

The lordship of Canterbury, iron-founding at Buxted, and the continental antecedents of cannon-founding in the Weald

by Brian Awty &
Christopher Whittick

with the cooperation of
Pam Combes

Queenstock Furnace in Buxted is shown to have been built under the auspices of Archbishop John Morton, probably in 1490. The site was at Iron Plat on the Uckfield Stream, within Morton's lordship of South Malling. The furnace was out of blast in 1509, and also apparently in 1537, but it was mentioned again in the 1570s, when it will have been the Buxted site used by the gunfounder Ralph Hogge. The furnace had most probably been put in blast around 1512, will have been the Buxted 'iron mill' used by the Rotherfield ironmaster Roger Machyn in 1524 and was the probable source of the iron railings supplied for Rochester Bridge by Archbishop Warham, who died in 1532. Queenstock, and not Oldlands, was the site at which William Levett cast guns from 1543 onwards. The technique of casting iron guns vertically in stave-lined pits had been used in the duchy of Jülich in 1539 and 1540, and it is suggested that it was brought to Normandy in 1540 and to the Weald in 1543, as a result of the alliances of both Francis I and Henry VIII with William de La Marck, duke of Cleves. In the case of the Weald the intermediary could have been Nicholas Wotton, who in 1539 led the negotiations for Henry's marriage to Anne of Cleves, and did not return to England until July 1541, when he took up the office of dean of Canterbury.

THE FURNACE AT BUXTED

The earliest mention of iron-founding in the Weald concerned a payment made on 31 December 1490 to the archbishop of Canterbury's master surveyor of £67 2d. 'for lernefounders at Buxstede'. The money had been paid to the surveyor by Roger Lewknor of Tangmere, general receiver for the archbishop's properties in the counties of Sussex, Surrey, Middlesex and Hertford, and allowance was made to Lewknor for this payment in the account of money received from him for the year Michaelmas 1490 to Michaelmas 1491 by the archbishop's cofferer, the priest John Ryse.¹ Lewknor was himself a Sussex man and the money was diverted to the surveyor, presumably on the archbishop's instructions, without ever having reached Canterbury or the archbishop either.

Schubert thought that the iron-founding in question might have been the casting of shot, which could have been carried out 'in a small moveable hearth with the addition of various fluxes, such as

antimony or tin, to facilitate liquation'. This would mean that the bloomery type of furnace used from prehistoric times in the Weald, in which iron was made direct from the ore, would still have been in use at Buxted in 1490. With hindsight this seems to be a somewhat improbable suggestion, because the source cited by Schubert for the operation of the process of liquation in the 15th century was a German *Feuerwerksbuch* of 1454.² In contrast, the indirect method of iron-making, perfected around 1450 by the introduction, at ironworks belonging to the duchy of Burgundy,³ of finery forges to decarburize the cast iron produced in a blast furnace, had reached Normandy by the 1470s. It was in operation at Neuville-Ferrières on the River Béthune in 1479, and a likely date for the building of the blast furnace at Neufchâtel-en-Bray is 1483.⁴ Neufchâtel is only 30 km from Dieppe, whence iron was being exported to England in the 1470s,⁵ and through Dieppe, Buxted could have been reached within two or three days, making onward transmission of the new technology to the Weald

over the next ten years a distinct possibility.

The preposition 'at' gives to the presence at Buxted of the iron-founders less permanency than 'of',⁶ and suggests that they might have only recently arrived at the site. To assess whether the sum involved could have included the building of both a furnace and forge, with bellows driven from the same pond, is not easy. At Panningridge 50 years later, where there was no forge, the main structure of the furnace cost over £31, with total costs of around £55.⁷ Robertsbridge is scarcely comparable because of the elaborate water-supply system driving bellows at widely separated forge and furnace sites. Given the sophisticated nature of carpentry for a hammer assembly, forge expenses would have been rather more than those at the furnace, but a total sum of around £90 seems not unreasonable. Taking into consideration intervening inflation, the very precise amount, £67 2d., allowed for the payment to the surveyor suggests that this was a consolidated sum, and not an estimate or sum paid 'in prest' (in advance). It might well cover the whole building operation, with the subsequent payments at Buxted, in wages, running expenses and repairs, expected to be met out of the profits.

If a blast furnace associated with Canterbury was in operation in Sussex, it is likely to have been within the lordship of South Malling, the temporal equivalent of the archbishop's deanery of South Malling.⁸ This included the iron-working parishes of Wadhurst, Mayfield, Buxted and Framfield and stretched as far south-west as Glynde, South Malling itself, and the parish of St Thomas Cliffe, near Lewes, although it must be borne in mind that the boundaries of the temporal lordship did not everywhere coincide with those of the deanery.

Buxted Furnace was twice mentioned in a court book of South Malling lordship, both the courts in question being held at Uckfield in 1509. Firstly, in July three crofts of old assart containing five and a half acres of land adjoining the 'Furneys in the said parish [Buxted], which land was used for the manufacture of iron in the days of lord Sir John Morton, Cardinal, Archbishop of Canterbury', were granted to Robert Mauncer the younger. Secondly, in December four acres of waste land called *Jenensy* and *Jenensy Medue* in Buxted adjoining the 'Furnes' were granted to Thomas Hudson. In this second case the grant explained that the land was in the lord's hands 'following the wasting of the pond' (*post vastationem stangni*). In neither case was the ward

or borough named in which the land in question was located.⁹ The furnace may of course have been regarded as a landmark sufficient in its own right to identify the site. In 1509 it was still clearly associated with Archbishop Morton in the mind of the steward of South Malling lordship, although Morton had died in 1500. Apparently the furnace did not remain in blast for long after his death.

ARCHBISHOP MORTON

John Morton had been a staunch Lancastrian and following the bloody battle of Towton had found refuge during the 1460s together with Margaret of Anjou, the queen, and the young Prince Edward, at the court of Margaret's father, René of Anjou, duke of Bar and titular king of Naples. Part of this exile was spent at Saint-Mihiel on the Meuse and it could have been there that Morton gained an early insight into iron-founding.¹⁰

During the brief re-enthronement of Henry VI in 1470, Morton returned to England with the earl of Warwick, but after Warwick's defeat and death at Barnet in April 1471, the defeat of Margaret herself at Tewkesbury only shortly afterwards, her capture, and the murder of the young Prince Edward following the battle, Morton held the Lancastrian cause for lost. He sought reconciliation with Edward IV and the conjunction of Edward's magnanimity and Morton's outstanding ability saw him made successively bishop of Ely, lord chancellor and tutor to the Yorkist Prince Edward. However, after Richard III's seizure of the throne and the murder of the young princes in the Tower, the disillusioned Morton once more fled abroad.

