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THE LEAD MINERS OF SWALEDALE AND ARKENGARTHDALE IN 1851

J.L. Barker

Introduction

The following article is based largely on an analysis of the 1851 census returns for Swaledale and Arkengarthdale. The work on the analysis was carried out by the Swaledale branch of the W.E.A. at Reeth, under the guidance of the organising tutor, R.T. Fieldhouse. The tables used in the article are taken directly from the original analysis published by the W.E.A. at Leeds in 1970.

The analysis covered nearly all the upper dale above Marske: the only places to be excluded were Downholme and Stainton.

The 1851 census is of significance for two reasons; the first is that it was the earliest complete census showing the age, marital condition, occupation and place of birth of every man, woman and child; the second reason is that 1851 was a period approaching maximum employment in lead mining if not in maximum output of lead.

The total population of the area in 1851 was 6,820, a decline of 660 compared with the 1821 census. It is interesting to note that the greatest concentration of people in 1821 was in the Chapelry of Melbecks, which included Gunnerside, Lodge Green, and Low Row, all adjacent to the Old Gang, Lownathwaite and Surrender mines.

Every occupation was classified or analysed to a limited extent, but, as with any set of facts and figures, the information to be gained is almost endless.

For obvious reasons, I have concentrated on the mining aspect of the census and I hope that the following article will show in more detail a picture of mines and people employed at mines in their environment.

The Census and Its Background

Lead mining in Swaledale and Arkengarthdale since the middle of the seventeenth century had employed many dales people. The emergence of partnerships in the latter part of the century and the introduction of gunpowder at the beginning of the eighteenth century enabled investors to develop the mining field. In 1676 Philip Swale, steward of the manor of Healaugh for Lord Wharton, together with

Francis Smithson and Robert Barker of Derbyshire, leased ground at Old Gang and Lownathwaite for twelve years. This was probably the first major lease in Swaledale and, with Lord Wharton himself investing money, rapid development took place in that area.

Later, on the death of Robert Barker in 1680, Philip Swale brought Robert's brother Adam from Wirksworth in Derbyshire, and there is little doubt, introduced many practical innovations for developing the mines at Old Gang.

Slightly earlier, Charles Bathurst and his father, Dr John Bathurst formed a partnership in Arkengarthdale (hence C.B. Mines) and did much to develop the mines in that area.

Throughout the eighteenth century more money was invested, enabling the mining fields to be extended. Agreements between the lesser and the lessees stipulated that a certain amount of "dead work" was to be done. Therefore levels were driven into the hillsides to drain the lower 'Workings of the mines which had earlier been worked from deep shafts sunk on the felltops. Mines throughout the dale were developed on a scale that would have amazed the sixteenth century miners.

By the first part of the nineteenth century the demand for lead was great, due largely to the need for ammunition in the Napoleonic Wars. When the war ended a decline set in. During the early 1830's mining was at a low ebb; many miners emigrated to America; others found employment in the Lancashire mills and the Durham coal mines. There was a gradual improvement, with minor recessions, until 1851 when employment at most of the mines was at its peak. The census therefore gives a picture of the miners and of an industry in full employment.

Although Reeth was the biggest village, only 7% of its population were miners, compared with 17% for the whole area. It is not possible to say exactly where all the miners worked, but the following table shows the number of miners in each village, or area adjacent to the village, and the mine in which they were most likely to be employed.

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No. of Miners	Habitation	Mines where they worked
133	Muker & the dale above Muker	Beldi Hill & Lane End
28	Oxnop, Rash & Satron	Oxnop & Spout Gill
208	Ivelet, Calvert Houses, Gunnarside, Dyke Heads, Lodge Green, Winterings	Gunnarside Gill, includes parts of Old Gang, Lown- athwaite & Surrender
276	Blades, Low Row, Feetham Kearton, Healaugh etc.	Old Gang & Surrender
60	Reeth & Fremington	Old Gang, Surrender or Grinton
25	Crackpot & Whitaside	Whitaside, Summer Lodge
44	Grinton & Harkerside	Grinton How, Grove Beck, Devis & Ellerton
284	Arkengarthdale	Arkendale mines
71	Hurst and Washfold	Hurst
1129 = Total number of Miners		

One of the most interesting facts to emerge is that there were just over three times as many children under the age of 15 employed in the mines as there were men over 60. In fact, as can be seen in the following table, people employed in mining under the age of 40 outnumber those over 40 by more than three to one.

Occupations	Under 15	15-19	20-39	40-59	60 and over
Lead Miners	134	191	530	243	31
Lead Smelters	0	0	21	9	11
Lead Ore Dressers	16	13	19	7	4
Lead Ore Washers	4	8	12	7	1
Waste Workers	1	0	0	1	0
Engine Tenders	0	0	2	0	0
Maahine Blower	1	0	0	0	0
Totals	156	212	584	267	47

In 1864 the Kinnaird Commission found that of all males in Swaledale living beyond the age of ten, those who became miners were likely to die significantly younger than those entering other occupations.

