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THE MEDIEVAL SILVER-LEAD MINER
A Preliminary Study

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Abstract: This paper examines the conditions of employment and lifestyle of the miner employed in the Crown silver-lead mines in the late medieval period; and compares them with those found in the lead mining districts of the Pennines and elsewhere.

Until the 17th century the independent miner/farmer was to be found throughout the lead mining areas - Mendip, Derbyshire Peak District, Yorkshire, the Northern Pennines and North Wales - and to a lesser extent in the stannary districts of Devon and Cornwall. Metal mining was essentially an upland activity, carried out in terrain which lent itself to smallholding. The miner took advantage of this to maintain an alternative source of food and income, whereas the farmer on adjacent, more productive, land saw mining as a useful diversification, bringing in cash on which his lord had no call (Blanchard 1972; Hatcher, and rejoinder by Blanchard 1974). They were not necessarily full time miners with the worry of continuity of employment, housing and working conditions.

There was, however, a sizeable group of miners who were not independent and had little or no tie with the land. Such miners appear to have been the minority in lead mining, but in the Devon silver-lead mines, from the late 13th century onwards, they made up the entire workforce, employed on piecework or day wages. All were under the direct supervision of Crown officers.

We might ask why the Crown needed to have such close control over the mining of silver bearing-ores? After all there had been no apparent need in the expanding lead industry, much of which was developing on lands in which the Crown had an interest. The answer lay partly in the need for silver coinage, but such control does not appear to have been exercised over the working of the Carlisle Mines (probably near Alston) in the 11th and 12th centuries. It was only after the loss of those mines and nearly a century without a reliable home source of silver that the Devon mines came into production in 1292, and the Crown evidently felt the need to control such a scarce resource (Blanchard 1992; Claughton 1992). It is accounts for those mines which provide the bulk of the documentary evidence.

A centralised management structure was introduced under the Keeper, a Crown officer, who was himself monitored by the Controller, another Crown appointment. Day-to-day operation of the mine was the responsibility of the Supervisor. In the early part of the 14th century a number of men held the latter post and none appear to have been from a mining background, although it has been pointed out that at least one could have had experience of the iron industry. They were in all probability managers, described as clerks more in the sense of a clerk of works. Their status being reflected in their wages. Matthew de Hechcote, 1300-07, was rewarded at the not inconsiderable rate of 6d. per day; however, his successor, Walter de Horsham, received only 21d. per week, comparable with a clerk in charge of accounts on a large estate (Burnett 1969).

The workforce could be split into two groups - those on day wages and those on piecework. Ancillary workers, carpenters, wood cutters, the smelters, made up the bulk of those on wages. Only occasionally did miners feature in this grouping, which is unfortunate in a sense for we have far more detail available from the wage rolls, piecework appearing only as a lump sum.

Piecework itself can be broken down into three categories using the method by which it was calculated. Miners on production work were paid by the load (nine dishes) of ore - 5 shillings was the rate in the first quarter of the 14th century - dressed ready for smelting. It is on this category that the

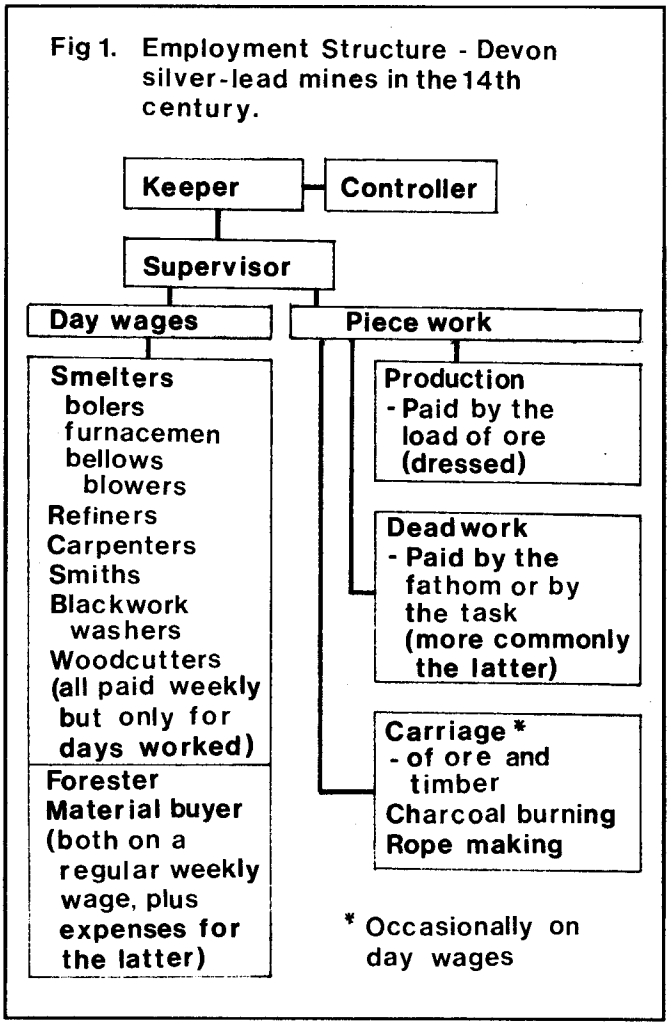

Figure 1.

