

HMS NEWS

Historical Metallurgy Society

55

Winter 2003/4

A Good Summer for Iron Smelting Archaeology in Greater Manchester !

Norman Redhead

The University of Manchester Archaeological Unit (UMAU) undertook a watching brief during cutting of the easement for United Utilities Hale Waste Water Treatment Plant pipeline in between Hale and Wythenshawe south-east of Manchester. At a site off Whitecarr Lane, near Wythenshawe Hospital within Manchester City, medieval pottery and tap slag were observed associated with possible pits. A contingency fund was used to broaden the area of investigation to allow an excavation of the full area of interest during May and June 2003. One of the pits turned out to be a slag collecting pit containing a large assemblage (by the standards of the area) of late medieval pottery, tapping slag and furnace slag. Elsewhere there were run-off channels containing slag and charcoal, and post holes and slots for structures. The truncated nature of the ground levels meant that no substantial furnace remains survived, although there were vestiges of a probable furnace base. The site was sample excavated and then backfilled; it is clear that it extends well beyond the confines of the pipeline trench and could be revisited as a research excavation in the future. The medieval smelters had created a trampled layer which obscured earlier features and the slag collecting pit was cut through a large gully that contained two early Bronze Age flint scrapers! Post excavation analysis of the industrial residues and pottery is currently being undertaken.

In July further evidence of late medieval iron smelting was found at Gadbury Fold near Atherton in Wigan MBC. This was a large farmstead site open area excavated by UMAU ahead of a housing development. Coal seams ran at surface level through the farm yard and clearly there had been extensive coal mining across the site, with 13th/14th century sherds coming from the base of a coal shaft (pushing back the earliest evidence for coal mining in this area by 300 years!). The site also produced evidence for late medieval iron smelting; concentrations of tap slag associated with late medieval and 16th century pottery. As at Whitecarr Lane the raw material could still be seen as nodules of ironstone occurring in the boulder clay. There was no evidence

for a furnace base and this seems to have been removed by later activity. The Atherton area became famous for its home-based nail-making industry in the 17th century and perhaps we are seeing the origins of this industry at the Gadbury Fold site.

Medieval Iron Smelting Site in South Yorkshire

Jane Cowgill

Archaeological excavation (along the line of a pipeline) has recently found evidence for late Saxon or medieval iron smelting between Wentworth Park and Brampton in South Yorkshire. The excavation uncovered a series of irregular shallow burnt depressions which contained roasted and unroasted bog iron ore and almost 50kg of iron smelting slag. The location of the smelting furnaces was never actually identified, although the quantity of smelting slags found at the site suggests that they were not far away. The medieval records for iron working in the area were studied by Jeff Morris for his Masters in Historical archaeology at Sheffield (see HMS News No. 36).

The iron smelting slags are mostly tap slags, often consisting of multi-layered plates that cooled in the tapping pits. Also present are channel slags and furnace slags. The channel slags are similar to tap slags but 35–80mm wide and 20–70mm thick with a U or V-shaped profile indicating that they have cooled in the tapping channel. There are only four pieces that have been identified as furnace slags which cooled within the furnace and contain large charcoal fragments or impressions. An unusual aspect of some of these tapped slags is that some are partially frothy, almost cindery. There are a few pieces of fired clay that are probably furnace structure fragments, most are an oxidized pinkish-cream colour although a few are a reduced-fired grey. A single example of a smithing hearth bottom was also recovered. The sieving of the soil samples allowed the recovery of a wide range of micro-residues relating to metalworking. The samples contained both plate and spheroidal hammerscale but this could not be extracted using a magnet, because of the samples also contained roasted iron ore fines (which are also magnetic). Therefore hammerscale was extracted by eye and hand. The presence of both plate and spheroidal hammerscale indicates that some smithing was also undertaken near to the ore-roasting site, perhaps alongside the iron smelting. The soil samples also provided many samples of charcoal; mostly rather small, including a mix of quite narrow twiggy material, e.g. gorse/ broom, stems (hazel, alder and oak) and also mature oak. The diversity of species and the fact that many appear to be twigs is consistent with an ore roasting site.

