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Honorary Editor

David Crossley, 5 Canterbury Crescent, Sheffield, S10 3RW

Honorary Secretary

David Brown, 2 West Street Farm Cottages, Maynards Green, Heathfield, Sussex, TN21 0DG

Field Notes

compiled by J. S. Hodgkinson

A bloomery site in Rotherfield, East Sussex

Indications of the presence of a bloomery smelting site adjacent to Bletchingley Wood have already been noted.[1] Trial trenching revealed that the probable site of the furnace lay uphill, further into the field, at TQ 5801 3040. Wood-marked smelting slag was recovered, but no tap slag, suggesting a non-tapping furnace, possibly with a slag pit. A fragment of furnace wall, approximately 300mm by 300mm was found, which was composed of a sandy material with a slagged coating on the concave side. The fragment was not found *in situ*, but reddened earth beneath it suggested that the furnace might lie close by. No further excavation was undertaken, but the presence of several large boulders was noted in the subsoil; the geology is Ashdown Sand. No datable material was found.

A Romano-British bloomery site in Maresfield, East Sussex

The existence of three bloomeries in Hendall Wood has already been noted.[2] A trial trench was excavated into the slag heap of the site at TQ 4798 2504. As with the bloomery site at TQ 4771 2502, about 300m to the west, no tap slag was found, indicating that a non-tapping furnace, possibly with a slag pit, was used. Four sherds of pottery were recovered, which were examined by Dr Sue Hamilton. She described three of them as East Sussex ware, with the fourth also of Roman date, but probably later in the occupation. The geology of Hendall Wood is predominantly Wadhurst Clay faulted, approximately along the stream on the north side of the wood, against Ashdown Sand. Some eight quarries have been excavated into the Wadhurst Clay, though whether for clay, 'marl' or iron ore is not known. The proximity of three bloomeries, as well as Hendall Furnace about 1km to the north, suggests the likelihood of ore extraction from at least some of the pits.

The opportunity was also taken to record other features of the woodland. Some 20 charcoal burning platforms were noted in

Hendall Wood, with one in the field to the north west. In addition, sites of four saw pits were identified.

Three bloomery sites in Fletching, East Sussex

As part of the Ouse Valley Project, being carried out under the auspices of the University of Sussex, relict water management features are being recorded along a number of streams in the upper Ouse basin. In the course of this, three hitherto unrecorded bloomery sites have been discovered along one of the streams which flow through Sheffield Forest, Fletching. Each site occupied a similar position on a level area atop a steep slope leading down to the stream. All of the sites lie on Ashdown Sand.

The first encountered was situated at TQ 4196 2636, on the south side of the stream which flows west from Wilmshurst. Smelting slag was found covering a triangular area of about 60m^2 in a fan-shaped spread. The second was at TQ 4212 2663, on the north side of the same stream. At this site, slag covered a rectangular area of about 300m^2. Although the slag had been derived from smelting, samples recovered indicated that the slag had flowed downwards, suggesting the possibility that the furnace from which it was derived had a slag pit. The third site was similarly located on the north bank of the stream, at TQ 4218 2671. A roughly rectangular spread of slag extended for some 50m^2. A fragment of slag-impregnated furnace lining was discovered on the reverse, baked clay side of which was a clear impression of a wooden stick. Judging from the direction of flow of the slag on the surface of the fragment, the stick would have been placed vertically suggesting that it might have formed part of a framework onto which the clay structure of the furnace walls might have been fixed.

The streams in Sheffield Forest flow into the Sheffield Furnace pond, and the bay of a possible pen pond was noted at TQ 4161 2623. The sites of 26 charcoal burning platforms were noted adjacent to the two streams which flow through the southern part of the wood, and the remains of a sawpit.

Two bloomery sites in Brightling, East Sussex

A concentration of bloomery slag has been found in Forge Wood, Brightling, at TQ 4608 2101, above a steep slope adjacent to the

former pond of Glazier's Forge. Debris included a fragment of furnace lining measuring approximately 300mm by 200mm, curved in horizontal section but straight in vertical section, suggesting that it had derived from a shaft or chimney. Also discovered was a vertical flow of slag approximately 300mm high which had formed in a narrow, v-shaped space. At least one piece of slag showed impressions of wood. A few fragments of tap slag were noted. Slag debris was spread over a roughly rectangular area measuring about 20m wide by 15m down the slope.

The second site lies on the edge of Sugarloaf Wood, on a bank about 10m above a gill that flows down from near Great Worge (TQ 660219). The concentration of slag included some with wood markings.

