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

View Online

Abstract of International Conservation Literature. (n.d.). Getty Conservation Institute. http://aata.getty.edu/Home

Agricola, Georgius, Hoover, Lou Henry, & Hoover, Herbert. (1912). De re metallica. The Mining magazine. http://archive.org/details/georgiusagricola00agririch

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

Alipour, R., & Rehren, T. (2014a). Persian Pulād Production: Chāhak Tradition. Journal of Islamic Archaeology, 1(2), 231–261. https://doi.org/10.1558/jia.v1i2.24174

Alipour, R., & Rehren, T. (2014b). Persian Pulād Production: Chāhak Tradition. Journal of Islamic Archaeology, 1(2), 231–261. https://doi.org/10.1558/jia.v1i2.24174

Allan, James W., Gilmour, Brian J. J., University of Oxford, & British Institute of Persian Studies. (2000). 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.

Anguilano, L., Rehren, Th., Muller, W., & Rothenberg, B. (2009). Roman Jarosite exploitation at Riotinto(Spain). In Archaeometallurgy in Europe: 2nd international conference, Aquileia, Italy, 17-21 June 2007 : selected papers (pp. 21–29). AIM.

Archaeometallurgy: Guidelines for best practice. (2015). In Historic England. Historic England. http://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/

Archaeometallurgy in Europe & Associazione italiana di metallurgia. (2003). Archaeometallurgy in Europe: international conference, 24-25-26 September 2003, Milan, Italy : proceedings. Associazione italiana di metallurgia.

Archaeometallurgy in Europe & Associazione italiana di metallurgia. (2007). Archaeometallurgy in Europe: 2nd international conference, Aquileia, Italy, 17-21 June 2007 : selected papers. AIM.

Artioli, G., Angelini, I., Tecchiati, U., & Pedrotti, A. (2015). Eneolithic copper smelting slags

in the Eastern Alps: Local patterns of metallurgical exploitation in the Copper Age. Journal of Archaeological Science, 63, 78–83. https://doi.org/10.1016/j.jas.2015.08.013

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

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

Bagley, Robert W., Fong, Wen, So, Jenny F., Hearn, Maxwell K., & Metropolitan Museum of Art (New York, N.Y.). (1980). The great bronze age of China: an exhibition from the People's Republic of China. Metropolitan Museum of Art.

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

Barnard, Noel & Bulbeck, David. (1996). 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.

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

Bass, G. (1997). Prolegomena to a study of maritime traffic in raw materials to the Agean during th 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 (pp. 153–170). Université de Liège.

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

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

Bayley, J. (2008a). 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 (pp. 131–150). Left Coast Press. http://UCL.eblib.com/patron/FullRecord.aspx?p=677776

Bayley, J. (2008b). 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 (pp. 131–150). Left Coast Press. http://www.UCL.eblib.com/patron/Read.aspx?p=677776&pg=1

Bayley, J. & Butcher, S. (2004). 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.

Bayley, J., Crossley, David W., Ponting, Matthew, & Historical Metallurgy Society. (2008). Metals and metalworking: a research framework for archaeometallurgy: Vol. Occasional publication / Historical Metallurgy Society. Historical Metallurgy Society. http://hist-met.org/publications/hms-occasional-publications.html

Bayley, J., & Rehren, T. (2007). Towards a functional and typological classification of crucibles. In Metals and mines: studies in archaeometallurgy (pp. 46–55). Archetype in association with the British Museum.

Bayley, J., & White, H. (2013). Evidence for workshop practices at the Tudor mint in the Tower of London. In The Renaissance workshop (pp. 138–143). Archetype Publications in association with the British Museum.

Begemann, F. (1999). 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 (pp. 277–284). Deutsches Bergbau-Museum.

Begemann, F., Kallas, K., Schmitt-Strecker, S., & Pernicka, E. (1999). 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 (pp. 277–284). Deutsches Bergbau-Museum.

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

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

Benoit, Paul & Fluzin, Philippe. (1995). Paléométallurgie du fer et Cultures. Association pour l'Edition et la Diffusion des Etudes Historiques.

Benson, Elizabeth P. & Dumbarton Oaks. (1979). 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.

Biggs, L., Bellina, B., Martinón-Torres, M., & Pryce, T. O. (2013). 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, 5(4), 311–329. https://doi.org/10.1007/s12520-012-0115-2

Bisson, Michael S. & Vogel, Joseph O. (2000a). Ancient African metallurgy: the socio-cultural context. AltaMira.

Bisson, Michael S. & Vogel, Joseph O. (2000b). Ancient African metallurgy: the socio-cultural context. AltaMira.

Blakelock, E., Martinón-Torres, M., Veldhuijzen, H. A., & Young, T. (2009a). Slag inclusions in iron objects and the quest for provenance: an experiment and a case study. Journal of Archaeological Science, 36(8), 1745–1757. https://doi.org/10.1016/j.jas.2009.03.032

Blakelock, E., Martinón-Torres, M., Veldhuijzen, H. A., & Young, T. (2009b). Slag inclusions in iron objects and the quest for provenance: an experiment and a case study. Journal of Archaeological Science, 36(8), 1745–1757. https://doi.org/10.1016/j.jas.2009.03.032

Boiurgarit, D., & Thomas, N. (2011). From laboratory to field experiments: shared experience in brass cementation. Historical Metallurgy: Journal of the Historical Metallurgy Society, 45(1), 8–16.

Boni, M., Maio, G. D., Frei, R., & Villa, I. M. (2000). Lead isotopic evidence for a mixed provenance for Roman water pipes from Pompeii. Archaeometry, 42(1), 201–208. https://doi.org/10.1111/j.1475-4754.2000.tb00876.x

Bottaini, C., Vilaça, R., Schiavon, N., Mirão, J., Candeias, A., Bordalo, R., Paternoster, G., & Montero-Ruiz, I. (2016). 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, 7, 344–357. https://doi.org/10.1016/j.jasrep.2016.05.009

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

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

Branigan, Keith. (1974). Aegean metalwork of the Early and Middle Bronze Age: Vol. Oxford monographs on classical archaeology. Clarendon Press.

Bray, P., Cuenod, A., Gosden, C., & Et al. (2015). Form and flow: the 'karmic cycle' of copper. Journal of Archaeological Science, 56, 202–209. https://doi.org/10.1016/j.jas.2014.12.013

Bray, P. J., & Pollard, A. M. (2012). A new interpretative approach to the chemistry of copper-alloy objects: Source, recycling and technology. Antiquity, 86(333), 853–867. http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9423556&fulltextType=RA&fileId=S0003598X00047967

Brownsword, R. (2004). Medieval metalwork: an analytical study of copper-alloy objects. Historical Metallurgy: Journal of the Historical Metallurgy Society, 38(2), 84–105.