Bog ores generally have a very high iron content and are often ideal for iron smelting in a bloomery furnace. They were not exploited after the introduction of blast furnaces because the deposits are generally too small to be economically viable. The large irregular depression excavated was probably originally dug to extract the bog iron ore. The ore was roasted on bonfires (to dry it, turn it into an oxide and remove any organic and other unwanted elements). The fire-reddened areas noted during the excavation are probably some of the roasting sites.



Investigation of Astrolabes through Synchrotron X-rays

Brian D. Newbury

The most sophisticated instrument of pre-telescopic astronomy, astrolabes were born out of man's curiosity with the night sky and methodical mapping of the stars' movement. The astrolabe allowed the time to be determined (to within one or two minutes) from the positions of the sun or stars. Since the instrument also contained a tool to measure angular altitude, it was also a valuable surveying tool. Nevertheless, the astrolabe was primarily used to aid in the prediction of horoscopes. This bridging of the modern scientific process with ancient superstitions is representative of the time period during which the astrolabe was in use.

The astrolabe makes use of the stereographic projection to represent the stars positions relative to the observer. The mathematics of the astrolabe date to the Greek Hipparchus, however, the earliest known astrolabe is an Islamic astrolabe from the 10th century. It is believed that Islamic scientists learned about the mathematics from translated Greek treatises. The astrolabe was then introduced to Europe in the 11th century over the Pyrenees from Moorish Spain. The astrolabe was in use until the mid 17th century in Europe, and until the mid 19th century in Islamic lands. This wide geographical range and long period of use spans many centuries

where advances in metallurgical knowledge were growing in leaps and bounds. The astrolabe makes a perfect instrument to study these advances in metal production and forming techniques throughout the middle ages.

Such a valuable tool was not constructed easily and was often ornately decorated to illustrate an instrument maker's skill. The finest materials available were used (predominantly brass), and the instrument's accuracy was determined by the quality and uniformity of the degree markings with which master engravers finished the astrolabes. Due to the intricate engraving and important historical place that astrolabes hold, they are highly desired by private collectors and museums alike. Due to their high value, a non-destructive technique is required when studying astrolabes.

In this research project the astrolabe collection of the Adler Planetarium and Astronomy Museum of Chicago, IL, is being examined at the Advanced Photon Source synchrotron of Argonne National Laboratories. Using synchrotron-produced X-rays allows many non-destructive experimental techniques to be performed on the astrolabes. Transmission X-ray diffraction is possible on astrolabes ~1cm thick due to the high energy and intensity of the synchrotron X-rays, allowing study of the microstructure and composition of the interior of the astrolabe. X-ray fluorescence analysis gives the surface composition, which can then be compared to the bulk composition by diffraction to see if there are any composition gradients. X-ray radiography can also be performed to determine accurate thickness profiles of the samples, giving clues to the manufacturing process.

Preliminary results have shown that during the late 16th/early 17th century the brass industry centered around Lahore in current day Pakistan was technically very advanced. Six astrolabes of this period from Lahore show evidence of an $\alpha + \beta$ brass microstructure, indicating that metallic zinc was used in the brass production. This result is significant since dual phase brass was not produced commercially until the 19th century in Europe. The astrolabes were also found to have separate alloys for components which were cast and components which required a high degree of cold working. The $\alpha + \beta$ components were all mechanically worked, while the cast components often had a significant amount of tin and lead to increase the fluidity of the casting metal and decrease the melting temperature.

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Henry Cort at Funtley

David Dungworth

Many HMS members will be familiar with the story of Henry Cort and his development in the 1780s of the puddling process for converting cast iron into wrought iron. Over the past few months I have been trying to track down some of the people who have been involved in investigating Cort's ironmill at Funtley, Fareham, Hants.

I started by visiting the site; but there is relatively little evidence remaining today (Freeman 1971; Moore 1983; Riley 1971). The plaque that the Historical Metallurgy Society erected on the site on the 17th September 1983 to commemorate Cort's achievements is still there. The most extensive remains of the ironmill are those of the millpond and watercourses. The dam for the millpond carries a small lane which had been 'paved' with slag from the iron works (this is now topped with tarmac). Immediately to the south of the lane is a wheel pit for the ironmill. A building (timber-framed with a half-hipped roof) to the south of the lane is traditionally referred to as Cort's house but was probably workers' accommodation.