On becoming king, one of Henry VII's first acts was to invite Morton's return and to restore him to the see of Ely. Morton was instrumental in bringing about Henry's marriage to Elizabeth of York, became archbishop of Canterbury on the death of Thomas Bourchier in 1486 and lord chancellor again in 1487. In 1486 he was among the commissioners appointed to oversee all the mines of tin, lead, copper, gold and silver in England and Wales, apart from those in Cornwall and Devon. Among the temporalities of the archbishopric which came to him in July 1486 was the lordship of South Malling, which included Buxted.¹¹ Morton would have had the opportunity to sponsor the setting up of a blast furnace there at any time after that. The involvement of Morton's master surveyor as intermediary with the iron-

founders suggests that the introduction of the indirect process of iron-working on the archbishop's estates was just one item in his efforts to repair and improve them, following the ravages of the Wars of the Roses and subsequent neglect.¹²

It is striking also that whereas, everywhere else throughout the decade covered by the surviving court books, the lord of South Malling remains an almost anonymous, even shadowy 'dominus', in the first of the two transactions relating to lands adjacent to Buxted Furnace the steward assumes the character of chronicler or annalist praising famous men, and informs us that these very lands had been 'used for the manufacture of iron in the days of lord Sir John Morton, Cardinal and archbishop of Canterbury' (*ad opus Fabricationis Ferri diebus domini domini Johannis Morton Cardinalis et archiepiscopi Cantuariensis*). Just as during his time at Ely he had inspired the construction of Morton's Dyke, an early step in the draining of the fens, this close association in the mind of the steward of the nine-years deceased archbishop with iron-founding at Buxted suggests that during his time at Canterbury, Morton was in effect England's first ironmaster.

Jennys Mead, a field just less than six acres in extent, formed part of Totease Farm which was acquired in 1859 by the Buxted Park Estate. The plan forming part of the conveyance has made it possible to locate the furnace; it depicts Jennys Mead and Jennys Mead Hop Garden (just less than 3½ ac.) on the east side of the Uckfield Stream and separated from it by Pond Bottom (just less than 4 ac.). It is Pond Bottom which appears to correspond to the four acres of waste land in the lord's hands owing to the drying out of the pond and acquired by Thomas Hudson in 1509. Pond Bottom itself was immediately above Iron Plat (see Fig. 1), the field in which Straker found a bay and slag from a furnace, which he judged would have been too small for the casting of ordnance.¹³ Iron Plat was not part of Totease Farm, but belonged to the New House Estate situated on the opposite bank of the stream.

Iron Plat was clearly the site of Archbishop Morton's furnace. It was just as clearly out of blast in 1509, but can be presumed to have been in blast again by 1573, when a later Thomas Hudson held nine acres, almost exactly the combined area of Jennys Mead and the Hop Garden, 'lying to the great water of the furnace on the East'. This article tries to elucidate what occurred in the intervening period.

QUEENSTOCK FURNACE

Just as the July transaction of 1509 gave the furnace a 15th-century date by linking it firmly to Archbishop Morton who died in 1500, and the December transaction enabled it to be identified as Iron Plat on the ground, an inquiry held by the commissioners of sewers at Uckfield in May 1537, to determine the liability of local landowners for rating towards the new cut at Meeching [Newhaven], revealed its name.¹⁴

In 1537, with both works apparently temporarily laid down, Thomas at Well and John Page were stated to have land 'in the hammer pond at Osborne [Howbourne]', whilst 'in the hammer pond at Quenstoke' William Olyffe had 6 acres and Thomas Hudson had 3 acres. The 1859 plan and schedule shows that Queen Stock Meadow was separated from Jennys Mead Hop Garden by only Mine Pit Wood and Rough Pasture (together just less than 6 ac.), whilst upstream from Queen Stock Meadow lay what in the tithe award of 1840 was called Queen Stock Wood and in the plan of 1859 the Great Wood (11 ac.). Queenstock Bridge was a small bridge which crossed the Uckfield Stream above the Wood.¹⁵

The Iron Plat site was examined archaeologically once more in 1990–91. Both furnace slag, towards the eastern end of the bay, and forge cinder, towards the bay's west and the stream, were found. The bay itself is long and low, with an unusually wide, flat top.¹⁶ The existence of a forge at the site is confirmed by the downstream field-name Hammer Croft, applied to what in the 1859 schedule was called Lower Percys, separated only by Bingate and Banky Field from Iron Plat. However, the early presence not far upstream of Howbourne forge shows that pig iron produced at Queenstock Furnace might very readily have been converted into bar iron elsewhere than on that site itself.

THE FURNACE UP TO THE 1530s

It seems possible that Queenstock Furnace was brought back into blast within a few years of 1509, because in the South Malling court book can be found mentions in October 1511 of an unknown John Symard alias Pownsley, and in May 1512 of Lambert Ponsley, clearly the alias of Lambert Symart, the former hammerman at Newbridge forge. It has been suggested that Lambert was the son of Pauncelett Symart, the Frenchman who had held

