Late Prehistoric Xinjiang: Its Cultural Context and Relationship with Neighbouring Regions*. Vol BAR international series. Archaeopress; 2000. doi:<https://doi.org/10.30861/9781841710686>

329.

Mei J, Chen K, Cao W. Scientific examination of Shang-dynasty bronzes from Hanzhong, Shaanxi Province, China. *Journal of Archaeological Science*. 2009;36(9):1881-1891. doi:10.1016/j.jas.2009.04.017

330.

Mei J, Wang P, Chen K, Wang L, Wang Y, Liu Y. Archaeometallurgical studies in China: some recent developments and challenging issues. *Journal of Archaeological Science*. 2015;56:221-232. doi:10.1016/j.jas.2015.02.026

331.

Bagley, Robert W., Fong, Wen, So, Jenny F., Hearn, Maxwell K., Metropolitan Museum of Art (New York, N.Y.). *The Great Bronze Age of China: An Exhibition from the People's Republic of China*. Metropolitan Museum of Art; 1980.

332.

Zhou W, Dong Y, Wan Q, Wang C. New research on lost-wax casting in ancient China. In: *Metallurgy and Civilisation: Eurasia and beyond: Proceedings of the 6th International Conference on the Beginnings of the Use of Metals and Alloys (BUMA VI)*. Archetype; 2009:73-78.

333.

Alipour R, Rehren T. Persian Pulād Production: Chāhak Tradition. *Journal of Islamic Archaeology*. 2014;1(2):231-261. doi:10.1558/jia.v1i2.24174

334.

Allan, James W., Gilmour, Brian J. J., University of Oxford, British Institute of Persian Studies. *Persian Steel: The Tanavoli Collection*. Vol Oxford studies in Islamic art. Oxford University Press for the Board of the Faculty of Oriental Studies, University of Oxford and the British Institute of Persian Studies; 2000.

335.

Feuerbach A, Merkel j, Griffiths D. An examination of crucible steel in the manufacture of Damascus steel, including evidence from Merv, Turkmenistan. In: *Metallurgica Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin*. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:37-44.

336.

Papakhristu OA, Rehren T. Techniques and tchnology of ceramic vessel manufacture: crucibles for wootz smelting in Central Asia. In: *Modern Trends in Scientific Studies on Ancient Ceramics: Papers Presented at the 5th European Meeting on Ancient Ceramics, Athens 1999*. Vol BAR international series. Archaeopress; 2002:69-74. doi:https://doi.org/10.30861/9781841712895

337.

Rehren T, Papakhristu O. Cutting Edge Technology - The Ferghana process of medieval crucible steel making. *Metalla: Forschungsberichte des Deutschen Bergbau-Museums*. Published online 1994:55-79.

338.

Blakelock E, Martínón-Torres M, Veldhuijzen HA, Young T. Slag inclusions in iron objects and the quest for provenance: an experiment and a case study. *Journal of Archaeological Science*. 2009;36(8):1745-1757. doi:10.1016/j.jas.2009.03.032

339.

Coustures MP, Beziat D, Tollon F, Domergue C, Long L, Rebiscoul A. The use of trace element analysis of entrapped slag inclusions to establish ore - Bare iron links: Examples from two Gallo-Roman iron-making sites in France (Les Martys, Montagne Noire, and Les Ferrys, Loiret). *Archaeometry*. 2003;45(4):599-613. doi:10.1046/j.1475-4754.2003.00131.x

340.

Desaulty AM, Dillmann P, L'Héritiera M, Et al. Does it come from the Pays de Bray? Examination of an origin hypothesis for the ferrous reinforcements used in French medieval churches using major and trace element analyses. *Journal of Archaeological Science*. 2009;36(10):2445-2462. doi:10.1016/j.jas.2009.07.002

341.

Host-Madsen L, Buchwald VF. The characterization and provenancing of ore, slag and iron from the Iron Age settlements at Snorup. *Historical metallurgy: journal of the Historical Metallurgy Society*. 33:57-67.

342.

Schwab R, Heger D, Hoppner B, Pernicka E. The provenance of iron artefacts from Manching: A multi-technique approach. *Archaeometry*. 2006;48(3):433-452. doi:10.1111/j.1475-4754.2006.00265.x

343.

Bray P, Cuenod A, Gosden C, Et al. Form and flow: the 'karmic cycle' of copper. *Journal of Archaeological Science*. 2015;56:202-209. doi:10.1016/j.jas.2014.12.013

344.

Stos-Gale ZA, Gale NH. Metal provenancing using isotopes and the Oxford archaeological lead isotope database (OXALID). *Archaeological and Anthropological Sciences*. 2009;1(3):195-213. doi:10.1007/s12520-009-0011-6

345.