Telegraph Mill bloomery site, Icklesham, East Sussex

This site was noted by Straker, who gives no other details.[3] Recent field-walking has shown that the site is centred on TQ 86638 15932, along a public footpath between Roughters and Place Farm. A ditch to the east of the path has probably resulted from the run-off from a pit at TQ 8667 1609, and has cut through tap slag, including some pieces greater than hand size, which lies at about 60cm below the surface and extends to a depth of at least 1 metre below that. Probing the area has defined the site as being about 60m across in an approximate ENE-WSW orientation, and about 20m N-S. The slag, which may amount to a volume of some 600m^3, has formed a distinctive platform across the site. Field-walking, two years ago, when the field west of the ditch was ploughed, revealed fragments of furnace lining. The pit mentioned above is one of several which have been dug in the Wadhurst Clay, in a line about 100m south of the A259 road through Icklesham village. Whether their purpose was related to iron working is not known.

We are grateful to Lindsay, Tom, Katy and Rosie Ackerman for information about this site.

Notes and references

1. WIRG, *Wealden Iron*, 2nd series **26** (2006), 5.
2. op.cit., 2-3.
3. E. Straker, *Wealden Iron* (Bell, London, 1931), 340.

An Experiment to Test Alternative Conjectures about the Covers of Ore-Roasting Pits

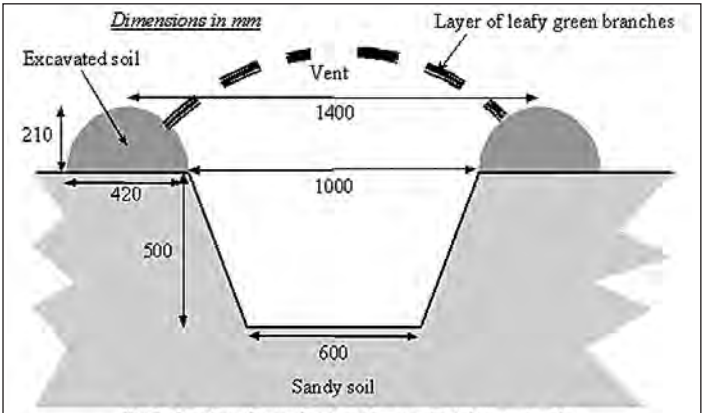
Jonathan Prus and Brian Herbert

Aim

The ballistic properties of roasting siderite iron ore suggest that ore-roasting pits must have been covered during use. In the absence of archaeological evidence, the experiment described here was designed to test the alternative conjectures that such pits were covered with either mud or with green vegetation.

Method

To allow two experiments to be carried out simultaneously, two similar, circular pits were dug, loosely based on evidence from a Roman bloomery iron-working site at Little Furnace Wood (TQ 591 243), Mayfield, Sussex, (Butler & Hodgkinson, forthcoming) and informed by photographs of a modern African ore-roasting pit (from an ethnographic reconstruction by retired bloomery smelters, 1980s; Schmidt 1997, 71-4). After



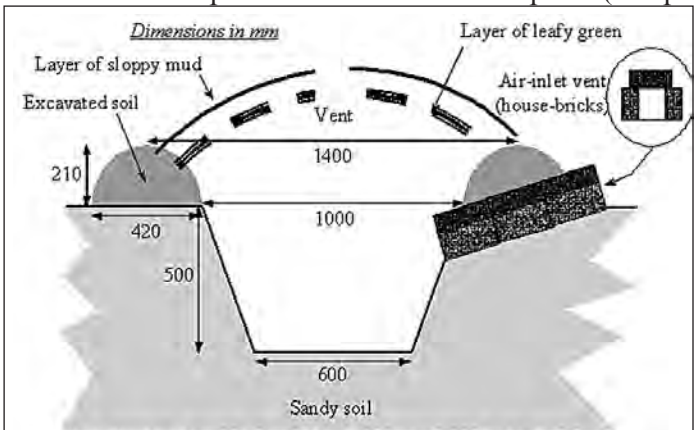
Pit 1, Section through pit with top air-inlet vent only

loading the pits with ore and fuel, Pit 1 was well covered with leafy green branches, whereas Pit 2 had this same initial covering to act as a foundation for a layer of sloppy mud from a nearby stream. Both pits had air inlet vent holes top centre, below which a top-to-bottom core of kindling wood had been built up. Pit 2 differed from Pit 1 in having an air inlet at one side (see diagram) although no attempt was made to regulate air-inflow. Once the pits were charged with similar loads of ore and wood they were fired via the top vent.

