

# Newsletter 66 Autumn 2017

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## Letter from WIRG Chairman Bob Turgoose

Several points of note have been discussed at recent committee meetings. Following comments from the floor at the AGM the committee modified its decision to raise subscriptions with effect from 1 June 2018. Full details of the new rates are in the Newsletter.

Ethan Greenwood will complete his Ph.D in 2018 and the committee has begun consideration with academic partners of supporting a new studentship starting in 2018 or 2019.



WIRG has indicated its willingness to provide funding for a study of the feasibility of producing a final report on the Garden Hill (near Hartfield) excavations which took place in the 1970's. The Bulletin, first series number 15 (1979) has a report on this site.

The committee continues to attach importance to publicising WIRG's activities. To this end we held a successful bloomery demonstration at Wakefield Place in May. A newly built full size bloomery was in operation for three consecutive days. It attracted hundreds of visitors, and many children, safely positioned behind a fence, had the opportunity to operate the bellows. We have been invited to return next year. Many thanks to all those who made the demonstration possible.

WIRG was present at the Biddenden Tractor Festival in August and at Fernhurst in September. We intend to continue

our presence at these events next year and volunteers to help at the bloomery and on our stand are always welcome.

It is unfortunate, to say the least, that there are no remains above ground of blast furnaces in the Weald, nor any surviving drawings or paintings from the 16<sup>th</sup>, 17<sup>th</sup>, or 18<sup>th</sup> centuries that depicted the local iron industry. In compensation the trip to Sheffield in April provided an opportunity to inspect the remains of Rockley furnace and the planned visit to the southern Lake District next April will incorporate opportunities to see remains of charcoal blast furnaces, one of which continued in use into the early 20<sup>th</sup> century.

## WIRG Winter Meeting

January 20th 2pm 2018

Winter meeting Nutley War Memorial Hall,  
High St, Nutley, Uckfield, E Sussex TN22 3NE

*'In pursuit of the Classis Britannica - ongoing fieldwork by HAARG'*

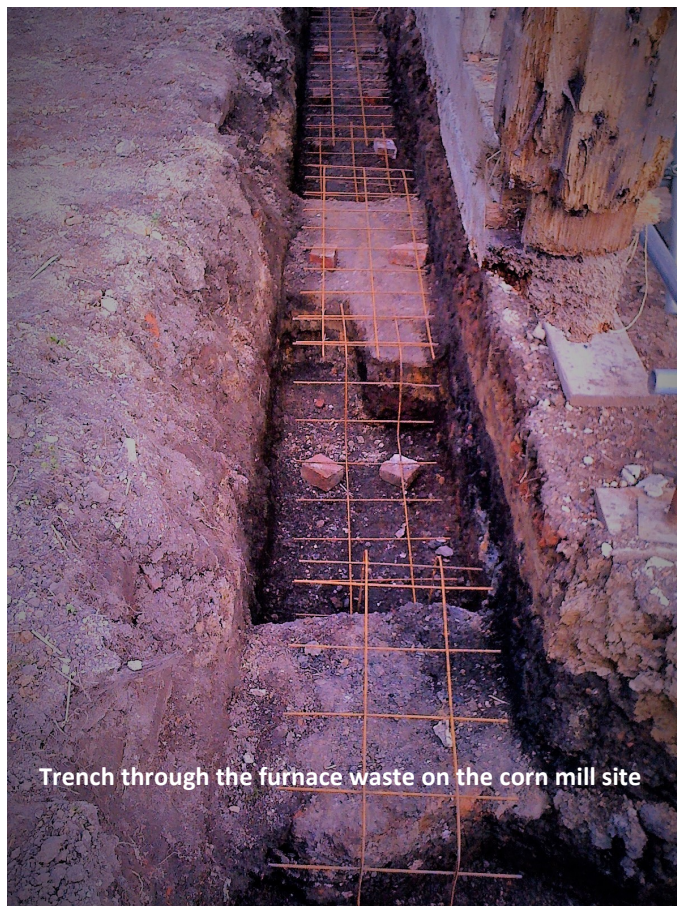
Lynn Cornwell will be the main speaker, with Kevin Cornwell answering some of the questions.

Followed by Tea & Cakes £2-00 per person.