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

Buchwald, Vagn Fabritius & Kongelige Danske videnskabernes selskab. (2005). Iron and steel in ancient times: Vol. Historisk-filosofiske skrifter. Det Kongelige Danske

Videnskabernes Selskab.

Budd et al, P. (1992). The early development of metallurgy in the British Isles. Antiquity, 66 (252), 677–686. https://doi.org/10.1017/S0003598X00039375

Budd, P. D., & Ottaway, B. S. (1991). The properties of arsencial 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 (pp. 132–142). Oxbow. https://contentstore.cla.co.uk//secure/link?id=9d472646-7736-e711-80c9-005056af4099

Cardale de Schrimpff, Marianne & Bray, Warwick. (2005). Calima and Malagana: art and archaeology in southwestern Colombia. Pro Calima Foundation.

Cech, B. (2012). A roman gold mining district in eastern Austria. Historical Metallurgy: Journal of the Historical Metallurgy Society, 46(2), 66–77.

Cech, B., & Rehren, T. (Eds.). (2014a). Early iron in Europe: Vol. Monographies instrumentum. Éditions Monique Mergoil.

Cech, B., & Rehren, T. (Eds.). (2014b). Early iron in Europe: Vol. Monographies instrumentum. Éditions Monique Mergoil.

Charlton, M. F., Blakelock, E., Martinón-Torres, M., & Young, T. (2012). Investigating the production provenance of iron artifacts with multivariate methods. Journal of Archaeological Science, 39(7), 2280–2293. https://doi.org/10.1016/j.jas.2012.02.037

Charlton, M. F., Crew, P., Rehren, T., & Shennan, S. J. (2010). Explaining the evolution of ironmaking recipes – An example from northwest Wales. Journal of Anthropological Archaeology, 29(3), 352–367. https://doi.org/10.1016/j.jaa.2010.05.001

Chen, K., Liu, S., Li, Y., Mei, J., Shao, A., & Yue, L. (2017). Evidence of arsenical copper smelting in Bronze Age China: A study of metallurgical slag from the Laoniupo site, central Shaanxi. Journal of Archaeological Science, 82, 31–39. https://doi.org/10.1016/j.jas.2017.04.006

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

Chernych, E. N. (2002). 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 (pp. 25–31). Verlag Marie Leidorf.

Chernykh, E. N. (1991). Ancient metallurgy in the USSR: the early metal age: Vol. New studies in archaeology. Cambridge University Press.

Chirikure, S. (2010). Indigenous mining and metallurgy in Africa: Vol. Indigenous knowledge library. Cambridge University Press.

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

Chirikure, Shadreck., Burrett, Rob., & Heimann, R. B. (2009). Beyond furnaces and slags: a review study of bellows and their role in indigenous African metallurgical processes. Azania: Archaeological Research in Africa, 44(2), 195–215. https://doi.org/10.1080/00671990903047108

Cleere, H. (1984). Ironmaking in the economy of the ancient world: The potential of archaeometallurgy. In The Crafts of the blacksmith (pp. 1–6). UISPP Comité pour la Sidérurgie Ancienne and the Ulster Museum.

Cochet, André & Pernot, Michel. (2000). Le plomb en Gaule romaine: techniques de fabrication et produits: Vol. Monographies instrumentum. Monique Mergoil.

Cohen, C. R., Rehren, T., & Van Buren, M. (2009a). 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. (pp. 465–475). CELAT, Université Laval.

Cohen, C. R., Rehren, Th., & Van Buren, M. (2009b). 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 (pp. 529–540). AIM.

Coustures, M. P., Beziat, D., Tollon, F., Domergue, C., Long, L., & Rebiscoul, A. (2003). 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, 45(4), 599–613. https://doi.org/10.1046/j.1475-4754.2003.00131.x

Craddock, P. (1995). The development of early mining geology. In Early metal mining and production (pp. 23–31). Edinburgh University Press. https://contentstore.cla.co.uk/secure/link?id=ad40b8ab-6836-e711-80c9-005056af4099

Craddock, P., Catwright, C., Eckstein, K., & et al. (2013). Simple sophistication: Mauryan silver production in North West India. In British Museum Technical Research Bulletin 7 (pp. 79–93). The British Museum (Online). http://www.britishmuseum.org/research/publications/online_journals/technical_research_bulletin/bmtrb_volume_7.aspx

Craddock, P., & Eckstein, K. (2003). Production of brass in Antiquity by direct reduction. In Mining and metal production through the ages (pp. 230–216). British Museum.

Craddock, P., & Hook, D. (2012). 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, 6, 55–68. http://www.britishmuseum.org/research/publications/online_journals/technical_research_bu

lletin/bmtrb_volume_6.aspx

Craddock, P. T. (1990). 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 (pp. 69–71). Plas Tan y Bwlch, Snowdonia National Park Study Centre.

Craddock, P. T. (1991). Mining and smelting in Antiquity. In Science and the past (pp. 57–73). British Museum Press. http://www.jstor.org/stable/10.3138/j.ctt2tv44s.9

Craddock, P. T. (1995a). Early metal mining and production. Edinburgh University Press.

Craddock, P. T. (1995b). Early metal mining and production. Edinburgh University Press.

Craddock, P. T. (2010). New paradigms for old iron: thoughts on E. Zangato & A.F.C Holl's 'On the iron front'. Journal of African Archaeology, 8, 29–36.

Craddock, P. T. & British Museum. (1998). 2000 years of zinc and brass: Vol. Occasional paper / British Museum (Rev. ed). British Museum.

Craddock, P. T., Hook, Duncan R., & La Niece, Susan. (2007). Metals and mines: studies in archaeometallurgy. Archetype in association with the British Museum.

Craddock, P. T., & Meeks, N. D. (1987). Iron in Ancient Copper. Archaeometry, 29(2), 187–204. https://doi.org/10.1111/j.1475-4754.1987.tb00411.x

Craddock, P., & Zhou, W. (2003). Traditional Zinc Production in Modern China: Survival and Evolution. In Mining and metal production through the ages (pp. 267–292). British Museum.

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

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

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

Crew, P. (1991c). The iron and copper slags at Baratti, Populonia, Italy. Historical Metallurgy: Journal of the Historical Metallurgy Society, 25, 109–115. http://link.springer.com/article/10.1007%2Fs12520-010-0043-y

Crew, P. (1995). Aspects of the iron supply. In Danebury: an Iron Age hillfort in Hampshire, Vol.6: A hillfort community in perspective: Vol. CBA research report (pp. 276–286). Council for British Archaeology. https://contentstore.cla.co.uk//secure/link?id=5d25630c-8e36-e711-80c9-005056af4099

Crew, Peter & Crew, Susan. (1990). 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.