The ore was added 'as found' with no attempt at pre-roasting comminution whilst the fuel consisted of discarded dry timber and small logs. The pits were significantly smaller than that at Little Furnace Wood and this may have altered their thermal properties and certainly made layering the charge difficult.

Initially, both pits appeared to begin to burn freely, but the greenery-cover smothered the fire in Pit 1, and extinguished without consuming much of the fuel. Pit 2 burnt thoroughly, consuming all the fuel and most of its covering of leafy branches. The mud covering baked dry and fell in regularly from the centre – outwards. Unsurprisingly, the ore in Pit 1 seemed largely unchanged, whilst that in Pit 2 was shattered, and mostly the ox-blood red of roasted ore. Each pit was then cleaned out and the ore re-weighed.

To make a valid comparison between the leafy and the leafy-plus-mud covered roasting pits, the partially processed ore and the unused fuel from pit 1 was transferred to pit 2 (the pit with



Pit 2, Section through pit with top air-inlet vent & side inlet vent

the uncontrolled air-inlet) with some additional fuel and fresh green branches *but no mud covering this time*. On firing, it burnt to completion, leaving shattered and apparently roasted ore.

The first burn in pit 2 was slower than the second burn (greenery only) and the combustion of the greenery was probably a significant addition to the effective fuel load (as it may have been in the mud-covered burn in this same pit).

Observations

1. There was comparatively little ore ejected from either pit. The coverings, the pit sides and the depth of the charge confined most of the ballistic particles from exploding ore. A few chips of unconverted ore were found next to the pits, suggesting low energy ejection.
2. The detritus left from sieving the content of the pits was similar to that found in the pit and pit walls excavated at Little Furnace Wood. This was mainly burned earth, fragments of roasted ore and a few small pieces of charcoal. Rather more very small pieces of ore were left after the second burn in Pit 2, which makes comparison of yield problematic.
3. A key difference between the detritus from this experiment and that from Little Furnace Wood was that the ore fragments from the latter were, on average, very much smaller. This is undoubtedly a function of the fineness of the sieve or riddle used in each case.
4. The above-ground portions of the walls of these experimental pits differed from those at Little Furnace Wood in that they were largely unaffected by the roasting process and incorporated no burnt material or ore fragments. If the experiments were re-run many times then the obvious material for repairing these walls would be the heap of detritus produced by sieving.
5. There was no visible difference between the ore roasted under the mud cover and that roasted under the leafy cover in the same pit. Some roasted ore from each load remained black on the inside; this has been noted before by the WIRG smelting team but never analysed.

Conclusions

The results of this experiment do not permit us to choose between the leafy cover and the mud cover conjectures. However, a cover of leafy twigs (or similar material) is simpler and quicker. The application of Ockham's razor suggests that we might prefer the simpler leafy method. Further, we might imagine that very small greenwood might be an otherwise wasted by-product from cutting wood to make charcoal, and therefore an abundant and handy material to use for this purpose. We note, however, that green leaves (as opposed to green twigs) are only available for part of the year. Signs of cyclical deposition of smelting debris at the Little Furnace Wood site suggest that an annual cycle in the production process as a distinct possibility. A covering of logs might serve the same purpose as the coverings tested here, but logs are inherently more valuable than small-wood and might, therefore, be less suitable for the task.

The roasted ore weight loss gives an indication of the efficiency of the roasting process, although here the small fragments were not accounted for. The theoretical maximum weight loss of siderite, $FeCO_3$ is approximately 31%, and a recent, controlled roasting experiment produced a figure of 26% weight loss for ore having an SG of 3.1, noting that pure siderite has an SG of 3.9.

Measurements

Pit 1

Leafy branches only, to cover pit

As-found ore = 130kg.
Wood fuel = 107kg
Weight of partially roasted ore = 119kg
Weight loss = 8.5%

Pit 2

Leafy branches to cover pit + covering of sloppy mud, with air inlet pipe

As-found ore = 131kg.
Wood fuel = 109kg
Weight of roasted ore = 91kg
Weight loss = 30.5%

Pit 2 Second experiment

Re-roasting the partially roasted ore from pit 1

Leafy branches only, to cover pit

Partially roasted ore = 119kg

Wood fuel = 107kg, most of which was re-used fuel from the aborted burn in pit 1.