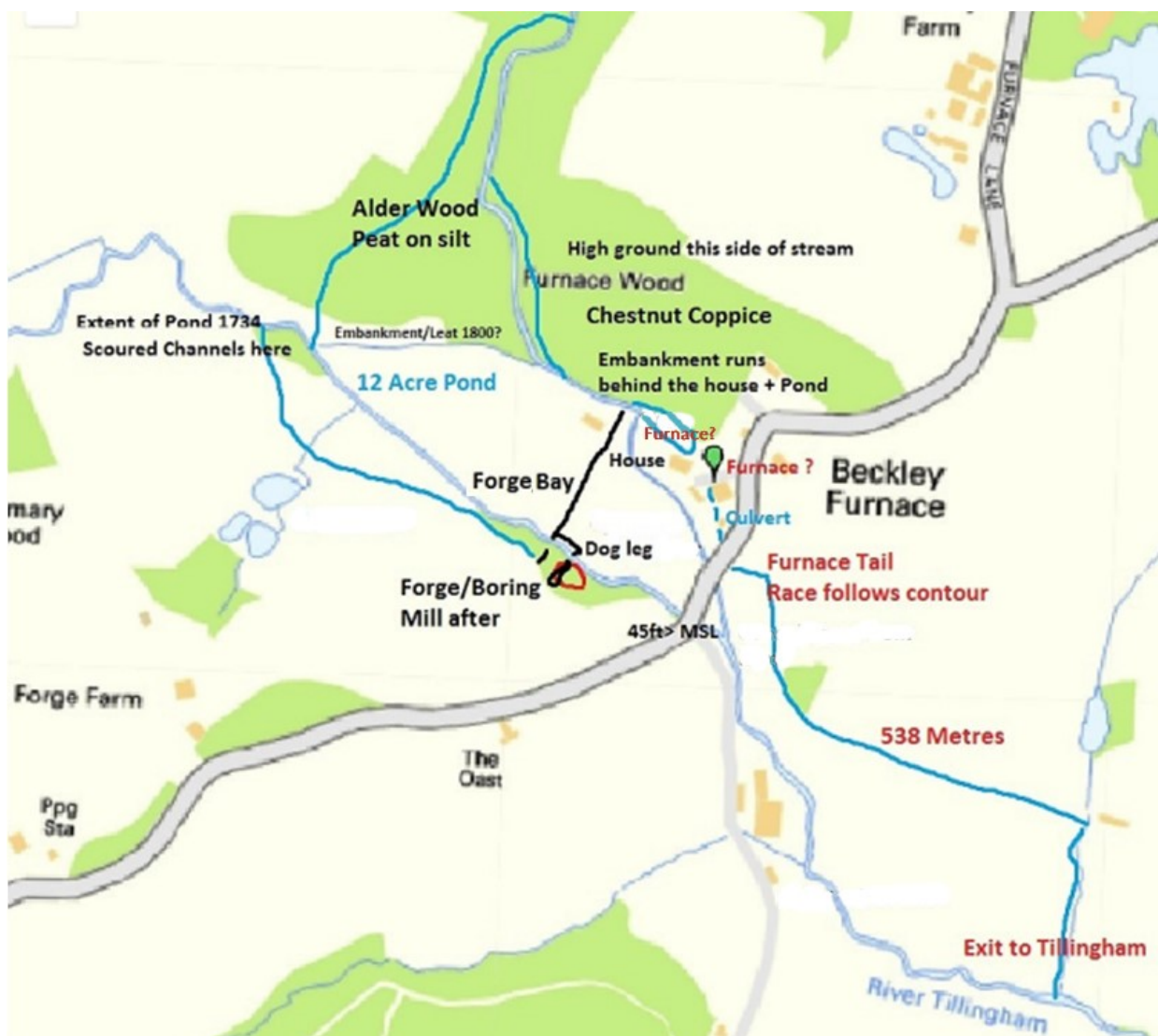
# Beckley Furnace & Forge Revisited

Beckley Forge was built at Conster farm, Beckley in Brede in 1587 and is recorded as out of use in 1664 (an earlier corn mill took water from the same source as the forge, evidenced by the objection of the mill owner). In 1653 a furnace was added about 150m to the north, apparently sharing the same pond for an overlap period of 11 years. Later, a boring mill was constructed at the south (forge) end of the bay. The furnace was recorded as out of use by 1787. In 1803 a water corn mill was built at the northern end, the sale included Beckley Furnace Pond which is referred to as occupying 12 acres.

It is four decades since the Beckley furnace site was last studied in detail. This year John Vesey, Victor Kellett, Tim Smith and other members revisited the site. They have re-worked the available map evidence, the evidence of the earthworks and looked at the original site notes and description (see [www.wirgdata.org](http://www.wirgdata.org)). The site seems largely unchanged from the earlier visits, but there is no longer any boring swarf to be seen in the Tillingham stream, though timbers outlining the boring mill wheel pit are still present in the stream bed. The southern end of a bay survives south of the Tillingham.



Trench through the furnace waste on the corn mill site



The oldest known bay runs approximately north-south across the valley, collecting water from the Tillingham and the somewhat smaller Sherbourne. The blast furnace at the northern end of the bay was probably built close by, but the present owners of the site have provided evidence that it may have been sited downstream, at the end of a leat (see map and see photo of trench on page 2, above)

Interpreting the site is difficult because it was used for different purposes at different times. We know of at least five different industrial uses:

- a pre-iron corn mill
- the finery forge
- the blast furnace
- the boring mill
- a post-iron corn mill.

The work done by Victor, John and Tim demonstrates beyond any reasonable doubt that at least two distinct water management systems were built on this site. The first of these was the one noted on the 1970s and relates to the ironworks. The second was definitely that which powered the later corn mill. A peculiarity of the later system is that the embankment of the later bay appears to continue as a leat that fed the last water-wheel on site: the remains are still there. The unsolved part of the mystery is this: did the leat exist before the corn mill and did it also feed the earlier

blast furnace? Was the blast furnace not in the place reported in the 1970's?

