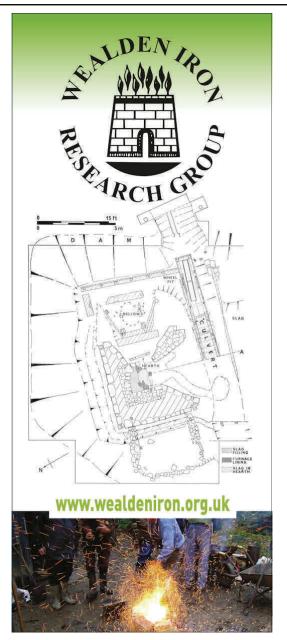


NEWSLETTER 57 SPRING 2013

EDITOR: JEREMY HODGKINSON

3, Saxon Road, Worth, Crawley, Sussex, RH10 7SA; Tel: 01293 886278; Email: jshodgkinson@hodgers.com



NEW PROMOTIONAL POP-UP FOR WIRG

A striking new display panel (see left) has been designed for use whenever WIRG has a presence at conferences and exhibitions. Intended to engage the interest of those who might wish to find out more about the Group or purchase its publications, it takes the form of a spring-loaded roll-up banner with a simple, eye-catching design. The whole thing retracts into a small container for easy portability. The design comprises the WIRG logo, part of the plan of the excavated remains of Chingley Furnace, and a dramatic scene of iron forging at the Pippingford experimental bloomery.

WINTER MEETING 2nd February 2013

The winter meeting was held at its usual venue of Nutley Village Hall on 2 February this year and consisted of two presentations, one a video recording of contemporary bloomery furnaces in operation made and commented upon by Tim Smith, and the other on the progress of the prosopography – a web based-database of personnel associated with the Wealden iron industry – presented by Jeremy Hodgkinson. The advertised report on the Robertsbridge Project was postponed due to slow progress.

Bloomery Ironmaking

Each year, a band of traditional ironmakers operating bloomery furnaces across Europe meet for a four day 'Fest' to make iron together. The 2012 location was Acton Scott near Church Stretton, Shropshire, a working farm museum. In recent years this has become better known as the location of 'The Victorian Farm' the first of a series on the working history of

CONTENTS

New Promotional Pop-up pa	ge 1	Ordnance News	6
Winter Meeting	1	Geophysics at Great Cansiron	7
Bloomery Ironmaking	1	An Extraordinary Job	7
Experimental Smelting	3	Face the Ironmasters	7
People in the Iron Industry	3	Can You Read This?	8
Excavations at Thorp's Wood	4	WIRG Photo Archive	8
Academic Honour	4	Cast-iron Graveslabs	8
New Members	4	Tebbutt Research Fund	9
The Perils of Giving Advice	5	Sussex School of Archaeology	9
Boring-mill Throughputs	5	WIRG Contacts	10
WIRG Bulletin 33	5	Editor's note	10
Mayfield Furnace	6	Publications	10

farming made for the BBC.

The two resident archaeologists of Acton Scott, Mick and Colin organised the event, attracting smelters from Germany and The Netherlands as well as Victor Kellett and Tim Smith from WIRG. We were not able to muster sufficient members to build a furnace, so Victor helped out on Mick's furnace while Tim gathered information from the other smelters.

The charcoal for the smelts had been made by Mick using a traditional clamp, a technique he had learned in Romania from one of the few remaining traditional charcoal makers still operating in Europe. The ore used was largely rich imported ore acquired from Tata Steel (UK) with an estimated iron content of 62-65% Fe, but one smelt was conducted by the German team using local Shropshire ore which had probably rather lower iron content. All but one of the smelts used electric blowers to provide the air blast, and used a high rate of air flow.

Each of the furnaces was built in the day prior to smelting and was constructed of house bricks liberally lined with clay. All but one was essentially cylindrical in shape standing about 1.5m high and 0.5m internal diameter. The typical construction is well illustrated in one furnace which was stopped part way through a smelt, and the front and charcoal removed to reveal the part formed bloom and slag (Fig 1).



Fig. 1 Furnace sectioned part way through a smelt and emptied of charcoal to show progress of forming a bloom.

The group from the Netherlands were the most authentic, using bellows (Fig 2) and a slow blow rate.



Fig. 2 Dutch 'Archeon' smelters.

