

ARCLG109: Archaeometallurgy II: Metallic Artefacts: John Frederick Merkel

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1

Bayley, J., Crossley, David W., Ponting, Matthew, et al. Metals and metalworking: a research framework for archaeometallurgy. London: Historical Metallurgy Society 2008.

2

Craddock, P. T. Early metal mining and production. Edinburgh: Edinburgh University Press 1995.

3

McCreight, Tim. The complete metalsmith: an illustrated handbook. Rev. ed. Worcester, Mass: Davis 1991.

4

Rostoker, William, Bronson, Bennet. Pre-industrial iron: its technology and ethnology. Philadelphia, Pa: [Archeomaterials] 1990.

5

Scott, David A. Metallography and microstructure of ancient and historic metals. [Marina del Rey, CA]: Getty Conservation Institute 1991.

6

Smith, Cyril Stanley. A search for structure: selected essays on science, art, and history. Cambridge, Mass: MIT Press 1981.

7

Tylecote, R. F. Metallurgy in archaeology: a prehistory of metallurgy in the British Isles. London: Edward Arnold 1962.

8

Tylecote, R. F., Metals Society. A history of metallurgy. London: Metals Society 1976.

9

Tylecote, R. F. The early history of metallurgy in Europe. London: Longman 1987.

10

Untracht, Oppi. Metal techniques for craftsmen: a basic manual for craftsmen on the methods of forming and decorating metals. London: Hale 1969.

11

aata.getty.edu/NPS/ - Similar Sites and Reviews | Xmarks.
<http://www.xmarks.com/site/aata.getty.edu/NPS/>

12

HMS Archaeology Committee. <https://historicalmetallurgy.org/about-hms/hms-acc/>

13

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

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Fire Gilding of Arms and Armor | Thematic Essay | Heilbrunn Timeline of Art History | The

Metropolitan Museum of Art. http://www.metmuseum.org/toah/hd/fire/hd_fire.htm

15

Newsletter. <http://www.ucl.ac.uk/iams/newsletter>

16

British Museum - British Museum Technical Research Bulletin.
https://www.britishmuseum.org/research/publications/online_journals/technical_research_bulletin.aspx

17

Getty Vocabularies (Getty Research Institute).
<https://www.getty.edu/research/tools/vocabularies/>

18

Bayley, J., Crossley, David W., Ponting, Matthew, et al. Metals and metalworking: a research framework for archaeometallurgy. London: Historical Metallurgy Society 2008.

19

Craddock, P. T. Early metal mining and production. Edinburgh: Edinburgh University Press 1995.

20

Lambert JB. Metals. Traces of the past: unraveling the secrets of archaeology through chemistry. Reading, Mass: Addison-Wesley 1997:168-213.

21

Martinon-Torres M. Why should archaeologists take history and science seriously? Archaeology, history and science: integrating approaches to ancient materials. Walnut Creek, CA: Left Coast Press 2008:15-36.

22

Rehren Th, Pernicka E. Coins, artefacts and isotopes - archaeometallurgy and archaeometry. *Archaeometry*. 2008;50:232-48. doi: 10.1111/j.1475-4754.2008.00389.x

23

Tylecote, R. F. *The early history of metallurgy in Europe*. London: Longman 1987.

24

Aitchison, Leslie. *A history of metals*. Macdonald & Evans 1960.

25

Humphrey, John William, Oleson, John Peter, Sherwood, Andrew N. *Greek and Roman technology: a sourcebook : annotated translations of Greek and Latin texts and documents*. London: Routledge 1998.

26

Moorey, P. R. S. *Ancient Mesopotamian materials and industries: the archaeological evidence*. Oxford: Clarendon Press 1994.

27

Nicholson, Paul T., Shaw, Ian. *Ancient Egyptian materials and technology*. Cambridge: Cambridge University Press 2000.

28

Smith, Cyril Stanley. *A search for structure: selected essays on science, art, and history*. Cambridge, Mass: MIT Press 1981.