In the Weald blast furnace sites are adjacent to their pond bays. The only known exception to this rule is Socknersh Furnace, so a second example would be interesting and unusual. It would be doubly interesting because there is clearly space enough for a furnace in the expected spot. However, almost all of the visible slag is about 100 m downstream from this place. The most probable blast furnace site is exactly where the first bay meets the continuation of the second. The present owners have provided a photo of a foundation trench taken during the construction of a new cottage. It shows that the foundations cut into a slag layer which contains a big lump of material that resisted digging efforts. At the time this was described as a flow of iron, but this seems unlikely: it is probably a flow of the mixed material from the furnace at the end of a campaign. Such material contains metallic iron and sometimes solidified in the furnaces as a 'bear'. This concentration of furnace waste could mean that the furnace was located at the end of the leat (for which we have no date!). It could also mean that a farm-yard or mill-house yard surface was created by moving the entire slag heap about 100 m. The idea of a yard surface is supported by the foundation trench section which shows us a flat top to the slag layer.

The debate will continue.

## Iron Pyrites as an ore

There has been recent interest in the likelihood of obtaining iron from pyrites nodules originating in the chalk around the Wealden area. WIRG are currently looking at a site in Hampshire ( see p. 7, below ) where Roman smelting of pyrites seems to have occurred.

These excerpts from the report of the Curwens' excavations at Mount Caburn, near Lewes, in 1925 add to the evidence that pyrites was used as an ore, even in the Iron Age. The pits excavated within the Caburn earthwork were mainly created between 200 BC to 100 AD.

".....pieces of iron slag were found in pits in various parts of the camp but no great quantity occurred in any one place.....except pit 97 where nodules of iron pyrites were found, some of which had been partially burnt into slag "....

" The presence of slag seems to point to iron having been smelted locally, though we have probably not yet found the furnace, nor any ore except the local iron pyrites from the chalk.

To find out whether the smelting of iron pyrites is a feasible operation, Mr J. H. Every, of Lewes, has very kindly conducted experiments, and finds that this ore can certainly be melted down, but yield of metal is small "

The full report of these excavations can be read in SAC volume 68, pp. 1-56.

Geraldine Crawshaw

(The Mr. J. H. Every to whom Geraldine refers will undoubtedly be a member of the Every family whose Phoenix works at Lewes sat opposite the Brewery in Lewes until quite recently. Probably he was the grandson of its founder, also named John Every.

This company produced a vast range of cast ironwork that was both functional and decorative. Their castings are still abundant in places like Brighton and in little country lanes at least as far east as Heathfield.

Their main technology was the cupola furnace and they probably did not smelt iron themselves. However, a cupola furnace can be adapted for smelting,)

Belatedly we record the death of David Butler in July 2015. David lived in Hassocks when he was actively involved with WIRG, later moving to Suffolk. He was on the Committee from as early as 1971 and was Hon. Secretary for two years from 1974. He used his training as an engineer (he had several patents to his name) to help in the conservation of the cannon boring bar found at Stream Furnace in 1976, which is now in Anne of Cleves House, Lewes. He contributed two articles to the Bulletin.

With sadness note we passing of long-standing WIRG member John Collett. We understand that he is a co-author of a paper to be published in the next Bulletin.

## ***News of a major publishing initiative by the Wealden Iron Research Group***

### **ADVENTURE IN IRON**

#### ***A labour of love***

It was during his time as a librarian at the London School of Economics, and living in Dulwich in the 1970s, that Brian Awty began to take an interest in the ironworkers that had emigrated to England in the early-16th century. His first writings on the iron industry, on the charcoal ironmasters of Cheshire and Lancashire had been published in 1957. At first his sources were the denization records that had been published by the Huguenot Society in 1893, which an early writer on the Wealden iron industry, Rhys Jenkins, had noted but which, surprisingly, authorities such as Straker and Schubert had not consulted. Brian's command of languages enabled him to delve into some of the published sources by continental authors; not only books but also the more obscure journals unknown to most English researchers. By the time he led WIRG's first overseas foray to the Pays de Bray in 1989 Brian was visiting the archives in Rouen and other centres and trying to get to grips with the records of notaries whose job was to officiate in legal transactions; it was these that shed light on the families in the Pays de Bray and their occupations.

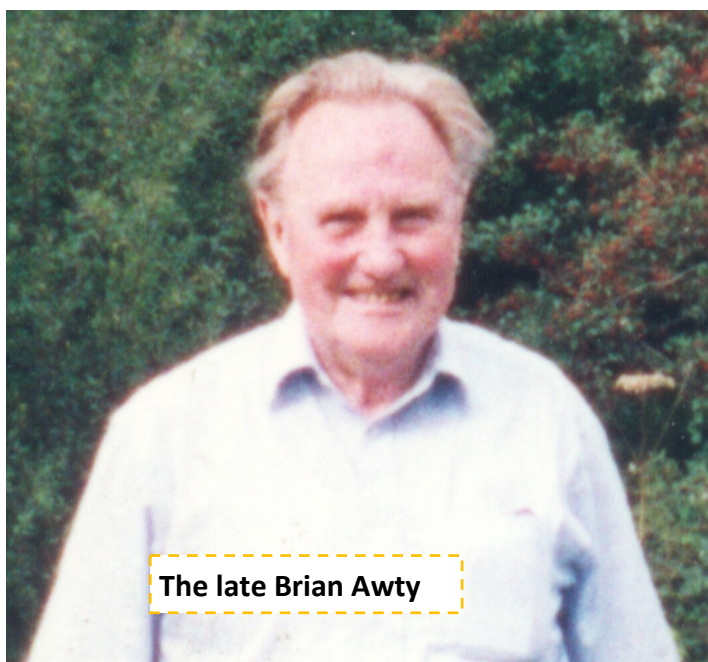
Brian showed me a photocopy of a page he had been trying to decipher; it looked as though a spider had been dipped in ink and had then wandered haphazardly across the paper. He said that it had taken him a day to work out

what had been written on that one page of archaic French. Scholars who study the Hundred Years' War, for example, will have to consult official government archives, often written in Latin but usually by professional scribes. Where Brian went was where few British scholars had attempted to go, to the day-to-day archives at the local level in continental Europe, written in the casual handwriting of the period.