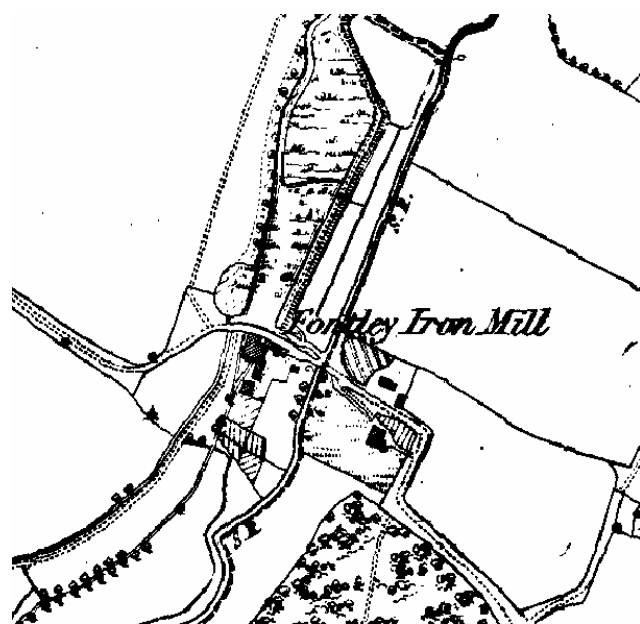
The house is now owned by Mike and Sue Bell who told me that there had been an excavation in the 1970s. I checked with all of the local museums but they knew nothing about the excavation (certainly no archive had been deposited with them). At Sue Bell's suggestion, I phoned Pam Moore and discovered that she had participated in the excavation which was run by Peter Singer.

Peter Singer (who had edited Reginald Mott's book on Henry Cort) left England around 1980; he spent some time teaching in Libya and then in Brunei. Peter had not been replying to correspondence for nearly 10 years and Pam Moore was less than sanguine about the prospects of tracking him down, however, a simple internet search found the newsletter of an organisation (Cf BT) which supplies teachers in Brunei. The November 2002 issue bade farewell to Peter Singer who had been with Cf BT since 1984. I emailed their office in Brunei and asked if they had a forwarding address: they emailed back with a telephone number (the internet is truly a remarkable invention!). I managed to speak to Peter who was very pleased to hear that people are still interested in the work he carried out at Funtley. He still intends to publish and even suggested that he would like to publish in the *Historical Metallurgy Journal*. The excavation archive is currently stored at his house in Merthyr Tydfil, Wales (close to the Cyfartha site which Peter has also been researching). I am hoping to meet up with Peter when he visits the UK next spring. I am hoping that it will be possible to organise a report on

Peter's excavation for the HMS conference in Portsmouth.

In the years since Peter Singer's excavation, other people have continued to research various aspects of Cort, Funtley and the puddling process.

Killick & Gordon (1983) examined some slag from Funtley and showed that the microstructure of puddling slags are distinct from bloomery or finery slags. Unfortunately the samples were collected from the lane and not from the archaeological excavation. Indeed, Killick & Gordon appear to have been unaware of Peter Singer's excavation and admit that 'samples from Fontley cannot be positively associated with Cort's process until a careful excavation is made' (Killick & Gordon 1983: 28).



1870 Ordnance Survey map showing Funtley Iron Mill
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Nick Molteno carried out research into Funtley for his BSc degree in archaeology from Sheffield University which included a comparison of various Ordnance Survey maps.

Eric Alexander (2003) has been researching historical documents relating to Henry Cort and has shed light on various topics. Mott & Singer (1983: 19) assumed that Henry Cort obtained the site at Funtley in 1774 when his wife inherited the site from her uncle William Attwick. Eric demonstrates that William Attwick was alive and well in 1779!

But the story doesn't end there

As part of my searching for information on Funtley, I had read Riley's 1971 article in *Industrial Archaeology* which includes a plan of the mill showing the location of excavation trenches. This puzzled me as Peter Singer's excavations had taken place in 1975–6 (Mott & Singer 1983: 84). Riley records that the plan was 'provided by S.B. Weeks & N.A. Davies who conducted digs in 1964 and 1965'.

Pam Moore and Peter Singer confirmed that Stephen Weeks had carried out an excavation at Funtley while he was at Portsmouth Grammar School. Stephen was a passionate character and led a spirited campaign to save the parts of Old Gosport. The local council believed that a Ministry of Public Works document was a list of dangerous buildings that should be torn down. It led to a confrontation between the 17-year old in scruffy jeans and an robed, but ill-briefed, mayor: Stephen seems to have won.

