

HMS NEWS

Historical Metallurgy Society 78 Summer 2011

From the Chairman

Tim Young stepped down after four years as Chairman at the Spring Meeting and AGM in Helmsley (described in this issue). Our new Chairman is Paul Belford, who introduces himself here.



Paul Belford: HMS Chairman.

Tim's hard work and inspirational leadership over the last four years has been a tremendously positive force for the Society. Tim has seen through a thorough overhaul of many aspects of how HMS conducts its business, in particular reforming the committee structure so that we can do so much more. Already the Archives and Collections Committee (ACC) has completely modernised our archives which are now properly conserved, stored and – most importantly – indexed. The new Membership, Programme and Publicity Committee (MPP) has also taken a firm grip of forward planning for the future, with lots of exciting new initiatives in the pipeline. The History and Recent Metals Committee (HRM) has also begun to take its first steps, working with Tim in developing this autumn's Cardiff conference. So all of us in the Society owe Tim a really big debt of thanks for his hard work – and meticulous attendance record at committee meetings and events – and in particular for ensuring that the Society has remained in good shape through recent years.

It is therefore an exciting moment, if somewhat nerve-racking, for a new Chairman to take over the helm. It is important to sustain the reforming momentum which has built up over the last few years. In particular we need to encourage new members to join the Society, and for all of us – new and existing members alike – to take an active role in running the Soci-

ety. The purpose of the committee structure is to enable as many people to get involved in as many areas of the society as possible, and to devolve as much activity away from Council.

We are particularly keen to hear from anyone with enthusiasm for the history of metallurgy, or with personal experience and knowledge of the last fifty years of industrial metallurgy. We also need people with energy and drive to contribute to the organisation of meetings and the production of promotional material. Non-metallurgical expertise is also extremely valuable – in publication, publicity, finance or administration... do please help if you can! Don't worry if you haven't been on a committee before, or if you have and the experience was not to your liking – all of our committees are informal, friendly and welcoming. Involvement need not take too much time or money: increasingly many committees are now having discussions by email and conference calls with Skype. If you want to see something happen in HMS, then do it!

We do have a very exciting time ahead in the next couple of years. 2012-13 is our fiftieth anniversary year, and we have already begun preparations for its celebration. We will begin with the Spring Meeting in 2012, and follow through the celebrations at our major conference in the autumn, with a final celebration in 2013. We are also keen to hear from our longest-standing members with their memories of the early years of the Society. Papers from all of the meetings will be published – more details have been provided by the MPP Committee in this issue of the Newsletter.

Hopefully by now you have all completed your questionnaire and sent it back to the MPP Committee. This is really important – and it's not too late – as we all think about what shape HMS will have in the future. In particular we are keen to think about making the Newsletter and other publications – including the website – address members interests, enthusiasms and concerns more closely. If you are working on an interesting historical metallurgy project then it is likely that other members will also find it interesting – so do please get in touch with the Editors of *Historical Metallurgy* to see if it is suitable for publication in the Journal. And of course if you have an interesting project or research results that may not yet be sufficient for a paper in *Historical Metallurgy*, do please write a few hundred words for the Newsletter!

The last fifty year has seen the emergence of archaeometallurgy as a fully-fledged discipline bringing together the arts and sciences, professionals and academics, archaeologists and industrialists. We can be very proud of the Society's role in shaping these developments, and I for one am looking forward to starting the next 50 years in style!

Paul Belford.

The next edition of the HMS Newsletter will be published in November 2011. Contributions are welcome and should be emailed to r.doonan@sheffield.ac.uk by 1st November 2011.

Conference Reports

HMS AGM and Spring Meeting. Helmsley, Yorkshire. 4th-5th June 2011

This year's AGM and Spring Meeting took place in Helmsley, on the theme of 'Royalty, Religion and Rust'. Papers covered a wide range of topics.