Another monumental task was to comb the county record offices in England for parish records and wills to identify the people whose occupations had been involved in the iron trade. Seldom do the indexes at those institutions provide the detail whereby identification is straightforward. Instead the documents have to be read methodically to pick out names, trades, and, most significantly, relationships. Family historians may have pick through the records of a few parishes. Brian was doing the same across the whole Weald as well as in the iron-making areas of the Midlands and beyond. Although the internet is now making many more records available, 30 years ago, when Brian was engaged in this huge undertaking, little was available. And as a late-comer to computers I never got the impression that he was that comfortable with their use.

All the while the data collected was being moulded into a text, blending the histories of the migrating families of ironworkers with the development that their lives and careers illuminated of the industry in which they were engaged.

Jeremy Hodgkinson



**The late Brian Awty**

*Adventure in Iron* is to be published by WIRG in 2018. If you are interested in purchasing a copy, but without commitment at this stage, contact the editors via [books@hodgers.com](mailto:books@hodgers.com). Further details can be seen at [www.wealdeniron.org.uk/adventure-in-iron/](http://www.wealdeniron.org.uk/adventure-in-iron/).

## A visit to Irish blast furnaces

The first documented evidence of a blast furnace in Ireland is a furnace at Mallow in County Cork built in 1590, 100 years after the process arrived in the Weald of England.

Over 150 water powered ironworks – furnaces, finery forges and bloomeries – built during the following two centuries, have been identified, extant ruins of a number of furnaces still remain.

This September, Jonathan, Bob and I visited selected furnaces in the south of the country at the invitation of Paul Rondelez who had completed a PhD on 13th to 17th century ironworking in Ireland. This followed a visit made by the Historical Metallurgy Society in 2014 to sites around Lough Derg.

Irish ores were largely of poor quality, thus three-quarters of the charge to some furnaces relied on imported bloomery slag from the Forest of Dean, a trade later stopped at the demand of Dean Ironmasters.

Timber for charcoal was initially abundant and attracted English ironmasters. Herbert Pelham and Gorge Goring of Sussex set up works in County Cork in 1596 attracted by the lower price of charcoal, but their attempt failed. Lack of management of the woodlands resulted in rapid depletion of the forests. Around half an acre (2000m<sup>2</sup>) of woodland is required to make the three tons of charcoal necessary for each ton of iron. Annual output per furnace ranged from 120 to 400 tons, thus depleting surrounding forests by 60 to 200 acres yearly.

Trade with Wealden ironworks continued, however, with anvils and hammer heads supplied to some Irish ironworks in the 1650s.

Many of the furnaces were built and operated by foreigners; English and Walloons. The settlement for workers included accommodation and 200-400 acres of land to farm.

Surviving Irish furnaces differ significantly from most of their English counterparts in that the blowing and tapping arches are almost exclusively a vaulted structure with no supporting lintels. Also, they were built of unfaced stone-rubble whereas most English furnaces were faced with ashlar masonry. Since no early British furnaces remain extant, it leaves the possibility that British furnaces may have used the vaulted arch structure, the more angular arches supported by lintels being a later simpler construction.

By 1778, only three charcoal blast furnaces remained. Scarcity of coal delayed the use of coke fired furnaces until 1781, 79 years after Abraham Derby used coke at Coalbrookdale. Peat charcoal was tried but generally was too costly.

The last blast furnace was coke and later peat fired, starting in 1852 and closing in 1896 with several periods of inactivity between these dates.

A visit to Blackstone furnace, County Kerry found two unidentified cast iron objects; a 'beam' 150mm x 150mm in section and 1240mm long - estimated weight 190kg. Also a three-quarter-square 'saddle' with external dimensions



360mm x 280mm x 60mm thick – estimated weight 107kg (see pics). The former was evidently not a furnace lintel (see above) so any proposals as to their purpose please sent to [sectetary@wealdeniron.org.uk](mailto:sectetary@wealdeniron.org.uk)