Stephen Weeks went on to have a career in film. He wrote and directed several films featuring Sean Connery, Marianne Faithful and Penelope Keith! In 1973 he bought Penhow Castle in Wales and turned it into a visitor attraction. The castle received an environmental award from the Campaign for the Protection of Rural Wales in 2001 but Stephen sold Penhow in 2002 and has now moved to the Czech Republic where he hopes to acquire 25 derelict castles. He has formed a state-backed consortium to restore them to tourist attraction-cum-hotels. I have not been able to track down an address, phone number or email for Stephen Weeks.



References

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- Mott, R.A. & Singer, P. 1983 *Henry Cort: The Great Finer*. London
- Riley, R.C. 1971 'Henry Cort at Funtley, Hampshire' *Industrial Archaeology* 8: 69–76

Wealden Iron Research Group

Jeremy Hodgkinson

The Group's annual bulletin (*Wealden Iron*, 2nd ser., **23** (2003)) contains a belated report on the excavation of a bloomery site, at Turners Green, Sussex, dated to around the 1st century AD. The remains of four furnaces were discovered, with apparently domed sections and unusual extended clay passages, up to 1m long, through which the draught was directed. Evidence of tapping indicated quite fluid slag conditions. Comparison is drawn with contemporary furnaces found at Levisham Moor, Yorkshire.

A short article identifies 'Crookford' furnace, in the 1574 lists of Wealden ironworks, as Worth furnace, not Cotchford forge as earlier writers had suggested. In another, the career of John Trew, an early example of a civil engineer, is briefly examined and his possible origins in the iron industry in the Weald placed alongside his later activities in the construction of waterways and harbours in the Elizabethan period. In an further note, the sparse information hitherto available for the working life of Scrag Oak, or Snape, furnace, Wadhurst, is fleshed out with details from a Chancery case involving members of the Barham family in the early 17th century.

In the field notes, newly discovered bloomery sites are recorded in Mayfield, Heathfield and Crawley parishes, in Sussex. Also, the dating of a recently identified bloomery near Ticehurst, Sussex, places it in the late-13th or early 14th century. Further examination of the site known as Iron Plat furnace, Buxted, which has been identified with possible blast furnace working in the late 15th century, points to a likely source of iron ore. The 16th century Netherfield furnace has been known from a small number of documentary references but it has been associated with another site. However, it has now been found, although its working life may have been short.

CONFERENCE REPORTS

Norberg-Nora — 700 Years of Iron Production (Sweden, 18th–22nd August 2003)

David Cranstone

This conference, held to mark the 700th anniversary of the first written records of iron production in Sweden, was a lively and very successful affair — delegates were primarily from Sweden, but also Russia, Britain, Denmark, France, Germany, Hungary, and Norway. The conference itself consisted of two days at Norberg and two at Nora (both in the ‘bergslagen’ iron-producing districts of central Sweden, and including some very impressive site visits), followed by a guided visit to the Falun copper mine. As well as an excellent conference, the superb standard of Swedish hospitality will be remembered for a long time.

The conference was divided into parallel sessions on ‘The origins of mining and the iron industry and their impact on social and technological development’ and ‘Industrial heritage as a driving force in a period of transition’. A number of themes ran through the conference. One was an emphasis on the archaeology of medieval ironmaking within its wider social and landscape setting. A second was the concentration on Cistercian monastic estates, in Sweden, France, and Britain — perhaps this needs balancing by more work on other monastic orders, on the estates of lay magnates, and on areas of weak lordship, to see how these compare to each other and to the Cistercian picture? A third was the new picture of development of the blast furnace in Europe. The earliest dated furnaces remain the 12th century sites such as Lapphyttan in central Sweden. However it is now clear that by the later Middle Ages almost every parish had its blast furnace in the village; by the time of the first systematic record in the 16th century, there were 78 in the area, and a large number of undocumented furnaces in the woodlands had already gone out of use. The furnaces were normally run by partnerships of part-time peasant ironmasters, without the major injection of landowner or industrialist capital. The origins of the blast furnace remain obscure — the berslagen furnaces look like a consistent and well-developed technological package, with no sign (yet?) of the experimental stages and failures one might expect from a local invention, and no obvious line of development from earlier bloomeries in the area. A Swedish origin remains very much on the cards, and a technology transfer from copper-smelting shaft furnaces was discussed; an ultimate origin from China remains possible, though this would involve the *de novo* development of the finery process. Elsewhere in Europe, the blast furnace was certainly spreading through Germany and Switzerland in the 13th and 14th centuries, though probably not with the ubiquity it had

attained in central Sweden. For British researchers this raises yet more insistently the question of whether the blast furnace was present before its traditional introduction at Newbridge in 1496 — and if not, why not?