Delegates from the Helmsley meeting gather at Rievaulx Abbey

The meeting began with **Niklas Schulze** describing the casting of small copper alloy bells in pre-Hispanic Mexico. Copper alloy was valued more highly than gold by the Aztecs, and these small bells had an important religious role – they appear to have been ritually deposited in the temple in association with other offerings. The peak of bell production took place between the Triple Alliance of 1428 and the Spanish conquest of 1520. XRF analysis of 781 bells found considerable variation in the type of alloy. Arsenic, tin and lead were the most frequent elements, but the composition varied regionally, and with time; there was also some correspondence between the shape of the bells and the alloy used. Unfortunately there was no evidence for production – documentary evidence suggests that the bells were made in small portable furnaces on tripod legs.

Niklas' paper was followed by a fascinating study of Jesuit ferrous metallurgy in Venezuela by **Ana Maria Navas**. Missionary-led colonisation in the 18th century spread westwards along the Orinoco River, with iron objects the most significant trade items. Excavation at the Pueblo de los Espanoles del Villacoa provided considerable insight into the way the Jesuits introduced ironmaking technology to the indigenous population. Locally-sourced iron was smelted in a bloomery, and then worked in a blacksmith's forge. European and African experts were brought in to train the indigenous people, who themselves much preferred blacksmithing to other tasks. After the expulsion of the Jesuits in the 1780s, knowledge of smelting was lost, and ironworking was subsequently restricted to reworking and repair of existing artefacts.

Tim Young then transported delegates across the Atlantic and provided a synthesis of several projects, exploring the role of the church in the development of ironmaking during the early Christian period. The church was a focus for economic activity, it was a 'sponsor' of metalworking, and was also a facilitator of technology transfer between areas. There seemed to be an asso-

ciation with the size of smithing cakes and the size of bells being made at some sites with considerable variation and specialization. Smithing changed significantly between the 6th and 9th centuries, and Tim suggested that links with the Merovingian kingdoms were significant in the exchange of culture and technology. Connections between church and ironworking were also noted in a later periods.

Continuing the ecclesiastic theme, **Paul Rondelez** described his excavations at a Cistercian ironworking site. At Aghmanister (County Cork), an abbey of c.1172 was replaced by an entirely new monastery in c.1278. The earlier church was re-used for the manufacture of iron – finds included smithing hearth cakes, tuyeres and various iron objects, as well as smithing residues. This activity seemed to have peaked during the late 13th and 14th centuries. **Amy Bunce** and **Barry Cosham** looked at ironworking in Tulske (County Roscommom). The research project had identified that a prehistoric ringfort was later occupied by the fortified tower house of the O'Conor Roe family; this strategically-located site was captured by the English in 1593 and rebuilt by Sir Richard Bingham. Excavations recovered smithing debris, most of which was associated with the late 16th and early 17th century occupation.

There were two further ferrous papers. **Roy Andrews** looked at ironworking in medieval castles in Yorkshire, noting how earlier excavations and analysis had largely overlooked the often quite substantial evidence for ironworking. At Knaresborough, for example, 107,000 crossbow bolts were made in three years during the 13th century; excavations revealed the remains of 14 smithing hearths. At Pontefract, despite there having been no excavations within the castle walls, 18kg of smithing hearth bottoms and associated debris had been recovered. There is clearly considerable potential for further research.

Peter Halkon began his paper on iron, myth and magic by singing a folk song which encapsulated several long-standing themes of transformation and ritual. He then explored a range of iron-related myths (including Wayland, Sigurd and Vulcan) before considering the particular landscape of east Yorkshire in the late Iron Age and Roman periods.