29

Tylecote, R. F. *Metallurgy in archaeology: a prehistory of metallurgy in the British Isles*. London: Edward Arnold 1962.

30

Craddock PT, Wallis JM, Merkel JF. The rapid qualitative analysis of groups of metalwork: Making a dream come true. Pattern and purpose in insular art: proceedings of the Fourth International Conference on Insular Art, held at the National Museum & Gallery, Cardiff 3-6 September 1998. Oxford: Oxbow Books 2001:117-24.

31

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

32

Hughes MJ, Northover JP, Staniaszek BEP. Problems in the analysis of leaded bronze alloys in ancient artefacts. *Oxford Journal of Archaeology*. 1982;1:359-64. doi: 10.1111/j.1468-0092.1982.tb00320.x

33

Pernicka E. *Archaeometallurgy: Examples of the application of scientific methods to the provenance of archaeological metal objects*. Physics methods in archaeometry. Amsterdam: IOS Press 2004:309-29.

34

Richards EE, Blin-stoyle AE. A study of the homogeneity in composition of an Irish thick-butted axe. *Archaeometry*. 1961;4:53-5. doi: 10.1111/j.1475-4754.1961.tb00532.x

35

Young SMM, Budd P, Haggerty R, et al. Inductively coupled plasma-mass spectrometry for the analysis of ancient metals. *Archaeometry*. 1997;39:379-92. doi:

10.1111/j.1475-4754.1997.tb00814.x

36

Chase WT. Comparative analysis of archaeological bronzes. *Archaeological chemistry: a symposium sponsored by the Division of the History of Chemistry at the 165th meeting of the American Chemical Society, Dallas, Tex., April 9-10, 1973*. Washington: American Chemical Society 1974:148-85.

37

Coles J. Metal analysis, and the early Scottish Bronze Age. *Proceedings of the Prehistoric Society*. 1970;35:330-45. doi: 10.1017/S0079497X00013517

38

Denker, Andrea, COST Action G8 (Project), European Cooperation in the Field of Scientific and Technical Research (Organization). *Non-destructive testing and analysis of museum objects*. Stuttgart: Fraunhofer IRB 2006.

39

Hamilton E. Metallurgical analysis and the Bronze Age of Bohemia: or , Are cultural alloys real? *Archeomaterials*. 1991;5:75-98.

40

Hatcher H, Tite MS, Walsh JN. A comparison of inductively-coupled plasma emission spectrometry and atomic absorption spectrometry analysis on standard reference silicate materials and ceramics. *Archaeometry*. 1995;37:83-94. doi: 10.1111/j.1475-4754.1995.tb00728.x

41

Hughes MJ, Cowell MR, Craddock PT. Atomic absorption techniques in archaeology. *Archaeometry*. 1976;18:19-37. doi: 10.1111/j.1475-4754.1976.tb00141.x

42

Junghans, Siegfried, Sangmeister, Edward, Schröder, Manfred, et al. Kupfer und Bronze in der frühen Metallzeit Europas. Berlin: Gebr. Mann 1968.

43

Ponting M, Segal I. Inductively coupled plasma atomic emission spectroscopy analyses of Roman military copper-alloy artefacts from the excavations at Masada, Israel. *Archaeometry*. 1998;40:109–22. doi: 10.1111/j.1475-4754.1998.tb00827.x

44

Rapp, George Robert. Determining geologic sources of artifact copper: source characterization using trace element patterns. Lanham, Md: University Press of America 2000.

45

Slater EA, Charles JA. Archaeological classification by metal analysis. *Antiquity*. 1970;44:207–13.

46

Tylecote RF. The Composition of Metal Artifacts: a Guide to Provenance. *Antiquity*. 1970;44:19–25.

47

Craddock PT. The composition of the copper alloys used by the Greek, Etruscan and Roman civilizations 1. The Greeks before the archaic period. *Journal of Archaeological Science*. ;3:93–113.

48

Craddock PT. The composition of the copper alloys used by the Greek, etruscan and Roman civilisations: 2. The Archaic, Classical and Hellenistic Greeks. *Journal of Archaeological Science*. ;4:103–23.