Weight of now-roasted ore = 81kg

Weight loss for both roastings = 37.4%

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Richard Woodman – Ironmaster and Martyr

Tim Cornish

Warbleton is a tiny village between Burwash and Hailsham in East Sussex. In 1548 the Sussex coastal towns complained about shortage of wood and blamed (among others) four iron mills and furnaces in Warbleton parish. These were probably the furnaces at Marklye and Warbleton Priory and Steel and Woodman's forges.[1]

The area was described as having 'water-courses, water-lays, ponds, bays, banks, pens, dams, flood-gates, sluices, ways, workmen's houses, coal places, mine-places and other grounds adjoining'. This 1617 description from a conveyance refers to Rushlake Furnace.[2] Just to the west of Warbleton church lived, in the 1550s, a bold and radical man called Richard Woodman who ran either a forge or a furnace at TQ 603176 (named 'Woodman's'). 'Firm facts are short for this site….The Woodman ascription is unproven: he was active at this time, for immigrants made charcoal for him in 1549 and 1550….but it is not known for certain where he worked'.[3] His entry in Straker states that he owned Woodman's Furnace ('a very large bay, by tradition the site of Woodman's Furnace'*)* and also that he owned or worked Steel Forge and Markly Furnace at Rushlake Green.[4] Molly Beswick, however, argues that Markly was a later furnace, perhaps built by Stollian and that Woodman's furnace was Cralle (Cowbeech).[5] Interestingly, an iron fireback in Hastings Museum, bearing three impressions of a firedog marked 'RW', alleged to

Fig.1: Fireback attributed to Woodman

have been made by Richard Woodman, originally was at Cralle Place. Brian Awty writes: 'By 1549 Woodman employed three Frenchmen in Foxearle hundred, and a hammerman and a collier at a forge in Warbleton borough. He held Warbleton manor under a lease granted him by his father; the forge there was perhaps a site called Woodman's furnace, which archaeological investigation now shows was in reality a forge. Perhaps Markly Furnace at Rushlake Green was the furnace which operated in conjunction with Woodman's forge'.[6] Whatever the doubts about his iron works, Woodman certainly existed: indeed, he was larger than life.

Warbleton is known for its iron industry but is also known as a centre for protestant radicalism, and it is this latter aspect of Woodman's life that is unusually well documented. Foxe's *Book of Martyrs* (the most popular, and polemical, Elizabethan book after the Bible) contains Woodman's own vigorous and lengthy account of his persecution. He first came to notice early in the reign of Mary Tudor, when England had swung its national religion back to Rome. Woodman, described as 'of the age of thirty years and somewhat more' stood up during a service in Warbleton church and denounced his vicar, called Fairbank, for reversing his self-proclaimed protestant faith, 'turning head to tail' as Woodman put it. He was arrested and came before Bonner, the Bishop of London. He was interrogated 26 times during his 18 month imprisonment, was released then rearrested and questioned a further six times in the Bishop's 'coalhouse'. According to Straker he pleaded with his accusers, implying that he did indeed run more than one forge or furnace: 'Let me go home, I pray you, to my wife and children to see them kept, and the poor folk that I would set awork a 100 persons, ere this, all the yeare together'.[7] He was accused of harassing an authorised minister. His clever defence (showing the first signs of his keen legal brain) was that Fairbank had been married and therefore had forfeited his position. On his release he said, 'The papists said that I had consented to them'. Woodman was at pains to deny any such thing and his subsequent behaviour emphasises that mild acquiescence was very unlikely. Indeed, Woodman was a man with a mission and proceeded to visit his fellow gentry in Sussex to alert them to his views. 'I went from parish to parish and talked with them, to the number of thirteen or fourteen, and that of the chiefest

in all the country; and I angered them so.' Sir John Gage of Firle, Lord Chamberlain, was one of these. Accusations about Woodman's behaviour began to circulate: Gage was told that he had married and baptised people, something Woodman absolutely denied.

Inevitably, Woodman was arrested again, early one morning, '*I* being at the plough, with my folks'. It seems that despite being a prosperous ironmaster he also took a personal part in farming his land. He asked the constables if he could go home for breakfast, to which they agreed. Whilst in conversation in the Woodman household, the accused asked to see their warrant. They were unable to produce one, so they departed empty-handed, being reminded by Woodman that he had already spent 18 months of illegal imprisonment. Realising that the return of the constables with an effective warrant was only a matter of time, he decided to 'make my lodging in a wood not past a flight-shot from my house'. With his Bible, a pen and ink, and being fed by his wife, he lived in the open for six or seven weeks, waiting for the coast to clear before taking ship for Flanders and France. Four hundred Protestant exiles had escaped from Mary's regime. However, he could not bear being away from Sussex: 'I thought every day seven years or I was home again'. Within three weeks he was back in Warbleton.