My thanks to the Society for a travel grant which enabled me to attend the conference.

‘Archaeometallurgy in Europe’ — Milan, Italy 24th–26th September 2003

Duncan Hook

The three day conference ‘Archaeometallurgy in Europe’ was held in Milan under the auspices of the Associazione Italiana di Metallurgia, AIM, and chaired by Alessandra Giunli-Mair, Ernst Pernicka and Radomir Pleiner. It was held in the wonderful Museo della Scienza e della Tecnologia “Leonardo da Vinci”, which has extensive displays on metal winning, processing and forming from prehistory to the present day (plus models of Leonardo’s inventions, and areas devoted to ships, planes, trains etc etc).

The 130 oral papers in the programme were organised into themes (iron metallurgy, precious metals, non-ferrous metallurgy, mines and ore extraction, physical analyses, experimental archaeometallurgy, and slags). However, as the papers were presented simultaneously in triple parallel sessions, many good papers were inevitably missed. Highlights included Ernst Pernicka’s presentation on the Bronze Age astronomical disc from Nebra and Noel Gale’s on the lead isotope studies on the LBA ingots from the Uluburun shipwreck.

53 posters were also displayed, that by Dave Starley on the XRF of arms and armour being particularly informative and stylish.

The two volumes of the conference proceedings (ISBN 88-85298-50-8) are priced at €50 (not bad for 1300 pages) and form an essential record of the meeting.

The eight courses(!) of the conference dinner were particularly memorable, but it was also a great opportunity to meet and hear from 300 colleagues and friends from more than 30 countries from all around the world. It is rumoured that the next conference will be held in Sardinia, on a smaller scale but likely to be focussed on specific topics.

"Master of Them All": the history of iron and steel in Cumbria, 19th October 2003

Paul Belford

Over 100 delegates to this conference were treated to an excellent day of fascinating papers, dealing with all aspects of the iron industry from the early middle ages to the late twentieth century.

Brian Young, of the British Geological Survey, gave an overview of iron ores in the region. He dealt with the well-known haematite deposits as well as siderite, magnetite and deposits of coal measures ironstone. Brian cast doubt on the value of bog-iron as a resource and was sceptical about the value of slag analysis in determining sources of ore.

John Hodgson, presented an introduction to the Lake District Bloomeries Project. He noted that the 19th and early 20th century investigations had not been followed up systematically and so the SMR data was confused and frequently inaccurate. John described a number of sites that were suffering erosion and looked at different ways in which these problems were being overcome.

Peter Crew provided a number of examples of Cumbrian bloomery sites where careful magnetometer survey showed the likely presence of furnaces and smithing hearths. The use of magnetometer surveys may enable archaeomagnetic dating without the need for excavation.

David Cranstone reported on his field investigation of a sample of the 200 or so known bloomery sites. Some of the sites appear to lack an obvious ore source, and some bloomeries are near to 'boggy hollows' — strongly suggesting the use of bog ore. Some sites were substantially larger than others, which David had provisionally termed 'unpowered mega-bloomeries'.

Ian Miller reported on research on Cunsey Forge including documentary evidence (there are early 17th references), geophysical survey and excavation. Excavation identified three main phases; a possible bloom-smithy phase, a hearth from the forge itself, and later domestic/agricultural use.

Richard Newman described the problems of trying to locate post-medieval bloomsmithies on the basis of map and documentary evidence; it is probably fair to say that the resulting discoveries were due as much to persistence and serendipity.

David Cranstone reported work at Wilson House (see HMS News No. 52) which was the location of John Wilkinson's experimental furnace. Wilkinson obtained

a Boulton and Watt steam engine which performed very well, despite being run on 'any old rubbish'.