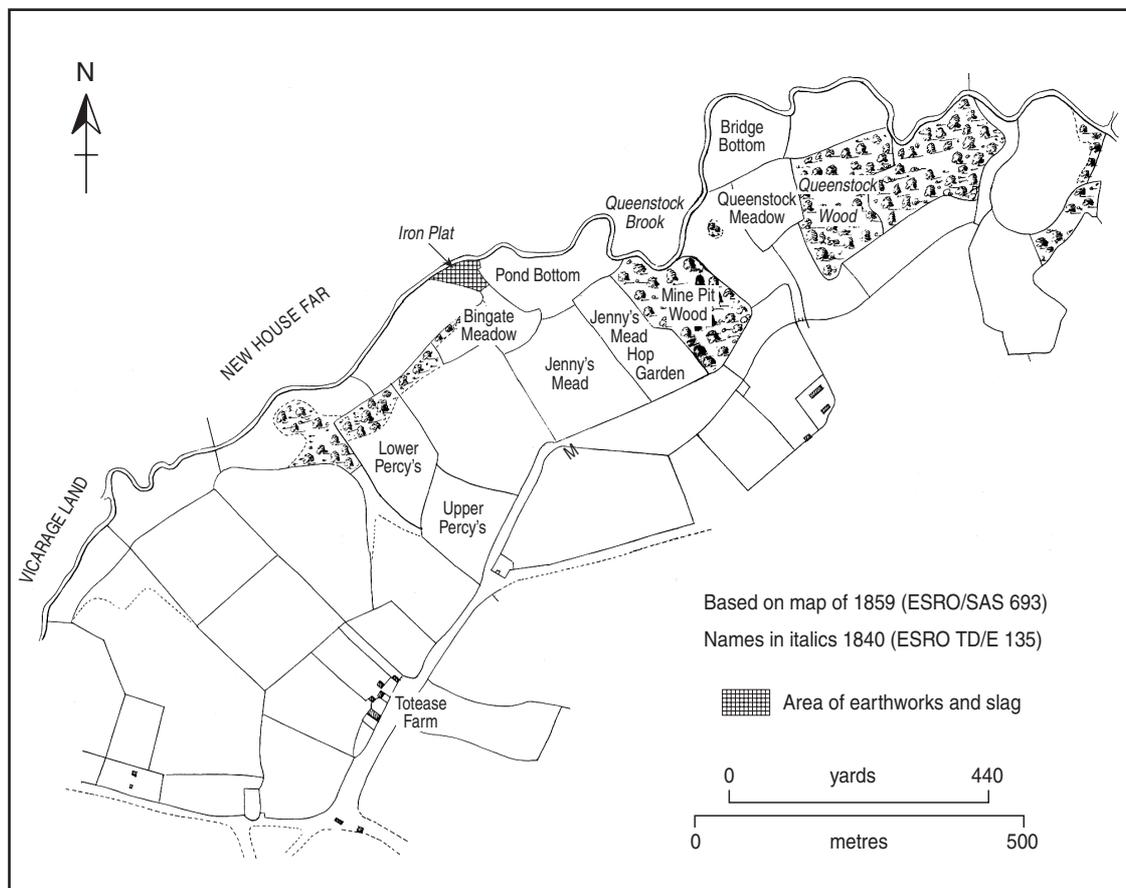


Fig. 1. Place-name evidence for the location of Queenstock Furnace (formerly known as Iron Plat).

the king's Newbridge furnace following the termination of the tenancy of *Graunt* Pierre Roberdes in 1498, for two seven-year terms which ended in 1512.¹⁷ John was presumably Lambert's brother and the charge made against him in October 1511 was that he owed 10s. to the archbishop, now William Warham, and this debt Symard acknowledged at a court held in April 1512. In the following month John Dyne brought a plea of debt against Lambert Ponsley, alien, and Robinet 'Frenshman',¹⁸ the only instance when the French nationality of any person was acknowledged in the South Malling court between 1499 and 1513, the period covered by the two extant court books.

It may well be that the Symart brothers were seeking to offset the loss by their father of the tenancy of the furnace at Newbridge by acquiring Queenstock Furnace. Unfortunately, no further

South Malling court books which might have provided information after 1513 are available. However, it must be supposed that when Roger Machyn of Rotherfield, the forge-master who paid £20 to the subsidy at Hartfield in April 1524, and whose will was proved later that month, listed his 'Iron Mylls, that is to say, the Iron Myll of Brechenden [Birchden], the Iron mille of Buksted and the Iron Myll of Still [Steel] forge', he meant by 'the Iron mille of Buksted', Queenstock Furnace.¹⁹

It was perhaps from Queenstock that Archbishop Warham supplied the 'yren barres' for Rochester Bridge referred to by Leland.²⁰ Rochester was generally regarded as one of the finest bridges in the country, and Lower suggested that the ironwork for it was cast at Mayfield Furnace, but Warham died in 1532, and there is no independent evidence to show that Mayfield Furnace existed during the first

half of the 16th century. The very high railings, or balustrades, running the entire length of both sides of the bridge, perhaps designed to prevent from drowning those buffeted by high winds, or who were inebriated, were frequently commented upon favourably by visitors to the town,²¹ until they were replaced by stone balustrades at the start of the 19th century.²²

QUEENSTOCK AS WILLIAM LEVETT'S FURNACE

Despite Straker's caveat regarding the small size of Queenstock Furnace, and a recent exhaustive investigation of the history of Oldlands,²³ it must be held probable that the furnace used by William Levett, the rector of Buxted, to cast cannon in the 1540s was not Oldlands, but Queenstock. It lies only a short distance west across the fields from the Rectory, or parsonage, and in 1859 was linked by tenure with the properties on the west bank of the stream. It is also only a short distance upstream from what is still known as Parsonage Wood. Furthermore, Levett's workmen were returned in the subsidy rolls of 1543 and 1550 under Herst (Greenhurst) and Buxted respectively, within the hundred of Loxfield, which excluded the northern part of Buxted parish, where such furnaces as Hendall and Oldlands (see Fig. 2) were situated.²⁴

It has been confidently asserted that William Levett was deprived of the rectory of Buxted in 1545, not returning to it until the accession to the throne of Mary Tudor in 1553.²⁵ It is certainly the case that on 31 May 1545 Richard Collier, rector of the neighbouring parish of Rotherfield, and one of Archbishop Cranmer's private chaplains, taking advantage of Levett's brush with a collector (probably of a clerical subsidy), and perhaps of Levett's temporary absence, convinced the authorities at Canterbury that the living at Buxted was vacant, and had himself appointed in Levett's stead. However, based solely on the phrase that the collector had certified Levett 'recusant', a story was fabricated of Levett's being deprived on account of his supposed opposition to the new English language litany, introduced during the previous year. But Levett was admitted to the rectory of Herstmonceux in September 1545,²⁶ making it exceedingly unlikely that he was a 'recusant' in the sense taken on by that word following the Elizabethan church settlement of 1563.

It seems more likely that Levett's 'refusal' was

fiscal and came at a financially difficult time for him. Bronze guns cast in London for the Ordnance were made from raw materials furnished by the Crown. In Sussex Levett had to furnish everything himself and the change in role, from a producer of wrought iron and of cast-iron shot, to that of cannon-founder, cannot have been financially easy. Cast guns for Portsmouth were being made during July, but a first payment came only after 16 August, when a warrant for £200 on account of Levett's 'pieces and shot' was issued by the Privy Council.²⁷ As for a payment in advance, that came only in December 1545, when £100 was allowed 'in prest to Parson Levett for making iron guns'.²⁸ On the other hand, the Council had moved swiftly to protect Levett's position in June, ordering Collier not to take physical possession of the parsonage, and reprimanding the collector.²⁹ It seems highly unlikely that Levett's deprivation lasted more than a few weeks.