They were members of the Dutch 'Archeon' group which re-enact a number of historic activities. (www.archeon.nl)

A pair of cylindrical bellows well back from the furnace were connected by long tubes to two opposite tuyeres. It is important to blow such bellows together rather than alternately to prevent the danger of an explosion should a spark occur. The bloom they produced was gently consolidated on a tree trunk, at first by pushing and gently tapping the surface to recover the more spongy outer layers, followed by more vigorous hammering.

The German teams used electric blowers and heavy forging of the bloom from the start (Fig 3). Led by a blacksmith, Georg Petau of Kunstschmiede (www.petau.net), their final smelt used Shropshire ore, which they initially charged in small quantities wrapped in twists of paper. However, when they ran out of paper they simply charged it a 'spoonful' at a



Fig. 3 The German furnace showing rear tuyere and additional air blown at front to encourage slag flow.

time, followed by charcoal. The furnace was blown through a 50mm diameter tuyere from the rear and steeply angled downward. The furnace had no tapping arch and when the time came to attempt to tap slag they removed some of the bricks at the front to gain access. However, no slag flowed and a second air blast was added through this front opening – now partly blocked with bricks – to increase the temperature at the base of the furnace, eventually resulting in a trickle of slag.

The bloom was removed by dismantling the furnace from the top leaving the base to act as a reheating forge during the consolidation process (Fig 4), which was by hard and rapid hammering by two



Fig. 4 Removing the bloom from the furnace.



Fig.5 Mick's furnace.

hammermen, initially one using a wooden mallet and the other a sledge hammer. After initial consolidation and reheating the bloom was transferred from a wooden tree trunk to an iron anvil and forged to a cube.

In all eight furnaces were built, six by the German group. The one British furnace was built by Mick and helpers – including Victor from WIRG. It had a dome at the base – similar to the WIRG second furnace at Pippingford – and used a chimney liner to extent the height to about 1.5m (Fig 5). The bloom was removed by opening the bricked slagging arch and the top extension.

The bloom proved difficult to work and later inspection when cold showed runs giving a strong magnetic response suggesting that cast iron had been produced. This results from operating a furnace at too high a temperature with an excess of charcoal giving iron with a high carbon content.

Tim Smith

EXPERIMENTAL SMELTING

WIRG will be operating their experimental furnace again in the Spring and anyone interested in helping should contact Brian Herbert by e-mail brianherbert@btinternet.com or telephone 01342 327032.

People in the Iron Industry

In the past a prosopography (a word unfamiliar to many) was used to describe the appearance, personality, social and family connections, however, by using computer software it is now possible to expand the idea to cover all a persons relations, work related associates and contacts as well as *their* associates. Formerly this could only have been carried out to a limited extent using punched-cards. WIRG's web site now has a prosopography containing people associated with the Wealden iron industry. This has been assembled over the past year or so and it is still growing as more data is included, and is likely to continue to do so for the foreseeable future. This, and all associated data, is freely available from WIRG's web site.

By clicking on SITES AND PEOPLE DATABASE, and then SEARCH PEOPLE, the prosopography search form will be seen .

The database allows searches for people by name, by when they lived or worked, where they lived, and what they did. It also allows connections to be pursued between one person and others, and between a person and the ironworking sites with which they were associated. This facility connects the Persons Database with the Sites Database, and users of the latter will be able to find information about the people who worked at a site. Sources of data have been included, where possible, either in the form of bibliographic references from another linked

database, or in the form of selected archival extracts. Screenshots from the database were shown and explained, together with sample results.

The database remains 'work in progress' and Jeremy Hodgkinson, who is the editor, appealed for members to volunteer to extract data from, as yet, unplumbed sources, of which there are many. These include parish registers for which no printed transcript exists, articles and other archival sources.

Possible future developments were shown. These included portraits of people, where available, and a graphic display of the connections between people and the sites with which they were associated. Members of the audience suggested the inclusion of products linked to sites or people, and links beyond the Weald; many members of families of ironworkers from the Weald went on to be involved in ironmaking in other parts of the British Isles and in North America.



Jeremy Hodgkinson appeals for volunteers to help enter data.

Below: A record from the People Database: Richard Lenard, founder at Brede Furnace.