Moving away from iron, **Chris Witney-Lagan** presented very interesting piece of research on pewter dress accessories from the 10th century onwards. There was no documentary evidence for pewter production between c.900-1200, but the archaeological collection of the Museum of London had the potential to provide important evidence. Pewter may have been used to imitate silver, but it became an increasingly high-status material in its own right, with ecclesiastical use from the 12th century. Over 70% of the 223 objects Chris had examined were brooches, with a bewildering array of styles which provided a great deal of information on the status, connections and affiliations of the wearer. XRF analysis suggested no particular pattern in the composition of alloys, demonstrating the need for Guild control which was eventually imposed in the 14th century. Finally, **Steve Sherlock** outlined the excavation of an unusually rich Anglo-Saxon cemetery at Street House (Yorkshire). The 'bed burial' in Grave 42 was the most northerly in the country, suggesting royal connections with the south-east. Jewellery included a pendant incorporating Iron Age gold coins, and another piece which re-used the gold from Merovingian coins. Some pieces were extremely well-made and had

clearly been handed down over several generations as shown by evidence of repair work.

After the paper presentations delegates were treated to a series of field trips led by **Gerry McDonnell** to various medieval and post-medieval ironworking sites. These included Rievaulx Abbey (where the post-medieval blast furnace made good use of former monastic buildings) and sites of earlier monastic ironworking at Bilsdale – including a water-powered site which created considerable discussion in the field. Gerry also led a trip round Helmsley Castle. Many thanks to Eleanor Blakelock and Gerry McDonnell for organising such an excellent meeting which introduced a number of different themes, and struck a good balance between lectures and field visits.

Paul Belford.

Non-ferrous metals: The cultural history

The Historical Metallurgy Group of the Jernkontoret, the Swedish Steel Producers' Association, jointly organised a conference in Stockholm in early May with the Royal Academy of Letters, History and Antiquities, and Stockholm University. It showcased recent research into non-ferrous metals and metalworking of all periods. Alongside the contributions from Swedish speakers were a number from six other northern European countries.

Eva Hjärthner-Holdar spoke on Extraction of copper in Sweden during the Bronze Age? Possibility, myth or reality? but reported that so far no matches of composition or lead isotope ratios have been found between ores and Bronze Age artefacts. Gert Goldenberg talked about the HiMAT project that is examining Bronze Age copper ore mining in the Eastern Alps, and Simon Timberlake gave an updated view of prehistoric copper mining in Britain. There were three papers dealing with the Viking period: Natasha Eniosova spoke about the analytical study of coins and other objects, mainly of silver, from Gnezdovo; Justine Bayley gave an overview of evidence for the working of non-ferrous metals in the British Isles; and Ny Björn Gustafsson presented his work on the use of master models on Gotland.

There were five papers on medieval topics: Dariusz Rozmus spoke about excavations on three sites in western Poland where lead-silver ores were smelted in the 11th-12th centuries; Arne Espelund presented recent work on copper smelting in Norway around 1300 AD; Kenneth Jonsson used historical records to show how the copper from the Falun mines made Sweden a great power in the 15th century; Lena Berg Nilsson spoke about medieval mining in Sweden while Filip Velínský considered non-ferrous mining and silver production in Bohemia. The post-medieval period was also represented, with a paper by Dag Noréus on chloridizing roast for low temperature metal extraction, and two papers on metal ingots from wrecks by Paul Craddock and Waldemar Ossowski. The two days of papers were both followed by memorable evenings: a visit to the Royal Coin Cabinet followed by supper with live opera arias, and a sumptuous dinner at the Royal Academy's Villa Rettig. The seminar concluded with an excursion to Koppartorp, a well preserved former mining settlement in Tunaberg, and several nearby blast furnace sites.

Justine Bayley

Community Dig finds links to cutlery trade in back gardens!

A community archaeology project in Sheffield has produced evidence that links the late 19th century cutlery trade to peoples back yards in the Heeley district of the city. The excavation at Heeley City Farm (<http://www.heeleyfarm.org.uk/>) is in its third season and is a collaboration between Heeley City Farm's



Excavations at Heeley City Farm, Sheffield. Until 1978 the field was a Victorian terraced street.

Heritage Officer, Sally Rodgers, and The University of Sheffield. The farm was established in 1981 on the site of a failed road scheme which had compulsorily purchased and demolished a number of Victorian terraced streets.

