

THE ECONOMICS OF LEAD MINING IN 16th and 17th CENTURY BRASSINGTON

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Abstract: Manorial and mining documents, probate inventories and wills reveal the growing importance of lead mining to the village economy in the late 16th and 17th centuries and also the vulnerability of the industry at the time of changes in taxation and market conditions.

In 1620 the tenants of the King's or Duchy manor, one of the two in Brassington, drew up a custumal, or statement of the customs of the manor. This manor was then owned by the Crown through the Duchy of Lancaster, and the custumal was addressed to the Court of the Duchy as a reply to a number of charges which had been made against the tenants. The tenants rebutted the charges by a combination of straight denial and by quoting "ancient custom". They were also at pains to stress the unprofitability of the pasture on the moors, and among the reasons for this they gave the activities of the lead miners. They accused the miners of poisoning their cattle - "by reason of the myners they are troubled with a desase among their cattell called the Belland wherewith their cattell beinge once infected are uncurable..." In many places the miners took precautions against lead poisoning by planting trees along the lines of the veins they had opened, thereby inhibiting the growth of grass there, grass which would have carried the fatal belland. In Brassington, however, as the custumal stressed, there were very few trees. The tenants went on to describe the "barrennes" of the moorland at Brassington where "the clymate is so cold in winter" and claimed "that the principall profit thereof is the lead mynes". The conflict between farmers and miners can be seen also in "pains" laid by the manor court in the 1660s against miners who damaged fences, left shafts uncovered or took water from the village wells to wash their ore. By then the Duchy had sold Brassington manor and the new owner was concerned to make a profit from his investment. He and his tenants had no part of the income from the mines, unless they themselves mined or owned shares in mines, as the Duchy had retained the mineral rights when the manor was sold. The custumal had pointed out that "his Matie or his farmer" took every thirteenth dish, a measure of about sixty pounds. This was the "lot", a tax accepted by the miners as being sanctioned by ancient custom and a fair payment for their rights. They also paid a second tax, called "cope", of 4d or 6d in return for the right to sell their ore to whichever smelter they wished. A third tax, the tythe, was greatly resented and was the cause of trouble between the miners and tythe gatherers in both the 16th and 17th centuries. Tythe - a tenth of the product of the mines - had originally been paid to the Church and accepted as being for the upkeep of the church and to ensure that prayers were said for the miners. However, the dissolution of the monasteries had delivered some tythes into lay hands and the miners in the Wirksworth Wapentake and the High Peak saw no reason to continue paying them. There was bitter conflict in the 17th century with Sir John Gell of Hopton over tythes and at the start of the Civil War between King and Parliament, when Gell was campaigning for the Parliamentary forces, Charles I answered one of several petitions from the Derbyshire miners against tythes by offering to remit them for every miner who joined his army at Nottingham.

The economic structure of the industry was described in another petition sent by Derbyshire miners to Parliament in 1642. This also vigorously argued the importance of the industry to the mining villages. The fact that such a document could be compiled, listing twenty thousand names, is clear evidence of a well-organised, coherent community. The miners had a trade, a "mystery" of their own and were conscious of their unique skills and of their value. They addressed their petition "To the right honorable the Knts cittyzens and burgesses of the Comons house of Parliament. The humble peticon of twentie thousand myners whose names are hereunto annexed Inhabitants of Darbieshire on the behalfe of themselves and divers others". The "twentie thousand myners" were in fact a mixture of miners, mine owners and shareholders. A contemporary, though unattributed, statement quoted in the Victoria County History (1907 II, p331), gives four thousand as the number of miners. Their complaint was that in addition to the customary dues paid to the Lord and the Church, extra impositions had been made by Queen Elizabeth, King James I and by "the kings majestie that now is". The usual dues were "lott, coape and tythe; the lott beinge ye thirteenth dish or measure, and the coape beinge in some Mannors six pence and in some fower pence for every load of oare, nine dishes making a loade, and both these are paid to ye kinge or Lord of ye Mannor The Tythe is paid to the Church". In view of its well-attested unpopularity, it is strange to see the tythe included, but the petition said that the miners were content to pay these taxes, knowing that "all ye rest of ye lead ore is their owne both by lawe and ye custome of ye myne, they are discharged of all other payments for ye same". After outlining this ancient routine and stressing the importance