1636

Ironmaster



Name:

WEALDEN IRON RESEARCH GROUP DATABASE



www.wirgdata.org

Found 1 results

Title:

Date of death:

Place of death:

Role(s):

Latest known date:

House/Home/Estate:

Lenard, Richard Lenward, Lenarde

12/9/1614

Aliases: Date of birth:

Earliest known date:

Place of birth:

Place(s) of residence:

Nationality:

Notes: Marriage: Richard Lenarde m. Bridget Hunt at Brede 12 Sep 1614

Brede, East Sussex

Marriage licence for Richard Lenward of Udimer, founder, and Mary Sickle of the same parish; 24 Sep 1629.

His named image appears on a fireback of 1636

Lenward, Lawrence (b.unknown, d.unknown) is Richard Lenard's son Oxenbridge, Robert (b.unknown, d.1638) is Richard Lenard's employer Sackville, Thomas (b.unknown, d.1639) is Richard Lenard's employer Person Connections:

Iron Site Connections: Brede Furnace - Tenant/ironmaster 1605?-aft 1636

Non-Iron Site Connections:

References:

Cleere, H. F. and Crossley, D. W.. (1995) The iron industry of the Weald. Merton Priory Press. Cardiff (for this connection see page(s) 318)

Dunkin, E. H. W., (1901) Calendar of Sussex Marriage Licences at Lewes - 1586 to 1643. Sussex Record Society Vol. 1, Lewes (for this connection see page(s) 177)

EXCAVATIONS AT THORP'S WOOD. BREDE Brede High Woods Archaeology Project

On Tuesday 9th April 2013 BHWAP will be returning to the iron working site that we started work on last year. The excavation and work in this part of the wood will take place over three weeks which will give us enough time to thoroughly explore the iron-working site. As it is difficult to estimate in advance how much time we will need to spend at the iron-working site we may also be investigating further charcoal platforms and carrying out a walk over survey on the site and surroundings of Austford farm.

Details from

CBAS Ltd, Unit 12, Mays Farm, Lower Wick Street, Selmeston, Polegate, BN26 6TS, or www.cbasltd.co.uk/ communityarchaeology.html

ACADEMIC HONOUR FOR HON. SECRETARY

Congratulations are due to our Hon. Secretary, Judie English, on the award to her of the degree of Doctor of Philosophy (D.Phil) by the University of Sussex. Her thesis was entitled "Pattern and Progress: field systems of the second and early first millennia BC [i.e. the Bronze Age] in southern Britain".

> We welcome the following **NEW MEMBERS**

Mr C. G. Child, Lewes Mrs G. Crawshaw, Furners Green Gordon Mabb, Barming

THE PERILS OF GIVING ADVICE

More than 18 months ago, I was contacted by the researcher for a television production company, who was seeking information about gun-founding in the time of Henry VIII for a programme being planned as part of a series on 'The British'. Such a request had happened before and was an experience that was usually interesting as it sometimes caused me to refine my own knowledge of a subject. Viewing the programme, however, has caused me to reflect on some aspects of the process.

programme The was to chart the 'revolutionary' changes that took place during the Tudor period, and the sequence my advice was being sought on related to the development of cast-iron cannon by Ralph Hogge and William Levett at Buxted in 1543. Providing advice of this nature generally involves responding to specific questions from researchers who have no prior knowledge of the subject (and have probably done little reading into it either). Their learning curve, though willing, is very steep, and one tries to help them as much as possible but, unless there is a one-to-one conversation over the phone, it is impossible to second-guess the motives behind some of the questions being asked, or the assumptions they have already made and have not asked about. Quite early on in the dialogue, a question came up about the dangers of firing cannon. I explained that cannon were fired with a taper attached to a pole (the linstock). What I was not aware of was the fact that the researcher had not understood (despite me including the fact in one of my responses) that the fuse on a cannon consisted of gunpowder poured into a hole down to the charge in the barrel. So when the programme was broadcast, the producers had made a mock-up of a cannon with a 'slow-burning' fuse in the touch hole instead. A 'will it go bang?' dramatised sequence of testing the newly cast cannon had clearly been planned early on in the production, and the question asked of me had not elicited the right information to inform their reconstruction.

