

# NEWSLETTER 62 AUTUMN 2015

**EDITOR: JEREMY HODGKINSON** 

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### SECRETARY REQUIRED

Judie English has signalled her intention to relinquish the post of Honorary Secretary at the AGM in July 2016.

If you would like to be more involved in the running of the Group and have some time on your hands, please consider putting yourself forward for the role. Judie will be happy to explain what is involved. Please contact her or any Committee member – details are on the back page.

#### **CHAIRMAN'S LETTER**

Dear Fellow Members,

This has proved another busy year and you will find a summary of the activities in the Annual Report accompanying this Newsletter.

We had one change of Officers in the Committee at the AGM, Vivienne Blandford stood down as Treasurer and Shiela Broomfield gallantly took up the post – one she has previously held so we are confident that the considerable sums WIRG holds as a result of the Pettitt Legacy will be expertly managed.

Part of this fund is being spent to support a quarter of the costs of a Research Student based at Exeter University. The topic of study is the Roman ironmaking period on the Weald.

2018 will see the 50th anniversary of the founding of WIRG. It may seem a long while off, but we need to find some way of celebrating the anniversary. A publication possibly – such as a compilation of previously published articles but ones that are not readily available to all members, such as Herbert Blackman's collection of the Fullers' gunfounding activities in the 18th century published in Sussex Archaeological Collections in 1926, or the Diary of Sir James Hope 1646 or, indeed, a selection of key articles from past WIRG Bulletins.

Alternative suggestions are a conference – such as the one we organised for the Historical Metallurgy Society in 2002 – or Field Notes for specific sites that can be visited by the public, or a visit to sites on the Continent, as we did in 1989 and 2004.

If you have suggestions as to how we could mark the Group's half-century, please contact me [details on back page].

**Tim Smith** 

#### **SUMMER MEETING 2015**

### This year's meeting was held at Northchapel, West Sussex

As a background to the afternoon visit to Frith Furnace, Peter Jerrome, a local historian, talked about aspects of life in Petworth in the late-16th century. He drew on his own research into records of legal proceedings in the Court of Chancery from the Petworth House archives and the National Archives. The litigants were the earl of Northumberland and many of his copyhold tenants. The case touches on the 16th-century iron industry but its wider importance is that it reveals the tensions between rich and poor in the 1590s, a decade which

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experienced four consecutive bad harvests and great pressure on food supplies after 40 years of population growth in England.

The disputes arose because the copyholders (tenants whose title to land was an entry in the manorial roll attesting to the fact of the tenure) alleged the enclosure by the earl of common land and his disregard of many traditional rights and privileges relating to the transfer of property on death of a copyholder, rights to windfall trees, the return of strayed animals and many other aspects of rural life.

Of particular interest to social historians are the depositions made by several copyholders which preserve in their own words the views of small farmers in 16th-century Sussex. Included among the copyholders complaints to the court is that the excavation of their land for iron mines should cause 'no further despoliation of their orchards, meadows, arable, and pasture'. In their depositions they state that pits of two or three fathoms in depth have caused fruit trees to decay and die. Also that land levelled after mining will bear grass only for 40 years or more, and that where land had not been levelled beasts had been lost in the deep pits. In response to these particular complaints the earl's counsel replied that no one had proved that his lordship had not the power to permit such excavations on copyhold land.

Peter speculated on the motives and background of William James, a local man, who seems to have been the unofficial leader of the copyholders. At one stage during the case, which began in 1591 and continued on and off until 1608, James appears to have been pressed into the army and served in Ireland, and on his return may have accepted inducements from the earl to bring the case to a conclusion.

The talk was enlivened by Peter listing the tribulations of successive earls of Northumberland in the 16th century. These included a dalliance with Anne Boleyn, attainder and forfeiture of the title and estate in 1537, restoration of the title in 1557 by Queen Mary on condition that the earls live in Sussex, far from the Scottish border, execution of the 7th earl in 1573 for treason, imprisonment and death in the Tower of the eighth earl, and the imprisonment, again in the Tower, of the ninth earl on suspicion of involvement in the Gunpowder Plot.

Peter's book, *Cloakbag and Common Purse*, published by the Window Press in 1979, covering the court case and many other topics of interest to the local historian, has been referred to in preparation of this note.

