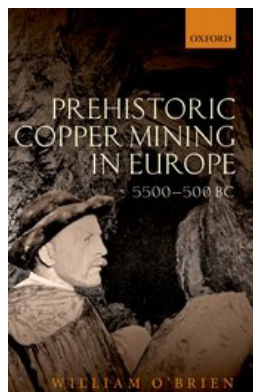


# Book reviews

**Prehistoric copper mining in Europe 5500-500BC**  
by W O'Brien. *OUP, Oxford, 2015, 234x156mm, xvii+345pp, 130 figs, 3 tables, index, ISBN 9780199605651, £85.00, h/b.*



This volume examines prehistoric copper mining in Europe, from the first use of the metal eight thousand years ago in the Balkans to its widespread adoption during the Bronze Age. The history of research is examined, as is the survival of this mining archaeology in different geological settings. There is information on the technological processes of mineral prospecting,

ore extraction, and metal production, as well as the logistics and organization of this activity and its environmental impact. The analysis is broadened to consider the economic and societal context of prehistoric copper mining and the nature of the distinctive communities involved. The study is based on a review of field data and research produced over many decades by the collaboration of archaeologists and geologists in a number of different countries, and covers such famous mining centres as the Mitterberg in Austria, Kargaly in Russia, the Great Orme in Wales, and those in Cyprus, from where the name of this metal derives. These regional studies are brought together for the first time to present a remarkable story of human endeavour and innovation, which marks a new stage in the mastery of our natural resources.

This concise-sized volume begins with a considerable introduction covering the geological environment, human environment and a description of the history of archaeology relating to copper mining. Chapters 2 to 7 deliver descriptions of copper mining in a regional manner, from 5500-500 BC. O'Brien uses key sites and the evidence that they have provided to consider prehistoric copper mining in the context of various geological settings, and backs this up with the history of research that has been conducted in each area. He also gives consideration to areas and regions that lack evidence of prehistoric copper mining, but where discussions into the subject

have taken place. Effectively this book forms a European survey which allows the reader a well-researched and laid out perspective of each area.

The second section, Chapters 8 to 10, changes the book's focus considerably to subjects such as technological considerations of mineral and ore extraction and the resulting metal production. Here there is also attention given to the social organisation and hierarchy that has resulted out of the steps of the copper production process. O'Brien also gives consideration to the impact on the natural environment, all achieved through a considerable level of detailed research into each sub category. He has used an impressive array of evidence to formulate his arguments and to construct a clear, detailed societal view of copper mining. Such detail includes the necessities of settlements such as food supply and the need to utilise the local environment for fuel and building materials, the rituals and how they have been a result of the geographical environment, and how this relates to copper mining of the period. He looks too at trade and social elites within the societies of the period and the associated economic implications.

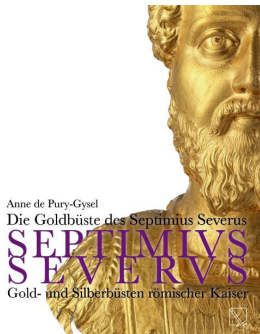
In the third and final section O'Brien makes the arguments that we cannot view copper mining of this period in isolation, and that mining does have a substantial effect on the localised environment and the societies that settle there. He makes arguments on a clear and concise basis upon which further research can be based, and together with the tables and some 130 diagrams and photographs this forms an absorbing read.

The book will cause the reader to ask further questions. O'Brien provides a substantial references section, and thus gives the reader a good head start for their own further research.

William Hawkes

**Die Goldbuste des Septimius Severus. Gold- und Silberbusten romischer Kaiser [The gold bust of Septimius Severus. Gold and silver busts of Roman emperors]** by Anne de Pury-Gysel with contributions from Alessandra Giumlia-Mair. *Basel: Librum, 2017, 245 × 305 mm, 184pp, 161 colour figs, ISBN 978-3-952454-268, DOI 10.19218/3952454268, €65 (free*

download from the publisher's website), h/b. Mainly in German with summaries in French and English.