Crossley, D. (1995). The blast furnace at Rockley, South Yorkshire. The Archaeological Journal, 152(1), 381–421. https://doi.org/10.1080/00665983.1995.11021434

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

Desaulty, A.-M., Dillmann, P., L'Héritiera, M., & Et al. (2009a). 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, 36(10), 2445–2462. https://doi.org/10.1016/j.jas.2009.07.002

Desaulty, A.-M., Dillmann, P., L'Héritiera, M., & Et al. (2009b). 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, 36(10), 2445–2462. https://doi.org/10.1016/j.jas.2009.07.002

Diaz-Andreu, M., & Montero, I. (2000). 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 (pp. 116–132). Oxbow. https://contentstore.cla.co.uk//secure/link?id=9e47c996-8136-e711-80c9-005056af4099

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

Dillmann, P., perez, A., Vega, E., Arribet-Derion, D., Arnada, R., L'Heritier, M., Neff, D., & Bellot-Gurlet, L. (2012). Understanding the Walloon method of iron refining: archaeological and archaeometric experiments, phase 1. Historical Metallurgy: Journal of the Historical Metallurgy Society, 46(1), 19–31.

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

Dungworth, D. (1997a). Iron Age and Roman Copper Alloys from Northern Britain. Internet Archaeology 2. http://intarch.ac.uk/journal/issue2/dungworth_toc.html

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

Dungworth, D. (1997c). Roman Copper Alloys: Analysis of Artefacts from Northern Britain. Journal of Archaeological Science, 24(10), 901–910. https://doi.org/10.1006/jasc.1996.0169

Dungworth, D. (1997d). Roman Copper Alloys: Analysis of Artefacts from Northern Britain. Journal of Archaeological Science, 24(10), 901–910. https://doi.org/10.1006/jasc.1996.0169

Dungworth, D. (2000). Serendipity in the foundry? Tin oxide inclusions in copper and copper alloys as an indicator of production process. Bulletin of the Metals Museum, 32, 1–5.

Dungworth, D., & Mepham, L. (2012). Prehistoric iron smelting in London: evicence from Shooters Hill. Historical Metallurgy: Journal of the Historical Metallurgy Society, 46(1), 1–8.

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

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

Edwards, Richard & Atkinson, Keith. (1986). Ore deposit geology and its influence on mineral exploration. Chapman and Hall.

et al, G.-M. (1994). Early copper and Brass in Senegal. In Society, culture, and technology in Africa: Vol. MASCA research papers in science and archaeology (pp. 45–62). MASCA, University of Pennsylvania Museum of Archaeology and Anthropology.

Fang, J. L., & McDonnell, G. (2011). The colour of copper alloys. Historical Metallurgy: Journal of the Historical Metallurgy Society, 45(1), 52–61. https://contentstore.cla.co.uk//secure/link?id=fcb26fdc-4a36-e711-80c9-005056af4099

Farci, C., Martinón-Torres, M., & Álvarez, D. G. (2017). Bronze production in the Iron Age of the Iberian Peninsula: The case of El Castru , Vigaña (Asturias, NW Spain). Journal of Archaeological Science: Reports, 11, 338–351. https://doi.org/10.1016/j.jasrep.2016.12.009

Feuerbach, A., Merkel, j, & Griffiths, D. (1998a). 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 (pp. 37–44). Deutsches Bergbau-Museum.

Feuerbach, A., Merkel, j, & Griffiths, D. (1998b). 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 (pp. 37–44). Deutsches Bergbau-Museum.

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

Freestone, I., & Tite, M. S. (1986). 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 (pp. 35–63). American Ceramic Society.

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

Gale, N. H. (1991). Bronze age trade in the Mediterranean: Vol. Studies in Mediterranean archaeology. Åstrom.

Gale, N. H., Stos-Gale, z, & Raduncheva, A. (2003). Early metallurgy in Bulgaria. In Mining and metal production through the ages (pp. 122–173). British Museum.

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

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

Gelegdorj, E., Chunag, A., Gordon, R. B., & Park, J.-S. (2007). Transitions in cast iron technology of the nomads in Mongolia. Journal of Archaeological Science, 34(8), 1187–1196. https://doi.org/10.1016/j.jas.2006.10.007

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

Giumlia-Mair, Alessandra R. & Lo Schiavo, Fulvia. (2003). The problem of early tin: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841715643

Giumlia-Mair, Alessandra R., Lo Schiavo, Fulvia, & International Congress of Prehistoric and Protohistoric Sciences. (2003). Le problème de l'étain à l'origine de la métallurgie: The problem of early tin: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841715643

Golden, J., Levy, T. E., & Hauptmann, A. (2001). Recent Discoveries Concerning Chalcolithic Metallurgy at Shiqmim, Israel. Journal of Archaeological Science, 28(9), 951–963. https://doi.org/10.1006/jasc.2000.0626

Guerra, M. F., & Calligaro, T. (1990). Gold and cultural heritage objects: a review of studies of provenance and manufacting technologies. Measurement Science and Technology, 14, 1527–1537. https://doi.org/10.1088/0957-0233/14/9/305

Guerra, M. F., Calligaro, T., & Perea, A. (2007). The treasure of Guarrazar: Tracing the gold

supplies in the Visigothic Iberian peninsula. Archaeometry, 49(1), 53–74. https://doi.org/10.1111/j.1475-4754.2007.00287.x

Hauptmann, A. (2003). Developments in copper metallurgy during the fourth and third millennia BC at Feinan, Jordan. In Mining and metal production through the ages (pp. 90–100). British Museum.

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

Hauptmann, A., Rehren, Th., & Schmitt-Strecker, S. (2003). 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 (pp. 197–213). Deutsches Bergbau-Museum.

Hauptmann, Andreas. (2007). The archaeometallurgy of copper: evidence from Faynan, Jordan: Vol. Natural science in archaeology. Springer. https://doi-org.libproxy.ucl.ac.uk/10.1007/978-3-540-72238-0

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

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

Hayman, Richard. (2005). Ironmaking: the history and archaeology of the iron industry. Tempus.

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

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

HMS Datasheets. (n.d.). https://historicalmetallurgy.org/publications/hms-datasheets/

Hogarth, D. (1999). Martin Frobisher's largest 'gold mine' in Baffin Island. Historical Metallurgy: Journal of the Historical Metallurgy Society, 33, 85–92.