#### **Bob Turgoose**

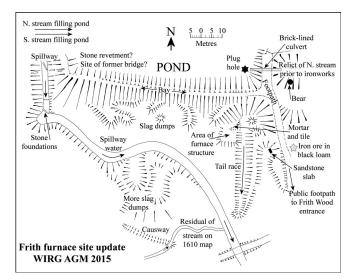
#### AFTERNOON VISIT TO FRITH FURNACE, NORTHCHAPEL



Getting to grips with Frith Furnace

The afternoon foray to Frith furnace followed the tradition of fine weather and, even after a minor hitch in the route taken, an unusual site layout was found in that two streams fed the **pond** rather than their original meeting point much further east down the valley. The furnace site is owned by the Leconfield Estate but footpaths may be used by the public through Frith Wood beside the A283 just north of North Chapel, but unfortunately there is no public car park here.

As usual when a site is revisited something new is discovered but is usually controversial because there is little substantial evidence. For example, there seem to be two tail races quite close together (see map) but flowing in different directions, one of them away from the working area. The tail race to the east is much higher due to the depth of slag than the **tail race** associated with the area of the **blast furnace structure**. This would have required a, not



**Bold text** items in the text are marked on the map.

unreasonable, 15m-long flume to get water to the water wheel.

The **plug-hole** in the furnace pond was originally assumed to be where water was let out to power the furnace water wheel, using a tampion plug to seal the hole (see WIRG Newsletter, Spring 2015). Unfortunately, water from a tampion plug exits at a low level and could not drive an overshot water wheel but might have operated an under shot wheel; this would be a first for the Weald.

When a working pond is now dry it is usual for the bay to have failed at the weakest point around the pen-stock controlling water to the water wheel; this seems not to be the case at Frith. The water from the inflowing stream now passes over the site of the **spillway** which suggests that it may have been deliberately lowered, perhaps to allow the **pond** field to be bought back into cultivation or perhaps it was washed away during a storm.

The strangest observation is that the **spillway water** course passes through the centre of a deep deposit of furnace slag, suggesting that its course has been changed. Maybe the spillway water was never channelled and just drained into the **residual of stream on 1610 map** across which there is a 25mlong **causeway**; but later the water-logged land was returned to woodland when the spillway channel was dug. Also, the **spillway's water** course turns 90 degrees soon after the **bay** and there are stone **foundations** at this point; maybe a mill?

Unfortunately, it is only later, after much thought, that these ideas gel and a further foray becomes necessary!

#### **Brian Herbert**

#### THE 2015-16 WIRG COMMITTEE

Chairman: Tim Smith Vice Chairman: Alan Davies Hon. Secretary: Judie English Hon. Treasurer: Shiela Broomfield

Vivienne Blandford · Gerry Crawshaw Brian Herbert · Jonathan Prus Tony Singleton · Simon Stevens Bob Turgoose

#### WIRG VISIT TO THE FOREST OF DEAN AND OTHER IRON-WORKING SITES

The blast furnaces in the Forest of Dean did not begin until production in the Weald was peaking and they continued long after the Wealden industry had become a misty memory. Their upstanding remains and their impressive ore-mines were well worth a visit. The group of members who went also visited an



The group visiting the scowles iron ore workings in the Forest of Dean

iron working site in the valley above Tintern Abbey and, on the final leg of the trip, the Blaenavon blast furnaces.

Local expert Ian Standing showed us the mine workings that he has studied in great detail. He also gave an excellent interpretation of Whitecliffe furnace (in whose preservation he has been a key player).

At Tintern we were able to go over the newly excavated parts of what turns out to be a complex multi-phase iron site, and not just the blast furnace. The archaeologist in charge is Neil Phillips and he did an excellent job of explaining recent finds. He also shared some new and unexplained puzzles connected with what turns out to be a wire drawing mill.

The last part of the trip was to the early steam driven furnaces at Blaenavon where local historian John Evans provided some excellent interpretation. He also led us to some early ore-extraction sites of the 'hushing-and-scouring' type, where dammed water is released to flood a gully, sorting the heavier iron ore from the waste rock.

The three day trip was an extended opportunity to exchange ideas with people with the same sort of interests: tiring but satisfying.