The intact gold bust of Emperor Septimius Severus was found in northern Greece in 1965 and is an outstanding example of Roman Imperial portrait art and one of only thirteen precious-metal busts that are known to survive. It is probably one of the most important examples of an artistic genre that must

have been much more common in Antiquity and that is thought to have acted as a portable substitute for the emperor at religious ceremonies, in the army or present at official acts.

The bust weighs 980g (3 Roman pounds), is 250mm high and probably dates to early in the reign of Septimius Severus, that is, the very end of the second century. The first two chapters on the provenance and a detailed description of the gold portrait are by the primary author, Anne de Pury-Gysell. She has also used the Severan portrait as the springboard for a general discussion of Roman imperial portraits in gold and silver, with chapters on gold as a symbol of power, the ancient texts mentioning gold images of emperors, and the role of portrait busts in the imperial cult and as key elements of military standards. Part II of this monograph is a catalogue of every known Roman imperial portrait in gold or silver, with multiple colour photos of each piece. Most date from the Late Empire.

It is the appendix to the second chapter, by Alessandra Giumlia-Mair, that will be of most interest to readers of this journal. It is a well-illustrated technical analysis (in English) of the gold alloy and the bust's method of manufacture. Giumlia-Mair believes that the metal for the bust, which contains a few percent of both silver and copper, was obtained by melting imperial gold coins, perhaps with the addition of a small amount of silver to harden it sufficiently so it could support its own weight.

Having identified and discussed the composition of the bust she then explains how it was made, based on her careful, microscopic examination. The gold was cast into a disc which was then hammered to shape. The neck was formed first on a stake, the head came next and finally the shoulders, all with regular annealing. The raised decoration was repoussé work, punched from inside. Once the bust had been shaped it was polished on the outside, then the fine details added using many different

punches. Some inexpert repairs were also noted.

This monograph is meticulously documented, lavishly illustrated with superb photos of the bust by Thanos Kartsoglou and is a well-deserved tribute to this masterpiece of the metalworker's art. The addition of the technical description is a welcome innovation in what would otherwise be just an art-historical study.

Justine Bayley

**Cuivres, bronzes et laitons médiévaux/Medieval copper, bronze and brass: History, archaeology and archaeometry of the production of brass, bronze and other copper alloy objects in medieval Europe (12th-16th centuries)** edited by Nicolas Thomas and Pete Dandridge. *Namur: Agence wallonne du Patrimoine (Études et Documents Archéologie 39), 2018, A4, 416pp, many figs (most in colour), ISBN 978-2-39038-016-0, €40, p/b.*



This beautifully produced volume publishes the proceedings of a memorable conference on the *History, archaeology and archaeometry of brass, bronze and other copper-based alloys in medieval Europe* held in Dinant and Namur in May 2014 as part of a research programme focused on the products of the copper alloy

industries of the Meuse Valley in the later medieval period. The Foreword and Introduction are bilingual French-English but the main papers are written in either French (16) or English (19), and have bilingual abstracts. The aims of the conference were reflected in its title, and the 34 papers published apply a wide range of investigative methods to the material that was presented, with scientific, archaeological and historical approaches all well represented, and happily combined in varying proportions in many of the papers. These are grouped into four sections: Raw materials and supplies, Craftsmen and workshops, Techniques, and Products, Trade and Exchanges, and provide accounts of recent research from all parts of Europe – from Norway in the north to Italy in the south, and from southern France eastwards to the Balkans, Hungary and even the Islamic lands beyond.

The papers included in section one are: Introduction to brass, bronze and other copper-based alloys in medieval Europe (12th-16th centuries), N Thomas and

P Dandridge; The Harz Mountains and some thoughts on the copper trade, B Asmus; From landlords to argentariis: copper mining in southern France in the 12th and 13th centuries, B Léchelon; Copper mining in Central Europe and the Balkans and its commercial redistribution across the Croatian territory during the 15th and 16th centuries, S F Fabijanec; A copper smelter in Norway from around 1300 AD: Archaeology and metallurgy, representing a four-step process, A Espelund; Is the benefit worth the effort? The production of brass by cementation in the Middle Ages through an economic perspective, N Thomas and D Bourgarit; Fuel for bell manufacturing in the Middle Ages: a record of technical aspect of casting and of the environment. Some examples in south-eastern France, I Gillot, L Damotte, M Bouiron, Y Codou and C Delhon; Saxons in medieval Bosnia and their heritage, I Teskeredžić.