Hoppner, B., Bartelheim, M., Huijsmans, M., Krauss, R., Martinek, K.-P., Pernicka, E., & Schwab, R. (2005). Prehistoric copper production in the Inn Valley (Austria), and the earliest copper in central Europe. Archaeometry, 47(2), 293–315. https://doi.org/10.1111/j.1475-4754.2005.00203.x

Hošek, J., Cleere, H., Mihok, L., Pleiner, R., & Archeologický ústav. (2011a). The archaeometallurgy of iron: recent developments in archaeological and scientific research. Institute of Archaeology of the ASCR.

Hošek, J., Cleere, H., Mihok, L., Pleiner, R., & Archeologický ústav. (2011b). The archaeometallurgy of iron: recent developments in archaeological and scientific research. Institute of Archaeology of the ASCR.

Hosler, Dorothy. (1994). The sounds and colors of power: the sacred metallurgical technology of ancient West Mexico. MIT Press.

Host-Madsen, L., & Buchwald, V. F. (n.d.). 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.

Huang, X., Qian, W., Wei, W., Guo, J., & Liu, N. (2015). 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, 63, 44–58. https://doi.org/10.1016/j.jas.2015.08.009

Humphris, J., & Carey, C. (2016). New methods for investigating slag heaps: Integrating geoprospection, excavation and quantitative methods at Meroe, Sudan. Journal of Archaeological Science, 70, 132–144. https://doi.org/10.1016/j.jas.2016.04.022

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

Humphris, J., & Rehren, T. (2013). The world of iron. Archetype.

Humphris, Jane & Rehren, Thilo. (2013). The world of iron. Archetype.

Hunt Ortiz, Mark A. (2003). Prehistoric mining and metallurgy in South West Iberian Peninsula: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841715544

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

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

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

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

Jansen, M., Aulbach, S., Hauptmann, A., Höfer, H. E., Klein, S., Krüger, M., & Zettler, R. L. (2016). 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, 68, 12–23. https://doi.org/10.1016/j.jas.2016.02.004

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

Joosten, Ineke. (2004). Technology of early historical iron production in the Netherlands: Vol. Geoarchaeological and bioarchaeological Studies. Institute for Geo- and Bioarchaeology, Vrije Universiteit.

Jouttijärvi, A. (2017). Roman alloying practice. Materials and Manufacturing Processes, 32 (7–8), 813–826. https://doi.org/10.1080/10426914.2017.1279325

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

Kearns, T., Martinón-Torres, M., & Rehren, T. (2010). Metal to mould: alloy identification in experimental casting moulds using XRF. Historical Metallurgy: Journal of the Historical Metallurgy Society, 44(1), 48–58.

Keswani, P. S. (2005). Death, Prestige, and Copper in Bronze Age Cyprus. American Journal of Archaeology, 109, 341–401. http://www.jstor.org/stable/40026118

Killick, D. (2001). Science, Speculation and the Origins of Extractive Metallurgy. In Handbook of archaeological sciences (pp. 483–492). John Wiley. https://contentstore.cla.co.uk//secure/link?id=9f2e5eae-5736-e711-80c9-005056af4099

Killick, D. (2004a). What do we know about African iron working? Journal of African Archaeology, 2(1), 97–112. http://www.jstor.org/stable/43135336

Killick, D. (2004b). What do we know about African iron working? Journal of African Archaeology, 2(1), 97–112. http://www.jstor.org/stable/43135336

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

Killick, D., & Miller, D. (2014). 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, 43, 239–255. https://doi.org/10.1016/j.jas.2013.12.016

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

Knapp, Arthur Bernard, Piggott, Vincent C., & Herbert, Eugenia W. (1998). Social approaches to an industrial past: the archaeology and anthropology of mining. Routledge.

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

La Niece, S., Hook, D. R., Craddock, P. T., & British Museum. (2007a). Metals and mines: studies in archaeometallurgy. Archetype in association with the British Museum.

La Niece, S., Hook, D. R., Craddock, P. T., & British Museum. (2007b). Metals and mines: studies in archaeometallurgy. Archetype in association with the British Museum.

La Niece, S., & Meeks, N. (2000). Diversity of Goldsmithing Traditions in the Americas and the Old World. In Precolumbian gold: technology, style and iconography (pp. 220–239). British Museum Press. https://contentstore.cla.co.uk//secure/link?id=9f52d9dc-6336-e711-80c9-005056af4099

Lambert, J. B. (1997). Metals. In Traces of the past: unraveling the secrets of archaeology through chemistry: Vol. Helix books (pp. 168–213). Addison-Wesley. https://contentstore.cla.co.uk//secure/link?id=b7834add-6536-e711-80c9-005056af4099

Lang, J. (2017). Roman iron and steel: A review. Materials and Manufacturing Processes, 32 (7–8), 857–866. https://doi.org/10.1080/10426914.2017.1279326

Lang, Janet & Craddock, P. T. (2003). Mining and metal production through the ages. British Museum.

Laughlin, G. J., & Todd, J. A. (2000). Evidence for Early Bronze Age tin ore processing. Materials Characterization, 45(4–5), 269–273. https://doi.org/10.1016/S1044-5803(00)00111-X

Lechtman, H. (1973). 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 (pp. 38–52). [Museum of Fine Arts].

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

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

Levy et al., T. E. (2002). Early Bronze Age metallurgy: a newly discovered copper manufactory in southern Jordan. Antiquity, 76(292), 425–437. https://doi.org/10.1017/S0003598X00090530

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

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

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

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

MacDonald, K. C., Vernet, R., Martinón-Torres, M., & Fuller, D. Q. (2009). Dhar Néma: from early agriculture to metallurgy in southeastern Mauritania. Azania: Archaeological Research in Africa, 44(1), 3–48. https://doi.org/10.1080/00671990902811330

Maddin, R., Muhly, J. D., & Stech, T. (1999). Early metalworking at Cayonu. In The beginnings of metallurgy: proceedings of the International Conference 'The Beginnings of Metallurgy', Bochum 1995: Vol. Der Anschnitt. Beiheft (pp. 37–44). Deutsches Bergbau-Museum.

Main Archaeo-Metallurgical Bibliography. (2004, August 30). Oxford Materials: Material Science-Based Archaeology Group. http://users.ox.ac.uk/~salter/arch-metals/met-bib-ak.htm

Maldonado, B., Rehren, T., & Howell, P. (2005). 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 (pp. 231–240). Materials Research Society.

Maldonado, Blanca., & Rehren, Thilo. (2009). Early copper smelting at Itziparátzico, Mexico. Journal of Archaeological Science, 36(9), 1998–2006. https://doi.org/10.1016/j.jas.2009.05.019

Martinon-Torres, M. (2007). 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 (pp. 149–163). Science History Publications/USA.