#### **Jonathan Prus**

#### WIRG WINTER MEETING

Nutley Memorial Hall Saturday 30th January 2016 2.30pm

#### Andy Margetts (Archaeology South-East)

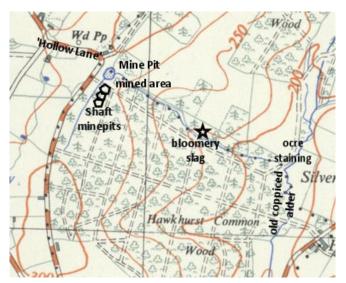
will talk on

The Watching Brief and Excavations at Ifield Mill and Pond 2014

#### **FIELD NOTES**

#### Hawkhurst Common Wood, Waldron April 2015

At the invitation of the land owner and new WIRG member, Desmond Gunner, who had found indications of ironworking on his farmland and in recently acquired woodland, a foray was conducted in late April 2015. Warm weather had started growth of undercover, bramble in open areas and bluebells in tree shaded areas.



The foray area, Hawkhurst Common Wood

The woodland, which lies south of Blackboys and west of Waldron, is generally open in nature with a mixture of mainly deciduous trees, probably planted post WWII, but with a plantation of larch and spruce in one section. A row of older coppiced Alder runs along the west bank of the Bull Stream in the NE corner of the wood's boundary.

A scatter of a dozen or so shaft pit mine workings are present in the NW corner of the wood. These lie due south of a much larger pit on neighbouring land. The area east of this showed evidence of extensive mine working. Most probably, these larger workings supplied Waldron blast furnace, to the south east, with ore. Alternatively, ore from these pits may have been carried to Stream Furnace to the south via the network of existing roads and/or tracks. No direct route is evident.

A concentration of bloomery slag was located about 6m north of a small tributary of the Bull Stream alongside a boundary bank and within about 50m of the northern edge of the wood.

A marked concentration of red staining of the ground believed to be ochre was present in the NE corner of the wood close to the field boundary. The deposit largely emanates from field drains. The Bull Stream runs in a southerly direction just within the northern half of the eastern boundary of the wood and along this section there are a number of large stools of Alder 1.5 - 2m in diameter with now mature trees indicating coppicing many years earlier. **Tim Smith** 

Brokes Wood bloomery, Southborough, Kent



**Brokes Wood Iron Age bloomery** 

The newly formed Southborough & High Brooms Amateur Archaeology Society has been exploring Brokes Wood and has excavated the remains of a bloomery furnace on raised ground between two streams. As can be seen from the photo above, the furnace is poorly preserved but what singles out this site as of importance is the size of the bloomery, which is large for its period, and its dating, from C14, which places it in the Middle to Late Iron Age. The slag shows evidence of wood-marking but although one or two sherds of pottery, consistent with the period, have been found on the site none has been found immediately associated with the bloomery.

WIRG members are welcome to visit the site and should contact Nigel Stapple via email at nstapple@hotmail.com.

#### **REVIVAL OF LOCAL IRONMAKING**

Ore extracted at Benenden for WIRG's experimental bloomery has been attractively forged into two pokers by Owen Bush, a skilled swordsmith, in a revival of the Kent iron industry after an absence of 230 years. WIRG President Jeremy Hodgkinson presented the pokers to brothers William and Edward Barham at a brief ceremony at Hole Park, Rolvenden last March.

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The two pokers forged by Owen Bush

It was on William's land that the ore was extracted and Edward manages Hole Park Gardens, which has a display of firebacks in its tea rooms.



WIRG members Jeremy Hodgkinson, John Vesey and Victor Kellett at Hole Park handing over the pokers to Edward and William Barham

#### **MYSTERY OBJECTS**

Another Wealden iron puzzle has come to WIRG's attention, from Chris Latter of Tonbridge. However, it is possible that it may be a red herring in that it might have originated from outside the Weald.

Fig.1 is the puzzling item in question and there are many more of these 'balls' to be found along a footpath in Dene Wood (Shipbourne Forest & Dene Park Wood in the past) north of Tonbridge. The area is now owned by the council and there is public access. This ball weighs 890g, whereas a cast iron ball would weigh 1900g, therefore it is not 100% iron. Most of these very roughly spherical 'balls' (there are a few other irregular shapes) are to be found along an E-W footpath at TQ 6032 5130, along with a



Fig. 1 Two of the spherical slag lumps from Dene Wood, Tonbridge (scale 16cm)

substantial layer of detritus found with a metal detector, and are also found down the track to the car park in diminishing quantities (OS Explorer map 148). It suggests that the track was specifically surfaced with this material for a route to take something from somewhere close to the footpath.