Exchequer Accounts have the least to tell us - the numbcr of miners is not given, only their output, so no calculation can be made as to productivity or earnings. Similarly the numbers employed on deadwork are not recorded. They were paid either by the fathom, in driving adits or drainage levels, or by the task; and occasionally discrete figures would be given - in 1307 a miner engaged in driveage was paid at a half-mark (6s 8d) per fathom and those clearing and repairing levels at 9d. per week. The remaining category is for those ancillary workers paid by the task e.g. ore carriage.

There were occasions, as noted above, when miners on deadwork could be employed on day wages. In the late 15th century at a time when the Bere Ferrers mines in Devon were engaged in considerable development work, a miner was earning 4d per day; employed for around 220 days in the year, this netted him £3 13s 4d per annum. This allows us to make some comparison with the miner/farmer in the lead mining areas, who might expect an income of 15s. to £2 per annum from his ore sales, after payment of tithes, lot and cope (Blanchard 1972).

Table 1. Return of Welsh miners selected for the King's Mine in Devon, made by the Justicar of Chester in response to a writ dated 10 December 25 Edward I (1296)

Gilbert de Herthill*	Richard, brother of the said Kenwrik
Adam de Cridiene	Nicke ap Dobyn
Henry de Hirthill	Kenwrick ap Adaf*
Henry de Herthull*	Ichell Swecyn
Elias de Prato	Eignon Vaur
Richard de Prato	Kaduggan de Haliwell
Robert Fox	Gron Vaghan
Robert de Eyam*	William le Sergant*
Robert Bon . . .	William, son of Geoffrey*
Thomas ap Ichecok	Kenewrik*
Gron Wyd	Alanne de Hope*
Madoc his brother	John de Wiche*
Mathew de Mohant	William de Campere de Luton*
David Duy	John, from the same*
Kenewrick de Mohant*	Richard, son of William*
Ionas ap Adaf	Adam Reyner*
Laurence de Haliwell	Richard de Wadington*
Richard son of the above	John de Asseford*
William Long	Richard le Staturel*
Jornach Bolc*	William, son of Alan*
David de Gronocch+	William, son of Eug Reyner*
Madoc Coddebene	Richard Prye*
Jockin ap Huile	William Peddere*
Ichell Gronh	William Ryde*
Thomas de Mohald*	Robert de Bradwell*
Kenewrik son of Roger	Elias de Bradwell*
	. . . . le Bagger
	Simon Magge de Flint

* not found within the bailiwick of Chester

\+ not found because there is no such person, therefore Gron Vaghan replaces him.

Return of miners from the pit of High Peak (filed with the above)

Matthew de Mohant	Ken de Mohant
David Don	Thomas de Mohant

Source - PRO. E101 260/17

The costs of the Devon mines, including wages, were paid out of receipts from the sale of sterile (desilvered) lead locally and the return of coin minted from the silver produced*. At times of nil or low production funds were allocated by the Treasury. For example in 1330 the collectors of scutage (money paid in lieu of personal service) in Devon were ordered to pay £60 to the keeper at Bere Ferrers "as the King understands that he has no money where he can pay the miners their wages, and that certain workmen intend leaving their works". On second thought the King considered the sum insufficient and increased it to £100.

The silver-lead miner relied for his continued employment on the demand for silver, the availability of ore reserves and his skill as a miner. To a large extent the same could be said or the lead miner/farmer in Derbyshire, but there was not total reliance on mining, with agriculture providing perhaps half his income. The author has no evidence for agricultural holding amongst the Devon miners; however, one might assume that it was restricted to a low level, perhaps a large garden. Certainly there is no obvious evidence of widespread absenteeism at harvest time. Miners and ancillary workers were expected to work the full year with the exclusion of holy days and poor weather conditions in winter, that might amount to 200 - 250 days.

Demand for silver was such that the mines were kept in continued work, requiring considerable investment in fixed capital. Adits, deep shafts, water courses and, by the 15th century, pumps, along with the smelting complex of boles, furnace and refinery, all required to ensure access to and the ability to process a restricted resource. Such capital works required maintenance and even in lean times there was an incentive to keep the mines in work to protect the investment. All combined to provide some security of employment.

