

HMSNEWS

Historical Metallurgy Society
65 Spring 2007

Historical Metallurgy Vol 42 Part 2 (2006)

Please note that on page 129 of the latest Journal, there appears an abstract to Brian Awty's paper — 'The elusive Walloon finery forges at Liège'— which should not have been used. A final text is set out below. Readers may wish to copy this and place it in their journal.

ABSTRACT: Walloon forges were characterised by a separate hearth, the finery, in which cast iron from the blast furnace was deprived of its carbon content, before being sent to the chafery hearth, where, under the great hammer, it was further purified by the extrusion of slag, and was 'drawn out' into bars, the form in which it was marketed. The alternative of conducting all these operations in a single hearth was the method predominantly used in Germany.

But in the 19th century Walloon forges were scarce in Metropolitan Liège. Hansotte sought to explain this as due to their replacement between 1807 and 1811 by single-hearth 'Comtois' forges. The conversion was decreed by the French Imperial authorities, and it was certainly carried out in Luxembourg. However, the combination of 'fourneau et marteau', which predominated throughout the entire period in the Liège metropolitan area, was equivalent to the 'Hütte und Hammer' used in Germany. Evidence for Walloon finery hearths near Liège comes only after 1640, and at relatively few sites.

HMS Council

The most recent HMS Council meeting discussed three nominations for election (Roger Doonan, David Dungworth and Robert Smith) at the AGM in May. There are four places available on Council and any member wishing to nominate or be nominated should contact a member of council who can help. Nomination forms are available from the secretary, Peter Hutchison, 22 Easterfield Drive, Southgate, Swansea, SA3 2DB.

Grants

The society awards grants from the **Coghlan Bequest** and **R.F. Tylecote Memorial Fund** for research and travel. Members are encouraged to apply by completing forms available on the society's website (www.hist-met.org) and sending them to the Hon. Treasurer. The Coghlan Bequest was set up to facilitate any research into historical metallurgy, including fieldwork, experiments, analysis and travel. Money from the fund is **awarded once a year in March**; applications must be received by the end of the preceding January to be considered. The R.F. Tylecote Memorial Fund commemorates the renowned archaeometallurgist who was a founder member of the HMS and edited the Journal from its beginning until his death. It takes the form of Annual Travel Bursaries to help pay for travel, subsistence and conference fees, which will further the aims of the Society, including research, conferences, seminars, excavations, fieldwork and experimental workings. Money from the fund is **awarded in March and November**; applications must be received by the end of the preceding January and September. As a guide £100–£150 is usually awarded in each round. Following an award, the results of the research undertaken or a report on the study visit must be sent to the HMS for possible inclusion in the Journal the HMS newsletter. Any unused funds must be returned to the HMS.

Application forms may be obtained from Michael Cowell, Hon. Treasurer, "Little Gables", 17A Thorncote Road, Northill, Bedfordshire SG18 9AQ.

HMS AGM 2007

Penryhn

19th–20th May, 2007

The annual general meeting (19th) will be followed by a series of invited lectures. Confirmed talks include an introduction to the Cornish Mining World Heritage Site, developments in the microcharacterisation of metals and materials, and recent progress on the Exmoor iron project. A tour will be arranged of new facilities at Camborne School of Mines including the museum, a demonstration of modern digital surveying instruments and the modern suite of microanalytical instruments. Delegates will have an opportunity to present research posters. A one-day field excursion will be arranged on Sunday 20th to mining areas in West Cornwall.

Organisers

Gill Juleff, Department of Archaeology
email: G.Juleff@exeter.ac.uk

Jens Andersen, Camborne School of Mines
email: J.C.Andersen@exeter.ac.uk

Falling Creek Ironworks

Lyle Browning

A series of floods, starting with Hurricanes Fran (1996) and Isabel (2003), and Tropical Storm Gaston (2004), has uncovered remains of the earliest blast in America. The storms eroded earthwork remains of the dam and exposed a set of massive timbers (Figure 1). Those timbers are seen as part of the 1621–1622 Falling Creek blast furnace building set.



Figure 1. Timbers exposed at Falling Creek

The Virginia Company of London, sponsor of the Jamestown settlement, started in 1619 to set up a blast furnace. The Virginia Company set up the colony to be a self-sustaining and ultimately a money-making venture. Various craft and light industrial ventures were tried, including a glasshouse at Jamestown. Trials of iron ore were made, and based on those results, backing was obtained to erect the much more expensive and complex set of structures comprising a blast furnace.