Fig. 2 Sectioned spherical slag lump from Dene Wood, Tonbridge

Fig.2 shows a section through a smaller spherical ball. There are free iron particles which are not visible at this scale, even so it is attracted to a magnet suggesting that the material is a ferrous slag i.e. waste material. Numerous ideas have been suggested but with no hard evidence either way. The most unusual aspect of the find is that they are spherical, not an easy task using hot slag.

Any suggestions?

**Brian Herbert** 

#### WHICH JOHN FULLER TRANSLATED DE FERRO?

In the 2015 WIRG Bulletin (Vol 35 2nd series pp. 62-68) I showed that what had been thought to be the description of the operation of a Wealden blast furnace by John Fuller was in fact a translation of part of a description by Swedenbourg, in his book, *De Ferro*, published in 1734.

Consulting the original undated and unattributed manuscript at the time, I was unable to conclude which (if any) of the several John Fullers associated with the Wealden iron industry had made the translation.

There were three possible contenders:

John Fuller (1680-1745) – owned Heathfield Furnace 1722-45;

His son, John Fuller (1705-55) – owned Heathfield Furnace 1745-55;

His great nephew, John Fuller (1757-1834) – owned Heathfield Furnace 1777-93.

Comparing the handwriting with other documents in the same folder (ESRO number: ACC 2449/5/1) proved fruitless as few were attributed to their author and, indeed, a letter reproduced in *Sussex Archaeological Collections* Vol 104 p. 73 from JF 1680-1745 to his second son, Rose, seemed to dismiss the first of these as it was evidently in a different hand.

Chris Whittick of the East Sussex Record Office kindly invited me to compare the hand with those in the Fuller Letter Book (SAS-RF/15/2/25) which contains letters and accounts in the hand of the first two contenders. Several examples point strongly to the hand of the translation being that of John Fuller (1680-1745), putting the date of the work between 1734 and 1745. Evidently, the letter reproduced in *SAC* had been dictated to a clerk – not an uncommon occurrence according to Chris Whittick – and something to be aware of when attempting to attribute authorship.

JF 1680-1745 inherited Heathfield furnace from his father John Fuller (1652-1722) who built the furnace. He married Elizabeth Rose in 1703 and had ten children by her, nine sons and one daughter. His first son, JF 1705-1755, helped run the furnace and took over ownership on the death of his father. Of the other sons, three are recorded as being active in managing Heathfield - although the second son, Rose (1708-1777), was sent for a spell to look after the family's sugar interests in the Caribbean. Stephen (1716-1799) and Thomas are both recorded in the Letter Book as playing active roles. Rose inherited the furnace on his brother's death in 1755 and, on his own death in 1777, it passed to his nephew John Fuller (1757-1834). By then, the output of the furnace, which had produced 200 tons a year at its peak, was negligible.

Further Reading: 'Gun Founding at Heathfield in the 18th Century' Herbert Blackman, *SAC* Vol 67 (1926) pp. 25-54.

#### **Tim Smith**

#### WIRG HELPS SAVE HISTORIC MAP

WIRG has helped West Sussex Record Office purchase a 1642 map of the lands of William Newton and his son, in Lindfield. The map, which is in good condition, is of lands called Badshirts and includes the pond of Freshfield Forge. The committee agreed to contribute £250, half the cost of the map.



Map of Badshirts in Lindfield, by Anthony Everenden, 1642

#### **ORDNANCE NEWS**

A Lamberhurst gun at Chinon ...



It always does to keep ones eyes peeled for examples of Wealden ordnance when on holiday, but it was somewhat surprising to come across the above <sup>1</sup>/<sub>2</sub>pounder swivel gun when visiting Henry II's magnificent fortress at Chinon in France last June.

It bears a clear letter G on its right trunnion, indicating that it was cast at the Gloucester Furnace

at Lamberhurst, and the engraved numbers 1-1-25 in front of the vent patch indicate its weight of 1 cwt 1qr 25lbs and the fact that it was manufactured after 1727.