Woodman continued to live at home, but made preparations to hide from the authorities when they arrived. A family argument about money led to his brother betraying him, and a large force arrived to arrest him. 'A little girl, one of my children, saw them come together and came running in and cried 'Mother, Mother, yonder cometh twenty men'. I sitting in my bed and making shoe-thongs, heard the words, and suspecting straightway that I was betrayed, I stirred out of my bed and whipt on my hose, thinking to have gone out of the doors or ever they had come in'. But his enemies were too close; his wife barred the door.

He had built himself a loft at the top of his house in which to hide. He heard his wife cry, 'Away, away!' and the law officers entered and began their search. Woodman wrote: 'Then I knew there was no remedy, but made the best shift for myself that I could. The place was boarded over and fast nailed, and if I had come out that way that I went in, I must needs have come amongst them all in the hall. Then I had no shift but to set my shoulders to the boards that were nailed to

the rafters to keep out the rain, and brake them in pieces, which made a great noise; and they that were in the other chamber, seeking for the way into it, heard the noise and looked out of the window, and spied me and made an outcry. But yet I got out, and leaped down, having no shoes on. So I took down a lane that was full of sharp cinders, and they came running after with a great cry, with their swords drawn crying "Strike him, strike him!" which words made me look back and there was never one nigh me by a hundred foot; and that was but one, for all the rest were a great way behind. And as I turned about hastily to go my way, and stepped on a sharp cinder, with one foot; and saving of it, I stepped into a great miry hole, and fell down withal, and ere ever could I arise and get away, he was in with me. His name is Parker the Wild, as he is counted in all Sussex.'

Straker adds: 'This lane was a causeway raised in places above ground level and is still to be seen. The sharp cinders are yet in evidence, although some six or seven inches below the soil and the field names Great and Little Causeway Field and Causeway Wood confirm the local tradition'.[8] He was captured, taken home so that he could put his shoes on. The assembled company had a drink and Woodman was led away in a dog harness to Sir Edward Gage (his father, Sir John, had died in 1556), Sheriff of Sussex at Firle, where he was held for three weeks. The Gage family had major interests in the iron industry in Sussex. They owned the Crown works in Ashdown Forest and at Maresfield, also owning the Hedgecourt Furnace at Worth. Correspondence between Sir Edward and Sir Richard Sackville a few years later details the damage caused to Gage's land by digging for iron ore.[9]

From Firle, Woodman was taken to London where he was interrogated by John Christopherson, Bishop of Chichester, who was also a chaplain to Queen Mary. But Christopherson had not yet been consecrated and was therefore not in a position to condemn Woodman. Christopherson had published a piece in 1554 entitled, *An Exhortation to all men to take heed and beware of rebellion,* in which he articulated his belief that political and religious dissidence were closely linked. He would have regarded Woodman as a potential revolutionary. However, the interrogation soon became an opportunity for Woodman to preach to the bishop and the clerics who accompanied him. Woodman's version was that his copious

quoting of the scriptures won the argument. He denied that he had been preaching, 'but as far as teaching, I cannot deny; for it becometh every man to teach and instruct his household in the fear of God, and all others as far as he can, that desire it of him'. This may suggest that the 100 workers of the Woodman Forge were subject to religious instruction from their forceful employer. The bishop then admitted his impotence in this case and gave both Woodman and the Sheriff's men dinner, during which they had a discussion about the Apostles marrying, and about the quality of the clergy. Woodman carried his attack to the bishop-elect: 'I promise you, there be as many unlearned priests in your diocese as in any one diocese in England I think; the more it is to be lamented'. One gets the sense that the bishop had more than met his match. He replied: 'I promise you, I do much lament it myself'. Indeed, Woodman's gaolers told him that he was developing a reputation as a leader for the Protestant cause. They told him: 'The heretics in the country hung on me'. John Foxe regarded Christopherson as one of the cruellest Marian Bishops and later the protestant bishop, John Jewel, described him as 'the brawling Bishop of Chichester'. Nevertheless, according to Woodman's account, he appears to have behaved with some humanity on this occasion. The bishop carried out a second interrogation on 27 April 1557, when Woodman admitted to having some education: 'I can read Latin, but I understand very little'.