Paul Belford reported on archaeological excavations at Barrow. The ironworks was established in the 1850s by James Ramsden; in the following decade Henry Schneider built a Bessemer steelworks next door and in 1866 the two concerns were merged to form the Barrow Haematite Iron and Steel Company. Paul described the remains of furnaces, engine houses and massive flues running under the whole site.

Robson Davies (represented by Chris Irwin) discussed the final days at Millom Ironworks, and the exciting innovation of spray steel making. Unfortunately, although a prototype plant was installed, expansion to a commercial scale was not possible and this ultimately led to closure of the works.

The day was concluded by Mike Davies-Shiel who outlined the history of the Backbarrow Iron Works. This was followed by the showing of a tiny sample of his substantial slide collection, brought vividly to life by Mike's commentary.

Many thanks are due to Chris Irwin and David Cranstone for organising the conference. The proceedings of the meeting will shortly be published.

FORTHCOMING CONFERENCES

Archaeometry 2004

The next Archaeometry conference is to be held in **Zaragoza**, Spain from 3–7th May 2004. One of the six sessions will be on the technology and provenance of metals. Full details are available on the website (www.archaeometry2004.info) or by writing to Marius Vendrell-Saz, University of Barcelona, Martí i Franquès, s/n, 08028 Barcelona, Spain.

HMS Conference 2004: Portsmouth

The 2004 HMS conference will be held in Portsmouth from the 10th to the 12th of September. Further details to follow in the next issue of the newsletter.

An Excursion: Metalworking in Normandy

As advertised in HMS News No. 54, Justine Bayley is considering organising an excursion to western Normandy next September to explore some of the metallurgical sites there (a finery forge, bell foundry, etc). So far there has been relatively little response; if people are interested they should write to Justine Bayley (at the English Heritage Centre for Archaeology, Fort Cumberland, Eastney, Portsmouth PO4 9LD) as soon as possible.

The Archaeology of Industrial Processes

This unique conference will be in two parts. The first session will be in London on the 2nd October 2004, followed by a second session at Ironbridge on the 6th November 2004.

The conference will cover the results of archaeological investigations of industrial processes and production sites. Over the last decade, many aspects of industrialisation in the more recent past have been looked at for the first time using archaeological techniques. In some cases this has shown up interesting contradictions between the historical and archaeological records; in others there are close parallels. The aim of this conference is to explore those processes which have traditionally received less prominence in the archaeological literature. These will include glass, industrial ceramics, enamel production, printing, distilling and brewing as well as other manufacturing practices.

The conference will be jointly organised by the Society for Post-medieval Archaeology, the Historical Metallurgy Society, Ironbridge Archaeology and Pre-Construct Archaeology Ltd.

Part one will be held at the London Archaeological Archive and Research Centre, Mortimer Wheeler House, 46 Eagle Wharf Road, London – this will cover work undertaken in London, the south of England, Europe and the East. It will also incorporate the AGM of the Society for Post-medieval Archaeology.

Part two will be held at the Ironbridge Gorge Museum, Coalbrookdale, Telford, Shropshire – this will cover the results of work done in the midlands and north of England, and in the Atlantic World.

Delegates may choose to attend either conference, and a special discounted rate will be available for those who wish to attend both.

Papers are invited: they should be around 20–25 minutes in length. Abstracts and proposals for either day should be submitted in the first instance to Frank Meddens. It is intended that papers will be published as part of the SPMA monograph series. For further information, please contact either:

Paul Belford at paul.belford@ironbridge.org.uk
Ironbridge Archaeology, Ironbridge Gorge Museum Trust, Coalbrookdale, Telford, TF8 7DQ

Frank Meddens at meddens@vossnet.co.uk
Pre-Construct Archaeology, Brockley Cross Business Centre, 96 Endwell Rd, London, SE4 2PD

The Science and Conservation of Treasure

To coincide with the major exhibition on Treasure and National Science Week the British Museum is holding a Study day The Science and Conservation of Treasure on Thursday 11th March 2004. Archaeologists, scientists and conservators from the British Museum will discuss their investigations of some of the gold treasures found in Britain from the Bronze Age to the Civil War. We expect to have contributions on the analysis of gold, from touchstone to portable XRF, counterfeiting of coins, conserving treasure study of the technology, as exemplified by the Bronze Age tress rings, remaking the Mold Cape and much more. Tickets are £24, concessions £18, to include entry to the exhibition on the day. For more details contact Paul Craddock at The British Museum London WC1B 3DG.