William Levett had been preceded in the iron trade by his brother, John Levett of Little Horsted. John had died in 1535 and, his children being minors, had required his executors, of whom William was one, to let to farm his 'Iron mylles and furnesses' and to use the profits to fulfil the provisions of his will. These works included the Steel forge, and Stumblett's Furnace, a new furnace in 1534, situated like the forge on Crown lands, and it seems that William Levett administered these until they were let to John Gavell and Francis Challenor in 1549.³⁰

It is natural to suppose that Levett had taken over from his brother as forge-master at Buxted, just as John Levett had followed Roger Machyn at both Buxted and the Steel forge. As executor, it would have been no problem for him to administer these works until such time as they could profitably be let, but the rating of William Olyffe's and Thomas Hudson's land in Queenstock hammer pond to the water scot in 1537 can scarcely be reconciled with their administration in conformity with the will. Perhaps Queenstock was not among John Levett's works and William Levett acquired it at some date between 1537 and 1543, and meanwhile supplied iron goods to the Ordnance Office from the other works.

By 1539 Parson Levett was supplying iron and ironwork to the Ordnance Office and it is clear that by 1541 he was also supplying shot, because in that year he was made 'goonstone maker' to the king.³¹ The employment of the experienced master founder Charles Garrete at Buxted, together with five other

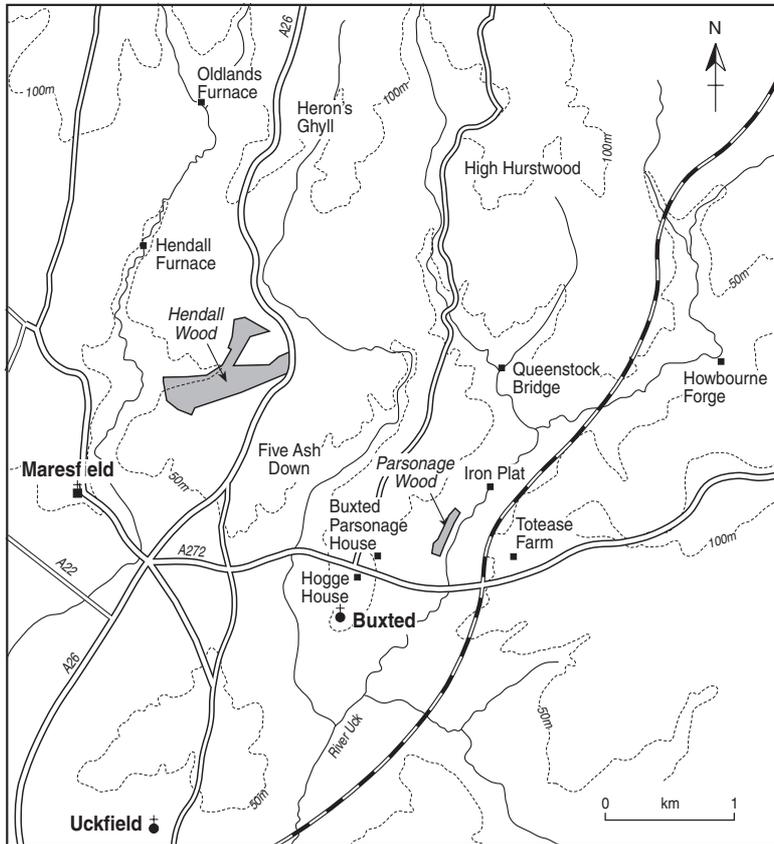


Fig. 2. The environs of Queenstock Furnace (formerly known as Iron Plat) showing places named in text.

aliens in 1543, and with six in 1550,³² suggests that the constraints of the Queenstock site cannot have been severe. It was at Framfield, to the south of Buxted, that on 11 January 1543 Agnes Charles, daughter of 'Charles founder', was baptized.³³ Even the establishment of the double furnace at Worth in 1547 added to the repertoire of guns cast in the Weald only full culverins and demi-cannon, as is proved by the iron demi-culverin inventoried at Southsea Castle in December 1547, which had been cast by Peter Baude, who was dead by July 1546.³⁴

However, no guns were mentioned in the earlier years, and the date of 1543 assigned by Holinshed in his *Chronicals of England* to the first making of cast-iron muzzle-loaders at Buxted was confirmed by the monogram of Henry VIII and the date 1543 on a 2-pounder gun of this type among the booty taken by the Spaniards at Oudewater in Holland in 1575. The success of Levett's guns is undoubted. By

1553 the Ordnance Office had purchased more than 250 of these guns out of Sussex,³⁵ and this inaugurated two centuries of successful cannon-founding in the Weald.

The excavation of Wealden cannon-foundries, particularly those at Maynards Gate and Batsford, which like Buxted dated from the 16th century, has shown that they were equipped with permanent wood-lined pits for vertical casting, one of the features which will have contributed to the guns' success.³⁶ The other important feature of Levett's guns is that they were of the modern Italianate style in both design and nomenclature. This style had evolved in Venice at the end of the 15th century, and had probably been brought to England by Francis Arcano in 1523. The likelihood that the Padstow gun, the earliest surviving cannon from Buxted, was designed by the royal gunfounder Arcangelo Arcano now appears to have been

confirmed.³⁷

CONTINENTAL ANTECEDENTS FOR CAST-IRON GUNS

The occurrence of these events, of crucial importance in the history of cannon-founding, clearly follows on from the frantic policy of rearmament and coastal fortification embarked on by Henry VIII and his minister Thomas Cromwell in 1538, during the period of diplomatic isolation which Henry faced following his divorce and the resultant breaks with Rome and with his former ally Charles V. However, the fact that the casting of iron guns of Italianate style commenced in the German duchy of Jülich in 1539, and in Normandy in 1540, and that guns made in Jülich in 1540 were cast in wood-lined pits presumably similar to those excavated in the Weald, and therefore vertically, shows that events in the

Weald cannot be viewed in isolation.