Explorations were made of the geology along the James River and Falling Creek was picked due to the water supply and raw materials. It is the only location between the Fall Line at Richmond and the Atlantic that has an immediately available water supply suitable for a blast furnace and for access to water transportation to move the products to Britain.

The Virginia Company in 1619 sent Ironmaster Blewitt with a crew to set up a blast furnace as a money-making venture. A small trial of iron had taken place earlier that proved that iron could be made from either the abundant bog ores in the James River basin or from iron ores in rock formation. Blewitt died on the voyage over. It is unknown what, if anything, the rest of the crew did. Then in 1621, John Berkeley and his son Maurice with another crew were sent over to build the blast furnace. They sent a letter back in 1621 that they would have a plentiful supply of pig iron by Whitsuntide (June 9) of

1622. Unfortunately, the Powhatans staged a coup de main on March 22, 1622 that killed all but two children at the site. Maurice escaped as he was elsewhere. There were three other attempts in the 17th century with no known result. Then in 1750, Archibald Cary started a forge on the property that continued to 1781 when it was burned by Benedict Arnold.

Although Falling Creek was deemed a near perfect place for a furnace, it was not ready built. The dam had to be built across the creek. From evidence of post sockets cut into the granite on the two sets of falls there, the dam was moved twice. The flume also appears to have been moved. It also had to cross a large deep hole, and go around a promontory and then empty onto the wheel.

It has been known from local stories where the furnace was located generally, and the ground in the area was littered with iron waste. Starting in the 1880s with Brock from the Smithsonian, the site has been investigated. Each investigator pronounced themselves certain that they had seen evidence of the ironworks of 1619–1622. Roland Robbins who dug Saugus Ironworks in Massachusetts also visited and was impressed. A succession of people in the 1950s to the 1990s also visited and were certain they had found the location. The charcoal pile had been discovered on the south bank and in the 1990s had been radiocarbon dated to the 1570s. The topography fairly screamed out where the furnace had to be located.

The problem was that all of those who had come, looked, dug, and pronounced with certainty that they had discovered the ironworks lacked the necessarily technological background. What they had seen were pieces of pig iron, slag, charcoal with slag, etc, which was part of the Cary forge (1750–1781). Unfortunately, to date no positive proof of a blast furnace has been recovered (e.g. the green or blue glassy slag typical of blast furnaces).

The Falling Creek Ironworks Foundation was formed to be a steward of the site by a group of concerned citizens in Chesterfield County. Two archaeologists with a background in industrial archaeology and ironworking were part of the mix. Our job was to provide the technical expertise for the planned excavation. Chesterfield County had acquired the property as a park. Working with the county, the Foundation started the process of planning the events. We knew where the ironworks was located from several pathways. Roger Bensley, in 1937, had uncovered the casting floor apparently during road-building operations and had covered it back over. Due to the overburden of Cary forge slag, flood deposits and the roadway, and in the main due to the absence of furnace slag, the main

question was whether the furnace had gotten into blast prior to March 22, 1622. We then did a geophysical survey of the property. Resistance survey showed what appeared to be large buildings on the floodplain. They were consistent with warehouses that Cary had that were burned by Arnold in 1781. Magnetometer survey showed a massive magnetic anomaly consistent with a blast furnace exactly where all and sundry had thought it should be. The magnetometer survey was the first indication that the furnace had gotten into blast. That massive anomaly proved that the Virginia Company had fired the furnace. So, either the furnace actually got into production for a short period or it was knocked out just as it got into production by the Powhatans.



Figure 2. Timbers exposed at Falling Creek

Several large timbers (up to 0.8m by 0.6m in cross-section and at least 3m long) were exposed (Figures 1 and 2) which form a rectangular cribwork (Figure 3)

that is in-filled with stone and clay to make a stable foundation for whatever is to be built on top. There is over 0.15m depth of cribwork. It is also about 20m long stretching down the bank and goes back into the bank for an unknown distance, but not more than 10m.

Investigation of the timbers shows a roughly rectangular cribwork filled with large stones and clay. Timbers project out into the creek and are underpinned by a base of rock pieces placed there by intent. Remnants of wooden flooring upon which more rock and clay has been deposited are visible. The cribwork is interpreted as support for the waterwheel, axle and bellows and it is assumed that the furnace is about 7m farther south into the bank.