Another theme was the use of the vertical casting method. I had explained that Hogge would have used the method that was already being employed (by Peter Baude and others) for casting bronze cannon, and that Hogge was not an innovator in this. But that is not how it was presented in the broadcast. There is need, which I have observed among programme makers, for superlatives: their subjects need to be the first, or the most important. So Hogge and Levett's use of vertical casting was proclaimed as innovative, despite my cautions to the contrary

At my first contact with the researcher I was informed that they had obtained a copy of my book on the Wealden Iron Industry – so far, so good, I thought. However, another dramatised sequence showing Hogge's furnace at Buxted showed a furnace that was round in plan, despite Reg Houghton's lovely cross-sectional drawing of a blast furnace being

available to them. Where did they get that idea from?

I suppose the key thing to a programme maker is 'the story', and they try to get the facts right insofar as they support that aim, but rely on the ordinary viewer not being expert enough to spot the minor inaccuracies that so irritate we who are in the know.

JSH

BORING-MILL THROUGHPUTS

A forthcoming study, using historical information, has estimated likely cannon throughput capability of a single mid 18th-century, simple boring mill, such as used by Fullers', in terms of expected time to bore different calibres of cannon.

Historical sources of information include a report on a 17th-century boring bar and tooling arrangements, carbon tool steel performance for cutting cast iron, likely mid 18th-century machining conditions and interactions between key variables. These include gun size and water wheel rotation rates, gun bore windage, depth of cut, and tool Feed Rate on tool life and likely number of tool changes needed to bore one cannon. Time estimates to load, set up and unload cannon onto and off a mill plus length of a working day (or shifts worked) are included. Integrating and modelling this information provides operating limits for boring times and estimated labour costs.

Key outputs give number of guns of a size produced in one single working shift for a given set of operating conditions. Other outputs show how a boring machine operator could use experience to vary or optimise throughputs of bored guns by adjusting operating conditions - but within limits.

An interesting possibility is that Fuller's policy change to manufacture larger guns, achieved from 1740, may well have imbalanced throughputs of his single boring mill. The article suggests how, with Fuller's second boring mill coming on stream during 1742, outputs from both mills might be scheduled to give each improved utilisation and throughput.

Model validity was assessed by comparing throughput results against several of Fuller's *Letters* giving bulk numbers of cannons of a size expected to be bored within a given period ahead. Model results are shown to replicate expectations very closely.

Alan F. Davies

WIRG BULLETIN, SECOND SERIES, 33

Articles for inclusion in this year's Bulletin should be sent to **David Crossley** by **31st March 2013**. His address is on the back page.

Prefer to have your Newsletter in Colour and by email? Contact the Editor

Contact the Editor (details on front page)

Welcome to the site of

As you enjoy the peace of the woods, imagine the noise, smell and heat of hundreds of people – and their oxen and horses – working here; cutting wood, shouting instructions, burning charcoal, and making iron and cannons. Horses and carts, or oxen and carts,

then pulled the heavy guns on our muddy Sussex roads to the nearest river or seaport, to be shipped elsewhere in Britain, to Europe and to overseas colonies.



In the late 1560s Thomas Gresham moved from Antwerp, where he had raised money and bought arms for Queen Elizabeth I. He moved to Mayfield and developed a gun foundry on this site. Gresham lived at Mayfield Palace, which is now \$t\$ Leonards Girls School.

Other local foundries were also set up at the same time, to meet orders such as 100 culverins for the King of Denmark. Culverins were cast iron naval guns about 10 feet (3 metres) long, firing an 18 pound (8kg) shot over a mile.

Mayfield guns have been found in the West Indies, in Holland and in the mud of the Thames estuary.

By the 1530s, when Henry Neville had the royal monopoly for the export of cast iron guns, this site was perhaps the most important in the country. Fooduction of cannons had stopped by 1610, but the manufacture of other iron goods continued here until the 18th century.







By the 19th century the iron industry had moved to northern England, and the woods were owned by Thomas Kirby, the vicar at \$1 Dunstans Church in Mayfield. The Kirby family owned woods in this area for four generations. At the time coppied timber was still used to make farm tools, household objects, carts and charcoal, and for fencing, hop poles, and building. The 1870 Ordnance Survey maps of this area have a Vicarrage Wood to the east of here and a Kirby's Wood to the south.

The surrounding field names still witness the past; Great Forge Field, Little Forge Field, Old Palace Field and Furnace Wood.

Kirby's Wood disappears from maps. We believe it was felled close to the First World War. With the Woodland Trust, we are recreating a new native wood on the same site. It is a Jubilee Wood to celebrate The Queen's Diamond Jubilee. The new wood will occur by regeneration, as the surrounding woods naturally move into the field.