of lead and its "profitt and comoditye to ye whole commonalty besides ye continuall mayntenance and daily ymployment of many thousands in & about these mynes", the petition came to the point. Elizabeth had added a tax of 8/- (40p) "upon evrye fodder or tunne" of smelted lead and "the myners did beare it patiently". However there had been further taxes of 20/- (£1) imposed by both James and Charles, at a time when the price of lead had fallen - "When lead hath been at fowerteene pounds the fodder, the myners payd noe other impositions but only the foresaid eight shillings And now lead is under tenne pounds a fodder yet they are forced to pay the other forty shillings also".

Mining provided an uncertain living. Veins often disappeared before they had yielded enough ore to make the operation profitable. In Brassington the mines were almost all small producers, vital in making the landless independent in a way that was impossible in villages which depended entirely on agriculture. The customs of the industry, combined with the character of the mines of Brassington and Carsington Pastures guaranteed the possibility of a man owning and exploiting his own mine, or one owned in "partnership" with relatives or neighbours, and not being bought out by an entrepreneur. The mines were not productive enough to attract outsiders but were dry and therefore required no expensive drainage. They sufficed to give a living to the working population of the village.

The petitioners in 1642 foresaw the "utter undoinge of them their wyves and children" if the 40/- (£2) tax were not abolished. The names of the petitioners are grouped under villages or groups of villages and the Brassington men are listed with those of Parwich, Carsington, Tissington and one which is now illegible. Each miner's name is accompanied by the number of his dependents. There is a grand total of four hundred and seventy four which includes one hundred and forty-two "poore hirelings and cavers with their families" who are not named - "cavers" were men who picked ore from mine waste heaps. Of the named miners twenty-six have Brassington names and they and their dependents come to one hundred and twenty-four, probably about one third of the village's population. The petition pointed out that as well as the miners there were large numbers in supporting trades. Citing greatly exaggerated figures the petition noted that there were a thousand men constructing the Dovegang Sough, or drain, "when it is in worke", a thousand smelters, two thousand and twenty "gaggers" or jagers, the men who led the pack-horse trains "carrying oare from ye Mynes to the smilting milnes" and another two thousand who carried smelted lead from the mills. There were five hundred woodcutters "wich makes coales for the smilting milnes" - smelting was still accomplished at that time by burning whitecoal (dried chopped wood). There were one hundred and fifty men making corves, wooden sledges used underground, six hundred woodcutters who cut "grove" (mine) timber and a thousand carriers of corves and grove timber. Mines were lit by candles and there were two hundred chandlers making them. There were one hundred rope-makers and a hundred and fifty smiths and "nayers". No doubt the blacksmith Henry Spencer forged tools for the miners in Brassington and John Allsop the joiner made mine timbers and doors. The Kempes' shop sold candles and no doubt the Brassington miners bought theirs' there. Though the figures for trades, like those for miners, are exaggerated, the industry's importance cannot be doubted.

The Brassington men signing the petition in 1642 were almost all landless. Two, Robert Gratton and Anthony Steeple, had copyhold cottages in the King's Manor and three, Robert Allsop, George Allsop and "Widow" Buxton had land - Robert Allsop in the King's manor, the others in its neighbour, William Savile's. Robert Allsop's signature reveals that the petitioners included some whose involvement in the industry was financial - he had a farm of over sixty acres in the village and was described as "yeoman" in his will in 1675. Among his possessions were "mynes, meares ...groves ...minerall possessions". Mrs. Buxton, widow of a Richard Buxton who had died in 1632 was in the same category. She had ten acres in Savile's Manor and her husband had bequeathed lead mines in his will. The combination of mining and small farming is best seen in Thomas Knowles, listed in the petition with his wife and two servants. The servants seem out of place in a list of supposedly poor miners, but they were not the only ones and were included because for many small farmers at the time their long-serving house- and field-servants were treated as members of the family. Knowles was responsible for them. They were Jane Browne and William Wilcocke. Knowles was a widower by the time he made his will in 1649, and was also childless. In leaving Jane a full set of bedding and utensils he was discharging his responsibility for her. The rest of the petitioners must have included others who grew crops and kept animals on land sub-let to them by copyholders and freeholders, as all the miners who left wills at the end of the century did.