The production of the set of measured drawings (Figure 3) has led to the conclusion that they are the support system for the furnace consisting of the wheel-pit and then the supports for the axle, bellows and finally the furnace. We have uncovered only the inner margins of the wheel-pit and the outside edge of the timber crib frame for the axle and bellows. The furnace itself is still farther south under road fill. It appears that a set of in-line wheels were in the pit (1.7m in length) that would work for the furnace and forge wheels.

In looking for parallels for the timber foundations, Diderot has an entire furnace with a crossed timber foundation. The timbers are not laid abutting, but with about a timber's width between each and in 3 layers. One assumes this is to provide the stable foundation needed along with a means of keeping water out of the works to avoid the problems that would cause.

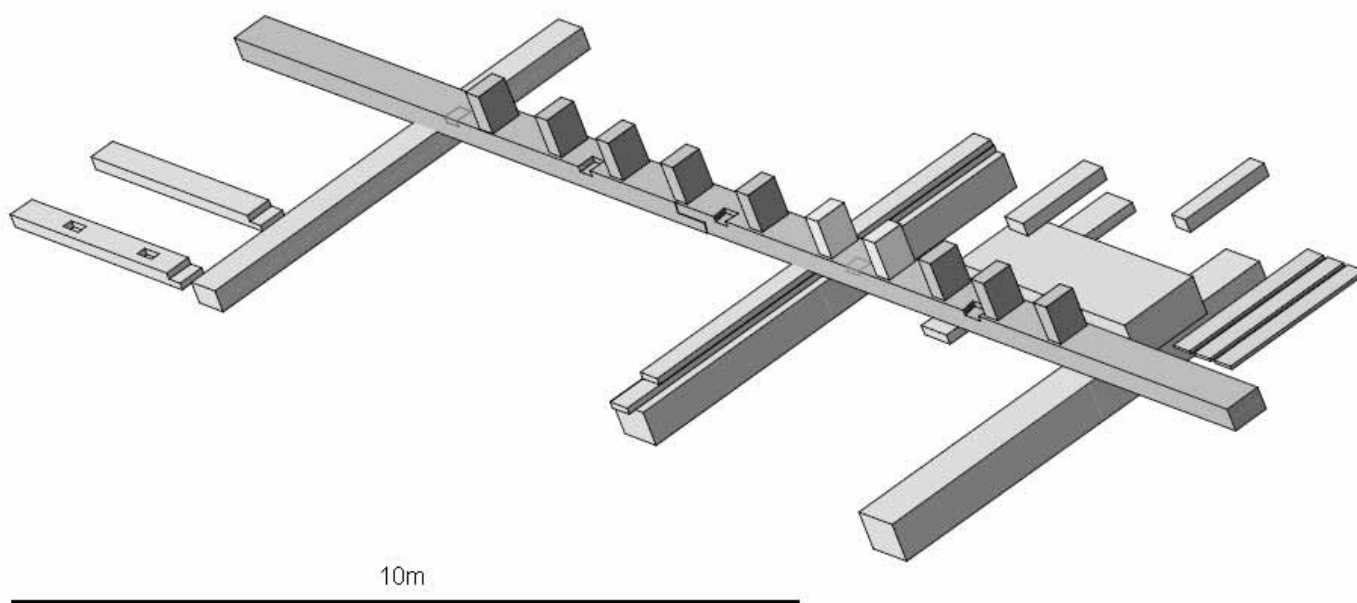


Figure 3. Isometric drawing showing the wooden cribwork

The extant Virginia Company documents dealing with the early ironworking of the Virginia colony clearly indicate a furnace and a forge are to be built at Falling Creek. Diderot and Hassenfratz both show trip/helve hammer set-ups.

Stratified over the cribwork is a set of flood deposits and on top of that about 1m above the top of the cribwork is a 0.1m layer of Cary forge slag. There is absolutely none of the forge slag in the timber crib fill. That is an excellent example of stratigraphic separation of the presumed 17th century structure set from the 1750–1781 Cary forge operation.