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

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

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

Martinón-Torres, M., Li, X. J., Bevan, A., Xia, Y., Zhao, K., & Rehren, T. (2012). 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. https://doi.org/10.1007/s10816-012-9158-z

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

Martinon-Torres, M., & Rehren, T. (2007). Trials and errors in search of mineral wealth: metallurgical experiments in early colonial Jamestown. Rittenhouse: Journal of the American Scientific Instrument Enterprise, 21, 82–97. http://discovery.ucl.ac.uk/93675/

Martinon-Torres, M., & Rehren, T. (2008). Analytical study of iron slag from the Novgorod hinterland. In The archaeology of medieval Novgorod in context: studies in centre/periphery relations (pp. 185–194). Oxbow. https://ucl.primo.exlibrisgroup.com/discovery/fulldisplay?docid=cdi_proquest_ebookcentralchapters_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

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

Martinón-Torres, M., & Rehren, T. (2014a). Technical Ceramics. In B. W. Roberts & C. P. Thornton (Eds.), Archaeometallurgy in global perspective: methods and syntheses (pp. 107–131). Springer. http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781461490173

Martinón-Torres, M., & Rehren, T. (2014b). Technical Ceramics. In B. W. Roberts & C. P. Thornton (Eds.), Archaeometallurgy in global perspective: methods and syntheses (pp. 107–131). Springer. http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781461490173

Martinon-Torres, M., Rehren, T., Thomas, N., & Mongiatti, A. (2009). Identifying materials recipes and choices: some suggestions for the study of archaeoloical cupels. Archaeometallurgy in Europe: 2nd International Conference, Aquileia, Italy, 17-21 June 2007 : Selected Papers.

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

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

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

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

Martinón-Torres, M., & Uribe-Villegas, M. A. (2015). The prehistoric individual, connoisseurship and archaeological science: The Muisca goldwork of Colombia. Journal of Archaeological Science, 63, 136–155. https://doi.org/10.1016/j.jas.2015.08.014

Martinon-Torres, M., Valcarcel Rojas, R., & Rehren, T. (2007). Metals, microanalysis and meaning: a study of metal objects excavated from the indigenous cemetry fo El Chorro de Malta, Cuba. [Electronic resource]. Journal of Archaeological Science, 34(2), 194–204. https://doi.org/10.1016/j.jas.2006.04.013

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

Martinón-Torres, Marcos., Thomas, N., Rehren, Th., & Mongiatti, A. (2008). Some problems and potentials of the study of cupellation remains: the case of post-medieval Montbéliard. ArcheoSciences: Revue d'Archeometrie, 32, 59–70. http://archeosciences.revues.org/948 Mary Van Buren & Barbara H. Mills. (2005). Huayrachinas and Tocochimbos: Traditional Smelting Technology of the Southern Andes. Latin American Antiquity, 16(1), 3–25. https://doi.org/10.2307/30042484

McEwan, Colin & British Museum. (2000). Precolumbian gold: technology, style and iconography. British Museum Press.

Mei, J. (2009). 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) (pp. 9–16). Archetype.

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

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

Mei, Jianjun. (2000a). Copper and bronze metallurgy in late prehistoric Xinjiang: its cultural context and relationship with neighbouring regions: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710686

Mei, Jianjun. (2000b). Copper and bronze metallurgy in late prehistoric Xinjiang: its cultural context and relationship with neighbouring regions: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710686

Merkel, J. F. (2007). Imperial Roman production of lead and silver in the northern part of Upper Moesia (Mt. Kosmaj area). Glasnik: Srpsko Arheološko Društvo, 39–78.

Miller, D. E., & Van Der Merwe, N. J. (1994). Early Metal Working in Sub-Saharan Africa: A Review of Recent Research. The Journal of African History, 35(01). https://doi.org/10.1017/S0021853700025949

Mitteldeutscher Archäologentag. (2014a). Metals of Power – Early gold and silver [Metalle der Macht: Frühes Gold und Silber]: Vol. Tagungen des Landesmuseums fÃ¼r Vorgeschichte Halle (H. Meller, R. Risch, & E. Pernicka, Eds.). Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Mitteldeutscher Archäologentag. (2014b). Metals of Power – Early gold and silver [Metalle der Macht: Frühes Gold und Silber]: Vol. Tagungen des Landesmuseums fÃ¼r Vorgeschichte Halle (H. Meller, R. Risch, & E. Pernicka, Eds.). Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte.

Mongiatti, A., Martinon-Torres, M., & Rehren, Th. (2009). 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. (p. 444/37-444/46). CELAT, Université Laval.

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

Moorey, P. R. S. (1994). Metalworking: 3. Base metals, part iii: copper and its alloys. In Ancient Mesopotamian materials and industries: the archaeological evidence (pp. 242–278). Clarendon Press. https://contentstore.cla.co.uk//secure/link?id=f20e44c9-4c36-e711-80c9-005056af4099

Muhly, J. (1999). Copper and bronze in Cyprus and the Eastern Mediterranean. In The archaeometallurgy of the Asian old world: Vol. University Museum symposium series (pp. 15–25). Museum University of Pennsylvania.

Muhly, James David & Wertime, Theodore A. (1980). The coming of the age of iron. Yale University Press.

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

Murillo-Barroso, M., Martinón-Torres, M., Massieu, M. D. C., Socas, D. M., & González, F. M. (2017). Early metallurgy in SE Iberia. The workshop of Las Pilas (Mojácar, Almería, Spain). Archaeological and Anthropological Sciences, 9(7), 1539–1569. https://doi.org/10.1007/s12520-016-0451-8

Murillo-Barroso, M., & Montero-Ruiz, I. (2012). Copper Ornaments in the Iberian

Chalcolithic: Technology versus Social Demand. Journal of Mediterranean Archaeology, 25, 53–73. https://doi.org/10.1558/jmea.v25i1.53

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

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

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

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

Nocete. et al, F. (2008). 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, 35(3), 717–732. https://doi.org/10.1016/j.jas.2007.05.019

Nørbach, Lars Christian. (2003). Prehistoric and medieval direct iron smelting in Scandinavia and Europe: aspects of technology and society: Vol. Acta Jutlandica. Aarhus University Press.

Northover, P. (1989). Properties and use of arsenic-copper alloys. Archäometallurgie Der Alten Welt: Beiträge Zum Internationalen Symposium 'Old World Archaeometallurgy', Heidelberg 1987, Der Anschnitt, Beiheft, 111–118.

O'Brien, W. (1999). 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 (pp. 227–235). Deutsches Bergbau-Museum.

O'Brien, William. (1996). Bronze age copper mining in Britain and Ireland. Shire.

O'Brien, William & Brindley, Anna L. (2004). Ross Island: mining, metal and society in early Ireland: Vol. Bronze Age studies. Dept. of Archaeology, National University of Ireland, Galway.