In 2011 the project engaged almost 1000 members of the community who helped excavate the back gardens of four former properties and to examine and document the finds. Evidence from the excavations have found a range of evidence which suggests a number of light trades were practiced in peoples houses, gardens and out houses. The discovery of mother of pearl off cuts with circles cut out suggest that button production was amongst some of the activities taking place. Interestingly, it is most likely that the material made its way from local cutlery works to be reused for button production. Likewise a number of bone offcuts also suggest that hafting activities, possibly for pen knives, were also taking place in a domestic setting.

Census returns have also been studied as part of the project and it is interesting to note that a tool forger and razor hafter were living in the houses at the turn of the 19th and 20th centuries. The finding of an unhafted cut throat razor in one garden along with bone offcuts suitable for hafting not only offer tantalising confirmation of historical documents but further indicate the links that existed between domestic and industrial spheres.

As part of the project Sally Rodgers (youngroots@heeleyfarm.org.uk) is undertaking an oral history project and would be keen to hear from any Heeley residents current or former, or any metal workers from the Heeley and/or Sharrow districts of Sheffield.

Roger Doonan

New material from Stanwick, North Yorkshire.

A short note to highlight an exciting discovery reported to the Portable Antiquities Scheme in the North East.

The site of the discovery in 1843 of the 'Stanwick Hoard' (wrongly named as it is actually in the parish of Melsonby) was excavated in 1992-5 by a joint team from Durham University and Dickinson College. Geophysical survey was carried out and features noted on this were targeted (Fitts *et al* 1999) but few small finds were discovered. This was attributed to a possibility of ambiguity of the original findspot (*ibid*, 49) but it may be that it was just pure bad luck.

In February 2011, whilst working as the Finds Liaison Officer in Durham, I was lucky enough to be shown some material found by a metal detectorist which had come from the exact part of the field where it is thought the Stanwick Hoard was discovered. The finder had been extremely diligent and excavated every signal, and plotted where everything came from very precisely. What he brought in were 18 copper alloy objects, a group of metal working waste and a contemporary copy of an Iron Age coin (now dated by Ian Leins of the British Museum to between 30 and 50 AD).



Figure One: Terret fragment: the holes left for enamelling, which are visible on the complete examples in Macgregor's catalogue, can be seen here too. However, this piece is a failed casting as a sprue is visible projecting from one of the lips.

Although mostly fragments of items, they can almost immediately be matched up to items found in the 1843 hoard; in some instances they are so similar they could well be part of broken items in that hoard.

The material is extremely important for our understanding of the Stanwick Hoard, one of the few pieces of evidence we have from North England of pre-conquest contacts with the Roman world. In the 1843 hoard, MacGregor notes that many objects are 'broken and distorted and some are blackened or partially melted' (1962, 20). The discovery of metal working waste, and even more badly cast items, including failed castings, adds weight to the argument that the hoard was something like a founders hoard. As with the 1843 hoard, the 2011 material is

mainly horse, or strap/harness related, with six terret fragments, three items such as strap slides, a button-and-loop fastener and eight other miscellaneous items. It now seems fairly certain that the metalworker at this site was making a type of lipped terret ring.



Figure Two: A button and loop fastener which appears to be finished and enamelled.

Since the first group of items came in, the finder has found more, so that the total number of items/fragments of objects has reached 25 plus. As they are part of a prehistoric hoard they are currently being processed as Treasure and will be analysed at the British Museum in order to compare the alloy composition with the material found in 1843 and analysed by Dungworth in the 1990s (Fitts *et al* 1999, 38). Also, work will be done on looking at the style of art used on the items and comparing it with other material found in North Yorkshire and central Britain as a whole. The new wealth of data recorded on the Portable Antiquities Scheme will be invaluable for this.



Figure Two: A successfully cast strap slide with iron corrosion.

Frances McIntosh

Bronze Age Smithing Hammers

A Coghlan grant report

This short note reports a recent preliminary study of Bronze Age metalsmithing tools which has been made possible by the award of a Coghlan Grant from the HMS. The wider study has been designed to better understand the practices of Bronze Age metalsmiths as can be inferred from a study of the tools they used. An inventory of hammers and anvil stones has been collated from a variety of sources including literary searches, the use of ADS, SMRs, HER and PAS databases and re-examination of a number of museum collections.