For more information <http://www.furnaceproject.org/publications.html>

**Tim Smith**

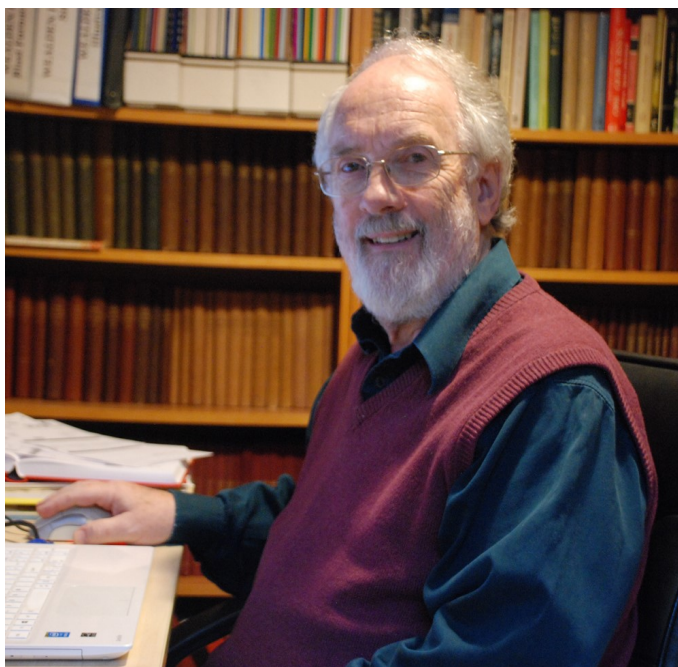


## Meet Jeremy Hodgkinson

*As part of our newsletter series about members of WIRG we have pleasure in introducing Jeremy Hodgkinson who might reasonably be described as the “go-to man” for anyone needing to know anything about the Wealden Iron industries.*

It is surprising how aspects of one's past that may have been inconsequential or unrealised at the time sometimes reveal themselves to have foreshadowed one's future. Many years after my mother died I discovered, in the course of tracing my family history, that her grandfather had been an iron founder and had run Spencer's (Melksham), a Wiltshire engineering and ironworks that continued to bear his name until it closed in the 1980s. Another instance was the friendship my father had with Barry Lucas. I met Barry a few times in my childhood (he was the pharmacist at Boot's in Bexhill and died in 1963) but it wasn't until I'd been a member of WIRG for several years that I realised that he had excavated Crowhurst Park bloomery with Ernest Straker and published his own discoveries of Wealden iron sites; a proto-WIRG member before its time. And then there was the iron fireback that leaned against the wall in the garage of my parent's house in Bexhill throughout the late 1950s and 60s; they had bought it for £2 from a builder renovating a cottage at Hooe. Perhaps this last event was more consciously influential on my future, even if it took half a century to come to fruition.

It was meeting Reg Houghton over the garden wall between his parents' and my house in 1975 that started the chain of events that resulted in both of us joining WIRG two years later. In that intervening period we had surveyed the site of Warren Furnace, near where we lived, and I had begun research into its working history. I was invited onto the committee and in 1980 became Treasurer, only to give up that job the following year and be Chairman instead. The principal aim of the group at that time was the completion of the field work for 'the book' as Cleere and Crossley's standard work was to become. I was 33, new to WIRG and much of what it was doing. Fred Tebbutt, an experienced amateur archaeologist but by then in his early eighties, had been its guiding force. The fieldwork,



excavation and regular publication of the group's discoveries had just won it the BBC's Chronicle Award for Archaeology. I had a lot to live up to.

Following the publication of the book came the first challenge of my chairmanship. Should WIRG continue, its job done, so to speak, or should it metamorphose into a Wealden Archaeological Research Group? Thankfully the majority decision of the committee was to continue, but some members left. Predictably, Cleere and Crossley's book stimulated interest in the iron industry and gave the group new impetus. Highlights of my time as chairman, for me, include our first continental foray, to the Pays de Bray, in 1989, the second edition of *The Iron Industry of the Weald*, the group's website and, at Jonathan Prus's instigation, the database of sites and people. I am most proud of WIRG's publication record. Knowledge is useless if you don't pass it on. My greatest regret? That, not being an archaeologist, I have not been able to lead the group in a continuing programme of archaeological excavation. Thank goodness others are now beginning to remedy that.

Since stepping aside as chairman my interest in iron has been undimmed. Most days I am doing something connected with iron. I continue to lecture on the subject, clocking up more than 350 talks to local societies over the last 30 or more years. Buying a paperback book on the iron industry in the Forest of Dean on a visit there with the Historical Metallurgy Society prompted me, on retirement from a career in teaching, to write a companion one for the Weald. That out of the way I was able to fulfil the long-held ambition to write about firebacks. The one my parents bought is no longer in the garage but I still have it. It is my prized possession.

**Anyone planning to submit a paper for the 2017 edition of the WIRG bulletin, *Wealden Iron*, is reminded that the deadline for copy is 30th. April 2017.**

**Editor: [jshodgkinson@hodgers.com](mailto:jshodgkinson@hodgers.com)**

## Haematite vs. Pyrites

Following my article on the source of a nodule of haematite ore found at Fernhurst Furnace (WIRG Newsletter Spring 2017 p 8), probably carried to the site from nearby Hampshire, the proposed mechanism of transport of these nodules as the Ice Age was challenged. It is disputed that an ice cap ever reached as far south as Hampshire but instead the nodule was iron pyrites formed within the chalk.

With the cooperation of Liss Archaeology, WIRG has made three visits to their dig at Hermitage Farm near Colemore where they have discovered a large Roman building including the remains of a bloomery furnace. In the vicinity of this they have found iron pyrites nodules, within the dig and on an adjacent field.