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

Ottaway, B. S., & Seibel, S. (1998). Dust in the wind: experimental casting of bronze in sand moulds. In Paléométallurgie des cuivres: actes du colloque de Bourg-en-Bresse et Beaune, 17-18 octobre 1997: Vol. Monographies instrumentum (pp. 59–63). M. Mergoil.

Ottaway, Barbara S. & Wang, Quanyu. (2004). Casting experiments and microstructure of

archaeologically relevant bronzes: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841716763

Pagès, G., Dillmann, P., Fluzin, P., & Long, L. (2011). 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, 38(6), 1234–1252. https://doi.org/10.1016/j.jas.2010.12.017

Papakhristu, O. A., & Rehren, T. (2002). 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 (pp. 69–74). Archaeopress. https://doi.org/https://doi.org/10.30861/9781841712895

Pare, C. F. E. (2000). Metals make the world go round: the supply and circulation of metals in Bronze Age Europe. Oxbow.

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

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

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

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

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

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

Paynter, S. (2007). Innovations in bloomery smelting in iron Age and Romano-British England. In Metals and mines: studies in archaeometallurgy (pp. 202–210). Archetype in association with the British Museum.

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

Penhallurick, R. D. & Institute of Metals. (1986). Tin in antiquity: its mining and trade throughout the ancient world with particular reference to Cornwall. Institute of Metals.

Pernicka, E. (1999). Trace element fingerprinting of ancient copper: a guide to technology or provenance. In Metals in antiquity: Vol. BAR international series (pp. 163–171). Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710082

Pernicka, E. (2017). 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 Martinón-Torres. J. Archaeol. Sci. 81, 1–12. Journal of Archaeological Science. https://doi.org/10.1016/j.jas.2017.07.004

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

Pernicka, E., Rehren, T., & Schmitt-Strecker, S. (1998). Late Uruk silver production by cupellation at Habuba Kabira, Syria. In Metallurgica Antiqua: in honour of Hans-Gert Bachmann and Robert Maddin: Vol. Anschnitt (pp. 123–134). Deutsches Bergbau-Museum.

Phelps, William W., Lólos, Yannos, Vēchos, Giannēs, & Institouto Enaliōn Archaiologikōn Ereunōn. (1999). The Point Iria wreck: interconnections in the Mediterranean, ca. 1200 BC (2nd ed). Hellenic Institute of Marine Archaeology.

Piggott, V. C., & Ciarla, R. (2007). On the origins of metallurgy in prehistoric Southeast Asia: the view from Thailand. In Metals and mines: studies in archaeometallurgy (pp. 76–88). Archetype in association with the British Museum. https://contentstore.cla.co.uk//secure/link?id=b2d980d9-9136-e711-80c9-005056af4099

Piggott, V. C., & Weisgerber, G. (1998). 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 (pp. 69–76). Deutsches Bergbau-Museum.

Pigott, V. C. (1999). 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 (pp. 10–21). Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710082

Pigott, V. C., & Ciarla, R. (2007). On the origins of metallurgy in prehistoric Southeast Asia: the view from Thailand. In Metals and mines: studies in archaeometallurgy (pp. 76–88). Archetype in association with the British Museum. https://contentstore.cla.co.uk/secure/link?id=b2d980d9-9136-e711-80c9-005056af4099

Plaza, M. T., & MartinÃ3n-Torres, M. (2015). Metallurgical traditions under Inka rule: a technological study of metals and technical ceramics from the Aconcagua Valley, Central Chile. Journal of Archaeological Science, 54, 86–98. https://doi.org/10.1016/j.jas.2014.11.029

Pleiner, Radomír. (2000). Iron in archaeology: the European bloomery smelters. Archeologický ústav AVČR.

Pleiner, Radomír. (2006). Iron in archaeology: early European blacksmiths. Archeologický

ústav AV ČR.

Ploquin, A., Bailly-Maitre, M.-C., & Allee, P. (Eds.). (2010). Mines et metallurgies anciennes du plomb dans leurs environments. Apports des methodes contribuant a leur etude. Special Issue of ArcheoSciences: Revue d'Archeometrie, 34. http://archeosciences.revues.org/2574

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

Pollard, A. M., Bray, P. J., & Gosden, C. (2014). Is there something missing in scientific provenance studies of prehistoric artefacts? Antiquity, 88(340), 625–631. https://doi.org/10.1017/S0003598X00101255

Ponting, M. (n.d.). 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

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

Pryce, T. O., Bassiakos, Y., Catapotis, M., & Doonan, R. C. (2007a). 'De Caerimoniae' Technological choices in copper-smelting furnace design at early Bronze Age Chrysokamino, Crete. Archaeometry, 49(3), 543–557. https://doi.org/10.1111/j.1475-4754.2007.00319.x

Pryce, T. O., Bassiakos, Y., Catapotis, M., & Doonan, R. C. (2007b). 'De Caerimoniae' Technological choices in copper-smelting furnace design at early Bronze Age Chrysokamino, Crete. Archaeometry, 49(3), 543–557. https://doi.org/10.1111/j.1475-4754.2007.00319.x

Pryce, T. O., Pigott, V. C., Martinón-Torres, M., & Rehren, T. (2010a). Prehistoric copper production and technological reproduction in the Khao Wong Prachan Valley of Central Thailand. Archaeological and Anthropological Sciences, 2(4), 237–264. https://doi.org/10.1007/s12520-010-0043-y

Pryce, T. O., Pigott, V. C., Martinón-Torres, M., & Rehren, T. (2010b). Prehistoric copper production and technological reproduction in the Khao Wong Prachan Valley of Central Thailand. Archaeological and Anthropological Sciences, 2(4), 237–264. https://doi.org/10.1007/s12520-010-0043-y

Pryce, T. O., Pollard, M., Martinon-torres, M., Pigott, V. C., & Pernicka, E. (2011). 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, 53 (1), 146–163. https://doi.org/10.1111/j.1475-4754.2010.00527.x

Pryce, T. O.Natapintu, S. (2009). Smelting Iron from Laterite: Technical Possibility or Ethnographic Aberration? Asian Perspectives: Journal of Archeology for Asia & the Pacific,

48(2), 249–264. http://www.jstor.org/stable/42928763

Pulak, C. (2000). 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 (pp. 137–157). Deutsches Bergbau-Museum.

Pulak, Cemal, Slotta, Rainer, Yalçin, Ünsal, & Deutsches Bergbau-Museum Bochum. (2005). 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.