At the power source waterfalls upstream of the site there are post sockets cut into the granite indicating efforts to seat what was probably a strongback dam. Another set of post sockets marks what appears to be the flume posts. The flume had to cross a wide and deep hole, go around a promontory and exhaust onto the waterwheel for the bellows. The timbers uncovered appear to be part of an integrated system built for the furnace. A wharf is not among the probable interpretations as one was uncovered downstream in the 20th century.

In the future we hope to excavate to see what we do have, remove and preserve the timbers and to put them on display in a museum at the top of the hill. That will require fundraising and a lot of capital to accomplish. We will be actively seeking funds to further the work and to get the museum built.

Stormy Point, Alderley Edge, Cheshire

The Wilmslow Express (21st March, 2007) reports that remains of the Bronze Age mining landscape at Stormy Point, Alderley Edge have begun to suffer from erosion due to severe summer storms over the last three years. The land is owned by the National Trust which is attempting to raise funds for an excavation to record the remaining prehistoric stratigraphy before it too is lost. The longer term management will include the use of hessian and sowing of grass to stabilise the existing land surface. It will be necessary to fence off some areas to protect them for some years to come.

Manchester University recently completed a ten-year archaeological study of mining at the Edge, which highlighted just how significant it was (Timberlake and Prag 2005).

Timberlake, S & Prag, A J N W 2005 *The Archaeology of Alderley Edge*. Oxford: John and Erica Hedges Ltd

Conference Report X-TAG: Myth, Magic and Metallurgy David Dungworth

Each year, just before Christmas, archaeologists gather for the Theoretical Archaeology Group (TAG). This conference has been running for several decades and regularly attracts hundreds of archaeologists, both academics and fieldworkers from commercial units. Last December the annual TAG conference took place at Exeter University and featured a session devoted to things metallurgical (to my knowledge the first on this topic at TAG since the early 1990s). The session, which was organised by Lee Bray (a recent PhD student at Exeter who has been studying the iron industry of Exmoor in the Roman period) was well organised and very popular. The session indicates that there is much interest in bringing scientific and humanities approaches together to improve our understanding of early metallurgy.

The first paper (*Is Slag Rubbish?*) was presented by Lee Bray who sought to rehabilitate slag, and slag heaps in particular. He explored the status of slag among those who undertake archaeometallurgical research and suggested that the notion that slag was simply a waste product might be a modern construct. Ethnographic records of bloomery iron smelting frequently show that there are significant symbolic elements to smelters' attitudes to what they do and that this often extends to the slag that was produced. Lee also stressed the importance of slag heaps, not simply as sources of material for scientific analysis but as stratigraphic records of patterns of working (cf. Cleere's work at Bardown).

Gill Juleff's paper (*From Bonfire to Blast Furnace: the shape of fire*) explored the shapes of fires and furnaces. She noted that when people make fires they usually make them circular (in plan) and that people are attracted to fires and often sit around them in circles. Archaeological excavation shows that most furnaces are circular but there are some interesting exceptions. She illustrated this with the excavated remains of the non-circular furnaces from Sri Lanka (*Nature* 379). These were crescent- or D-shaped, and larger (1m by 2m) than many bloomery furnaces. The siting of the furnaces suggested that the draft was provided by wind rather than bellows; a theory that has been confirmed by experimental reconstructions. Gill then compared the Sri Lankan furnaces with other, non-circular, furnaces in Burma, Cambodia, Indonesia and Japan.

Timothy Taylor provided an entertaining and thought-provoking paper (*Magic, Materiality and Envaluation*) which explored the value that Eneolithic societies

placed on metal. The archaeological record for the Balkans in this period shows a metal ‘hiatus’. In the late 5th millennium large quantities of metal entered the archaeological record but succeeding millennia provide much fewer objects (there is another ‘surge’ in deposition in the later 2nd millennium). Chernykh (*Ancient Metallurgy in the USSR*, 51–3) interprets this phenomenon in terms of metal production and mining but Tim pointed out that the evidence is largely from burials and only indicates a ‘hiatus’ in deposition. Tim’s alternative explanation was that the ‘hiatus’ was due to demand outstripping production — that metal become more valuable (or more valuable to more people) and so depositing of metal in graves ceased. Instead metal would have remained in circulation among the living.

David Killick’s paper (*Minerals, Metals, Meaning*) addressed the use of mineral before smelting was invented. The pre-metallurgical use of minerals has been explored before but has often been based on symbolic interpretations of colour and lustre that are not credible as the symbolism of colour can vary widely between different cultures. The nature of prehistoric archaeology is such that the detailed information on the symbolism of colours is rarely available for particular cultures.