On 7 November 1539 the duke of Cleves, Berg and Jülich, William de La Marck, sent Hans von Homberg, a master gun-maker (*Büchsenmeister*), to his master of the armouries (*Wehrmeister*) in Jülich, and required the latter to assist Homberg in casting falconets (*Falckonetten*) and other war matériel. Surviving accounts show that among the items cast by von Homberg at the *Schevenhütte* east of Stolberg during the winter of 1539–40 were nine *Falckenythen* with an average weight of around 500 kg. Accounts of 1540 for the *Dollartshütte*, which lay on the outskirts of Stolberg, mention the hole ‘in which the vat or barrel is set in which the cannon-moulds are placed’,³⁸ a reference to the kind of planked or stave-lined gun-pit in which cannon moulds were set for vertical casting later in the century in the Weald. The weight of these Jülich falconets far exceeded that of even full falcons cast later in either France or England, and suggests that they were scarcely smaller than an English saker. Perhaps the name ‘falconet’ was used of them primarily to emphasize that they were guns cast in the Italian style.

In Normandy, Francis I ordered 300 *livres* to be paid to André Chapperon, commissary of the artillery, on 16 September 1540 for the expenses of the forges that he was to set up for the casting of artillery of iron at the royal ironworks of Breteuil. It even appears that a dozen guns had already been cast or were in the process of casting, because the previous day he had ordered the payment of just less than 200 *livres* for the transport of 4 bastard culverins, 4 demi-culverins, 4 falcons and 900 shot to the abbey of Bonport near Pont-de-l’Arche, where they were to be proved. In March 1542 Marquis Hue, the founder at Breteuil, was ordered to cast 126 pieces of artillery weighing in total 60 tonnes; they were to consist of 6 bastard culverins (1200 kg), 40 demi-culverins (700 kg), 40 falcons (400 kg) and 40 falconets (200 kg).³⁹

The common factor between the three states in which these epoch-making events occurred was that briefly around 1540 all of them were involved in alliance against the Emperor Charles V. William de La Marck had inherited the duchies of Cleves, Berg and Jülich from his father Duke John in February 1539. The previous year he had been elected by the estates of Gelders in the Netherlands to succeed the former duke, who had died without male heir. This intervention by de La Marck, a man of protestant

leanings, in the Netherlands was doubly infuriating to Charles V. Not only was Charles by birth and upbringing himself a Netherlander, and through his great-grandfather and namesake, Charles the Bold of Burgundy, possessed of all the former Burgundian lands in the Netherlands, but as Emperor he was suzerain of all these various territories which de La Marck now possessed.

NICHOLAS WOTTON IN CLEVES

Cromwell had already arranged alliances for Henry VIII with Saxony and Hessen, the principal protestant states in Germany. In the month following Duke William’s accession to the duchies of Cleves, Berg and Jülich, Cromwell despatched the English representatives in the Netherlands, Edward Carne and Nicholas Wotton, to Cleves to cement an alliance with the offer of the hand of Henry’s daughter, the Lady Mary, for the duke, and the proposal that Henry might marry one of the duke’s sisters.⁴⁰ The first of these proposals failed, perhaps because Duke William had other plans for his own marriage; the second prospered, resulting in Henry’s ill-fated marriage to the duke’s sister, Anne of Cleves.

In October 1539 Nicholas Wotton was appointed Henry’s sole representative in Saxony and Cleves, and towards the end of December 1539 he accompanied Anne of Cleves to London. At the end of January he was sent back to Germany. The accounts for these winter months commencing in November show that military preparations were continuing in the *Wehrmeistereei*; Heinrich Dollart, an *Artilleriemeister*, undertook the production of both guns and shot at his *Dollartshütte* during 1540, whilst during 1541 the proving of guns there was mentioned. Writing to Cromwell from Düsseldorf on 22 February 1540, Wotton reported that, ‘The people here muster in harness (armour)’, and that in Jülich the duke had stationed 500 *lanzknecchts* close to the Meuse. A further letter of 6 March reported, ‘The men of this country buy harness and weapons apace’.⁴¹ Wotton could have visited the *Wehrmeistereei*, which lay 50 km distant from Düsseldorf, in either November or December, or in February and March. He was in high favour with the duke, whom he accompanied in April to Ghent to negotiate with Charles V about Gelders.

Not until July was Wotton instructed to communicate to the duke the unwelcome news of Henry’s repudiation of his sister, by when Duke

William was bringing to a successful end the negotiations for his alliance with Francis I. This was sealed on 17 July 1540 by a treaty in which Duke William was betrothed to Jeanne d'Albret, Francis's niece, heiress to the kingdom of Navarre. This was a projected marriage which never took place.

Wotton stayed on in Cleves after July, performing equally as well in the difficult task of reconciling the duke to his sister's divorce as he had in the marriage negotiations. In June 1541, around the time that Duke William visited France and the projected marriage to Jeanne d'Albret was called off owing to her illness, he wrote that since the separation, the duke and his council had kept their doings as secret from him as they could. This admission furnished the justification for his recall, and a letter of 8 July was the last he sent from Cleves.⁴² In 1542, when hostilities eventually broke out between Francis and Charles, French intervention at first brought Duke William some military success in the southern Netherlands, but this was short-lived, and by September 1543 Charles V had brought the rebellious duke to heel and compelled him to disgorge Gelders.

NICHOLAS WOTTON'S LATER CAREER

His work in Cleves having brought him much approval, Wotton narrowly escaped being made a bishop, an appointment he would not have enjoyed, but already before his recall he had been preferred as dean of Canterbury in March 1541. He was well acquainted with Kent and the Weald, because his father Sir Robert Wotton had established the family at Boughton Malherbe, and Archbishop Warham had presented him to two of his first ecclesiastical livings in that county, the vicarage of Sutton Valence in 1518 and that of Ivychurch in 1530. Through his relatives Nicholas was enormously well-connected. His elder brother Sir Edward Wotton became treasurer of Calais in 1540. An interest in ordnance perhaps arose through the marriage of his sister Mary to Sir Henry Guildford, the son of a former master of the ordnance to Henry VII, and himself master of the horse and later comptroller of the household to Henry VIII.