The third examination on 12 May was carried out by Dr Langdale, vicar of Buxted. This academic theologian had replaced the famous ironmaster, Parson Levett, who had died in 1554, but Langdale was no businessman. The reason he had been chosen was because Woodman originally came from Buxted: his father still lived there. This gives rise to speculation that Woodman had learnt his trade as ironmaster from Parson Levett and Ralph Hogge, although Woodman may have found Levett's religious views anathema: Levett was deprived of his living for a period, ostensibly for being a recusant (although his subsequent appointment to another living makes recusancy unlikely).[10] Woodman wrote: 'The greatest cause that I was compelled to read the scriptures was because the preachers and teachers were so changeable'. Perhaps his view of Parson Levett and Fairbank of Warbleton was behind this comment. Dr Langdale was also a keen Catholic and was chaplain to James Gage, son of

the late Sir John Gage, and brother to Sir Edward. James Gage joined Woodman's interrogation and the subjects covered included the sacraments and transubstantiation. A fourth interrogation took place on 25 May by the Bishops of Winchester and Rochester and others, but none of these had jurisdiction over a man from Warbleton. A fifth examination took place on 15 June by the Bishop of Winchester, Dr Langdale from Buxted and the Archdeacon of Canterbury, 'with a fat-headed priest and others whose names I know not', wrote Woodman, with signs of exasperation. The Archdeacon of Canterbury (Nicholas Harpsfield) was, however, a sinister and determined figure who had developed a reputation as a kind of witch-finder general. Cardinal Pole had given him powers of enforcement in the Diocese of Canterbury, where he presided over numerous heresy trials and conducted repeated and rigorous visitations. Foxe called him 'the sorest and of least compassion' of all the Marian Archdeacons, charging that by his 'unmercifull nature and agrest [rude or crude] disposition, very many were put to death in that Diocese of Canterbury'. Woodman maintained at this 15 June meeting that none of them had jurisdiction over him. However, the next day the Bishop of Winchester and Harpsfield, the latter brandishing a paper with his authority direct from Cardinal Pole, the Archbishop, finally condemned Woodman to the flames.

Richard Woodman's final written words were as follows, showing his defiance till the end: 'For when I have been lying in prison, wearing only bolts, otherwise shackles, otherwise lying on the bare ground; sometimes sitting in the stocks; sometimes bound with cords, that all my body hath been swollen; much like to be overcome for all the pain that hath been in my flesh; sometimes fain to lie without in woods and fields, wandering to and fro; few, I say, that durst keep my company for fear of the rulers; sometime brought before the justices, sheriffs, lords, doctors and bishops; sometime called dog, sometime devil, heretic, whoremonger, traitor, deceiver, with divers other such like ... Yet, for all this, I praise my Lord God.'

On 22nd June 1557 Richard Woodman and nine other people were burnt to death in Lewes. George Stephens, who also came from Warbleton, was consigned to the flames in Woodman's company. The others came from Mayfield, Buxted, Heathfield and Rotherfield, four of whom were women. It may be that these had all been

evangelised by Woodman. There were members of the Woodman family in Mayfield, and Richard's brother-in-law, Clement Huggett, came from Isenhurst in Mayfield.

Two years later a rhyme was published:

When William Mainarde, his maid and man,
Margery Mories, and her son,
Denis Burges, Stevens, and Wodman,
Grove's wife, and Ashdon's to death were done,
When one fire at Lewes brought them to death
We wished for our Elizabeth.

John Foxe maintained that eight of the accused had been arrested only two or three days previously, which must have meant the burnings were illegal; there had been insufficient time for the writs to come down from London. Men like Richard Woodman, it seems, were too dangerous to be allowed due process.

Within three weeks of Elizabeth's accession to the throne, Bishop Christopherson was under arrest and died a month later. Nicholas Harpsfield spent 12 years in prison. The persecutors were persecuted. Thomas Fuller's epitaph referred to the amount of wood used in burning heretics: 'Had he sat long in that see, and continued after that rate, there would have needed no iron mills to rarefy the woods of this county'.[11]

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A Godly Chimney Plate and Other Firebacks from Brede

Jeremy Hodgkinson

If the spirituality of a people were to have been measured by the designs they cast on their firebacks, the English, or at least those who lived and worked in the Weald, would have been regarded as a godless lot in the sixteenth and early-seventeenth centuries. Before the influx of religious and classical fireback designs from the Low Countries, probably after the Restoration in 1660, English firebacks with religious subjects are rare.

In Germany, France and the Netherlands, religious designs, whether of biblical stories or depictions of saints, were commonplace in the same period. The earliest ones bear representations of gothic arches and statuary strongly reminiscent of architectural forms. Similarities exist between these fireback designs and those on the separate plates forming the sides of cast-iron stoves. In some cases the blocks used were copied from contemporary engravings. Later, scenes depicting stories in the bible became popular: Jesus and the woman from Samaria shown standing beside a wellhead, or the marriage at Cana, are often shown. Subjects were drawn from the Old and New Testaments, and the Apocrypha. Sometimes the figuration is crude, sometimes it displays considerable skill.