Occupation	Average Age at Death
Leadminers & smelters	46.67 years
Other occupations	60.79 years

In this area it has been always suggested that smelters died younger than miners, but the returns show that of the 41 smelters in Swaledale and Arkengarthdale, 11 were over 60, whereas of the total of 1129 miners only 31 were over 60. The Kinnaird report showed that 65% of miners died of bronchitis, consumption and other chest and lung diseases compared with 34% in other occupations. Sometimes damp and badly ventilated mines and sometimes dry and dusty conditions contributed to these diseases. Furthermore, miners would often start work cold and wet, because, in some cases, they would have to walk as far as six miles to the mine.

Miners did not differ from other occupations in the age at which they married. Many of them reared large families; in some oases as many as ten children spaced, on average, at intervals of two years. Not all the children would, necessarily be born in the same village or hamlet. The reason for this would be the fluctuating production of the mines. A miner would move to an area where the nearby mines could offer regular employment. Occasionally it was found that one or two children of a large family would be born in County Durham, the parents having moved in periods of depression to work in the coal mines. As the demand for lead increased they would return to find employment in their native dales. In spite of these few examples, the returns showed that the population moved very little, 87% living within five miles of its birthplace. The following table represents the whole of the population and indicates the lack of mobility of the dales community.

It must be remembered of course, that many miners had smallholdings and would be reluctant to leave them even in periods of depression as their land would at least be able to provide means of sustenance and, in addition, miners were eternal optimists and always expected times to improve.

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Birthplace	Percentage of Adults	Percentage of Children
Within five miles of present dwelling	80.5	90.6
Rest of Swaledale	4.1	2.5
Richmond	2.0	1.7
Other places within 25 miles of Reeth	7.8	3.0
Rest of North of England (1)	3.4	1.0
Scotland	0.2	0.3
Ireland	0.3	-
London	0.1	-
Midlands and South (1)	0.4	0.1
Overseas	0.1	-
Unknown	1.1	0.8

(1): The division between 'north' and 'midlands and south' of England is the southern boundaries of Yorkshire and Lancashire, for the purposes of this survey.

The male population was almost equally divided between single and married or widowed. Of the 59 females employed in lead mining 45 were young, single women.

Occupation	Males			Females		
	Single	Married	Widowed	Single	Married	Widowed
Lead miners	577	501	51	-	-	-
Lead smelters	7	27	7	-	-	-
Ore dressers and washers	24	8	-	45	10	4

A glance at the above table will show that females were employed only in dressing and washing ore. There were 28 female ore dressers, 18 of whom lived at Hurst, and of the 31 male ore dressers 12 lived at Hurst. The rest, both male and female, were more or less equally

distributed throughout the remainder of the mining field. These figures suggest that Hurst lacked the machinery for crushing and dressing which other large mines such as Old Gang, Blakethwaite, C.B. and Grinton would possess at this time.

There was only one male ore washer and he was a boy of under 15 years. The other 31 were females and of these 27 were employed in Arkengarthdale, presumably at the C.B. Mines.

In the whole area there were 2743 children under 15 years of age, 40% of the whole population. 250 of them were at work, and of these more than 50% were employed in the mines. There were 111 lead miners, 22 ore dressers or washers and one machine blower. There were several boys of ten years of age classed as miners - they would most likely work with their fathers or older brothers. This was not looked upon as an exploitation of child labour in the dales, although the extra. income would be welcome.

Many miners were classed as farmers but the majority of them had only a few acres, sufficient for one or two cows and perhaps a pig for home cured bacon and ham. They would also have a 'right' for sheep to graze upon the common, but these would be few in number because of the limited winter feed. Many other miners were the sons of farmers whose holdings were too small to support large families. Nevertheless, in spite of the average miner's poor wages it is doubtful whether he would be short of food, particularly meat, as rabbits and hares would be plentiful in the dales. Although the penalties for poaching were very severe at this time, it is unlikely that the independently minded dalesmen would be deterred by a few game laws.

There were 21 lead mine agents in the two dales, six in Arkengarthdale and five in Low How, the remainder being spread out through the rest of the Swaledale mining field.

The two waste workers lived at Crackpot and it seems that their occupation was probably to turn over the old tippings in the hope of finding some useful minerals. One of them, Adam Barker, a great-great-grandfather of the writer was later to become manager of the Whitaside Mines.