Rademakers, F. W., & Rehren, T. (2016). Seeing the forest for the trees: Assessing technological variability in ancient metallurgical crucible assemblages. Journal of Archaeological Science: Reports, 7, 588–596. https://doi.org/10.1016/j.jasrep.2015.08.013

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

Radivojevic, R., Rehren, T., & Pernicka, E. (2010). On the origins of extractive metallurgy: new evidence from Europe [Electronic resource]. Journal of Archaeological Science, 37(11), 2775–2787. https://doi.org/10.1016/j.jas.2010.06.012

Ramage, Andrew, Cowell, M. R., & Craddock, P. T. (2000). 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.

Rehder, J. (1999). 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 (pp. 305–315). Deutsches Bergbau-Museum.

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

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

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

Rehren, T. (2003). Crucibles as reaction vessels in ancient metallurgy. In Mining and metal production through the ages (pp. 207–215). British Museum.

Rehren, T. (2011). The production of silver in South America. Archaeology International,

13/14, 76–86. https://doi.org/10.5334/ai.1318

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

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

Rehren, T., Charlton, M., Chirikure, S., Humphris, J., Ige, A., & Veldhuijzen, H. A. (2007). Decisions set in slag: the human factor in African iron smelting. In Metals and mines: studies in archaeometallurgy (pp. 211–218). Archetype in association with the British Museum. http://www.ironsmelting.net/www/smelting/index.html

Rehren, T., & Martinón-Torres, M. (2008). 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 (pp. 167–188). Left Coast Press. http://UCL.eblib.com/patron/FullRecord.aspx?p=677776

Rehren, T., & Papakhristu, O. (1994). Cutting Edge Technology - The Ferghana process of medieval crucible steel making. Metalla: Forschungsberichte Des Deutschen Bergbau-Museums, 55–79.

Rehren, T., & Prange, M. (1998). Lead metal and patina: a comparison. In Metallurgica Antiqua: in honour of Hans-Gert Bachmann and Robert Maddin: Vol. Anschnitt (pp. 183–196). Deutsches Bergbau-Museum.

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

Rehren, T., & Temme, M. (1994a). 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 (pp. 267–284). Getty Conservation Institute.

Rehren, T., & Temme, M. (1994b). 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 (pp. 267–284). Getty Conservation Institute.

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

Rehren, Th. (2002). Ores from the ore washeries in the Lavriotiki. Metalla:

Forschungsberichte Des Deutschen Bergbau-Museums, 9, 27–46.

Rehren, Th., Hess, K., & Philip, G. (1997). 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 (pp. 625–640). Ex Oriente.

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

Rehren, Thilo & Mei, Jianjun. (2009). 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.

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

Roberts, B. (2011). Ancient technologies and archaeological cultures: understanding the earliest metals in Eurasia. In Investigating archaeological cultures: material culture, variability, and transmission (pp. 137–150). Springer. http://www.vlebooks.com/vleweb/product/openreader?id=UCL&isbn=9781441969705

Roberts, B. W., & Thornton, C. P. (Eds.). (2014). Archaeometallurgy in global perspective: methods and syntheses. Springer. https://doi.org/10.1007/978-1-4614-9017-3

Roberts, B. W., Thornton, C. P., & Pigott, V. (2009). Development of metallurgy in Eurasia. Antiquity, 83(322), 1012–1022. http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9437996&fileId=S0003598X00099312

Roger Matthews and Hassan Fazeli. (2004). Copper and Complexity: Iran and Mesopotamia in the Fourth Millennium B.C. Iran: Journal of the British Institute of Persian Studies, 42, 61–75. http://www.jstor.org/stable/4300663

Rohl, B., & Needham, S. (1998). 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 (pp. 3–8). British Museum. https://contentstore.cla.co.uk//secure/link?id=013deb7a-7336-e711-80c9-005056af4099

Rostoker, W., McNallan, M., & Gebhard, E. R. (1983). Melting/smelting of bronze at Isthmia. Historical Metallurgy: Journal of the Historical Metallurgy Society, 17, 23–26.

Rostoker, W., Pigott, V., & Dvorak, J. R. (1989). Direct reduction to copper metal by oxide-sulfide mineral interaction. Archeomaterials, 3, 69–87.

Rostoker, William & Bronson, Bennet. (1990). Pre-industrial iron: its technology and ethnology: Vol. Archeomaterials monograph. [Archeomaterials].

Rothenberg, B. (1990). 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 (pp. 8–73). Institute for Archaeo-Metallurgical Studies [and] Institute of Archaeology, University College, London. https://contentstore.cla.co.uk//secure/link?id=5ea152e0-7536-e711-80c9-005056af4099

Rovira, S. (2005). Bronze production in prehistory. In Avances en Arqueometria 2005. Actas del VI Congreso Iberico de Arqueometria (pp. 21–35). http://copernic.udg.es/arqueometria/PARTS/02_Proyecto2.pdf

Rovira, S., Lopez-Medina, M., Roman-Diaz, M. P., & Martinez-Padillar, C. (2004). 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, 38(1), 1–9. https://contentstore.cla.co.uk//secure/link?id=b198f2d5-4a36-e711-80c9-005056af4099

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

Schmidt, Peter R. (1997). Iron technology in East Africa: symbolism, science, and archaeology. Indiana University Press.

Schultze, C. A., Stanish, C., Scott, D. A., & Et al. (2009). 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, 106(41), 17280–17283. https://doi.org/10.1073/pnas.0907733106

Schultze, C. A., Stanish, C., Scott, D. A., Rehren, T., Kuehner, S., & Feathers, J. K. (2009). 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, 106(41), 17280–17283. https://doi.org/10.1073/pnas.0907733106

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

Scott, David A. (1991). Metallography and microstructure of ancient and historic metals. Getty Conservation Institute. http://www.getty.edu/conservation/publications_resources/pdf_publications/pdf/metallography.pdf

Segal, I., Rothenberg, B., & Bar-Matthews, M. (1998). 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 (pp. 223–234). Deutsches Bergbau-Museum.

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

Shackleton, W. G. (1986). Introduction and Chapter 1, Mineral deposits. In Economic and

applied geology: an introduction (pp. 1–18). Croom Helm.

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

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

Shimada, I., Gordus, A., Griffin, J. A., & Merkel, J. F. (1999). Sican alloying, working and us of precious metals: an interdisciplinary perspective. In Metals in antiquity: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710082

Sim, David & Ridge, Isabel. (1998). Beyond the bloom: bloom refining and iron artifact production in the Roman world: Vol. BAR international series. Archaeopress. https://doi.org/https://doi.org/10.30861/9780860549017

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

Starley, D. (1999). Determining the Technological Origins of Iron and Steel. Journal of Archaeological Science, 26(8), 1127–1133. https://doi.org/10.1006/jasc.1999.0408

Stech, T. (1990). Neolithic copper metallurgy in South West Asia. Archeomaterials, 4, 55–61.

