

## FREE MEN OR WAGE-SLAVES? THE MINERS OF THE WIRKSWORTH AREA IN THE 1650s

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**Abstract:** Analysis of lot and cope accounts in the Wirksworth area during the 1650s provides evidence of the relative importance of different forms of industrial organisation prevailing at the primary end of the lead industry, ore-getting.

The Gell collection in the Derbyshire Record Office (D258) contains complete lot and cope accounts for four liberties in the Wirksworth area - Brassington, Cromford, Middleton and Wirksworth - for the calendar year 1653. There are complete accounts for Brassington liberty for 1655 and 1660/61 (April-March), for Cromford for 1655/56, and for Middleton and Wirksworth for 1658/59. There are incomplete accounts for the four liberties for 1639, and complete ones for Wirksworth for 1640-45. For 1646 a statement of lot ore sold by Gell (D258/58/18k) produces an estimate of the ore mined in Cromford, Middleton and Wirksworth liberties for that year of about 741 loads, 936 loads and 637 loads respectively. The 1639 to 1646 figures enable a comparison to be made with the period before the Vermuyden sough, begun in 1632, reached the Dovegang vein in the Cromford liberty (Rieuwerts, 1987). During the 1650s the mines in Brassington liberty, which included Carsington in every reckoning and an additional reckoning for Tissington and Newton in many months, produced totals of 900-1,000 loads. Middleton was a smaller producer, while the Wirksworth totals of mined ("grove") ore were augmented by proportionately much larger amounts of ore won from old hillocks ("caved") than in the other liberties. Production in the Cromford liberty was smaller than in the other three in 1639, and the effect of dewatering its richest mines is seen in the very high totals achieved in 1653 and 1655/56. The soughs which dewatered the Wirksworth mines later had the same effect, though these mines were never as productive as the Cromford ones had been in the mid-1650s.

The accounts give amounts of grove ore presented for reckoning by each mine proprietor or, more rarely, at a named mine. Analysis of the accounts helps to illuminate the debate about the relative importance to the industry of the different forms of industrial organisation prevailing by the middle of the seventeenth century (Burt 1991; Kiernan 1992). It is self-evident that where the lot accounts show a large number of names of miners or mines paying lot on small amounts of ore, that in that area, at that time, production was predominantly organised in the traditional way, by small mining partnerships. There is evidence in probate records that some of these enterprises were partly financed by investment from the better-off yeomen of the area (Slack 1989). Where, on the other hand, the deputy-barmaster's lot accounts show a small number of names producing most, or disproportionately large amounts, of the ore, it is likely that in those mines, at that time, production was by paid labour. There was a spectrum, with the traditional miner/farmer group at one extreme and the wage-earning labour force of some large mines at the other. Similarly ownership of the mines varied between those wholly owned by mining families or small partnerships of working miners, those in which capital had been invested by yeomen or others, and those owned by entrepreneurs.

These lists demonstrate the changes in ownership and structure which came with the high production made possible by dewatering. In 1653 the ore from Brassington, Middleton and Wirksworth was produced in each case by about forty named proprietors and while in each liberty there were a small number who produced a disproportionately large amount the disproportion was small enough to make it likely that they were the same sort of independent working miners as the rest on the monthly lists. In Brassington 66% of the ore was mined by 44% of the miners, in Middleton the figures were 70% and 21% respectively, and in Wirksworth 57% and 28%. The picture in Cromford, with the Dovegang dewatered by 1651, was quite different. Here the large amounts of ore uncovered by the draining of the mines attracted men with the capital to invest in them. Over 51% of the ore mined in the Cromford liberty in 1653 came from the mines owned by the rich lead merchant Lionel Tynley. Tynley died in November. He and his successor mined 3,816 loads while, in his capacity as merchant, Tynley bought 707 loads of grove and caved ore in the Cromford liberty between January 1653 and the time of his death. Two other mines produced over 19% and 11% respectively, and with over 5% from another ore-buyer, 88% of Cromford's ore came from four sources. The rest consisted of small amounts produced by forty-five independent miners.