The two engine tenders lived at Keld and may have looked after engines at either Keldside or Lane End mines, both of which had, at some period, Winding and pumping engines. In this case, water wheels can be reasonably excluded as engines, although earlier records sometime describe them as such. At no other mine in the dales which had water wheels was there any mention of engine minders.

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By using as an example my own village of Healaugh, it is possible to visualise the difference between 1851 and the present day. In 1851 there was a total population of 251 living in 46 houses. There were 48 lead miners, all male. Over 50% of these were married, five were children under the age of 14, two of these being only 10. There were only three over the age of 60. The rest of the inhabitants connected with mining were two lead carriers and two lead agents.

The remainder of the working population included farmers and the usual tradesmen such as joiners, masons and shopkeepers. Of those under 14 some were classed as errand boys.

The average number of people per house was 5.4. Some of these houses had, in fact, up to twelve occupants and, as many of them had only one bedroom, they must have slept several to one bed. There were 112 children under the age of 15, 39 of these were taught by one school teacher. By comparison, at the time of writing, there is only one child under the age of 15 (called Adam Barker). There are 32 inhabited houses and of these 20 are permanently occupied, the rest being weekend cottages. These figures would suggest that 14 houses have disappeared, but in fact many of the present houses are a combination of two and sometimes three dwellings. Probably about four houses have completely disappeared.

Booze in Arkengarthdale is an example of a village which has almost become a 'ghost village' since the end of lead mining. In 1851 there were 41 dwellings and 48 of the population were miners. Today there are four permanently occupied houses and two or three weekend cottages. Another reason for its depopulation is its situation on an exposed hillside, which is also true of the hamlets of Kearton, Blades and Winterings.

The parish of Marske situated lower down the valley with little or no mining, had a fairly static population for over 50 years. In 1801 there were 239 inhabitants and in 1851 there were 244. The 1951 census showed a population of 133; this is a drop of 45.5% as opposed to 77% in the villages higher up the valley. There is little evidence of Marske having many derelict houses compared with Winterings, Blades, Kearton and Booze.

It was hoped that a study of the census returns would reveal information to associate hand-knitting with lead mining. Stories of miners knitting on their way to work have persisted until the present day. Unfortunately the returns did not classify knitting with mining as a joint occupation. Knitting as a primary occupation appeared by this time to be on the decline. There were only 43 people employed as hand knitters in both dales. Twenty of these

lived in the Low Row area and seven in Muker. There were only two retired knitters, both paupers.

Unfortunately, a 'study' of some 200 sixteenth and seventeenth century inventories does not add to our knowledge; stockings and wool being mainly in possession of shopkeepers, farmers and 'hosiers', i.e. men who supplied wool to the knitters. Probably the hand knitters were not sufficiently wealthy to warrant an inventory of their goods after their deaths. This does not, of course, prove that miners did not knit - no doubt many did so to augment their meagre incomes. However, the writer finds the idea of a miner on his daily journey from Gunnerside to Blakethwaite mine on a cold winter day knitting stockings as he 'Walked, very difficult to envisage.

Through the census returns, I have endeavoured to show some aspects of the life of the dales miners. How best then can we sum up?

He would certainly be poor but not necessarily hungry. A considerable part of his diet would be havercake, a mixture of oatmeal, water and salt. Havercake was cheap and easy to make it was very useful for 'bait' and would keep for considerable periods. Most households would have a bakstone, either built in with the original fireplace, or an iron girdle to use on an ordinary hearth. Salted bacon has already been mentioned, but it is doubtful if the average miner would be able to afford to kill cattle or sheep for salt beef and mutton, although in the seventeenth century it was not uncommon to find salt beef listed in a farmer's inventory.

Many houses had small gardens and no doubt these were used to produce potatoes and greens. There is also evidence to show that turnips were grown in the area.

There are few accurate figures to show how much a miner earned in 1851. In most fields the pay was monthly and would probably average well under £1 per week. The pay of course varied from month to month for a pickman, according to his output. The deadman, although not earning as much money, at least had a regular income. For the period June 1872 to June 1873, a pickman at Old Gang averaged just over 17/- per week, whilst a deadman earned just under 16/-. This was not a great deal of money on which to support a large family.

Fuel for heating and cooking would cause little concern as there was abundant peat on the moors and most householders had 'right' to cut turves. The better-off miner would also be able to buy coal, as there were several coal pits in the area.

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For entertainment each village held two or three concerts every year, where singing would be the predominant part of the programme. Most villages also held an annual sports. Wrestling, pillow-fighting, foot races and hand ball were popular at this time. The writer can remember hand ball still being played at Rowleth Bottom Sports in the 1930's. Knur and spell was played extensively in the dales as also was quoits, the latter game, of course, has survived until the present day.

Rarely well off, often in poor health, the dales miner – even at the closure of most of the mines at the end of the nineteenth century - always expected times to improve.

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