A number of metalworking tools curated by Museums have either received inadequate study or have simply not been published. The preliminary study and documentation of these artefacts has therefore formed a core aspect of the research undertaken. Relevant tools have been closely examined by hand and recorded in a standard manner to allow typological comparison and type variation. In addition all tools have been photographed in detail to document evidence of wear marks and use facets.

The use of portable XRF has also been employed to gain insight to the range of alloys used for metalworking tools. Many artefacts examined were heavily corroded which severely limits the utility of XRF analysis. However, initial results suggest that basic alloy recipes can be gained from many artefacts with some indication that surface residues might be detectable on some artefact types

The majority of the hammers examined were Late Bronze Age socketed tools. None of the hammers had loops, although some that had intact mouths did have a collar that might have aided in hafting. One hammer had lead residue inside the socket, indicating that lead or a lead alloy might have been poured into the socket, filling the gap between the hammer head and the handle in order to secure it. Tree resins are of course one consideration for aiding with hafting although some types may not be suitable for percussive tools as they tend to be quite brittle (Ken Hawley, *pers. comm.*).

Of the hammers examined, two broad categories could be established: those with a wedge-shaped face, typical of forging hammers, and another type with a bevelled face quite unlike any contemporary hammer. The apex of the bevel roughly divides the hammer face in a 2:1 proportion with an angle of about 50°. Some hammers showed evidence of their production and/or maintenance. For instance, file-marks were seen on the edges of the face of the hammer from the Gray's Thurrock hoard (Colchester Museum). This would indicate that maintenance of the face and possibly the angle was important. Together such details along with the examination of specific artefact types provide the basis for reconstructing Bronze Age techniques.

The unfamiliar nature of many of the Bronze Age hammers presents an interpretive challenge. In order to better understand hammer function, Ken Hawley of Kelham Island Museum was consulted. It is apparent that some Bronze Age hammer types resembled a type of hammer used in tool making, but now fallen out of use. The nearest modern equivalent is called a *dog-faced hammer similar in some ways to a Japanese hammer. These hammers tend to have the* haft is toward the rear of the head, rather than the centre which in turn pushes the weight of

the hammer forward. Many dog-faced hammers also have the familiar bevel seen in the Late Bronze Age hammers. Ken Hawley suggests that the design provided extra weight at the top of the tool, making it both more ergonomic and effective for specific tasks. By having a tool that was weighted forward of the hafting and above the face, the hammer would fall in an arc, rather than landing flat. This would provide the sort of shearing forces needed to work sheet metal, and the design would enable metalworkers to work more efficiently. The hammer would have worked equally well as a tool to flatten metal, or to use to strike another tool, such as a stamp, chasing tool or chisel. Mr. Hawley demonstrated the hammers use in stamping grooves in files. In their context, the two types of hammers commonly found in the Late Bronze Age would indicate sheet metal working. Research into the various tools necessary for metalworking continues. An inventory of metalworking tools necessary for a metallurgist's workshop has been completed and it is hoped that additional museum visits will shed more light on the working life of the Bronze Age smith. The next stage of research will involve the use of experimental archaeology. A range of hammers based on Bronze Age types will be cast and used to better evaluate their effectiveness in a range of metalworking practices.

Giovanna Fregni

Request for Help

Stephen James from Teesside University has contacted the society to see if any members could help with his research concerning the steel industry on Teesside.

Stephen is particularly interested in the development of the basic open hearth process and in career of Benjamin Talbot – the metallurgist of tilting furnace fame and managing director at the South Durham and Cargo Fleet steel companies. He has already gained access to the archives of the companies and is familiar with Talbot's contributions to the Journal of the Iron and Steel Institute. However, he has not been able to trace any archival materials from the Iron and Steel Institute.