Tynley's workforce must have included most of the rest of the Cromford miners, plus men from outside the liberty. They were probably employed on a similar system to the traditional one at the eighteenth century Miners Engine mine at Eyam, described by Dr Willies (Willies 1992), either as teams of "copers" working out pre-determined "bargains", or as day-wage labourers employed either by the copers or directly by the mine. Tynley's probate documents (Lawrance, 1931) refer to his possession of a fourth share in Godbeheare vein on Cromford Moor, and of other mines in Cromford and Wirksworth. By 1655/56 Tynley's successor, Thomas Godbar (or Godber), was producing 1,172 loads, or just over 17 percent of the year's output. Other high-yielding mines were in the hands of the gentlemen ore-buyers, Gladwin and Fearn, who produced over 21% and 17% respectively. A member of a local gentry family, Edmund Buxton, seems to have acquired an interest in a productive mine during the year - from October 1655 to March 1656 he produced 459 loads, or more than 6% of the year's output. Godbar, Gladwin, Fearn and Buxton, plus the three mines Halfe Meare, 20 yards and Hard Edge (over 6%, 3% and 2% respectively), produced 5,129 loads or more than 75% of the total. 42 others shared the remaining quarter of the year's production.

There are no figures for the number of men employed in these larger mines but, since the tools and methods of ore-getting were the same in large and small mines, explosives not being widely used before the eighteenth

Year	Liberty	Grove	Caved	Total	Lots	Total	
1639	Brassington	219-7	44-6	264-4	15-0	279-4	(July - September)
	Cromford	135-1	34-4	169-5	10-3	179-8	(July - September)
	Middleton	84-5	9-6	94-2	7-8	102-1	(July only)
	Wirksworth	1021-7			85-3		(caved figure missing)
1653	Brassington	702-5	149-3	851-8	52-8	904-7	
	Cromford	6897-5	1635-1	8532-6	574-7	9107-4	
	Middleton	278-0	90-2	368-2	22-1	390-3	
	Wirksworth	349-0	898-0	1247-0	28-6	1275-6	
1655	Brassington	688-8	169-7	858-6	50-5½	909-2½	
1655/6	Cromford	6294-7	1379-7	7674-5	528-5	8203-1	
1655	Middleton	88-2	24-6	112-8	5-6	118-5	(October-December)
1655/6	Wirksworth	248-8	279-4	528-3	10-8	539-2	(October 1655-March 1656)
1658/9	Brassington					904-7	(Lots Oct-Dec 1658 missing)
	Cromford					1240-5	(Lots Oct-Dec 1658 missing)
	Middleton	573-8	167-8	741-7	38-3	780-1	
	Wirksworth	580-6	455-0	1035-6	39-1	1074-7	
1660/1	Brassington	727-7	226-8	954-6	45-0	999-6	
	Cromford						
	Middleton	407-4	161-3	568-7	30-0	598-7	(9 months only)
	Wirksworth	1432-7	471-0	1903-7	112-4	2016-2	(9 months only)
Totals 1653-61 ONLY		19270-4	6108-4	25378-8	1539-½		
<b>Comparative Production Figures in Loads and Dishes</b>							
Grove = mined ore; Caved = re-washed ore from old spoil heaps;							
Lots = duty of every thirteenth dish paid on grove ore (caved was exempt)							

century (Rieuwerts, 1987), the amount of ore produced is presumably a reliable indicator of the number of men employed. The ore in the larger mines may have been more easily extracted than in those with small deposits, but in its high production days there must have been more men employed in the few large mines of the Cromford liberty than there were independent miners working the small ones. The rapid extraction of the ore made accessible in the Cromford liberty by dewatering seems to have slowed by 1658. Incomplete accounts for 1658/59 show 776 loads of grove ore in nine months. However, this small amount, comparable to the production from the mines of the other three liberties, was still disproportionately produced by the proprietor of the former Tynley mines. Of the 68 mines or mine proprietors, Thomas Godber was responsible for 296 loads, or 38% of the whole. 206 of Godber's loads came from 4 reckonings in September 1658. During a temporary decline in mining, therefore, the pattern in this liberty remained the same, with one entrepreneur owning title to the most productive mines and presumably employing a large number of miners.

In the rich Cromford liberty, where large mines owned by wealthy entrepreneurs were the main producers, the independent miners were still at work. There were still many small mines in the liberty worked by local men, operating

under the traditional rules and undisturbed because their mines were not rich enough to attract predators. Many of the miners named in the barmaster's accounts regularly had small amounts of ore measured. As examples, we may consider two of the Cromford miners, William Copeland and William Ward. In 1653 Copeland had amounts varying between 6 and 15 dishes of ore measured on sixteen occasions. These occurred in every month except October. His total for the year was 10 loads 5 dishes. Ward had no ore measured in January, March, October and November. During the other eight months of 1653 he presented ore for measurement on thirteen occasions, a total of 32 loads 2 dishes. The measurements are too frequent for these miners to have spent any time working for such as Lionel Tynley. The accounts for this year do not give the prices. They are, however, unlikely to differ much from those for 1655, which varied between 22/6d and 27/- per load. At these prices Copeland's income from his independent mining would be between £12-4-6d and £15-1-0d. Ward would have made between £36-11-6d and £44-5-5d. There were two others whose names occurred more than twelve times in the Cromford reckonings for 1653, four who appeared between seven and twelve times, and ten between three and six. Those whose names appear only once or twice may have been partners of others on the lists, or have spent more time farming than mining, or

have worked for wages at the large mines as well as retaining their own small titles.