The morphology of these contrasts with that of haematite nodules in that pyrites has a framboidal surface (raspberry like) whereas the haematite has a botryoidal (bunch of grapes like) surface (Figs 1 & 2). Also, when split, pyrites shows characteristic radial lines and, when fresh, a yellow hue.



Fig 1 Framboidal iron pyrites nodule

How is it possible that the Roman smelters could use pyrites to make good iron? If sulphur is present in iron above about 0.015% it suffers from hot shortness, becoming brittle when



Fig 2 Botryoidal hematite nodule

forged at temperatures above about 750°C (dark red heat). This is because  $\text{FeS}_2$  has a melting point of 988°C and spreads around the grain (crystal) boundaries drastically weakening them. Later metallurgists overcame the problem by adding manganese at a rate at least five times that of the S content, this forms  $\text{MnS}$  (mp 1610°C) in preference to  $\text{FeS}_2$ .

Back to the Romans - how did they overcome the problem? Luck is the answer as the pyrites in the area had weathered to the oxide leaving a bright orange colour in the surrounding soil. Analysis detected only 0.0074% S remaining. Roasting the sample did little to change this but, at temperatures above 700°C, the ore disintegrates making it too fine to be an effective burden in a bloomery. Hence, it would appear that raw naturally converted pyrites nodules were smelted.

In contrast, pyrites nodules from a coastal location - White Nothe cliff beach, Dorset, were rich in sulphur, assaying at 42% S reducing to 9% when heated to 800°C.

At Hermitage Farm, Colemore, three hours of field walking by two people found only one nodule, this being associated with orange coloured soil. Although pyrites nodules have been found over a wide area, as far east as Kent and Essex, their scarcity suggests that they could only support small local bloomeries and certainly not a blast furnace.

Hematite nodules are even more scarce but have been found locally near Alton and Catherington. If we accept no ice cap covered the region then melt water from northerly ice caps is the proposed mechanism transporting haematite nodules from the north where the geology is igneous rocks.

Acknowledgements: To Alan Davies for the analysis and Juliet Smith of Liss Archaeology

Tim Smith



Fig. 3 Fractured pyrites surface showing radial lines

## Pitfalls of Paleography: a correction

In the previous Newsletter I wrote about the 19th Century Incumbent of Ashburnham, Rose Fuller Whistler, who, on reading through his parish records of the 16th and 17th Centuries declared that iron workers who came to Ashburnham furnace and forge when there was extra work, may have lived in tents.

He claimed these areas of temporary habitation were somewhat "wild" and acquired names such as "Afrika".

Our president, Chris Whittick, having far more expertise in paleography than Rose Fuller Whistler, has pointed out to me that, on reading the original parish record ( PAR 233-1-1-140 at the Keep ), he finds what was transcribed as 'tent' has a clear suspension mark, expanding the word to 'tenement'.

The tenement name RFW transcribes as 'Mynters' is actually 'Wynters' and his flight of fancy about Africa is based on misreading 'Fryclie' ( a freehold tenement near Ninfield ), as Afrike.

My thanks to Chris Whittick for pointing this out and showing me a copy of the original document, a part of which is reproduced opposite.

Geraldine Crawshaw

## Lake District Visit to view iron sites

### 20 – 23 April 2018

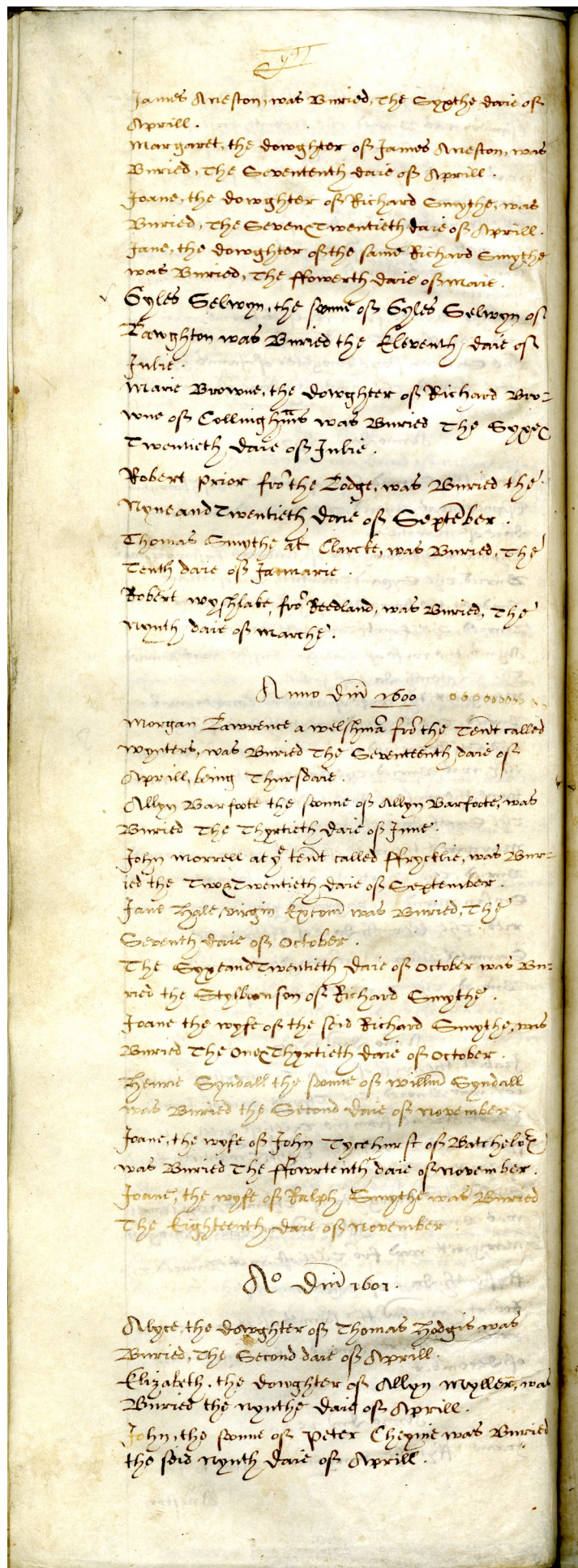
Following successful weekend visits to the Forest of Dean, Ironbridge Gorge and Sheffield in the past three years we intend to go a little further afield next April 2018 to visit furnaces in Cumbria. This will require a four day event travelling up on a Friday and returning on the Monday. The date is 20-23 April (ie 3rd w/end after Easter) – to avoid local school holidays.