49

Craddock PT. The composition of the copper alloys used by the Greek, Etruscan and Roman civilizations: 3. The Origins and Early Use of Brass. *Journal of Archaeological Science*. ;5:1-16.

50

Craddock PT. The copper alloys of the Medieval Islamic world - inheritors of the classical tradition. *World Archaeology*. 1979;11:68-79. doi: 10.1080/00438243.1979.9979750

51

Craddock PT. The composition of Iberian Bronze Age metalwork in the British Museum. *Aspects of early metallurgy*. London: British Museum 1991:51-62.

52

Craddock PT. Three thousand years of copper alloys: from the Bronze Age to the Industrial Revolution. *Application of science in examination of works of art: proceedings of the seminar September 7-9, 1983*. Boston, Mass: Research Laboratory, Museum of Fine Arts 1985:59-67.

53

Craddock PT. Medieval copper alloy production and West African bronze analyses - Part 1. *Archaeometry*. 1985;27:17-41. doi: 10.1111/j.1475-4754.1985.tb00344.x

54

Craddock PT, Picton J. Medieval copper alloy production and West African bronze analyses - Part 2. *Archaeometry*. 1986;28:3-32. doi: 10.1111/j.1475-4754.1986.tb00371.x

55

Forsyth, Hazel, Museum of London. *Toys, trifles & trinkets: base-metal miniatures from London 1200-1800*. London: Unicorn 2005.

56

Godfrey EG, Vizcaino A, McDonnell JG. The role of Phosphorus in early ironworking. Prehistoric and medieval direct iron smelting in Scandinavia and Europe: aspects of technology and society. Aarhus: Aarhus University Press 2003:191–4.

57

Hook D, Craddock PT. The Scientific Analysis of the copper-alloy lamps: Aspects of Classical Alloying Practices. A catalogue of the lamps in the British Museum: 4: Lamps of metal and stone, and lamp-stands. London: Published for the Trustees of the British Museum by British Museum Publications 1996:144–63.

58

Maddin R, Merkel J. Metallographic and statistical analyses. Analisi metallurgiche e statistiche sui lingotti di rame della Sardegna: Metallographic and statistical analyses of copper ingots from Sardinia. Ozieri: Il Torchietto 1990:42–199.

59

Callister, William D., Rethwisch, David G. Materials science and engineering. 8th ed. Hoboken, N.J.: Wiley 2011.

60

Scott, David A. Metallography and microstructure of ancient and historic metals. [Marina del Rey, CA]: Getty Conservation Institute 1991.

61

Avner, Sidney H. Introduction to physical metallurgy. 2d ed. New York: McGraw-Hill 1974.

62

Chase WT. Solid samples from metallic antiquities and their examination. International

symposium on the conservation and restoration of cultural property: cultural property and analytical chemistry. Tokyo: Tokyo National Research Institute of Cultural Properties 1979:73-109.

63

Lang J. Study of the metallography of some Roman swords. *Britannia*. 1988;19:199-216. doi: 10.2307/526199

64

Lang J. A Metallographic Examination of Eight Roman Daggers from Britain. *Sites and sights of the Iron Age: essays on fieldwork and museum research presented to Ian Mathieson Stead*. Oxford: Oxbow 1995:119-32.

65

Maddin R, Wheeler TS, Muhly JD. Distinguishing artifacts made of native copper. *Journal of archaeological science*. 1980;7:211-55. doi: 10.1016/S0305-4403(80)80025-2

66

Notis MR. A ghost story: remnant structures in corroded ancient iron objects. *Materials issues in art and archaeology VI: symposium held Nov 26-30, 2001, in Boston, MA*. 2002;712:259-67.

67

Callister, William D., Rethwisch, David G. *Materials science and engineering: an introduction*. 7th ed. New York: Wiley 2007.

68

Scott, David A. *Metallography and microstructure of ancient and historic metals*. [Marina del Rey, CA]: Getty Conservation Institute 1991.

69

Avner, Sidney H. Introduction to physical metallurgy. 2d ed. New York: McGraw-Hill 1974.