Julia Wiecken (*Re-discovering the Sense-world of Prehistoric Copper Smelting – the importance of learning by doing in experimental archaeology*) explored the role of senses in experimental archaeology. Many experimental reconstructions of early furnaces focus heavily on technical aspects (e.g. the use of thermocouples to monitor temperatures). Early metallurgists, however, would have made use of human senses rather than scientific instruments. Modern experiments often neglect the ways in which metallurgical technologies would have been learnt and refined through sight, verbal communication and gesture (cf. Keller & Keller *Cognition and Tool Use: the blacksmith at work*).

Lucy Ryder (“*It came from the Ground*”) made a welcome pitch for the insights into mining and metallurgy that can come from the use of folklore studies. This reviewed some of the evidence for magical subterranean inhabitants of mines (e.g. knockers and kobolds). She explored the complex relationship between such inhabitants, the sources of metal and their human exploiters. They were often miners themselves and either helped or hindered human miners. Lucy explored the notion of metallurgists as magical, e.g. Wayland and the ways in which metals were used magically.

Andrea Dolfini (*The Origin of Metallurgy in Central Italy: a social perspective*) questioned some traditional

views towards metallurgy in prehistoric Europe. It is often assumed that metallurgy was a self-evident technological advance that would be adopted by everyone as soon as it became available. He proposed that the adoption of metallurgy was a rather haphazard affair and that it may have often be governed by symbolic rather than technological factors. Technological adoption depends on a valuation process which allows a thing or process to be given social/cultural meaning. Looking at contextual associations in burials, Andrea suggests that there may have been a ‘grammar of deposition’. In particular, whether or not metals were adopted by societies depending on existing frameworks of meaning attached to the range of objects already in use.

Randi Barndon’s paper (*From Delphi to Sunnmøre — a discussion of master smiths, magicians, caves and graves*) mentioned some funerary and possible ritual contexts (caves) which have provided evidence for metalworking. The paper explored evidence from sagas and other early historical sources for the symbolic and ritual significance of metalworking but unfortunately did not relate this to the archaeological evidence.

Sandra Blakely provided (*Iron, invention, and cosmology: Greek reflections on the technological past*) an introduction to the Idaian Daktyloi, three brothers from Greek mythology, who are associated with the invention of iron production. One of the brothers met the mother goddess of Phrygia, deep inside Mount Ida and some how managed to offend her. His brothers punished him by locking him in a subterranean prison, where he was metamorphosed into the material iron. Sandra explored the symbolism of this myth and compared it with more recent evidence from Africa (this is more fully explored in her *Myth, Ritual, and Metallurgy in Ancient Greece and Recent Africa*, Cambridge University Press, 2006).

The final contribution by Andrew T. Young (*Axe and Dagger Carvings at Stonehenge: An act of conspicuous consumption on a monumental scale?*) was very much in the tradition of TAG with theoretical speculation given centre stage. The core of his paper was the suggestion that the axe carvings on some of the Stonehenge stones had been open mould before the stones were erected. This seems implausible as the relevant stones were erected c.2300BC but axe carvings (which are very shallow) are of axe types of c.1800BC. Therefore, the carvings were added to the stones while they were vertical and so they could not have served as moulds. Andrew didn’t help his presentation by the suggestion that the circular plan of Stonehenge made him think it was a symbolic furnace (with the Avenue for the bellows or slag tapping!) or by describing molten metal as “liquid sunshine”.

WEALDEN IRON RESEARCH GROUP

Jeremy Hodgkinson

Volume 26 of *Wealden Iron*, the Group's annual bulletin, was published this summer, and largely comprises two longer articles. The first is an examination of the construction of the charcoal blast furnace typically found in the Weald from the 16th to 18th centuries. Using contemporary illustrations and accounts, as well as details from excavations, the construction is considered from a practical point of view, and illustrated with a fine, axonometric reconstruction as well as explanatory diagrams.

The second longer article continues a series of accounts of the careers of the members of the Browne family of gunfounders, focussing in this instance on John Browne, the most significant member of the family, between the years 1630 and 1645. These were years in which Browne extended his operations into bronze casting, and came into conflict with Parliament under suspicion of supplying the Royalist cause.