The reference to the price of lead in the petition is a reminder that in addition to the capricious nature of the ore veins, the economic ups and downs of the industry made the miners' livelihoods precarious. The miners sold their ore to the smelters, and in the 16th century the Brassington men sold theirs to the agents of the Earl of Shrewsbury, who at that time had the most productive mills in the country. The real fortunes were always made by the smelters and, since setting up a smelter and organising the sale of the smelted lead required capital and contacts with consumers there are few instances of miners smelting their own ore. That they were aware of the situation and would have liked

to have changed it appears from a letter sent to George, the 6th Earl of Shrewsbury by two of his ore buyers in 1585. They wrote from Ashford and reported that they had bought ore there and then gone to Over Haddon. Here the miners, who were producing the best ore in the Peak had refused to sell the hundred loads which they had ready for smelting. The buyers awaited instructions from the Earl and commented on what seems to have been a common problem for them at that time - "... now everie miner that haieth a good grove will be a burner (smelter) & the lord of the Feld shall not have their ourre but by force..." Earl George's reply has not survived but he is not likely to have been deterred by the need to use force, and however the Over Haddon confrontation was resolved he continued, as he had done for many years, to smelt the ore from his manors at his mills at Tottle, Cromford, Crich and Wooley. Another surviving letter is evidence of the Earl's exporting. Written from the ship "Talbot" in 1574 it discusses the disposal of "pigs" (ingots) of lead and reports that some remain unsold at Rouen. Other letters name Brassington as an important source of ore. The Earl's manager at his mill at Higham reported in 1578 that he was buying about 54 loads a week from Taddington and Brassington. For a brief period after the death of Earl George in 1596 his younger son Henry Talbot held Brassington Manor and the Cromford smelting mill and a letter to Henry's brother Gilbert, the 7th Earl, refers to the "orr that is now gotten in Brassington lordship... that is verie good orr and great stor".

This ancient ore-field had been unproductive in the early part of the 16th century. There was a fall in the price of lead when the market was depressed by a glut from the monasteries and abbeys dismantled after Henry VIII's dissolution of the religious houses. This depression was ended by two developments. One was a strong revival in demand caused by the building of new mansions by the local aristocracy. Haddon Hall and Hardwick Hall consumed great amounts of lead sheet for their roofs, lead piping and guttering, window lead and lead for water tanks. The second was the introduction of the smelting furnace for which William Humphrey was granted letters patent in 1565. This was a great improvement on the bole hills and made it possible to extract lead from low-grade ore which until then had been discarded as waste. A recent analysis of prices during the century shows a rise from 5/- (25p) per load in 1540 to 10/- (50p) in 1588. A very rare survivor from the records of the time, an ore purchase book for the year October 1541 to September 1542 shows that the total production of the Brassington mines was 385 1/2 dishes (forty-two loads, five and a half dishes, or about 10 1/2 tons). This was a very small amount compared to the figures during the industry's heyday in the 18th century and, judging from surviving records, probably to those in the 17th. This analysis also includes the information that in 1541-42 there had been thirty occasions on which ore had been sold at Brassington; and that the reckonings had occurred in nine months of the year - only in October, January and April had there been no ore sold, indicating that at Brassington there was no close season for mining. The villagers worked the mines when there was lead to be got.

The Earl of Shrewsbury's correspondence is evidence that by the last quarter of the 16th century the Brassington mines had become significant producers. Some evidence that the miners themselves were prospering is that one of them, Roger Jackson, left a will in 1614. The number of villagers leaving wills at that time was very low - an average of less than one a year - and almost all were yeomen or husbandmen, men whose livelihood was in farming their own or rented land respectively. Jackson himself appears in the manor court proceedings of the late 16th century for infringement of farming regulations and these entries, plus the reference to twenty-one sheep and three cows in his inventory show that he was a farmer as well as a miner. However, his trade was given as "miner", and that he was prospering can be taken as evidence that other miners too had profited from improved trade in lead.