A second swivel gun was seen as well; also of English manufacture, and probably earlier in date, it bore no identification marks, alas.

... and a Horsmonden gun in the Netherlands

Writing in the *Newsletter of the Ordnance Society*, Sjef Pijls found this gun at Sluis (the English translation is *lock*), a small town in the extreme southwest of the Netherlands. In medieval times it formed the entrance to the port of Bruges and it was the most important naval base of the dukes of Burgundy. Near Sluis two naval battles were fought: one in 1343 between England and France, which started the Hundred Years War, and one in 1603 between Spanish and Dutch galleys.

This gun was found during construction works on the site of the port. It was cast in 1594 by Thomas Johnson in Horsmonden, Kent and transported to Flanders by the trader Rudolphe Ingelstedt. The weight is 1220 Middelburg pounds or 564kg, so the shot weight will have been four to five pounds. The muzzle has been damaged making it useless, so the gun had probably been thrown overboard by a ship in port. The carriage is modern.

#### **BOOK REVIEW**

#### Sim, D. & Kaminski. J; Roman Imperial Armour, the Production of Early Imperial Military Armour; Oxbow Books, Oxford UK, 2012; ISBN 978-84217-435-7.

David Sim has written several books and articles, in this case in conjunction with Jaime Kaminski, an ex-WIRG member, and are mostly associated with experimental archaeo-metallurgy. This book considers how the few pieces of Roman armour that have been excavated intact were made, both by making measurements and observations and then making copies using different techniques.

Blacksmith's tools have changed little since the Roman period as have the smithing techniques such fire welding, hardening and quenching, workhardening and normalising i.e. bringing the iron back to its normal state; all have been documented in ancient texts. These techniques would have been used when making body armour and 'scale' armour (lorica squamata), where many similar, small pieces were required to enable articulation (much like a woodlouse). Once cut to shape the pieces were lightly hammered on both sides which work-hardened both surfaces leaving wrought iron inside, this provides better protection in much the same way as modern tank armour. A similar effect was produced when three iron sheets, of differing hardness, were fire welded together.

Due to the vast size of the Roman army, speed of manufacture was also a consideration by using production line jigs, these would have been used to standardise design and reduced cost. This also had the advantage that Roman soldiers would look equally smart and panic the opposing army into disarray.

The blacksmith relies on heating the iron to between 910°C and 1400°C to make it malleable (lower than 910°C the iron is ferrite and above 910°C austenite); even this a recorded in ancient texts although they did not know the theory. One of the authors' many interesting observations is that after initial bloom-smithing the slag can only be reduced to about 5% by hammering; further hammering stretches the slag to produce 'stringers'. Some Roman armour has been found, and even nails, virtually slag free, suggesting perhaps a specific type of furnace was being used.

One important discovery is the remarkable consistency in thickness of Roman iron sheet used for armour, around 1mm. The surface smoothness has been found impossible to replicate by just hammering but an experimental set of rollers did produce the desired results. Unfortunately, there are no records in ancient texts of rollers being used nor have they been found in excavations. Some excavated armour having attached leather suggest that it was worn over an undergarment so spreading the force of a slashing sword over a larger area of the body; providing the armour was not penetrated.

Sim has conducted many experiments trying various methods of copying pieces of armour, with much thought going into each experiment and each carefully recorded with charts showing the results, even down to the time taken for differing methods of fabricating the same item.

All in all a fascinating book for everyone

interested in producing wrought iron artefacts from a bloom produced in a bloomery furnace. But wrought iron is the result of many hours of preparing the ore and charcoal and a day smelting and then consolidating it in a bloom-smithing forge from which a billet of useable wrought iron is eventually produced after much hammering.

'Their drills were bloodless battles and their battles were bloody drills.' *Titus Flavius Josephus* 

**Brian Herbert** 

#### **NEW MEMBERS**

We welcome the following:

Desmond Gunner, Buxted Daniel Jones, Sharpthorne Jasper Wallace, London

#### WEBSITE DEVELOPMENTS

Some useful new features have been added to the WIRG online database (www.wirgdata.org).