The successor institute – Institute of Materials, Minerals and Mining (IOM3) – does not have any of the papers (minutes, correspondence etc) and has no record of where they may be, or whether they still exist. As Talbot was at one time a leading light in the ISI, it would be very useful to know whether these do still exist and if so, where they may be. Stephen would also be interested in any of Talbot's private papers related to his research and business activities (apart, that is from those in the steel archives in Middlesbrough and some family papers in the North Yorkshire Archives). If any member can shed light on this then please contact the Newsletter editor or Stephen at the following address.

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Re-writing the story of hot blast – another ferrous first for Shropshire?

Hot blast was arguably the most significant development in iron making during the first half of the nineteenth century. The conventional story of the development of hot blast revolves around the inventor James Beaumont Nielsen, who took out a broadly-worded 14-year patent in October 1828 (Smiles 1863).

However others had been experimenting with similar methods, including Welsh and American engineers who were attempting to develop hot blast for use with anthracite; English ironmasters were also experimenting. Among these was Thomas Botfield, partner in what was then the second-largest ironworks in the country – the Old Park works in Shropshire (Trinder 2000). In January 1828, nine months before Nielsen's patent, Botfield took out a patent for pre-heated blast (Belford 2011). Nielsen defended his patent vigorously, claiming pre-eminence in coming up with the concept of heating the blast. Botfield was ruled not to have significantly pre-empted Nielsen's method (Corrins 1970). However it is clear from the wording of Botfield's patent that, although the detail of his method was different, the essential principle of heating the blast was being employed. Moreover by re-using waste gases, Botfield appears to have anticipated later developments.

The opportunity to investigate some of Botfield's furnaces came about as part of a regeneration scheme in Telford Town Park, part of the 'Parks for People' project funded by the HLF and BIG lottery. Telford, a new town, was built partly over the site of Botfield's Old Park works (which were subject to only brief archaeological recording in the 1970s); the Town Park was an area to the south which was left undeveloped for recreational use. Its area included the sites of two Botfield ironworking complexes half a mile apart: Stirchley (four blast furnaces and a 'refinery') and Hinkshay (puddling furnaces a forge and rolling mill). Nexus Heritage were commissioned by Telford and Wrekin Council in 2011 to undertake archaeological investigations at the Stirchley furnaces site (NGR SJ 700 075). The project revealed the well-preserved remains of two of the original blast furnaces built by the Botfield concern in 1822-24. These remained in use until the 1880s, and were then adapted as part of the Wrekin Chemical Works, which used the site into the twentieth century.



Figure One Fig. 1. Stirchley furnaces: view of part of the western elevation before excavation, showing the top of the arch of the northern furnace and the smaller archway of a passage between the two furnaces. The ground level here is approximately 2.5m above the original floor levels. Photo: Paul Belford/Nexus Heritage.

The surviving blast furnaces stand up to 6.5m above the original ground surface, although partly buried and partly collapsed (Fig. 1). The southern furnace had also been partly demolished, and so archaeological excavation – incorporating a community project with enthusiastic volunteers – was undertaken to reveal its extent and survival. Surviving features include blowing and casting arches, furnace stacks, hearths, passageways, flues and associated structures (Fig. 2).



Figure Two. Stirchley furnaces: view of the southern furnace during excavation showing the outline of the furnace bases.

Photo: Paul Belford/Nexus Heritage.

These were built in the manner of Black Country blast furnaces, quite distinct from the Shropshire tradition. Landscape survey revealed a great deal more: visible features include the remains of an engine house, a boiler house, and ore storage bins; there is also very good potential for below-ground survival of the refinery and hot blast stoves. Site levelling operations after the closure of the ironworks appear to have sealed stratigraphically-intact deposits of metallurgical debris.

Research in the Botfield papers at the John Rylands Library in Manchester showed that hot blast was being used at Stirchley by the 1850s, but the original construction phase of 1822-24 did not appear to have included hot blast stoves. Botfield's patent required a single hot blast stove for each furnace; the draught was enhanced by a supplementary chimney running up the outside of the furnace stack, which drew the flow of air across the hearth. The addition of the chimney was different from what later became standard practice, and in fact may not have worked particularly effectively. However there is some evidence to suggest that the Botfield method was attempted in practice at Stirchley, both from the documentary sources and from the structure itself.