The plan is to visit extant furnaces at Backbarrow (1711), Duddon (1736), Newland (1746), a bloomery forge and the Wilkinson Memorial and house at Lindale-in-Cartmel. If time permits, other sites may be included.

The room rate for three nights will be £125 per room so if you are prepared to share you can half your rate. There will be a modest additional cost for catering for breakfast plus a contribution towards lifts to the sites and donations where appropriate to site trusts.

Because of the distance, we will share lifts to the sites for any who may travel to Cumbria by train. There is a station at Grange-over-Sands – change at Lancaster travelling from the south.

Please contact [secretary@wealdeniron.org.uk](mailto:secretary@wealdeniron.org.uk) if you wish to attending. First come first served for the holiday let but there are also other B&Bs and hotels available in Grange over Sands for those who wish to make their own arrangements for accommodation – or to stay on after the visit.





## WIRG subscriptions

### New Subscription Rates from 1<sup>st</sup> June 2018

The committee has spent many meetings in the past year considering the fact that the subscription to WIRG has not been raised for quite a few years and that it does not now cover the benefits that you receive as a member. These include two newsletters per year, the annual Bulletin, two meetings a year, an informative website plus access to various very knowledgeable members for research matters. By contacting as many of you as possible electronically we are saving on every increasing postal costs.

If you attended the AGM in July you will recall that the change in subscriptions suggested by the committee was discussed from the floor and not deemed to be enough to avoid a further increase in the near future. Following a discussion various suggestions were made and it was agreed that these should be further discussed at the committee meeting in September. The outcome of the committee discussion was that with a large proportion of our members

being of pensionable age we should consolidate the categories of membership and rates are as follows:

Individual member	£15.00
Family (living at the same address)	£20.00
Students	£5.00
Institutions	£10.00

In light of all this could you please amend your standing orders so that the correct amount is paid on or around the 1<sup>st</sup> June 2018 onwards. I will contact those of you who pay by cheque or need an invoice nearer the time. It is much more convenient if you could pay via your bank. If you need the WIRG bank details please contact me.

It would be very helpful if you could take the necessary steps to update your subscription to avoid extra work and hassle! Also please remember to contact me if your personal details change.

Shiela Broomfield  
Treasurer and Membership

## THE NEWBRIDGE IRONWORKS

*A summary of Jeremy Hodgkinson's talk at the WIRG Summer meeting*

The post-medieval iron industry in the Weald came into being within a very few years at the beginning of Henry VII's reign. The introduction of the Walloon process in the Pays de Bray, across the Channel, in the 1450s could not have gone unnoticed by travellers passing through the area on the way to Paris, while iron making in the Weald continued to make use of bloomery technology, most notably in the Crawley-Horsham area. As is usually the case with significant technological progress, political and military developments played an influential role. Henry's exile in Brittany following the Yorkist ascendancy in 1471 resulted in a treaty with the duchy when he took the throne 14 years later. In 1487, only two years into Henry's reign, iron *pelletes*, or shot, were being produced at un-named works on Ashdown Forest by William Nele, one of the royal gunners or gun-makers based at the Tower of London. Edward IV's 'gunstonemaker' had produced shot made of stone, which would have been unsuitable if made of the soft Wealden sandstone, so William Nele's operation, which would have required the moulding of fluid iron, represents a small landmark. Another was the payment, at the end of 1490, from the estate of Cardinal Morton, archbishop of Canterbury, to 'ironfounders at Buxted' of a sum sufficient to set up a furnace and a forge on land since identified as Iron Plat or Queenstock. But was it the first?

The treaty with Brittany was tested when the Duchess Anne's plan to marry Maximilian of Austria, the future Holy Roman Emperor, was threatened by Charles VIII of France. In 1491 Henry VII issued instructions for ironworks to be set up on Ashdown Forest to provide armaments for a campaign in support of Anne. Details exist of the plan to employ skilled workers and to exploit the forest's raw materials, but whether it came to fruition is not known. Henry's planned invasion was aborted when the Duchess Anne married Charles VIII instead. Further records of *pelletes* being made came in the same year, as did the first mention of Parrock, whose owner John Warner was supplying stone for use in making iron cannon balls.