Managing our land

Wadhurst Park estate, the owner of these woods, manages them by coppicing with standards. This is a cycle of cutting and allowing the stumps to regrow. Most deciduous native trees—ash, hazel, oak, field maple and lime—will coppice. This allows light into the woodland floor, creating a habitat that is more diverse than mature woodland. Some trees are allowed to grow as they wish. In Barky Wood we are removing a conifer plantation from the ancient woodland. These and plants that were shaded out by the conifers, or are brought in by wind, birds and animals, will thus return.

Footpaths





Locally-dug iron ore and charcoal from the surrounding woods were tipped down the furnace chimney. Water-powered bellows made motten iron which was poured into vertical moulds (for cannons) dug into the ground. Firebacks were made, as were pigs and sows — blocks of cast iron taken to a forge to be purified. The furnace would operate continuously for months, often until the water supply ran out. The bear (the residue from the base of the furnace) could then be removed. One ton of cast iron produced three tons of glassy black slag, which is to be found all over the site. The boring mill smoother the inside of the run bares! the inside of the gun barrels. Gresham's guns were twelve times cheaper than

Tudor iron-working

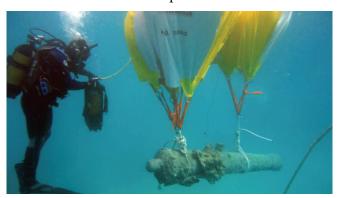
their bronze equivalents, but they had a poor reputation for quality. It was said that they were "fitter to kill the user than the enemy."

This handsome interpretative panel has been erected close to the site of Mayfield furnace by Wadhurst Park Estate, the new owners of the site.

The panel incorporates notes on the history of ironworking at the site, products made there, local footpaths and the changes in the landscape over the centuries. Wouldn't it good if more of the historic iron-working sites in the Weald were to benefit from such interpretative signage?

ORDNANCE NEWS

Marine archaeologists working on a wreck off the coast of Sicily have discovered five large cannon from a British ship, believed to have sunk in a major battle with the Spanish. The team searching waters near the city of Syracuse said the find dates back to the Battle of Cape Passaro in the 1718. The discovery has helped pinpoint the exact location of the battle, which involved more than 60 ships and ended in defeat for



One of the guns being raised to the surface

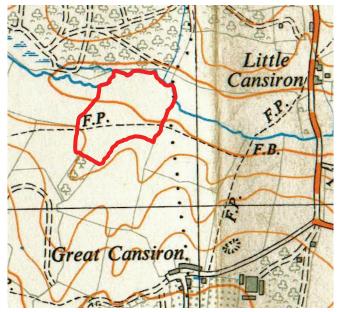
the Spanish. At the time, the British were attempting to drive them out of Sicily.

Reports suggest that at least some of the guns were made by 'the Great Ironmonger', Thomas Western, who cast guns at Ashburnham and Brede furnaces in the late-17th century.



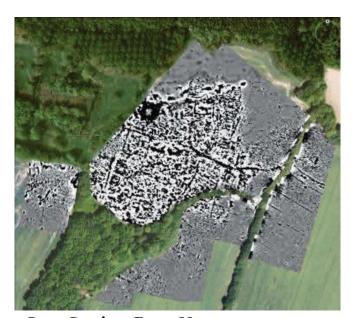
The battle off Cape Passaro, by Peter Monamy and Isaac Sailmaker

GEOPHYSICS AT GREAT CANSIRON



Far Blacklands field, Romano-British ironworking site, Hartfield.

A recent High-Level Stewardship agreement at Great Cansiron Farm, Hartfield, has resulted in a magnetometer survey of the Romano-British ironworking site on the field known as Far Blacklands (TQ 448383), and adjacent parts of the neighbouring fields, carried out by Chris Butler Archaeological Services. It is hoped that the full results of the survey will be published but, in the interim, the illustration below shows the results from the main field in question. Very evident are a series of regular boundaries which suggest a settlement with a WNW-ESE trackway running through. Several high-concentration anomalies (dark patches with a pale



Great Cansiron Farm. Magnetometer survey of Romano-British ironworking site (courtesy of Chris Butler Archaeological Services Ltd.).

auriole) are likely to be bloomery furnaces, although the major feature at the top left of the plot is the disturbance caused by a high-voltage pylon. At the top of the survey area is a zone devoid of features. This was identified by the WIRG Field Group in 1993 as having probably been flooded, having noticed a similar lack of ironworking debris there. The river Medway may have been wider and deeper in Roman times. A line of anomalies along its southern edge could represent concentrations of iron nails used in the construction of a revetted wharf.