Wotton was next sent abroad at the end of April 1543 together with Sir Thomas Seymour on an embassy to the regent of the Netherlands at Brussels, and under way they passed the night of 11 May at

Mechlin. In anticipation of this Seymour wrote that, 'As for small ordnance, the best workman in these parts' was said to dwell there. Unfortunately, the subject of ordnance was not again referred to in either Seymour's letters sent before July when he returned to England, leaving the conclusion of the embassy to Wotton, or Wotton's remaining letters from then until he moved on to represent Henry at the Emperor's court now that the submission of Duke William of Cleves made it no longer dishonourable for Henry to reconcile his differences with Charles and to contemplate joint action with him against the French. However, Wotton's later interest in cannon was demonstrated in January 1555, when, as ambassador in Paris, he reported from Poissy on a bronze cannon cast in separate pieces for ease of transportation by a founder who had been sent to France by the duke of Urbino.⁴³

No positive evidence for Wotton's playing a part in events at Buxted has been adduced, but because Buxted lay within the archbishop's South Malling deanery, Levett will have been well-known in Canterbury, and given Wotton's appointment at the cathedral church, it would hardly have been possible for the two men to remain unacquainted. The dates fit remarkably well, with Wotton available from any time after July 1541, and his next foreign appointment not coming until late April 1543. By then the necessary arrangements for cannon-founding at Buxted could have been largely in place. Although cooperation of the two ecclesiastics in cannon-founding cannot be demonstrated, a decision by the Privy Council of 26 September 1542 to release on recognizance from the Marshalsea prison Oliver Russell of Southwark, a saltpetre maker, whose offence had been uttering lewd words to the dean of Canterbury,⁴⁴ suggests that Wotton's contact with the armaments industry at this time was rather more than a casual one.

Nicholas Wotton remained a career politician. Henry VIII had made him a privy councillor, and in his will prescribed him in that capacity to his son's council of regency. Wotton had helped negotiate peace with France in 1546, after which he remained ambassador in Paris until the outbreak of war in August 1549. In October 1549, perhaps through being related to John Dudley, earl of Warwick, the new power in the land by reason of marriage to Jane Guildford, he was made secretary of the council of regency on the fall of Somerset. It was at this time that Wotton remarked that English was the one

European language he could neither speak nor write well.

Together with Sir William Padget, Wotton again helped to negotiate peace with France in 1550, was ambassador to Charles V for six months in 1550, but returned to his post in Paris from 1553 to 1557. He again negotiated peace with France both in 1558 and in 1563. His ecclesiastical appointments first as dean of Canterbury, and then from 1544 as dean of York, were not entirely sinecures. As dean of both archdiocesan churches he was of major assistance in smoothing the way for Elizabeth I in an early crisis of her reign, when she was attempting to replace her sister's Catholic bishops with Protestants. In 1561 it was he who conducted the first round of negotiations with Johannes Steinberg for the exploitation of English copper by German artificers.⁴⁵

THE END OF THE LORDSHIP OF CANTERBURY AND LATER IRON- WORKING IN THE AREA

But by the 1560s the Canterbury lordship of South Malling was no more. The 1530s had seen all the monastic lands acquired by the Crown. Suggestions that diocesan lands might undergo the same fate, with the office of bishop becoming a stipendiary appointment, were entertained, but not pursued. However, Cranmer confessed to inexperience in the management of the estates of the archdiocese; this coupled with the debts to the king, the queen and to Cromwell which he had incurred from the moment of his advancement, made him particularly vulnerable to pressure from Henry and from his avaricious minister.⁴⁶

In September 1543 a tripartite exchange between the archbishop, Sir John Gage and Thomas Culpeper, saw the manor of Ranscombe lost by South Malling.⁴⁷ In November 1545 as part of another exchange, Cranmer was made to surrender several manors, among them Mayfield, which included Wadhurst and the Sussex portion of Lamberhurst, to the Crown. The Court of Augmentations passed Mayfield and other manors on to its Chancellor, Sir Edward Northe, for £7337 6s. 8d., with an additional sum of 500 marks paid to Cranmer. For these and other losses, Cranmer was further compensated with the grant of the rectory of Coulsdon in Surrey in August 1547.⁴⁸ The Mayfield, Wadhurst and Lamberhurst portion of the lordship was passed on to Sir John Gresham in April 1546 and was eventually acquired

by one of Queen Elizabeth's favourites, the financier and ironmaster Sir Thomas Gresham, in 1567.⁴⁹

For the time being, the Framfield and Ringmer sections of South Malling remained in the archbishop's hands, but one of the first acts of Elizabeth's parliament of 1559 was to return to the Crown the first fruits and tenths of vacant sees, which her sister Mary had renounced. The united opposition of the Marian bishops to this measure induced further action by the parliament which included the Exchange Act of 1559 (1 Elizabeth I, c. 19) by which the Crown was enabled to acquire the temporal property of vacant sees in exchange for spiritualities such as impropriated rectories, tithes and tenths acquired by the Crown since the Reformation.⁵⁰ The continued hostility of the Catholic bishops to all these measures ensured that there would be many vacancies and it was in this context that in the application of the act to the see of Canterbury a survey was ordered on 4 October 1559 of the manors of South Malling, Tarring, Ringmer with the Broyle park, Framfield and Stoneham.⁵¹ In 1572, when the queen granted a 21-year lease of numerous woodlands in the hundred of Loxfield to Lord Buckhurst, the grant stated that they were 'late of the archbishop of Canterbury and in the Queen's hands by exchange'.⁵²

Although Sir John Gresham received licence in August 1547 to cut down and sell all the woods, underwoods, trees and timber in Mayfield, Wadhurst and the Sussex portion of Lamberhurst, without leaving any staddles, on condition that he enclose and keep enclosed an eighth part of the wooded area, there was at that time no mention of the furnace at Mayfield from which Sir Thomas Gresham exported cannon in the 1570s. This furnace seems to be first mentioned in Sir Thomas' letter of March 1572 to Lord Burleigh, whom he besought to thank Mr Danyell for 'amending' his furnace.⁵³

So it seems likely that the mention of a blast furnace in accounts of 1545⁵⁴ for the archbishop's still undivided lordship related, not to Mayfield, as accepted by Schubert although perhaps not by Straker,⁵⁵ but to the furnace, presumably Queenstock, then being used in Buxted by William Levett for casting cannon. Even here the furnace, which employed seven aliens in 1550 and four in 1551, appears to have employed none at all by 1552, and was perhaps again laid down, as a result of an impoverished government's inability to purchase further ordnance.