70

Blakelock E, McDonnell G. A review of metallographic analyses of early medieval knives. *Historical Metallurgy: Journal of Historical Metallurgy*. 2007;41:40-56.

71

McDonnell JG, Starley D, Weimer K. The Metallurgy of the Knives. Craft, industry and everyday life: finds from medieval York. York: Council for British Archaeology 2002:2751-99.

72

Samuels, Leonard Ernest. Optical microscopy of carbon steels. Metals Park, Ohio: American Society for Metals 1980.

73

Smith CS. The interpretation of microstructures of metallic artefacts. A search for structure: selected essays on science, art, and history. Cambridge, Mass: MIT Press 1981:69-111.

74

Tylecote, R. F., Gilmour, Brian J. J. The metallography of early ferrous edge tools and edged weapons. Oxford: B.A.R. 1986.

75

Wagner, Donald B. Iron and steel in ancient China. Leiden: E.J. Brill 1993.

76

Wagner D. Ferrous Metallurgy. Science and civilisation in China: Volume 5: Chemistry and

chemical technology. London: Cambridge University Press 1974.

77

Williams, Alan. The knight and the blast furnace: a history of the metallurgy of armour in the Middle Ages & the early modern period. Leiden: Brill 2003.

78

Demortier G. Review of the recent applications of high energy microprobes in arts and archaeology. Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms. ;54:334-45.

79

Hughes MJ, Northover JP, Staniaszek BEP. Problems in the analysis of leaded bronze alloys in ancient artefacts. Oxford Journal of Archaeology. 1982;1:359-64. doi: 10.1111/j.1468-0092.1982.tb00320.x

80

Bray W. Malagana and the goldworking tradition of Southwest Columbia. Precolumbian gold: technology, style and iconography. London: British Museum Press 2000:94-111.

81

Dickinson, Tania Marguerite, Härke, Heinrich G. H. Early Anglo-Saxon shields. London: Society of Antiquaries 1992.

82

Doran, J. E., Hodson, Frank Roy. Mathematics and computers in archaeology. Edinburgh: Edinburgh University Press 1975.

83

Henderson, Jon C. The Atlantic Iron Age: settlement and identity in the first millennium BC.

London: Routledge 2007.

84

Pearce, Mark. Bright blades and red metal: essays on north Italian prehistoric metalwork. London: Accordia Research Institute, University of London 2007.

85

Shearman F, Dove S. Application of radiography in conservation. Radiography of cultural material. Oxford: Butterworth-Heinemann 1997:155–74.

86

Swanton, Michael James, Royal Archaeological Institute (Great Britain). The spearheads of the Anglo-Saxon settlements. [London]: Royal Archaeological Institute 1973.

87

Corfield M. Radiography of archaeological ironwork. Conservation of iron. [Greenwich]: Trustees of the National Maritime Museum 1982:8–14.

88

Pope, John Alexander, Gettens, Rutherford J., Freer Gallery of Art. The Freer Chinese bronzes. Washington: Smithsonian Institution 1967.

89

Lang J, Ager B. Swords of the Anglo-Saxon and Viking Periods in the British Museum: a radiographic study. Weapons and warfare in Anglo-Saxon England. Oxford: Oxford University Committee for Archaeology 1989:85–122.

90

Shearman F, Dove S. Application of radiography in conservation. Radiography of cultural material. Oxford: Butterworth-Heinemann 1997:155–74.

91

Aubert, Jacques F., Aubert, Liliane. *Bronzes et or Egyptiens*. Paris: Cybèle 2001.

92

Bar-Adon, Pesah. *The cave of the treasure: the finds from the caves in Naḥal Mishmar*. Jerusalem: Israel Exploration Society 1980.

93

Branigan K. Early Aegean Hoards of Metalwork. *The Annual of the British School at Athens*. 1969;64:1-11. doi: 10.1017/S0068245400014489

94

Bayley, J., Society of Antiquaries of London. *Roman brooches in Britain: a technological and typological study based on the Richborough Collection*. London: Society of Antiquaries of London 2004.