AN EXTRAORDINARY JOB

Themic Analysis has been applied to a selection of *The Fuller Letters* to compare and contrast how John Fuller (father) (JF1) and his son John Fuller (JF2) reacted to iron and cannon manufacturing events and situations of their times. A key aim was to see whether the question 'what was it like for Fullers' to run their businesses?' could be assessed from their letters to agents. Part of the analysis included looking at capabilities of and relationships with their respective agents and how these may have influenced business performance.

Findings reveal both shared and important differences in patterns of how they responded expressively to production events or situations and which may be partly indicative of their personalities. Whilst JF1 broadly expressed higher proportions of Concern, Frustration and some Annoyance with various events causing a response, JF2 tended similarly to display more instances of Pleasure, lesser Concern, more often Disappointment and similar levels of Confidence as his father to events. Results associate types of responses and emphases with differing parts and timing of cannon manufacturing, management performance and their agent's capabilities and influences.

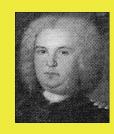
The historical record shows Fullers' were successful. However for this achievement and to answer the original question posed earlier, evidence from Fullers' letters to agents over 25 years exposes the individual personal demands and emotive responses involved in managing their mid 18th-century cannon businesses.

Alan F. Davies

FACE THE IRONMASTERS

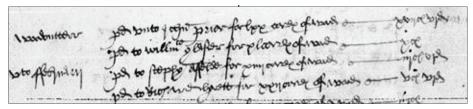






John Fuller II (1706-1755)

CAN YOU READ THIS?



If you can, then we'd like to hear from you because we've got over 30 pages of it which need transcribing. It's part of a page of accounts for Panningridge Furnace for 1546, a furnace which was run in tandem with Robertsbridge Furnace and Forge and transcribing it will give the Robertsbridge Project group some valuable insights into the problems associated with running a furnace. This is probably the earliest extant account of running a furnace we have in this country.

Email or phone David Brown (01435 812506 or wirgforays@gmail.com) if you think you may be able to help. The text can be provided as a paper copy or as a pdf for viewing on a computer.

WIRG PHOTO ARCHIVE



The 2002 smelting team admiring their handiwork

You may have other photos as old or older than this, or you may have taken some at a WIRG event more recently. David Brown is always interested in ensuring that such photos are available for future members of WIRG. If it's a print or a slide he can scan it and return it within days. So don't hesitate — dig it out and email David at wirgforays@gmail.com or phone 01435 812506. Do it before you forget!

CAST-IRON GRAVESLABS OUTSIDE THE WEALD

When Rosalind Willetts published her seminal paper on the early iron graveslabs in the Weald in *Sussex Archaeological Collections* 125 in 1987, with the catalogue reprinted in *WIRG Bulletin* 2nd ser. 8, the following year, she included a short list of early slabs in other parts of the country. She noted the following:

Herefordshire – Brilley (1), Burrington (8) Shropshire – Bridgenorth (4), Hopton Castle (1), Leighton (2), Onibury (2) Yorkshire – Sandal Magna (2)

Since that list was published, I have noted the

existence of some more:

Shropshire – Ditton Priors (1), Little Wenlock (1)
Worcestershire – Himbleton (1)
Yorkshire – Darton (3)

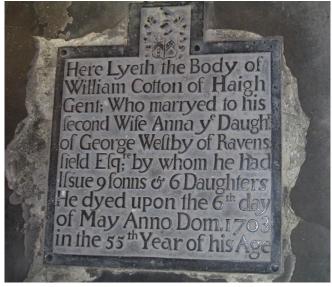
And there may be others which still lie unrecorded elsewhere.

I have not had occasion to visit the churches where these slabs are to be seen, with the exception of Himbleton, but I have been able to obtain details of the texts on those at Burrington, Bridgenorth, Hopton Castle, Darton and Sandal Magna.

Of course, such graveslabs are likely to be found in areas of traditional ironmaking and some areas, like the Forest of Dean and Furness, south of the Lake District, are notable by their absence from this list.