Fig 1: Fireback at Squerryes Court

A presumption against graven images, engendered by the reformation and the growth of fundamental protestantism, may have been the cause of the disinclination among English

founders to cast religious subjects on firebacks, and to concentrate on heraldic or personal designs. There is, however, one striking exception to this rule: a remarkable fireback decorated entirely with scenes from the Old Testament, and including a caption in a speech bubble. The fireback (Fig.1), of which only one example is known to the author, is at Squerryes Court, near Westerham, in Kent, where it has been for as long as anyone can remember, and possibly was used in the previous house on the site, which was replaced in 1680. In many ways the design on this fireback is very modern in concept, being akin to a strip-cartoon, yet the style of the dress of the figures portrayed and the overall appearance of the plate suggests that it was made in the first half of the 17th century. The fireback is in the form of an arched rectangle, measuring 960mm wide by 750mm high. It has a moulded border, but otherwise the entire surface is taken up with three pictorial scenes.

Fig 2: Abraham sacrificing Isaac

The first of these (Fig. 2), in the top right quarter, depicts Abraham about to sacrifice his son, Isaac, who is shown kneeling on a low wooden pyre (Genesis Ch. 22: vv. 6-13). Abraham's left arm rests on Isaac's head, and his right arm, which holds a cleaver, is raised behind him ready to strike. Above and behind Abraham, the figure of an angel is shown restraining Abraham's right arm while, below Isaac and to the right, a ram lurks, presumably unaware of the fate that is to befall him. The second scene (Fig. 3), which occupies

Fig 3: Joseph cast into a pit

the entire left half of the fireback, is taken from Genesis Ch. 37: vv. 20-24 & 31-33. In the middle, Joseph is being cast into a pit (which looks more like a well shaft) by one of his brothers, while above, six of his brothers look on, in a serried rank, each dressed in a cloak and wearing a sober puritan hat. Below, another brother presents their father, Jacob, with Joseph's coat, and from Jacob's mouth a speech bubble issues forth, with the words: AH·IT·IS·MY·SOHES·COTE. The bottom right quarter of the fireback shows the scene in Genesis Ch. 49, where Jacob, on his deathbed, tells his twelve sons what will befall them and their tribes (Fig. 4).

Fig 4: Jacob on his deathbed

Fig 5: 'Dutch' style fireback at Lewes

German stove plates and other continental firebacks bearing images of the episode involving Abraham and Isaac are known from the 16th and 17th centuries (Fig. 5).[1] In the examples cited, the poses are similar to the Squerryes plate, with Abraham's left hand on Isaac's head and his right hand raised and holding a sword. In each case, also, Abraham is to the left and Isaac to the right. They differ, both from each other and from the English example, in details such as

Fig. 6: Fireback at Rottingdean Grange

the position of the ram, what Isaac is kneeling on, and whether the angel is restraining Abraham. Another English fireback of Abraham and Isaac, at Rottingdean Grange (Fig. 6), bears some similarity in the representation of the pyre with the same scene on the Squerryes plate, and may also be a product of the same furnace. Recently noted is an illustration of the same scene on a bronze mortar, cast by Herman Benninck of Lübeck, in north Germany, which was recovered from the wreck of the *Snaresvend*, lost in 1658.[2] A fireback with the scene of the death of Jacob; again almost

Fig. 7: Fireback at Wakehurst Place, Ardingly

certainly of continental origin, can be seen at Wakehurst Place, Ardingly (Fig. 7). Of the principal scene with Joseph and his coat, no other examples are known to the author.

The Squerryes fireback would have been made from a single wooden pattern onto which the entire image had been carved. Surviving examples of such patterns show them to have been constructed of a number of planks battened together, and it is noticeable on some firebacks that lines indicating the joins between such planks are clearly visible. Although it is inconceivable that the pattern for a plate the size of the one at Squerryes would have been made from a single piece of wood, no 'plank lines' are visible on the fireback. This attests to a high degree of care in the preparation of the pattern, and also to its probable uniqueness. The wooden planks of re-used patterns would have dried out over time, causing shrinkage which opened gaps between the planks, resulting in the lines seen on some firebacks.