The downturn which occurred later in the century, and which is described in the 1642 petition, can be seen in the inventory of the goods of one of the local gentry into whose hands the lead trade had passed by that time. This was William Westerne, who died in 1635. He had thirty-two loads six dishes of ore, priced at 19/- (95p) per load. This was almost twice the 1588 price, but should be seen against the great inflation of the late 16th century, and Westerne also had "19 small peeces of lead sould after" at £4-13-4d (£4.67) per fother, a low price even when compared with prices regarded as ruinous by the petitioners of 1642 - under £10. Westerne was the bachelor son of Thomas Westerne, who had died in 1622. Thomas Westerne held over 200 acres of land in the village and was bailiff to the Earl of Kent, who at that time owned the second manor in Brassington. Westerne was also an innkeeper, and this business was carried on by his widow until her death in 1636. His son's evident involvement in the lead trade may have been inherited and Westerne's pub was probably a centre for the industry in the village as the Miners Arms was two centuries later. A further link between this family and the lead industry was Westerne's son-in-law Henry Trevis, barmaster at Brassington in the 1630s.

The industry recovered in the second half of the 17th century. Figures surviving among the Gell papers show a total production for the months July-September 1639 of sixty-five loads two dishes. By 1657 the barmaster, William Blackwall, was measuring a total of one hundred and seventy-three loads eight dishes for the months of June, August and September.

A Parliamentary Survey of the lead industry in the Wirksworth Wapentake in 1650 had given further evidence of increased activity in Brassington. The annual value of the "division" was put at £66. This comprised lot, cope "And allsoe all that the future & casuall Benefitt by forfeitures for felony & by concealing of oare or otherwise together with such Meeres of Ground half Meeres of Ground and Primme Gaps wch by finding a New Veine of oare may by possibilities accrew to the farmers of the Lott & Copp or their Barrmrs". £66 was the second highest annual value among the divisions, after Matlock, Wensley and Snitterton's £80. The survey described William Blackwall's jurisdiction as including Brassington, Bradbourne, Tissington, Allsop in le Dale, Mapleton, Thorpe, Bentley and Kniveton, to which may be added Carsington and Parwich, included in Blackwall's 1657 measurements. William Blackwall was another son-in-law of Thomas Westerne, and like him was both a "gentleman" and a publican. He was the third husband of Westerne's youngest daughter Maria and acquired some of the Westerne inheritance through his marriage, although some doubt is thrown on his prosperity by an entry in the manor court book for 24 July 1654 recording his mortgage of some of the land to the Lord of the Manor, William Savile, for £106. Blackwall's pub was one of the larger houses in the village, listed in the 1670 Hearth Tax returns as having four hearths - there were three others with four and one with five.

The late 17th century rise in activity and in prosperity among the miners can also be seen in the preoccupation of the manor court with the miners in the 1660s, in the presence of miners on the court's jury, and in miners' wills and inventories. There are ten miners' wills in a total of thirty between 1673 and 1700, and a number of others which mention mining. The miners were all poor. There were two inventories with high valuations, John Madder's £66-3-4d (£66.17) and Richard Walker's £82-18-6d (£82.93), but these consist largely of debts - £50 in Madder's case and £57 in Walker's. The debts may have been owed by the smelters to whom Madder and Walker sold their ore. In other respects than the debts Madder's and Walker's inventories were similar to the other eight miners' inventories. All revealed that the miners were farming in a small way, with a cow and a few sheep. Five inventories specify "chambers" in the houses, indicating two stories, and the other five men, whose inventories demonstrate that they were living in similar circumstances, probably lived in similar houses - "house" or living room and parlour on the ground floor and two chambers over them. John Madder's small house contained brass cooking pots and pewter dishes, a cupboard and "three little coafers", three chaff beds with pillows, sheets, blankets and coverings, table cloths and napkins, shelves and a dish board, tubs, chairs, stools, a form, a frying pan and fire irons. Such men as Madder had achieved a modest prosperity from their mining - without it they must have been poorer and unlikely to leave a will. There was one miner, however, whose possessions were notably poorer than the rest, and whose house and style of living may exemplify those of the great majority of the miners in Brassington - those who left no will. This was William Scattergood, who left a three-roomed house to his wife Elizabeth in 1700. The "house" contained a table, a dish board, a cupboard, one seat (presumably a form), and "puter and Brass" - all valued at £2. The parlour had a bed, two coffers and a box at £1. There is no mention of table cloths, napkins or other linen. In the single chamber were two beds, two coffers and a "kimmell" or wooden tub, all at £1. The appraisers presumably found no other bedclothes than the ones on the three beds, and the Scattergoods had even less cooking and storage equipment than the Madders. This sparsely furnished little cottage must have been the usual dwelling of the Brassington miners at the end of the 17th century.

