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## MINERS' BARGAINS

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### SYNOPSIS

*Aspects of bargain working in the lead mines with particular reference to the bargains made at the mines in Leadhills and Wanlockhead. The paper has been developed from one by W.S.H. published in Journal of the Glasgow Spelaeological Society, Vol.2 1970. This was particularly concerned with bargains at Leadhills in the eighteenth century, and is no longer readily available. In re-writing with G.D-R, the opportunity has been taken to include reference to Wanlockhead, and to look at the wider implications of the bargain system.*

### A SPECULATIVE SYSTEM

The bargain system was a method of contract piecework used in metalliferous mining. A group, known as a partnership, would make a bargain with the mine overseer to carry out a particular task for an agreed rate of payment. They would have a relatively free hand as to the way they set about the work, but would have to provide their own tools and explosives. When the bargain had been completed and accepted, the group would be credited with the amount it earned, and the money would be shared out once payment was made.

The system is of great antiquity. There is evidence that some form of piecework was used in the metal mines of mainland Europe in the middle ages, and by the seventeenth century bargains were being worked in some British mines by the skilled men at least.<sup>1</sup> Best described as speculative it is often regarded as a peculiar creation of the metalliferous mining industry; producing a skilled and elitist workforce to whom the element of luck inherent in the system appealed.<sup>2</sup> Although commonplace in Europe the system does not appear to have been much use in the big American mines of the nineteenth century. Perhaps the huge ore-bodies in that country, plus the emphasis on machinery and unskilled labour, made it less attractive.

The nub of the traditional bargain was that it was taken on the basis of work done, and was seen as the product of negotiation between a group of men and the management. Hunt points out that the men did not bargain for their labour, but for the results of that labour.<sup>3</sup> But the system seldom allowed the miners to profit fully from the lucky strike they sought; and Lindsay notes that it hid a low level of wages and discouraged a collective approach to problems of conditions and earnings.<sup>4</sup>

Although equated to non ferrous mining, the bargain system was also used in limeworks and quarries, industries which seem to have shared many of the problems the system created.<sup>5</sup> But the irregular nature of non-ferrous ore veins made bargains to work them the most speculative.

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### **Butty Gangs and Adventurers**

The “butty gang” of coal miners or railway navvies was another system of contract working but was more like a small business than a worker collective. The leader was essentially a middleman, leasing part of a coal mine, machines in a mill, or taking on work on a railway contract. He fixed up the deal, hired the labour, and the bargain was made with him, not with the men.<sup>6</sup> When Alexander Telfer lost his lease of the Glencrieff mines in Wanlockhead in 1755, he took a bargain to work part of the Cove vein and had a large number of men” close at work all 24 hours.<sup>7</sup>

Another sort of small contract at Leadhills and Wanlockhead was taken by miners referred to as “Adventurers”. Such groups were not necessarily a part of the permanent labour force and they might bargain to make a trail of un-mined ground, or to seek any ore left in old workings. However, such work was in no way comparable with the “Small ‘Venturers” of some English ore fields.

Ore dressing too was usually arranged by the ‘washing master’ taking the bargain and organising the labour. But the distinctive feature of the true bargain was that it was taken collectively by all working on it.

### **Incentives**

Working a bargain perpetuated the irregular work pattern of the pre-industrial era, and was a natural extension of prospect mining. Gough aptly refers to “partnerships” working the little Mendip mines on their own account.<sup>8</sup> As Raistrick points out, it provided an incentive to work in dangerous and unpleasant conditions, encouraging the belief that there was easier ground ahead, or a large body of ore which could be exploited to give a reward for toil and hardship.<sup>9</sup>

Advantages to the mining company were that the bargain linked the men’s fortunes with those of their masters, and substituted the discipline of payment by results for that which could be imposed by factory walls. It also made it possible for a company to manage the activities of a large number of men with the minimum of supervision.<sup>10</sup> At Leadhills and Wanlockhead there were usually two overseers to about two hundred men, but the Gwennap Mine in Cornwall, employing two thousand four hundred miners, is said to have been managed by only fourteen supervisors; and many quarries worked with no on-site supervision.<sup>11</sup>

Although Lewis notes that a Welsh mine employed a “lusty willing fellow” to try the vein and set a standard for the rest; there seems little reference to any attempt to rationalise bargain letting by work measurement.<sup>12</sup>

A serious disadvantage of the system was that it encouraged hasty and careless work and mining handbooks warn against crooked drifts and rubbish left in the way of other miners. The Leadhills bargain books contain many references exhorting the partnership- to “keep a level sole”, and not to “damnify” the waygates.

### **Saint Monday**

Taking a bargain whose rewards might not be received for many months did not necessarily mean the men would keep at it. There was a temptation to take time off, perhaps to attend to a smallholding; or to take the day easy with the intention of making up the work tomorrow. In continuing the work pattern of medieval industry the bargain system inherited its casual attitudes.