JSH

Do you travel to the west Midlands? Are you likely to pass near one or other of the churches where these slabs are to be found? If so, could you spend a moment taking some details of them and, perhaps, a photograph? If you can, please contact the Editor.



Iron graveslab of William Cotton, ironmaster, in Darton church, near Barnsley, Yorkshire

TEBBUTT RESEARCH FUND

Grants are available towards research into any aspect of the Wealden Iron Industry or subjects pertaining to it. Applicants may be individuals or groups, and the application can include any associated expenses, such as travelling and photocopying. The applicant should write a letter giving details of themselves together with relevant information concerning the research envisaged.

Applications to the Hon. Secretary (details on back page)

SUSSEX SCHOOL OF ARCHAEOLOGY

A new field school has been set up in the wake of courses no longer being available at the University of Sussex. Most of the tutors used to work within the CCE department and are experienced in their subjects. It will start this year with day schools and it has also planned some excavation training on its research site. Please see the web-site for details of this, Day schools for this year will run as follows:

APRIL

Sunday 7th and 21st April, Ground plan drawing (course two days): Shoreham Fort. Andy Bradshaw, 10-4pm. £30 each day or £55 if booking both days at same time.

Saturday 20th April, Paperwork for archaeologists: The Bridge Community Centre Brighton. Simon Stevens, 10am – 4pm. £30.

MAY

Saturday 11th May, Rock and building stone identification: Linklater Pavilion, Lewes. Luke Barber, 10-1pm. £30.

Saturday 18th May, Researching Historical documents: Linklater Pavilion, Lewes. Dr. Janet Pennington, 10-4pm. £30. **JUNE**

Saturday 1st June, Exploring the Wealden Iron industry: Nutley Memorial Hall. Jeremy Hodgkinson, 10-4pm. £30

Saturday 8th June, Flint knapping; Bentley woods. Paul Saddleton, 10-4pm. £30.

Saturday 15th June, The Tudors; Linklater Pavilion, Lewes. Helen Poole, 10am – 4pm. £30 Saturday 22nd June, Making prehistoric toolkits; Bentley Woods. Paul Saddleton, 10-4pm. £30.

Saturday 22nd June, Traditional surveying for beginners: Excavation site. David Millum, 10-4pm. £30.

JULY

Saturday 6th July, Four churches in the Cuckmere Valley: Various sites. Rachel Butler, 10-4pm. £30.

Saturday 13th July, Site photography for archaeologists: Excavation site. Lisa Fisher, 10am – 4pm. £30.

Saturday 13th July, Introduction to archaeology: Field trips. David Rudling, 10am-4pm. £30.

Saturday 20th July, Conservation in the field: Excavation site. Chris Cleere, 10-4pm. £30
Saturday 27th July, Excavation techniques for beginners: Excavation site. Lisa Fisher, 10am – 4pm. £30.

AUGUST

Saturday 3rd August, Planning and section drawing: Excavation site. Jane Russell , 10-4pm. £30.

Saturday 10th August, Churchyard recording: Field venue. Chris Butler, 10-4pm. £30 Saturday 20th August, Finds recording and

management Field venue. Luke Barber, 10am – 3pm. £30.

SEPTEMBER

Saturday 7th September, Snails, shells and slugs: Linklater Pavilion, Lewes. Dr.Michael Allen, 10-4pm. £30.

Saturday 7th September, Iron Age and Roman coins: The Bridge Community Centre, Brighton. David Rudling, 10-4pm. £30.

Sunday 14th September, Soils and sediments: Linklater Pavilion, Lewes. Dr.Michael Allen, 10-4pm. £30.

OCTOBER

Saturday 12th October, Landscape archaeology: Reading room, Buxted. Vivienne Blandford, 10-4pm. £30.

Saturday 19th October, Finds illustration: Linklater Pavilion, Lewes Jane Russell, 10am – 4pm. £30.

Saturday 26th October, Hunter gatherer cooking: Bentley Woods. Annalie Seaman, 10-4pm. £30.

NOVEMBER

Saturday 2nd November, Military archaeology: Pevensey Castle and Battle. Simon Stevens, 10-4pm. £30.

Saturday 9th November, Woodland survey: Nutley Memorial Hall. Vivienne Blandford, 10-4pm. £30.