There were larger numbers of small but regular producers in the Middleton and Wirksworth liberties, presided over by the same deputy barmaster. In Middleton Thomas Wigley presented ore for measuring on twenty-three occasions in 1653, producing what was for Middleton a large amount of ore - 54 loads, or 18% of the total. There were eight who appeared in the reckoning on seven to twelve occasions and fourteen between three and six. Among those whose names appeared only once were two women. From their surnames these are likely to have been the wives of miners also listed, but two women in the Wirksworth lists seem to have been miners in their own right. These are "Ms" Carryer and Mary Bunting. Miss Carryer had nine reckonings during the year and Mary Bunting seems to have been the most assiduous miner in the liberty, with twenty-two reckonings, usually "at her ould grove in the Steeple", twice "at ye halfe meere". There were three others with more than twelve reckonings in Wirksworth, seven between seven and twelve and eighteen between three and six. By 1660 the Wirksworth output was boosted by comparatively large amounts mined at Liddoeflats. There, seven mines - the founder, five taker meers and a half-meer - produced 1,056 loads in nine months of the year 1660/61, 68% of the total. This was a high enough output to necessitate the same type of employment arrangement as the richer Cromford mines.

There is ample evidence that the small Brassington mines were worked in the traditional manner by miner/farmers into the nineteenth century, and that many of these villagers achieved a precarious prosperity from their dual existence (Slack 1989). That the pattern at Brassington would have been different if the dry mines had reached rich deposits can be seen from what happened in the mid-nineteenth century, when rich strikes were made and one mine employed 100 men from Brassington and the neighbouring villages (Slack 1991). These mines were not rich enough to have made soughing worthwhile if water had been a problem, but the relatively inexpensive investment sufficient for their exploitation attracted outside entrepreneurs and some of the locals became wage labourers.

There were significant amounts of caved ore sold in each liberty throughout the 1650s. The names of the men, and, probably, women who worked the old hillocks, are not given in the accounts and it is not therefore possible to be sure about their numbers. The petition analysed by Dr Kiernan lumps cavers in with the "poore hirelings", a joint category which the petitioners said was half as large as the number of free miners but which Kiernan argues was in fact larger, many of the free miners being in his analysis wage labourers for much of the time. Estimating the number of cavers as a class is made more difficult by the probability that miners would sell ore from any old hillocks on their mears, as well as their grove ore. A Brassington manor court "pain" in 1663 ruled that "noe Myner shall carry... water... to wash oare or ould-hillocks" (DRO D166M book A). There was clearly a sizeable body of people sieving the old spoil heaps in Cromford liberty in 1655/56, when 1,379 loads of caved ore were sold, and in Wirksworth in 1653, when the amount of caved ore sold was more than twice as much as had been mined - 898 to 377 (including lots). 1653 was the only year when caved ore actually exceeded grove, but caving continued to be more important in the Wirksworth liberty than in its neighbours. It still amounted to about one third of the total output in most years in the 1690s.

The structure of the industry in the Wirksworth area in the mid-seventeenth century, i.e. the relative importance of the independent miners, capitalist entrepreneurs and cavers, is indicated by the total amounts of ore produced by each. Where the figures for grove and caved ore are available the total production of the four liberties was 26,917 loads between 1653 and 1661 (grove+caved+lots). Of this, 12,109 loads (45%) was grove ore from large producers, defined as those measuring more than 500 loads in any year, 8,700 loads (32%) was grove ore from small producers, and 6,108 loads (23%) came from caved ore. This picture of an industry dominated by large producers is a complex one, containing quite different components. At any time and place the amount and accessibility of the ore determined the arrangements by which it was extracted. Where the deposits were small and accessible without the need for drainage the old arrangements persisted and local men continued to combine farming and mining. Their contribution to the total picture was very substantial and in some areas they were the main element. Finally, of the surprisingly large amounts of ore extracted from the old hillocks some was probably worked by the same miners who were presenting mined ore for measuring.

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