The Botfield accounts record repeated repair and replacement of blast engines during the 1820s, suggesting a period of experimentation – perhaps the chimney method didn't work as well as Botfield had intended. Towards the end of 1828, repairs at No.1 furnace included 'taking down and rebuilding a chimney' and work to an air furnace (Belford 2011). The removal of an external chimney as described in the patent would have resulted in similar structural damage to that recorded at the northern furnace. The ground plan of the furnaces, with their internal flues is identical to that of slightly later hot-blast furnaces (eg. Mushet 1840, Ure 1843). Further research and site work needs to identify the locations of the later hot blast stoves, and then to determine when they were originally constructed – and what arrangement may have been in place beforehand.

This very exciting project has revealed a hitherto unrecorded – and largely unknown – pair of very well-preserved blast furnaces. Landscape survey suggests that a great deal of the surrounding ironworks survives intact, including the refinery, loading and transport arrangements. The refinery was served by the same blast engine as the furnaces, a relatively unusual arrangement. This alone would make the site interesting – but their possible association with a pre-Nielsen hot blast patent is very exciting. Further archive research and metallurgical analysis is ongoing, and a more detailed account of the excavation and research will be submitted to *Historical Metallurgy* later in the year.

Paul Belford, *Nexus Heritage*.

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Forthcoming conferences and meetings

HMS Annual Conference, Cardiff, 16th-18th September 2011

The annual conference for 2011 will address the themes:

- The South Wales iron and steel industry, particularly the development of rolled and engineering products
- The development of the steel industry in the UK and Europe post-1960
- The social history of the iron and steel industry

Most of the programme of the meeting will be held jointly with the Historical Committee of the German Steel Institute (VDEh). The conference is non-residential. The conference involves several different venues and trips including .. The Booking form can be downloaded from the HMS website (<http://hist-met.org/>). The Conference is being organised by Tim Young, the former HMS Chairman who can be contacted at Tim.Young@GeoArch.co.uk.

HMS Spring Meeting 2012

To launch the anniversary year, the HMS Spring Meeting in 2012 will revisit the subject which originally led to the creation of the Society – early blast furnaces.

Starting in the West Midlands, we hope to have a very field-orientated meeting, with some lectures and other visits. We hope to discuss aspects of conservation and understanding as well as blast furnace technology, and perhaps include experiences from overseas.

Talks and visits are still being planned. The provisional date is around the weekend of 26th and 27th May 2012. Any suggestions for visits, talks or other activities are welcomed: contact Paul Belford (paulbelford@ymail.com) or Tim Young (Tim.Young@GeoArch.co.uk).

Metal Objects: A joint meeting

A Joint meeting of the Roman Finds Group, Finds Research Group and Historical Metallurgy Society will be held in collaboration with the York Archaeological Trust at the Merchant Adventurers' Hall in York. The meeting will focus on non-ferrous metal objects of all periods and will be held in York on Monday 17th October 2011. There will be illustrated explanations of many of the techniques used to produce base and precious metal finds; how they were made and decorated. For more information contact Justine Bayley (mail@justine-bayley.co.uk) or see the HMS website at www.hist-met.org/meetings.html.

Archaeological Sciences 2011

September sees the biennial UKAS conference at Reading University. The conference aims to bring together archaeological scientists from all areas of the field. The first day of the conference is dedicated to Ancient materials with several papers that are bound to be of interest to HMS members. The conference runs from 15-18 September 2011. More details are available from the conference website at <http://www.reading.ac.uk/ukas-2011/>

Experience of technology

On the 22nd and 23rd of October The Scottish Archaeological Forum is holding a conference at The University of Glasgow which seeks to explore how technology, as a sensuous embodiment, interfaces with auditory, haptic and olfactory experiences and how related approaches may incorporate diverse theoretical standpoints. The topic is challenging and should offer fresh insights for members keen to extend their understanding of this field and its relevance to Historic and ancient metallurgical practices. Technology is the unifying theme for the conference but organisers are welcoming a range of perspectives including : Landscape and phenomenology; Sensory experiences - auditory, haptic and olfactory; Social dimension, agency, practice and Materiality For more information contact Dene Wright a.wright.3@research.gla.ac.uk, or visit the website at www.scottisharchaeologicalforum.org.uk/.