95

Deshayes, Jean, Institut français d'archéologie de Beyrouth. *Les outils de bronze, de l'Indus au Danube: (IVe au Ie mille'naire)*. Paris: Librairie Orientaliste Paul Geuthner 1960.

96

Doran, J. E., Hodson, Frank Roy. *Mathematics and computers in archaeology*. Edinburgh: Edinburgh University Press 1975.

97

Henderson, Jon C. *The Atlantic Iron Age: settlement and identity in the first millennium BC*. London: Routledge 2007.

98

Hennessy, John Basil, Colt Archaeological Institute. The foreign relations of Palestine during the Early Bronze Age. London: Quaritch 1967.

99

Kenyon, Kathleen Mary, Bennett, C.-M., British School of Archaeology in Jerusalem. Excavations at Jericho: Vol.2: The tombs excavated in 1955-8. London: British School of Archaeology in Jerusalem 1965.

100

Manning, W. H., British Museum. Catalogue of the Romano-British iron tools, fittings and weapons in the British Museum. London: British Museum Publications 1985.

101

Sanders NK. The first Aegean swords and their ancestors. American journal of archaeology. 1961;65:17-29. doi: 10.2307/502497

102

Stronach DB. The Development and Diffusion of Metal Types in Early Bronze Age Anatolia. Anatolian Studies. 1957;7:89-125. doi: 10.2307/3642348

103

Pearce, Mark. Bright blades and red metal: essays on north Italian prehistoric metalwork. London: Accordia Research Institute, University of London 2007.

104

Petrie, W. M. Flinders, British School of Archaeology in Egypt, Egyptian Research Account, et al. Tools and weapons: illustrated by the Egyptian collection in University College, London, and 2,000 outlines from other sources. London: British School of Archaeology in Egypt, University College 1917.

105

Pryor, Francis, Hosek, Jirina, Craddock, P. T., et al. A catalogue of British and Irish prehistoric bronzes in the Royal Ontario Museum. Toronto: The Museum 1980.

106

Vandkilde, Helle, Northover, Jeremy P. From stone to bronze: the metalwork of the late neolithic and earliest bronze age in Denmark. Moesgard, Aarhus: Jutland Archaeological Society 1996.

107

Waldbaum, Jane C., Archaeological Exploration of Sardis. Metalwork from Sardis: the finds through 1974. Cambridge, Mass: Harvard University Press 1983.

108

Cronyn, J. M., Robinson, W. S. The elements of archaeological conservation. London: Routledge 1990.

109

Freestone I, LaNiece SC, Meeks ND. A Bronze Statuette of Minerva: A study in mineralogical provenancing. MASCA journal. ;3:10-2.

110

Hobbs, Richard, Honeycombe, Celia, Watkins, Sarah C. Guide to conservation for metal detectorists. Stroud: Tempus 2002.

111

Meyer-Roudet, H el ene, Barrandon, Jean-No el. A la recherche du m etal perdu: nouvelles technologies dans la restauration des m etaux arch eologiques. Paris: Errance 1999.

112

Oddy A. Jewelry under the microscope. A Conservator's Guide to Cataloguing. Ancient jewelry and archaeology. Bloomington: Indiana University Press 1996:185–97.

113

Scott, David A., Getty Conservation Institute. Copper and bronze in art: corrosion, colorants, conservation. Los Angeles: Getty Conservation Institute 2002.

114

Sease, Catherine. A conservation manual for the field archaeologist. Los Angeles: Institute of Archaeology, University of California, Los Angeles 1987.

115

Selwyn, Lyndsie, Canadian Conservation Institute. Metals and corrosion: a handbook for the conservation professional. Ottawa: Canadian Conservation Institute 2004.

116

Watkinson, David, Neal, Virginia, United Kingdom Institute for Conservation of Historic and Artistic Works, et al. First aid for finds. 3rd ed. Hertford: RESCUE - The British Archaeological Trust; Archaeology Section of the UKIC; The Museum of London 1998.