Email pcraddock@british-museum.ac.uk

Industrial Archaeology in Shropshire

A one-day meeting to be held on Saturday 26th June 2004 at the Shirehall, Shrewsbury to review recent research and developments in the industrial archaeology of the county. A field trip will also take place on Sunday 27th June, which may include the Ironbridge Gorge and extraction sites in south-west Shropshire.

The provisional programme is as follows

- Mike Shaw, Metal mining in south-west Shropshire
- Peter King, The charcoal iron industry in Shropshire
- Paul Belford, The landscape of Coalbrookdale in the eighteenth century
- James Lawson, Lead mining before the industrial revolution
- David Higgins, Shropshire clay pipes
- Tim Booth, Water mills in Shropshire
- Roger White, The industrial landscape of the Clee Hills

The meeting is organised by the Shropshire Archaeological and Historical Society, supported by the Ironbridge Archaeology (Ironbridge Gorge Museum Trust), the Ironbridge Institute (University of Birmingham) and Shropshire Records and Research Centre. The cost of the meeting will be £10. Further details, and a booking form, are available from the meeting co-ordinator: David Poyner, 136 Hoo Road, Kidderminster, Worcestershire, DY10 1LP, Email David@D-Poyner.freeserve.co.uk.

There will be space available for individuals and organisations to present poster displays describing recent fieldwork in industrial archaeology. Those interested should contact the meeting organiser.

FORTHCOMING HMS MEETINGS

The 2004 AGM will be on the 15th May at the National Motor Cycle Museum, Birmingham. The meeting fee of £11 will include access to the museum.

The 2005 AGM will probably be on the 21st May 2005 (although confirmation is still awaited).

BOOK REVIEW

Justine Bayley

R Butler and C Green, *English bronze cooking vessels and their founders 1350–1830*. A4 p/b, 204pp. Honiton: R and V Butler. ISBN 0–9546050–0–4. £40.

This handsomely-produced volume was published as a handbook to accompany a loan exhibition, and 150 pages comprise the catalogue of 200 vessels, each illustrated by one or more B&W photographs and line drawings of scratchmarks. Most of the vessels are cauldrons, posnets or skillets, with few mortars — the only other vessels type to survive in any quantity. The majority are attributed to individual founders and a date and place of production are given. Most were made in southern England and 32% are attributed to just two foundries in south Somerset. There are descriptions of the general forms of the vessels, their inscriptions and decoration, and discussion of how they were used. There is a short section on the metal (by Roger Brownsword) with some discussion of variations in alloy composition and its implications for dating and metal sources but, disappointingly, only 25 quantitative analyses (from three sources) are given in an appendix. The section on methods of production is a useful summary which draws on a range of documentary and archaeological sources and is complemented by a discussion of the founders, many of whom are also known as bellfounders.

The volume is available direct from R and V Butler, Marwood House, Honiton, Devon EX14 1PY for £40.00 (P&P is £3.50 for the UK, £4.50 for Europe and £9.00 for the USA and Canada).

Almost all of the items that formed the exhibition are still with the Butlers. This is an impressive collection but viewing is by appointment only. Contact R and V Butler, Marwood House, Honiton, Devon EX14 1PY. Telephone 01404 42169

APPLICATIONS FOR GRANTS are invited to the R.F. Tylecote Fund and the Coghlan Fund.

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

Application forms must be submitted by the end of January, 2004.

The Coghlan Bequest Fund — an appreciation

Chris Carey

The Coghlan Bequest Fund kindly donated £150 to my PhD in order to help me to purchase a computer to help me in my studies. I would like to express my gratitude to the HMS for this grant which has helped me in my research. I am currently pursuing a PhD in the application of geochemical survey to locate and identify metalworking in the archaeological record.

The technique that I am developing (see HMS News No. 54 for details) means large data sets are collected that require analysis. When the data has been compressed this information is displayed using GIS (Geographical Information System) allowing the production of geochemical maps. Naturally, this type of data analysis requires a good deal of computing power!!!

Contributions for HMS News are welcome at any time but the three deadlines are:

1st March

11th June

5th November

Electronic contributions are preferred in a PC-compatible format (diskette or email attachments).

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