A question which is often asked in relation to firebacks, but is rarely easy to answer, is that of origin. In the case of the Squerryes fireback a number of clues suggest where it may have been cast. The figuration is rather naïve and this offers the first clue as to the possible source of the plate. Comparison of the facial features of the figures on the Squerryes plate and that of Richard Lenard, the founder at Brede, on the celebrated fireback of 1636 (Fig. 8), show them to be remarkably similar. In both

Fig 8: The Lenard fireback

Fig 9: German fireback at Maison de la Métallurgie, Liège

cases they are stylised rather than realistic. This may indicate a deliberate choice on the part of the wood carver responsible for making the pattern, or may simply be the result of a lack of technical skill. Another similarity with the Lenard fireback is the fact that, with only one exception, all of the forward-facing, standing figures on the Squerryes plate have both feet pointing in a single direction. A third clue takes the form of a floral scroll on the left side of the fireback. Similar scrolls can be seen on the Lenard fireback beneath the shelf holding three drinking vessels, and on the top of the fireback. This suggests that the Squerryes fireback may also be a product of Brede Furnace.

Other firebacks that may have originated from Brede also show similar naïve representation of the human form and distinctive scrollwork, as well as other elements which suggest a continental influence. As mentioned above, early German stoveplates often used architectural forms with statuesque figures, usually religious ones, framed by gothic tracery. Such forms found their way into fireback design,

Fig 10: German influenced fireback at Guildford

but as the influence of the Renaissance became more widely felt the architectural forms depicted on firebacks assumed a more classical appearance (Fig. 9). An English fireback of this type can be seen in two slightly different (but probably contemporary) versions at museums in Hastings, Lewes and Guildford (Fig. 10). All are poor castings, but the figuration, the poses of the figures, and the use of the distinctive scroll suggest they also originated at Brede. One also bears the initials '**I M**'. The same facial features and two-arched format appear on an unusual forgeback, dated 1655, which is in Hastings Museum (Fig. 11). Of the same date is a fireback (Fig. 12), said to portray the celebrated 'Brede Ogre', Sir Goddard Oxenbridge (d.c.1531), the design of which incorporates the same naïve facial features, uni-directional feet, and scrollwork. A distinctive style of lettering used for the date on this fireback, and repeated on other plates, may also indicate that they originate from Brede. The number '1' on these firebacks is hooked at each end (Fig 14 opposite); other plates also include the letters '**I M**', which may, therefore, be the initials of the founder. An example of

Fig 11: Forgeback in Hastings Museum

Fig 12: Fireback portraying the 'Brede Ogre'

Fig 13

Fig 14

Fig 15

Fig 16

this is the fireback showing an anchor and the words, 'PROBASTI ME',[3] on display in Anne of Cleves House Museum, Lewes, and illustrated by Cleere & Crossley (Fig. 13).[4] It bears the probable date of 1656, with the '1' hooked, as well as the initials '**I M**' and also two of the scroll motifs. The lettering of the inscription also bears similarities to that on the Squerryes fireback. Eight different firebacks with a hooked '1' have been observed (Figs. 15 & 16 are examples);[5] with one exception they also have the initials '**I M**'. Two also have the distinctive scroll motif. All date to the period, 1649-56 (although on one, of a salamander, the date has, almost certainly, been incorrectly cast as 1550). The other numerals also bear a striking similarity of style.

Rather than a number of different furnaces possessing sets of numbers of the same distinctive style, it seems much more likely that these numbers were a unique set, part of the stock of a single furnace, and used by an, as yet, unidentified founder, whose initials were '**I M**', on firebacks cast there during a short period in the mid-17th century. Other stylistic similarities described above suggest that all were the products of Brede Furnace.

Notes and references

1. S. Theisen, *Der Eifeler Eisenkunstguss im 15. und 16. Jahrhundert* (Rheinland-Verlag, Köln, 1973), pl. 96 & 107. I am grateful to Brian Awty for bringing this book to my attention. *See also* D. Pesch, *Herdgussplatten* (Rheinland-Verlag, Köln, 1982)
2. R. R. Brown, 'Saintly cannons: Religious symbols on artillery', *Jnl. of the Ordnance Soc.*, 18 (2006), 46-7.
3. *From* Psalms 139, v.1: *Domine, probasti me et cognovisti me* – Lord, thou hast searched me and known me.
4. H. Cleere & D. Crossley, *The Iron Industry of the Weald* (Cardiff, 1995), 189.
5. Examples are in Guildford Museum, Anne of Cleves House, Lewes, the Victoria & Albert Museum, London, and several are illustrated by J. Starkie Gardner, 'Iron Casting in the Weald', *Archaeologia*, 56, 1 (1898), 133-64.

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Compiled by J. S. Hodgkinson

Compiler's Note

Wealden locations are listed by parish; other locations are listed by ancient county. Names of shipping vessels and publications are in italics.