Where did all these silver-lead miners come from? There had been little activity in the mines throughout the 13th century. In 1260 the Crown found it necessary to bring in miners from Germany to supplement the small number of the king's miners in the investigation of an alleged silver and gold mine in North Devon; and miners of Italian origin were employed in Co. Tipperary in 1280. The labour force for the new mines had to be recruited from the existing lead mining areas - in some cases forcibly. But, although miners were pressed regularly, there must have been widespread voluntary recruitment. Surnames of ancillary workers indicate that they were drawn from most mining fields, including the iron mines of the Forest of Dean. One list of impressed miners (Table 1) does indicate that there were lead miners moving from one field to another. Herthill, Eyam, Asseford (Ashford), Bradwell - all are Derbyshire localities - and miners originating from there working in North Wales would have no day-to-day ties with the land, although it has been suggested that they could return for the harvest. The forerunner of the itinerant miners, familiar to students of 18th and 19th century non-ferrous metal mining, they were evidently full time miners; and it was from amongst their ranks that the Crown would seek to recruit.

Their training was necessarily empirical - miners would work alongside their superiors until they were competent. Named miners lead the teams employed at deadwork, but the majority remained anonymous making it impossiblc to trace

* The injection of new coin was not necessarily inflationary, since it compensated for loss of coin overseas (at times prohibited as excessive), and loss of weight through wear and tear.

career patterns.

An influx of miners into Combe Martin and Bere Ferrers would have created a demand for food which could not be fulfilled by the immediate areas. Food was the responsibility of the key to its distribution. individual miner and a local market the key to its distribution. Combe Martin had had a market since 1265, but that for Bere Ferrers was granted in 1295, with the establishment of the borough of Bere Alston, no doubt in response to the opening of the mines.

Amongst the privileges granted to the miners was exemption from local taxes levied on market transactions (PRO. Cal. Pat. Rolls Ed.I. Vol. 1, p.14), but they were prohibited from lingering in the market - pointing to a mining community kept apart from the local population.

Exactly how the miners were accommodated is unclear; the accounts make no reference to the building of housing, nor to the import of food - this was left to market forces.

In conclusion - lead mining, and to a lesser extent tin and iron, was dominated by a multiplicity of small producers governed by customary law (Gill 1990; Burt 1991); this favoured the activity of the miner/farmer, reliant on the industry for only part of his income. On the other hand the Crown's tight control of the silver-lead mines, working a restricted resource, made for a centralised structure, highly capitalised by medieval standards, with a full time labour force. However, it is evident that there were within the lead industry sufficient full time miners to provide a pool from which the Crown could draw the required expertise.

Finally - if one was to superimpose the management structure of a 19th century Devon or Cornish mine on that for the Medieval silver-lead mine, there is great similarity; allied to the highly capitalised nature of that industry, it is understandable that past economic historians tended to disregard the metal mining industry as a whole when formulating theories such as proto-industrialisation.

TABLE 2. Typical wage rates for miners and ancillary workers in the Devon silver-lead mines in the early part of the 14th century.

Keeper	-	he received 2 shillings per day
Mining Supervisor	-	Walter de Horsham had 21d. per week from 1302 onwards; but his predecessor, Mathew de Hechcote, had received 6d. per day.
Material Buyer	-	Henry de Priddy received 18d. per week plus 6d. per day when travelling.
Washing Supervisor	-	Simon Tront had 12d. per week, but was also paid for some ore carriage in 1307/8.
Miners on deadwork	-	9d. per week when clearing and repairing; ½ mark (6s 8d) per fathom for driveage. However, most work was paid by the task on a monthly basis ie. Thomas Robyen and associates, for repairing the galleries of the South Mine - £5 Hugo de Morneshale and associates, for the same at the Middle Mine - £4. Robertus, son of Richard, and associates, for the same at Fershill Mine - £2 Peter le Hole and associates, for the same at the Old Mine - £3 (All at Bere Ferrers in 1302/3).
Master Carpenter	-	3d. per day.
Other Carpenters	-	1½d. per day
Waterman	-	3d. per week
Boler	-	15d.per week
His helpers	-	8d. per week
Blackwork Crushing (by engine)	-	9d. per week
Furnacemen	-	10d. to 12d. per week in winter; 12d. to 14d. in summer.
Bellows Blowers	-	5d. per week
Refiners	-	18d. per week.
Assayer	-	Walter de Smalleye received from 7d. to 9d. per week.
Forester	-	10d. per week
Blackwork Washing	-	generally female labour at 5d. to 6d. per week (in 1302/3 a woman was paid 5d. for 4½ days work, but a man 6d. for the same period).

Source - Exchequer Accounts, PRO. E101, 260/22; 260/30; 261/10. and PRO. Calendar of Close Rolls.

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