The first is a link, from each site, to the Where's *the Path* website to show the location of the site using aerial photography and a variety of maps: the current 1:50,000 OS map, historical OS maps including the 1st edition 1:25,000, solid and drift geological maps, and others. The photos and maps are zoomable so good detail can be achieved. In some cases this will reveal inaccuracies in the grid references given for some sites which, in the early days of WIRG were largely of only six figures, i.e. a 100m square - not very useful if you are trying to locate a small bloomery site in woodland! In some instances eightfigure references were erroneously rounded up, thus compounding the inaccuracy. Where possible, this will be rectified in due course and if any member is aware of such inaccuracy they should notify the Editor with the necessary details.

The other new feature is a facility to add images to site records. These can include maps, plans, photographs and historic images. Several have already been added from WIRG's archives and it is anticipated that others will be in the future.

The same feature has now been added to the prosopography, or people database. Illustrations added so far largely consist of portraits but the residences of individuals are expected to be included when time permits.

#### **BULLETIN 36**

Articles for consideration should be submitted to David Crossley by 31 March 2016 (contact details on back page

#### EASTER 2016 Bloomery iron through to coke furnaces A TRIP TO COALBROOKDALE



Coalbrookdale is best known for Darby's thin-wall sand casting and the introduction of coke to replace charcoal in the blast furnaces. Its iron bridge gives the local town its name. However, the whole story from bloomery to bridge can be traced down this one small valley.

There will be a three day trip, 5th-7th April 2016, that will attempt to follow this narrative using local expert knowledge. The cupola furnace at Blists Hill should be melting and pouring iron on the 6th April. The itinerary includes that event.

The cost will be £160 (perhaps slightly less) on the basis of sharing cars to get there. The cost will include B&B accommodation and the entrance to the cupola firing. In order to get the best deal on accommodation etc. it is necessary to start booking now. If you are interested email or phone Jonathan Prus as soon as possible: **jonathan@avens.co.uk** or 01435 830155.

#### **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

#### **DID YOU KNOW ...**

That you can receive your WIRG Newsletter in colour if you opt to receive it by email instead of by post.

Want to do that in future? Contact the Editor

### FACE THE IRONMASTER



PETER COURTHOPE (1577-1657) by Cornelius Johnson Controller of five ironworks in Kent and Sussex

He lived near Cranbrook and then at Danny House, Hurstpierpoint

#### **RECENT PUBLICATION**

## P. Quinn, 'Richard Woodman's economic rivals', *Notes and Queries*, 62, 1 (2015), 46-48.

Richard Woodman is well known to historians of the Wealden iron industry as both an ironmaster and as a martyr to the Protestant cause during the reign of Queen Mary. His own account of the interrogation that led to his execution in Lewes in 1557 was published in John Foxe's Book of Martyrs.

Paul Quinn's short article explores the network of family and business interests among powerful Catholic elements within the iron industry that may have had an influence on Woodman's downfall. Individuals from the Gage, Ashburnham and Culpeper families had roles in his interrogation, and their connections with the Darrells, and with the Brownes, Pelhams and Cheneys who had interests in the area where Woodman had his works, suggest that business rivalry as well as religious doctrine may have been a contributory factor in securing the removal of , as some saw him, a locally divisive figure.



This photograph was found in a second-hand shop. The location has not been identified but clues include apparent flintwork in the wall surrounding the leaded window and thatch on the roof of the nearest building. If anyone knows where this picture was taken the Editor will be pleased to hear.

#### WIRG CONTACTS

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#### **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 and emailed in colour but printed in monochrome). **Please send images as separate files, not embedded in the text. Captions should be included with the text, not added to images**. 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

		PRICE			
	BY PC	OST (UK)	AT MEETINGS		
British Cast-Iron Firebacks of the 16th to Mid 18th Centuries, J. Hodgkinson (201	0)	24.99*	<b>24.99</b> *		
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.		2.00	1.50		
A Middle-Saxon Iron Smelting Furnace Site at Millbrook, Ashdown Forest, Sussex, 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.	. Samp				
The Development to Ashbumuh and last, a first famou i man (2007)		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 23 (1981 to 2003)	each	2.00	1.50		
Volumes 24 to 34 (2004 to 2014)	each	2.50	2.00		
<i>Note</i> : Vols. 5, 10, 15 & 20 have 5-volume cumulative indexes. Vols. 21 onwards are separately indexed					
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 Contact List above) Cheques payable to <b>WIRG</b> (except where marked* - payable to J. S. Hodgkinson)					