Stech, T. (1999). Aspects of early metallurgy in Mesopotamia and Anatolia. In The archaeometallurgy of the Asian old world: Vol. University Museum symposium series (pp. 59–71). Museum University of Pennsylvania.

Stos-Gale, S., & Macdonald, C. (1991). 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 (pp. 249–288). Åstrom.

Stos-Gale, Z. A., & Gale, N. H. (2009). Metal provenancing using isotopes and the Oxford archaeological lead isotope database (OXALID). Archaeological and Anthropological Sciences, 1(3), 195–213. https://doi.org/10.1007/s12520-009-0011-6

The Historical Metallurgy Society. (n.d.). https://historicalmetallurgy.org/

Thibodeau, A. M., Killick, D. J., Ruiz, J., Chesley, J. T., Deagan, K., Cruxent, J. M., & Lyman, W. (2007). The strange case of the earliest silver extraction by European colonists in the New World. Proceedings of the National Academy of Sciences, 104(9), 3663–3666. https://doi.org/10.1073/pnas.0607297104

Thilo, R. (2008a). Metals: Chemical analysis. In Encyclopedia of archaeology (pp. 1614–1620). ScienceDirect. https://doi.org/10.1016/B978-012373962-9.00188-6

Thilo, R. (2008b). Metals: Chemical analysis. In Encyclopedia of archaeology (pp. 1614–1620). ScienceDirect. http://linkinghub.elsevier.com/retrieve/pii/B9780123739629001886

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

Thornton, C. P., Rehren, T., & Pigott, V. C. (2009). The production of speiss (iron arsenide) during the Early Bronze Age in Iran. Journal of Archaeological Science, 36(2), 308–316. https://doi.org/10.1016/j.jas.2008.09.017

Timberlake, S. (2003). Early mining research in Britain: The Development of the last Ten Years. In Mining and metal production through the ages (pp. 22–42). British Museum. https://contentstore.cla.co.uk//secure/link?id=3ee2dbf2-6336-e711-80c9-005056af4099

Timberlake, Simon & Mighall, Tim. (2003). Excavations on Copa Hill, Cwmystwyth (1986-1999): an early Bronze Age copper mine within the uplands of Central Wales: Vol. BAR British series. Archaeopress. https://doi.org/https://doi.org/10.30861/9781841714868

Tylecote, R. F. (1987). Forging and hammering techniques. In The early history of metallurgy in Europe: Vol. Longman archaeology series (pp. 243–279). Longman. https://contentstore.cla.co.uk//secure/link?id=923ea999-5d36-e711-80c9-005056af4099

Tylecote, R. F. (1987). The early history of metallurgy in Europe: Vol. Longman archaeology series. Longman.

Veldhuijzen, H. A., & Rehren, Th. (2007). Slags and the city: early iron production at Tell Hammeh, Jordan and Tell Beth-Shemesh, Israel. Metals and Mines: Studies in Archaeometallurgy, 189–201. http://www.ironsmelting.net/www/smelting/index.html

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

Wagner, D. B. (2003). Chinese blast furnaces from the 10th to the 14th century. Historical Metallurgy: Journal of the Historical Metallurgy Society, 37(1), 25–37.

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

Waldbaum, J. (1999). The coming of iron in the eastern Mediterranean. The Archaeometallurgy of the Asian Old World, University Museum symposium series, 27–57.
Wayman, M. L., & Duke, M. J. M. (1999). 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 (pp. 55–60). Deutsches Bergbau-Museum.

Weeks, Lloyd R. (2004). Early metallurgy of the Persian Gulf: technology, trade, and the Bronze Age World: Vol. American School of Prehistoric Research monograph series. Brill.

Weisgerber, G., & Yule, P. (2003). Al-Aqir near Bahla' - an Early Bronze Age dam site with planoconvex 'copper' ingots. Arabian Archaeology and Epigraphy, 14(1), 24–53. https://doi.org/10.1034/j.1600-0471.2003.00003.x

Welter, J.-M. (2003). The zinc content of brass: a chronological indicator. Techne: La Science Au Service de L'Histoire de L'Art Et Des Civilisations, 18, 27–36.

Wood, J. R., Charlton, M. F., Murillo-Barroso, M., & Martinón-Torres, M. (2017a). Iridium to provenance ancient silver. Journal of Archaeological Science, 81, 1–12. https://doi.org/10.1016/j.jas.2017.03.002

Wood, J. R., Charlton, M. F., Murillo-Barroso, M., & Martinón-Torres, M. (2017b). Gold parting, iridium and provenance of ancient silver: A reply to Pernicka. Journal of Archaeological Science. https://doi.org/10.1016/j.jas.2017.07.005

Woodhouse, J. (1998). Iron in Africa: the metal from nowhere. In Transformations in Africa: essays on Africa's later past (pp. 160–185). Leicester University Press. https://contentstore.cla.co.uk/secure/link?id=817f0495-3d0b-e811-80cd-005056af4099

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

Yener, K. A., Adriaens, A., Earl, B., & Ozbal, H. (2003). 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 (pp. 181–197). British Museum.

Yener, K. Aslihan. (2000a). The domestication of metals: the rise of complex metal industries in Anatolia: Vol. Culture and history of the ancient Near East. Brill.

Yener, K. Aslihan. (2000b). The domestication of metals: the rise of complex metal industries in Anatolia: Vol. Culture and history of the ancient Near East. Brill.

Young, S. M. M., & O'Brien, W. (1999). Arsenical copper in early Irish metallurgy. In Metals in antiquity: Vol. BAR international series (pp. 33–42). Archaeopress. https://doi.org/https://doi.org/10.30861/9781841710082

Young, T. (2011). Some preliminary observations on hammerscale and its implications for understanding welding. Historical Metallurgy: Journal of the Historical Metallurgy Society, 45(1), 26–41.

Young, T., & Poyner, D. (2012). Two medieval bloomery smelting sites in Shropshire: the adoption of water power for iron smelting. Historical Metallurgy: Journal of the Historical Metallurgy Society, 46(2), 78–97.

Zacharias, S. (1989). Brass making in medieval western Europe. In All that glitters: readings in historical metallurgy (pp. 35–40). Metallurgical Society of the Canadian Institute of Mining and Metallurgy.

Zangato, E. (2010). On the iron front: new evidence from North-Central Africa. Journal of

African Archaeology, 8, 7–23.

Zhou, W., Chen, J., Lie, X., Xu, T., Chong, J., & Wang, Z. (2009). 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) (pp. 62–72). Archetype.

Zhou, W., Dong, Y., Wan, Q., & Wang, C. (2009). 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) (pp. 73–78). Archetype.

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

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