It is likely that many more than those who made wills survived on a mixture of lead mining and farming, keeping a few cows, sheep and pigs on rented land. A statement made in 1667 in the course of a dispute over the non-payment of tythes by farmers in Brassington supports this. Much of the village's arable land had been converted to meadow, one reason for this being that haymaking required less labour than corn growing, an important consideration because "the poorer sort who are numerous employ theyr labour in lead ground in ye Lo(rdships) 4 or 5 miles round about them, who will give great rates for meadow grounds to keep theyr coves in winter". The miners were independent, not paupers, but they were poor. That mining families had a precarious livelihood can be seen in the fate of the children of Stephen Barton, a miner who left a will when he died in 1696. He left four children under twenty-one and two of them figure in cases heard at the Quarter Sessions at Derby. One of the duties of the Justices of the Peace was to put poor children to work with farmers or tradesmen and to make their employers responsible for their welfare. The Justices made attempts to prevent the children being harmed or exploited, and it is apparent that one of Stephen Barton's children had had the bad luck to have been put with a bad employer. At the Quarter Sessions in 1703 "It is ordered by this Court that Richard Gratton of Brassington take care and provide for Stephen Barton his Apprentice lately put to him by Indenture as hee will answer the contrary at his peril". Stephen's sister Ellen had also been indentured, to Richard Bennett, a Brassington husbandman. Bennett successfully appealed, and "it is Ordered by this Court That the said Indenture bee vacated and discharged". The grounds for Bennett's appeal are not given, but he was a bachelor in a small way of farming and may have convinced the court that he could neither train nor adequately maintain the young girl. It is clear that while the miners could make a fair living, the death of a sole breadwinner would bring disaster to a mining family.

Some of the finances for the mines came from farmers and tradesmen in the village. Robert Allsop, the yeoman farmer who left "all my mynes meares of Ground groves & minerall possessions" to his wife "Jone" in 1675, also had "freehold lands, tenements, hereditaments and premises" and inventory goods amounting to £174, including £50 of debts. Allsop's seventy-six sheep and twelve cattle make it unlikely that he did any mining himself, but the mines on his land must have been profitable enough for him to consider taking shares in them. Another yeoman, much poorer than Allsop and indeed poorer than some of the miners who left wills, had "grooves mines minerall possessions and partes thereof" at his death in 1693. This was William Buckley, brother of the miner, Thomas Buckley. Investing in mines was not confined to the yeomen. Johnathan Hill, baker, had "parts or partes of grove or groves or meeres of ground and mynerall possessions" in 1689. One of the richest men in Brassington in the last part of the 17th century was Richard Knowles, a yeoman whose inventory came to £632-11-4d (£632.57). This included £538-10s (£538.50) "readye monyes due upon bills bonds and otherwise" and £28-10s (£28.50) for "twenty piggs of lead" - Knowles may have been making more money from the lead trade than from his farming. He had had 60 acres of land in the King's manor in 1640, but there were only three cows in his inventory, and such a small number of livestock must indicate that farming was not, at the time of death, his main way of earning a living.

There had always been mining at Brassington but that fact that almost half the wills made there between 1673 and 1700 were by people involved in one way or another in mining suggests that by then it rivalled agriculture in its importance to the village's economy.

ACKNOWLEDGEMENTS

I am indebted for their help to the staffs of the Derbyshire Record Office, the Local Studies Libraries at Matlock and Derby, Lichfield Joint Record Office, Sheffield City Archives and the Public Record Office, Chancery Lane. Roger Flindall, Lynn Willies and Harold Brittain helped with sources, and D.T. Kiernan permitted me to quote from his unpublished PhD thesis.

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