It seems clear beyond doubt however, that Queenstock Furnace, whose 'great water' was mentioned in 1573 as abutting on land belonging to Thomas Hudson, was then in blast again and was the furnace used by Levett's successor as queen's gunstonemaker, Ralph Hogge, around 1571,⁵⁶ and again in the late 1570s, a period for which some of Hogge's accounts survive.⁵⁷ At the same time this narrows down the two furnaces mentioned in 1568, as built by Hogge for the sole service of the queen,

to Langleys and Marshalls, both explicitly named in those accounts.⁵⁸

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Authors: Brian G. Awty, 35 Belgrave Street, Skipton, North Yorkshire, BD23 1QB; Christopher H. C. Whittick, 19 Southover High Street, Lewes, East Sussex, BN7 1HT.

NOTES

Abbreviations

DNB	<i>Dictionary of National Biography</i>
ESRO	East Sussex Record Office
JOS	<i>Journal of the Ordnance Society</i>
L & P	<i>Letters and Papers, Foreign and Domestic, of Henry VIII</i>
PRO	Public Record Office
SAC	<i>Sussex Archaeological Collections</i>
WIRG	<i>Wealden Iron Research Group</i>

- Lambeth Palace Library, ED 1352. Morton's master surveyor later worked on Canterbury cathedral (C. Hewett & T. Tatton-Brown, 'New structural evidence regarding the Bell Harry Tower and the south-east spire at Canterbury', *Archaeologia Cantiana* **92** (1976), 132).
- H. R. Schubert, *History of the British Iron and Steel Industry from c. 450 BC to AD 1775* (London: Routledge, 1957), 161.
- The earliest known fineries are the double one operated at Bèze, 26 km north-east of Dijon, in 1449, and a finery (*rollette pour affiner le fer*) installed in the same year adjoining the duke of Burgundy's forge at Jausse-les-Ferons, 10 km south-east of Namur (B.G. Awty, *The Development of the Walloon Finery Forge*, forthcoming).
- Aubery Angreville, brother of the proprietor of the blast furnace at Sainte-Radegonde in Neufchâtel, Jehan Angreville, acquired land at Rouvray, which lay north of the rue de Sainte-Radegonde, on 9 Feb. 1483 (Archives départementales de la Seine-Maritime, 2E14/1150 (27 Jan. 1505/6)).
- B. G. Awty, 'L'industrie du fer aux alentours de Neufchâtel-en-Bray', in *L'homme et l'industrie en Normandie du néolithique à nos jours; actes du Congrès régional des sociétés historiques et archéologiques de Normandie, L'Aigle, 26-30 octobre 1988* (Alençon: Société historique et archéologique de l'Orne, 1990), 275.
- This mis-transcription, and the erroneous suggestion that the word 'Irnfounders' was preceded by 'ye' (or 'the'), goes back to 1920 and has been followed by most subsequent writers (R. Jenkins, 'The rise and fall of the Sussex iron industry', *Transactions of the Newcomen Society*, **1** (1920-21), 18). Jenkins subsequently mis-corrected the amount involved to 67s. 2d. (R. Jenkins, 'Ironfounding in England, 1490-1603', *Transactions of the Newcomen Society*,

19 (1938-39), 37).

- D. Crossley, 'A sixteenth-century Wealden blast furnace; a report on excavations at Panningridge, Sussex, 1964-1970', *Post-medieval Archaeology* **6** (1972), 57; D. W. Crossley (ed.), *Sidney Ironworks Accounts 1541-1573* (London: Royal Historical Society, 1975), 8.
- See map 20, K. Leslie & B. Short (eds), *An Historical Atlas of Sussex* (Chichester: Phillimore, 1999), 40.
- PRO, SC2/206/34, ff. 121, 128v.; the phrase about the land being in the lord's hand due to the wasting of the pond is deleted in the manuscript.
- Details of John Morton's career are from DNB **39**, 151.
- Calendar of Patent Rolls, Henry VII*, **1**, (1485-94), 69, 119.
- Morton was a great builder and Morton's Tower at Lambeth Palace was his. John Tulle was the man commissioned on 26 July 1493 'to take stone cutters (*lathamos*), layers of stones called "brekelayers" and others for the building and repairs of divers lordships, manors and other buildings in the counties of Kent, Surrey and Sussex pertaining to the church of Canterbury', which Morton intended 'to make afresh and build at his own great expense' (*Calendar of Patent Rolls, Henry VII*, **1**, 443). Whether the master surveyor, who was already working for Morton in 1490, was Tulle is unknown. Neither Tulle, nor any surveyor was mentioned in the archbishop's register, which confined itself to affairs spiritual and ecclesiastical and eschewed domestic or household matters (C. Harper-Bill (ed.), *The Register of John Morton, Archbishop of Canterbury 1486-1500* (Canterbury & York Society, 3 vols, 1987-2000)).
- P. Combes & C. Whittick, 'Iron Plat, Queenstock hammer-pond and a 15th-century ironworking site at Buxted', *WIRG Bulletin*, 2nd series, **22** (2002), 10-18; E. Straker, *Wealden Iron* (London: Bell, 1931), 390.
- ESRO, GLY 84. We are grateful to Judy Brent for drawing attention to this document.
- The topographical material concerning this site is based on Combes and Whittick, 'Iron Plat'.
- D. M. Meades & R. G. Houghton, 'Iron Plat, Buxted, Sussex, furnace and forge site survey 1990/1 (TQ/497240)', *WIRG Bulletin*, 2nd series **12** (1992), 23-6.
- H. F. Cleere & D. W. Crossley, *The Iron Industry of the Weald* (2nd edn, Cardiff, Merton Priory Press, 1995), 117; Schubert, *British Iron and Steel Industry*, 165, n. 5.