Pernicka E. Trace element fingerprinting of ancient copper: a guide to technology or provenance. In: *Metals in Antiquity*. Vol BAR international series. Archaeopress; 1999:163-171. doi:<https://doi.org/10.30861/9781841710082>

346.

Pollard AM, Bray PJ, Gosden C. Is there something missing in scientific provenance studies of prehistoric artefacts? *Antiquity*. 2014;88(340):625-631. doi:10.1017/S0003598X00101255

347.

Dungworth D. Serendipity in the foundry? Tin oxide inclusions in copper and copper alloys as an indicator of production process. *Bulletin of the metals museum*. 2000;32:1-5.

348.

Farci C, Martínón-Torres M, Álvarez DG. Bronze production in the Iron Age of the Iberian Peninsula: The case of El Castre , Vigaña (Asturias, NW Spain). *Journal of Archaeological Science: Reports*. 2017;11:338-351. doi:10.1016/j.jasrep.2016.12.009

349.

Rostoker W, McNallan M, Gebhard ER. Melting/smelting of bronze at Isthmia. *Historical metallurgy: journal of the Historical Metallurgy Society*. 1983;17:23-26.

350.

Rovira S. Bronze Production in Prehistory.; 2005:21-35.
http://copernic.udg.es/arqueometria/PARTS/02_Proyecto2.pdf

351.

Zhou W, Chen J, Lie X, Xu T, Chong J, Wang Z. Three Western Zhou bronze foundry sites in the Zhouyuan are, Shaanxi province, China. In: *Metallurgy and Civilisation: Eurasia and beyond : Proceedings of the 6th International Conference on the Beginnings of the Use of Metals and Alloys (BUMA VI)*. Archetype; 2009:62-72.

352.

Stanley B. Alpern. Did They or Didn't They Invent It? Iron in Sub-Saharan Africa. *History in Africa*. 2005;32:41-94. <http://www.jstor.org/stable/20065735>

353.

Bisson, Michael S., Vogel, Joseph O. *Ancient African Metallurgy: The Socio-Cultural Context*. AltaMira; 2000.

354.

Augustin F. C. Holl. Early West African Metallurgies: New Data and Old Orthodoxy. *Journal of World Prehistory*. 2009;22(4):415-438. <http://www.jstor.org/stable/25801282>

355.

Killick D. What do we know about African iron working? *Journal of African archaeology*. 2004;2(1):97-112. <http://www.jstor.org/stable/43135336>

356.

J. A. Charles. Early Arsenical Bronzes - A Metallurgical View. *American Journal of Archaeology*. 1967;71(1):21-26. <http://www.jstor.org/stable/501586>

357.

Bourgarit D, Thomas N. Late medieval copper alloying practices: a view from a Parisian workshop of the 14th century AD. *Journal of Archaeological Science*. 2012;39(10):3052-3070. doi:10.1016/j.jas.2012.04.009

358.

Pryce TO, Bassiakos Y, Catapotis M, Doonan RC. 'De Caerimoniae' Technological choices in copper-smelting furnace design at early Bronze Age Chrysokamino, Crete. *Archaeometry*. 2007;49(3):543-557. doi:10.1111/j.1475-4754.2007.00319.x

359.

Rehren T, Temme M. Pre-Columbian gold processing at Putushio, South Ecuador: the archaeometallurgical evidence. In: *Archaeometry of Pre-Columbian Sites and Artifacts: Proceedings of a Symposium Organized by the UCLA Institute of Archaeology and the Getty Conservation Institute, Los Angeles, California, March 23-27, 1992*. Getty Conservation Institute; 1994:267-284.

360.

Hein A, Kilikoglou V, Kassianidou V. Chemical and mineralogical examination of metallurgical ceramics from a Late Bronze Age copper smelting site in Cyprus. *Journal of Archaeological Science*. 2007;34(1):141-154. doi:10.1016/j.jas.2006.04.005

361.

Mei, Jianjun. *Copper and Bronze Metallurgy in Late Prehistoric Xinjiang: Its Cultural Context and Relationship with Neighbouring Regions*. Vol BAR international series. Archaeopress; 2000. doi:<https://doi.org/10.30861/9781841710686>

362.

Feuerbach A, Merkel J, Griffiths D. An examination of crucible steel in the manufacture of Damascus steel, including evidence from Merv, Turkmenistan. In: *Metallurgica Antiqua: In Honour of Hans-Gert Bachmann and Robert Maddin*. Vol Anschnitt. Deutsches Bergbau-Museum; 1998:37-44.

363.

Desaulty AM, Dillmann P, L'Héritiera M, Et al. Does it come from the Pays de Bray? Examination of an origin hypothesis for the ferrous reinforcements used in French medieval churches using major and trace element analyses. *Journal of Archaeological Science*. 2009;36(10):2445-2462. doi:10.1016/j.jas.2009.07.002