Hoarding and deposition of metalwork

On the 29th October 2011 The Portable Antiquities Scheme will be holding a conference at The British Museum, and giving a British perspective to the array of metalwork finds. Recent discoveries such as the Staffordshire hoard of Anglo-Saxon gold and silver and the hoard of 52,503 Roman coins from Frome highlight the importance of us asking why these were buried in the ground: was it with the intention of recovery or should we look for other reasons such as votive deposition or deliberate abandonment? The conference will look at the deposition of metalwork and coins from the prehistoric period to recent times with a focus on Britain, but also looking at parallels from elsewhere, to see if practices from one period can inform another. For more information contact Claire Costin at Department of Portable Antiquities and Treasure, The British Museum, Great Russell Street, London WC1B 3DG, tel 020 7323 8618, email ccostin@thebritishmuseum.ac.uk.

Public lecture

For members living in the Middlesbrough area there will be the opportunity in October to listen to HMS Journal editor Justine Bayley. Justine will be speaking to the Cleveland Industrial Archaeology Society on 'Industry before the Industrial Revolution: archaeological evidence from the North East'. The meeting will be at 7.30pm on Monday 10th October 2011 at St Mary's Centre, Corporation Road, Middlesbrough; visitors are welcome. For further details see <http://www.teesarchaeology.com/new/CIAS.html>

Portland Works under threat!



Portland Works is one of the most important metal trades buildings in the city of Sheffield and it is where Harry Brearley first took his Stainless ingots to be made into 'Rusnorstain' cutlery in 1913 (Soon to be a topic for an HMS meeting!). Currently, the site is in a sorry state and is deteriorating quickly. However, structural decay is not the only threat; last year a planning application was made to convert the works in to sixty small flats which, thanks to a local campaign, has now been withdrawn. As long as Portland Works remains in commercial ownership it is vulnerable, and it is unlikely that it will get the repairs it needed let alone a sensitive restoration. It is widely recognised that the Works has much potential and is presently under-used. Current tenants represent a wide range of craft

skills and experiences many of which are gradually disappearing. If the current practitioners are moved out and dispersed it is widely believed that many will not restart and instead disappear for good. Supporters and friends of the Portland works have spent the last year preparing a business plan to establish a viable and sustainable future for the Works. Whilst the slump in the property market has brought campaigners some time they are conscious that they need to act quickly to save, restore and manage the building. The current landlord has agreed to sell the building to our Society and the friends have initiated a community finance plan which may interest many members of HMS who wish to play a part in the preservation of this important building and its incumbent craftspeople. The supporters plan to run the building as a community-owned social enterprise which lets out workspace at fair rents. A conservation plan for the building has been approved which will be enacted through a rolling programme of repairs and grant-aided restoration. A priority for the future is to ensure existing tenants stay, maintaining and creating jobs and offering training in the traditional trades whilst aiming to attract more tenants into the renovated areas and support start-up businesses. As part of this initiative a centre of excellence for traditional crafts is to be established whilst developing the heritage potential of the site within the context of a working environment, to enable the public to see 'how things are made'.



If you would like to find out more about the Portland Works then do visit their website <http://portlandworks.co.uk/>. You will find a wealth of information about past and present metal trades. Most importantly do examine their share offer. They are eager to raise £250,000 pounds through the sale of shares to ensure the longevity of the site and moreover the skills craftspeople who inhabit it.

.Roger Doonan

Newsletter submissions are welcome at any time, but deadlines for each issue are

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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