Saturday 23rd November, Identifying animal bone: Linklater Pavilion, Lewes. Sarah Green, 10am – 4pm. £30.

Saturday 30th November, Identifying human bone: Linklater Pavilion, Lewes. Sarah Green, 10am – 4pm. £30.

DECEMBER

Saturday 7th December, How to write an archaeological report: Linklater Pavilion, Lewes. Simon Stevens, 10-4pm. £30.

Full details and brochure from **Sussex School of Archaeology**

Unit 12, Mays Farm, Selmeston, Polegate, BN26 6TS 01323 811785 info@sussexarchaeology.co.uk www.sussexarchaeology.co.uk

WIRG CONTACTS

Chairman: Shiela Broomfield, 8, Woodview Crescent, Hildenborough, Tonbridge, TN11 9HD. s.broomfield@clementi.demon.co.uk

Vice Chairman: Tim Smith, 15 Hazelwood Road, Partridge Green, Horsham, RH13 8EX. *tjsmith560@btinternet.com*

Hon. Secretary: Judie English, 2 Rowland Road, Cranleigh, GU6 8SW. judie.english@btopenworld.com

Hon. Treasurer: Vivienne Blandford, 'Greenbank', Shepherd's Hill, Buxted, TN22 4PX. blandford@blandford.co.uk

Bulletin Editor: David Crossley, 5, Canterbury Crescent, Sheffield, S10 5RW. *d.crossley@sheffield.ac.uk* **Publications**: Brian Herbert, 1, Stirling Way, East Grinstead, RH19 3HG. *brianherbert@btinternet.com*

Field Group Secretary: David Brown, 2, West Street Farm Cottages, Maynards Green, Heathfield, TN21 oDG. wirgforays@gmail.com

EDITOR'S NOTE

Thank you for your contributions and please keep them coming. Newsletters are published in March and November each year. Items for publication, <u>normally not exceeding 500 words</u>, should be received by 14 February and 14 October, respectively, for inclusion in the forthcoming issue. Please send by email preferably, by CD or hard copy; I can work with most PC formats. Line drawings and photographs are welcome (colour or monochrome; the newsletter is published in colour but printed in monochrome). <u>Please send them separately</u>, <u>not embedded in the text</u>, and <u>with captions separately</u>. Digital images need to be at least as big as their expected published size (column width 86mm), ideally at 300 dpi or more.

·				
PUBLICATIONS FOR SALE				
	PRIC	E		
ВУ	Y POST (UK)	AT MEETINGS		
British Cast-Iron Firebacks of the 16th to Mid 18th Centuries, J. Hodgkinson (2010)	24.99*	24.99 *		
The Wealden Iron Industry, Jeremy Hodgkinson (2008)	15.99*	15.99*		
Excavations of a Late 16th./Early 17th. C. Gun Casting Furnace at Maynard's Gate, Crowborough, Sussex, 1975-1976, O. Bedwin.				
A Middle-Saxon Iron Smelting Furnace Site at Millbrook, Ashdown Forest, Sussex, C	C.F. Tebbutt. 2.00	1.20		
The Fieldwalker's Guide and an Introduction to the Iron Industries of the Weald, B.K. Herbert.				
	4.00	3.50		
Metallurgical Analysis of Ferrous Alloy Produced in a Primitive Furnace. R. C. D. Sampson & B. K. Herbert.				
	5.00	4.00		
The Penhurst to Ashburnham leat: a first foray + map (2007)	2.25	1.50		
The Penhurst to Ashburnham leat: a second foray + maps (2007)	2.25	2.00		
The Penhurst to Ashburnham leat: the flow rate + graphs + map (2007)	3.25	2.50		
Fernhurst Furnace. Chichester District Archaeology No. 2, J. Magilton (ed.).	14.00	12.00		
Second series Bulletins: -				
Volumes 1 to 21 (1981 to 2001)	2.00	1.50		
Volumes 22 to 32 (2002 to 2012)	2.50	2.00		
Note: Vols. 5, 10, 15 & 20 have 5-volume cumulative indexes. Vols. 21 onwards are sep	arately inde	xed		
Index for Wealden Iron, WIRG Bulletin 1st ser. Vols. 1-17 and 2nd ser. 1-20	2.50	2.00		
Publications are available from the Publications Officer, Brian Herbert (see Cheques payable to WIRG (except where marked* - payable to J. S.		•		