The attempt by Perkin Warbeck to claim the throne posing as Edward IV's son, Richard, led to other military action, first against France in 1492 and four years later against Scotland, both of which kingdoms had given support to the pretender's cause. Plans for the second campaign were to result in the establishment of the Newbridge works. The history of its tenancy, with clear involvement of immigrant ironworkers in key roles at the start, revealed some of the earliest documentary records of the operation of post-medieval ironworks in the country. Following the decline of the works in the late-1510s, it was revived in 1525 when it was leased to Sir Thomas Boleyn, and from the 1540s a series of courtiers had control until it came into the hands of Henry Bowyer. Under his tenancy a double furnace was recorded at the site in 1574. It may have remained in his hands until his death in 1598, the last mention of the works being in 1603.



Roger Adams at *The Pheasantry*

## Roger Adams

Roger James Adams, who at the age of 89 passed away on Sunday 13<sup>th</sup> of August, was a member before 1976 when he wrote an article on Scarletts blast furnace, Sussex. He was a shadowy figure who was always there when necessary and seems to have visited most iron working site sites, this gave him a distinct advantage when foray groups were searching around iron working sites trying to pinpoint the feature.

It was Roger who instigated the smelting group on Ashdown Forest. This was beside a gill, usually dry, which fed into the river for Newbridge furnace and finery forge. The land with its house "The Pheasantry" was "on loan" to Fred Tebbutt, later joined by Margaret when they were married. There was more than enough space for the bloomery furnace some 200-yds from the house, including a small shack for storage and even a charcoal making pit with a row of old Beech trees to keep it supplied with wood, thus keeping expense to a minimum; I was even allowed to empty the 6-foot deep charcoal pit whilst Roger, up wind, used a sloping riddle to remove the dust! All the equipment was made by Roger in his large, well-equipped garden workshop in Oxted, Surrey; and this included two pairs of 20-litre board-bellows. Unfortunately he forgot to include a non-return valve in the outlet pipe, this was evident when the bellows sucked-back the CO gas from the furnace which, when mixed with air (oxygen) and a glowing wood chip, caused the gas mixture in the bellows to glow for a while; he solved the problem by using a gauze mesh.

Roger made the first TV appearance for WIRG in a children's program, unfortunately nobody can remember its name!

Roger insisted on a regular pumping rate but it was often necessary to remind the pumpers of this with this gruff voice, as my children can attest. But only rarely was a respectable bloom produced; so it was a surprise that on one occasion when a group of children were invited to help,

probably organised by Margaret Tebbutt, but they had little enthusiasm, probably because pumping was such hard work! An excellent bloom was produced requiring minimal bloomsmithing and is still on display at the Ashdown Forest centre with his initials, "RJA" stamped in. On the other hand one smelt nearly ended in disaster. It was a cool, wet day with Roger, Dennis Beeney, Giles Swift and myself sitting huddled around the furnace; in those days we did not ignite the CO gas at the top of the furnace. After a while the pumpers complained about being exhausted and one tried to stand up but found he had no energy, fortunately Roger was quick to realise that we all had carbon monoxide poisoning. Even moving away from the furnace was an effort and walking up hill to The Pheasantry took an eternity.

Roger's skills allowed him to cast working, model cannon and wheels from scrap brass, including the carriage cut from aluminium. There is evidence that some of these cannon were test fired! Another idea of his was to make a "steam cannon" using a length of wrought iron pipe. This scheme seems to have died; he probably thought it too dangerous.

Roger was a member of the committee for a short while but when sitting in a room he had to be adjacent to the exit door to stop panic attacks, it was for this reason, presumably a type of agoraphobia that he left committee.

When Fred Tebbutt died The Pheasantry and its land reverted to its owner and Roger had to find a new smelting site, fortunately the neighbouring land was owned by the Morris family, who were friends of Margaret Tebbutt, and a small plot of the land was barb-wired-off from land used by Crowborough Camp for army training, this suited Roger although it entailed a steep walk up to the Pippingford drive. And so Roger built-up the site, but this time he constructed a decent shed for storage.

Numerous people visited Roger at "The Pheasantry" including, Ronald (Ronnie) Tylecote of the Historical Metallurgy Society; and Effie Photos carried out many experiments at Pippingford using copper ores containing arsenic, these ores are somewhat dangerous when heated and the wearing of a gas-masks was mandatory.

Roger lived with his parents in Oxted, Surrey, although he was born in Croydon. Apart from his labours for WIRG he started work as a gas fitter and then formed a company fixing and replacing handrails in the stairways of industrial buildings. In the distant past "folding, plastic Marley doors" were extensively used in schools to divide large classrooms into two. When these doors were no longer required Roger found this material to be a cheaper equivalent to leather for his bellows, not to mention the shed he built at Pippingford which was entirely built of this material and lasted over thirty years. His final job was at Oxted School where he became the lab technician and undoubtedly took on many other building and repairing tasks around the school using his vast knowledge on a range of skills. It could be said that he was "Jack & Master of all trades".

Brian Herbert

**PUBLICATIONS FOR SALE: contact Brian Herbert (brianherbert@btinternet.com)**

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