Those in Section two are: The copper crafts in Paris around 1300: topography and social study, C Bourlet and N Thomas; Far from big production centres, close to users ... a coppersmith in Douai in the 13th century, L Saussus and É Louis; Brazier workshops in Verdun from the 12th until the 13th century, L Vermard and N Thomas; Copper alloy production in the ex Laboratori Gentili workshops in Chinzica, Pisa, F M P Carrera; Copper artisans in Barcelona City (14th-16th centuries) approached through written sources, L Amenós; Cannon foundry workshop in late medieval Buda (Hungary) at the turn of the 15th-16th centuries, K Belényesy; Gunners and gun founders of the dukes of Burgundy. Recruitment, establishment, and commitment to the Prince (c.1450-1494), M Depreter; Accumulation of wealth and upward social mobility of merchant copper-beater families in Dinant and Bouvignes in the 15th century, P Saint-Amand; The Censore: from Bologna to Rome, a 16th and 17th century founder dynasty, E Lamouche.

Part three includes: The Hildesheim baptismal font: a window into medieval workshop practices, P Dandridge; Chemo-analytical research on objects from the Hildesheim cathedral treasury, D Fellenger, D Kemper, R Lehmann and C Vogt; The place of bells in copper alloy production: technical specificities through the examination of archaeological vestiges of Italian workshops, E Neri and E Giannichedda; Bell

casting activity in medieval Leopoli-Cencelle (Italy): technological patterns and socio-cultural implications, M G Asinelli; Archaeology and archaeometry of the Bassinia, the medieval fountain of Huy (Belgium, Province of Liège), N Thomas, C Peters, F Urban and D Bourgarit; Brass or bronze for medieval harp strings? P Dooley and P Tiernan; Medieval, and Renaissance Italian statuary copper alloys, J-M Welter; Copper alloy use in 16th-century northern Italy associated with the workshop of Severo da Ravenna, D Smith; The lasagna method for lost wax casting of large 16th-century bronzes: searching for the sources, M Castelle, D Bourgarit and F G Bewer; Analysis of archaeometallurgical finds from a late to post-medieval foundry in Dubrovnik, Croatia, C Gardner, M Martínón-Torres, N Topić and Ž Peković.

The final section comprises: Engraving examples for a right way life: the Romanesque bronze bowls in Vercelli, S Faccin; The use of copper alloys in locks and padlocks between the 9th and 16th centuries, M Linlaud; Brass lecterns so-called English: technical and archival approaches, M de Ruette; Late medieval brass eagle lecterns: historical and geographical context, C Green and R Butler; Relief copper alloy tombs in medieval Europe: image, identity and reception, S Oosterwijk and S Badham; Monumental dinanderie: achievement and tradition of metal sculpture in the Low Countries in the late Gothic and Renaissance period, L Wiersma; Brass in the medieval Islamic world and contact with Europe, S La Niece; Of metal and clay: competition, borrowings and influences in crockery, from the Middle Ages to the modern age, based on examples from the North Sea to the Mediterranean, S Challe, F Ravoire, C Richarté-Manfredi and N Thomas.

The lack of a single unifying theme or approach, other than that the papers all present recent research on aspects of copper alloy fabrication, trade and use in medieval Europe, could be seen as a drawback. However the wealth of new information across such a broad spectrum is a real strength and makes a most welcome contribution to stimulating further work. I found all sorts of intriguing points in the most unlikely papers, so even though I attended the conference I will be dipping into these proceedings for many years to come. I can definitely recommend the book to everyone who has any interest in medieval metalworking.

Justine Bayley