A shorter article explores events involving the early-17th-century gunfounder, Stephen Aynscombe, and Count Godomar, the Spanish Ambassador, whose attempts to influence the foreign policy of King James I's government caused such outrage at the time.

Notes of fieldwork include the discovery of a bloomery site at Cullinghurst Wood, Hartfield, East Sussex, where a single sample of charcoal recovered from within the slag layer in an exploratory excavation trench has produced a calibrated radiocarbon date of 750BC – 350BC at 95% probability. No other corroborative evidence was found, but the date offers the possibility that ironworking in the Weald may have commenced as much as 500 years earlier than has been considered hitherto. Elsewhere, three bloomery sites - two late-Iron Age or Romano-British and one undated — have been discovered in Hendall Wood, Maresfield, East Sussex. Also four other undated bloomery sites have been discovered; three in Rotherfield, and one in Hartfield, all in East Sussex.

HMS Day Meeting 2007

Changing technology in medieval and post-medieval metalworking

Bradford

10th November, 2007

The aim of the meeting is to discuss the evidence for the evolving metalworking technologies of the medieval and post-medieval periods. Papers on iron smelting,

blacksmithing and artefact technology are welcome. The period considered is 1000–1650. Offers of papers should be sent to: Gerry McDonnell, Division of Archaeological, Geographical and Environmental Sciences, Bradford University, Bradford, West Yorkshire, BD7 1DP

Tel: 01274 233535

Email: j.g.mcdonnell@bradford.ac.uk

Further details will appear in the July Newsletter and on the website

HMS Annual Conference 2007

Dublin

14th–16th September, 2007

The 2007 HMS conference – Metals and Metalworking in Ireland – will be held in Dublin from 14th-16th September, and is being organised jointly with the Mining Heritage Trust of Ireland. Most of Saturday and Sunday will be spent either in lecture sessions or visiting the National Museum's spectacular collections. The archaeological treasures range from large amounts of Bronze Age gold, through Early Christian metalwork such as the Tara brooch, to Viking silver hoards and metalworking finds. For those interested in more recent periods, there are major collections of Irish pewter and silver as well as military items. Accommodation has been reserved in Trinity College, which is very close to the Museum in Kildare Street. Most of the lectures will be at Collins Barracks, the other branch of the Museum, which is just a bus ride away. There is also the option of visiting historic mining sites near Dublin.

See the enclosed flyer for further details and a booking form. The lecture programme is not yet finalised, but details will be posted on the HMS website and will be included in the July issue of HMS News.

Organiser

Justine Bayley, English Heritage, Fort Cumberland, Eastney, Portsmouth PO4 9LD

Email: justine.bayley@english-heritage.org.uk

See enclosed flyer and/or website for further details

UKAS 2007

Archaeological Sciences conference

Cambridge

31st August to 3rd September, 2007

University of Cambridge, jointly hosted by the McDonald Institute for Archaeological Research and the Department of Archaeology.

HMS Annual Conference 2008

Metals in Musical Instruments

Oxford

12th–14th September, 2008

Announcement and call for Papers

The 2008 HMS Conference will be entitled ‘Metals in Musical Instruments’ and held in Oxford, 12–14 September 2008. The conference will be based in the Holywell Music Rooms, the oldest surviving purpose built concert hall in Europe. As well as a full lecture program there will be concerts on the Friday and Saturday evenings, themed to the conference, and opportunities to see “behind the scenes” at the Bate Collection of Historical Musical Instruments. There will be a number of other venues to visit on Saturday afternoon; negotiations are still in hand.

You will see a call for papers elsewhere in this Newsletter which will give you some idea of what the programme will cover. We are pleased to have been able to find a coherent theme on end uses of metals.

While we shall do everything possible to keep the price of the conference down, such a full and varied program in a major city does not come cheap. We expect the full residential fee to be of the order of £200 and the ‘day fee’ for those organising their own accommodation to be around £60. As in any ancient city, car parking can be a nightmare; however Oxford has an excellent bus service.

This conference is going to be something out of the ordinary and we hope as many of you as possible will be able to come. We shall be asking for expressions of interest soon in order to match the accommodation and the Saturday program as closely as possible to your requirements.

If you have any queries, or would like to know more about the conference, please contact Eddie Birch on 01226 370331 or email eddiebirch@btopenworld.com.