- ¹⁸ PRO, SC2/206/34, ff. 159v., 168, 186.
- ¹⁹ Machyn's will was undated but was proved on 20 April 1524 (PRO, PROB11/21/19).
- ²⁰ J. Leland, *Itinerary in England and Wales in or About the Years 1535–1543*, ed. L. Toulmin Smith, **8**, 130 (London: Bell, 1909). The testimony of Leland, a near contemporary, that the coping was supplied by a Rochester merchant, John Warner, and the railings by Warham, must surely be given credence. The suggestion that Warham's castings consisted of copings and was done at Mayfield was perhaps that of M. A. Lower, but he named William Courthope Esq., Rouge Croix Pursuivant, as his informant on the subject as a whole ('Historical and archaeological notices of the ironworks of the county of Sussex', *SAC* **2** (1849), 214).
- ²¹ W. Brenchley Rye, 'Visits to Rochester and Chatham by royal, noble, and distinguished personages, English and foreign, from the year 1300 to 1783', *Archaeologia Cantiana* **6** (1866), 43–82.
- ²² W. Brenchley Rye, 'Rochester Bridge; a poem written in AD 1601', *Archaeologia Cantiana* **17** (1887), 165.
- ²³ J. H. Stevenson, 'Alexander Nesbitt, a Sussex antiquary, and the Oldlands estate', *SAC* **137** (1999), 161–73. Note that the actual location of William Levett's house (*pace* 164–5), for which his cousin Edmund Pope bequeathed 20 loads of wood out of his 'woods at Hyndall' in 1552, was not specified in the will (PRO, PROB11/35/16); carriage from Hendall Wood to the Rectory (1.5 km) would have been somewhat less than to Oldlands Farm (2 km).
- ²⁴ Hendall was returned as part of Danehill Sheffield hundred from 1576 to 1591 (ESRO, ACC 3597/8 and 1). Neither it nor Oldlands was mentioned in either of the South Malling court books, High Hurstwood being the northernmost ward in Buxted of which it took cognizance (property in 'Heigherst' Ward was surrendered to the use of Henry Burgeis on 16 June 1500 (PRO, SC2/206/33, f. 29)).
- ²⁵ G. Cooke, *A Chronicle of Buxted: Some Annals of its Church and Rectors* (Uckfield Press, 1960), 49, 51–2; E. Teesdale, *The Queen's Gunstonemaker; an Account of Ralph Hogge, Elizabethan Ironmaster and Gunfounder* (Seaford: Lindel, 1984), 25–6; E. B. Teesdale, *Gunfounding in the Weald in the Sixteenth Century* (London: Royal Armouries, 1991), 20.
- ²⁶ A. B. Emden, *A Biographical Register of the University of Oxford AD 1501 to 1540* (Oxford, 1972), 333–4.
- ²⁷ *L & P*, **20** (1), no. 1275, (2), no. 140.
- ²⁸ *L & P*, **20** (2), no. 921.
- ²⁹ *L & P*, **20** (1), nos 856, 1019, 1071.
- ³⁰ PRO, PROB11/25/24; Schubert, *British Iron and Steel Industry*, 389.
- ³¹ B. G. Awty, 'Parson Levett and English cannon-founding', *SAC* **127** (1989), 133.
- ³² B. G. Awty, 'Aliens in the ironworking areas of the Weald: the subsidy rolls, 1524–1603', *WIRG Bulletin*, 2nd series, **4** (1984), 39, 40.
- ³³ Agnes subsequently married Thomas Pattenden of Cooden, Bexhill, yeoman, who in 1590 was cited as executor of her nephew Stephen Jarrett, tailor (ESRO, Battle wills 1/189).
- ³⁴ Awty, 'Parson Levett and English cannon-founding', 138.
- ³⁵ Awty, 'Parson Levett and English cannon-founding', 136 (Ordnance Office), 138 (2-pounder).
- ³⁶ Cleere & Crossley, *The Iron Industry of the Weald*, 255–8.
- ³⁷ R. D. Smith, 'Early cast-iron ordnance with particular reference to guns on the Isle of Man', *JOS* **3** (1991), 43. The feature to stand out is the short and wide casabel, which resembles 'those of the bronze guns cast by the Arcanus family'.
- ³⁸ P. Neu, *Eisenindustrie in der Eifel: Aufstieg, Blüte und Niedergang* (Köln: Rheinland Verlag, 1989), 205; the reference is to the digging of a hole *da dat fass ingesaitz ist, dar man die byussen formen insetz*.
- ³⁹ J.-F. Belhoste and others, *La métallurgie normande XII^e–XVII^e siècles: la révolution du haut fourneau* (Caen: Association histoire et patrimoine industriels de Basse Normandie, 1991), 142.
- ⁴⁰ *L & P*, **14** (1), no. 489.
- ⁴¹ *L & P*, **15**, nos 243, 302.
- ⁴² *L & P*, **16**, nos 902, 980.
- ⁴³ H. L. Blackmore, 'The take-down gun', *JOS* **2** (1990), 3; other details of Wotton's career come from *DNB* **63**, 57.
- ⁴⁴ *L & P*, **17**, no. 645.
- ⁴⁵ M. B. Donald, *Elizabethan Copper: the History of the Company of Mines Royal, 1568–1605* (London: Pergamon Press, 1955), 97.
- ⁴⁶ F. R. H. Du Boulay, *The Lordship of Canterbury: an Essay on Medieval Society* (London: Nelson, 1966), 317–18, 322; D. MacCulloch, *Thomas Cranmer: a Life* (New Haven: Yale University Press, 1996), 166–9, 200–202.
- ⁴⁷ ESRO, SAS/G8/9A.
- ⁴⁸ PRO, E305/8/D78; *L & P*, **21** (1), no. 149 (6); *Calendar of Patent Rolls, Edward VI*, **1**, 36–9.
- ⁴⁹ *L & P*, **21** (1), no. 716 (20); *Calendar of Patent Rolls, Elizabeth I*, **4**, no. 647.
- ⁵⁰ F. Heal, 'The bishops and the Act of exchange of 1559', *The Historical Journal* **17** (1974), 228. We are grateful to Malcolm Kitch for drawing this article to our attention.
- ⁵¹ *Calendar of Patent Rolls, Elizabeth I*, **1**, 30.
- ⁵² *Calendar of Patent Rolls, Elizabeth I*, **5**, no. 2566.
- ⁵³ *Calendar of Patent Rolls, Edward VI*, **1**, 192; J. W. Burgon, *Life and Times of Sir Thomas Gresham* (London, 1839), **2**, 425–6.
- ⁵⁴ E. M. Bell-Irving, *Mayfield* (London: Clewes, 1903), 59.
- ⁵⁵ Schubert, *British Iron and Steel*, 381; Straker, *Wealden Iron*, 292–3.
- ⁵⁶ ESRO, SRL 13/1. This survey of woodlands of the manor of Framfield, whose date was accepted by Cleere & Crossley as being 1560, has now been redated to between October 1570 and November 1571 (C. Whittick, 'Redating an early document', *WIRG Bulletin*, 2nd series, **22** (2002), 18–21).
- ⁵⁷ D. W. Crossley, 'Ralph Hogge's ironworks accounts, 1576–1581', *SAC* **112** (1974), 48–79.
- ⁵⁸ Teesdale, *Gunfounding in the Weald*, 34.