We invite offers of papers, for the conference which will cover:

- Metallurgy and metals used in instruments
- Metal working techniques, including influence on design of instruments
- Makers and their techniques
- Archaeology of metal musical instruments

Case studies will be welcome.

Offers of papers, together with a title and 150 word abstract, should be sent no later than 31 January 2008 to

Dr Louise Bacon
Horniman Museum & Gardens
100 London Rd
Forest Hill
London
SE23 3PQ
e-mail: lbacon@horniman.ac.uk

While full manuscripts are not required, papers may be offered for publication in *Historical Metallurgy*, the Journal of the Historical Metallurgy Society.

Colloque Agricola d’Annaberg

Projet Européen Agricola

Annaberg-Buchholz, Germany

21–23 June, 2007

Announcement and call for papers

This conference (part of the celebrations of the 450th anniversary of the publication of Agricola’s *De Re Metallica*) will feature sessions on mining techniques and metallurgy. In addition, there will be a session devoted to reports of relevant experimental reconstructions.

The conference is organised by la Communauté de communes Cuenca Minera de Rio Tinto, le Conseil général du Val de Marne, and les Villes de Chemnitz, Annaberg, Glauchau. The presentations will be in German, French and Spanish. For further details contact:

Gabriele LORENZ,
Kultumanagerin,
Haus des Gastes “Erzhammer”,
Buchholzer Str. 2,
D-09456
Annaberg-Buchholz
Germany
Tel : (0 37 33) 425 256,
Fax : (0 37 33) 425 295,
Email: agricolakolloquium@agricolaeurope.com
<http://www.agricolaeurope.com/>

37th International Symposium of Archaeometry

Siena, Italy

12–16 May, 2008

1st Circular and the Abstract Submission

You are invited to submit abstracts for the 37th International Symposium of Archaeometry which will be held in Siena, Italy 12th–16th May, 2008. Please note that the deadline for abstract submission is December 1st, 2007.

For further details contact the Local Organizing Committee:

Roberta Corsi
Università di Siena
Servizio Congressi
Banchi di Sotto 46
53100 Siena
Email: corsir@unisi.it
Tel. 0039-0577-232132
Fax. 0039-0577-232134
www.unisi.it/eventi/isa2008/

BOOK NOTICE

*The Life and Times of Thomas Dixon 1805–1871.
Lead Ore Smelter, Early Railwayman, and much
more besides*

Stafford M. Linsley
Wagtail Press, November 2006
ISBN 0-9538443-6-6
£17.50 P&P £2.50 from the publisher

During the early 19th century Thomas Dixon, of Dukesfield Hall near Hexham, in Northumberland, recorded his family life, working days and leisure time in his diaries. His words give us a fascinating insight into his world; his life as a family man, lead ore smelter early railway enthusiast, church and chapel-goer, gardener, singer, musician and later as Station Master at Hexham Railway Station, Stafford Linsley's extensive research gives us an in depth background to Thomas Dixon's life and times.

Publisher:
Wagtail Press, Gairshield, Steel, Hexham,
Northumberland NE47 0HS
www.wagtailpress.co.uk

BOOK NOTICE

*Along the Esk. A guide to the mining geology and
industrial archaeology of the Esk Valley*

Denis Goldring
Peter Tuffs, November 2006
£9.99 P&P £1.00 from the publisher

This excellent book follows on from Denis's 2001 *Along the Scar* and provides a clear account of the geology and industrial history of the Esk Valley in the North Yorkshire Moors National Park. The main focus is the iron mining but limestone, sandstone, silica rock and foundry sand quarrying are also covered.

Publisher:
Peter Tuffs, 48 Mackie Drive, Guisborough, TS14 6DJ
<http://homepage.ntlworld.com/peter.tuffs/>

Science for Historic Industries

The latest guidelines from English Heritage (*Science for Historic Industries*) provide information (primarily for archaeologists) on the benefits of scientific investigation for understanding Industrial Archaeology.

Printed copies can be obtained from English Heritage, Customer services Department, PO Box 569, Swindon, SN2 2YP.

Electronic copies can be downloaded from www.helm.org.uk.

While submissions to the Newsletter are welcome at any time, if you want to have something in a specific issue of the newsletter then it needs to be with me by the following deadlines.

1st March, 1st July 1st November
Contributions can be sent in any format (hand-written, typed, email, floppy disk, CD-ROM, etc).

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