In the eighteenth century, the celebration of “Saint Monday” was a recognised problem of the urban employer but in the mines any day might be Monday. In 1784, the Earl of Hopetoun’s chaplain at Leadhills complained that miners could be found “sauntering thro’ the town ... chatting in the smiddies and kissing the girls”.<sup>13</sup> This was not acceptable, and when the Manager at Wanlockhead made a surprise visit to one of [5] his mines about the same time, he dealt harshly with those not working their bargains, for some were fined and others dismissed.<sup>14</sup>

### **Time and ‘tale**

The measurement of work in terms of an hourly rate is a modern concept. It not only requires access to watches or clocks, but it needs a concept of time as something that exists in discrete and definitive packages. Up to the eighteenth century, a day’s work was commonly measured in terms of the time defined by such natural boundaries as sunrise and sunset, or by the work done. The collier’s “darg” was not so much his day’s work as the produce of his time.

As has been mentioned, the customary measure for work in the leadmines was the fathom and the bing: fathom tale and bingtale. Hunt refers to such measures for bargains being in use in the Pennines in the early eighteenth century, and from 1742 these measures were also used at Leadhills.

Although set by fathom or bing, there could be important if subtle variations. A bargain to work ten fathoms or ten bings at an agreed rate, is not the same arrangement as working at that rate for a period of time. The latter smacks of piece working but bargains limited by the time were common in the Pennines from the eighteenth century.<sup>15</sup>

At Leadhills, fathomtale was almost always for a given length of ground but it was not unusual to limit bargains for drawing ore to three months and in the lean years of the 1830s and 40s, most bargains were limited to a specified period.

Bargains could be applied to a variety of tasks and during James Stirling’s management at Leadmills men repairing, timbering, making leats, or cutting turf, all worked bargains.

Although the eighteenth century leases at Leadhills and Wanlockhead required that a minimum number of pickmen be regularly employed, bargains may have produced an irregular work pattern and not just because men took time off. There is some evidence of this in the bargains in the early nineteenth century books at

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Leadhills. Indeed, a bargain given in 1836 expressly stated that taking it did not mean the men would be constantly employed.<sup>16</sup>

### **Relationships**

The composition of the partnership was probably based on the family group, although this is difficult to assess. Certainly the younger generation learnt by working with their elders. Any others brought in to make up the number required would have produced strong bonds within the group of acknowledged skills and shared hardships.

The number in the mining partnerships were usually between four and eight men; the larger probably allowing them to work shifts through the 24 hours.

At Leadhills at least, another could take the place of one of the partners who might be ill. A letter in the Leadhills Library, records how a son had taken the father's place although it is the latter's name that is in the bargain.<sup>17</sup>

When a partner died, his widow could be given the earnings of one of the younger members with her name being recorded in the bargain book. This was established custom at Leadhills and Wanlockhead. But unlike practice in the coal mines, boys had to be 12 years of age before they worked below ground.

### **Fooling the Captains**

Payment by results encouraged fraud. Cornish miners seem to have been particularly to blame, and Sir Clement Le Neve Foster's remark that they believed "the whole art of mining is fooling the captains", has been often quoted.<sup>18</sup> Marks might be altered and any indications suggesting there could be an improvement in the vein, concealed. Mixing ore from different bargains in the "dark chambers of the mine" and then turning it in at the best rate is mentioned in various mining books and seems to have been a particularly Cornish ploy. How widespread such practices were is uncertain but clearly good supervision was required and a mining handbook observes "A captain needs to be continually on the watch".<sup>19</sup> It was a situation that perhaps contradicted the whole concept of bargain management.

### **Adjustments to Rates**

A partnership's earnings must often have proved less than expected. Raistrick and Jennings refer to the Pennine miners obtaining a review of terms, or monetary relief for a hard bargain.<sup>20</sup> But Lewis suggests any change of rate was rare in the Welsh mines.<sup>21</sup>

No reference to adjustments to rates have been found in the eighteenth century books at Leadhills but there are many records of alterations in the 1830s and 40s. Usually these arose from complaints of a hard bargain but on one occasion a rate for £8 10s per ton of lead was raised to £11 because of a "misunderstanding" between the partners and the overseer.<sup>22</sup> Since it was the overseer who set the bargain much depended on his judgement and impartiality. "Do not countenance

one more than another”, is as good advice today as it was in the seventeenth century.<sup>23</sup>

There seems to have been no recognised procedure for dealing with complaints at Leadhills. They were usually referred to the Agent and if he agreed he then annotated the alteration.

### **Illusion and Reality**

Bargains might be, as the term implies, the product of negotiation but in reality the miner had little bargaining power and it was the company who dictated the terms. Although, there is no record of this occurring at Leadhills and Wanlockhead. In the eighteenth century the mining bargains there were usually set “underground” and one followed another. But a correspondent in 1836 writes of “partnerships going idle”, and such a situation must have had some affect on the way the bargains were made at that time.<sup>24</sup>

But in spite of its faults the system seems to have been generally preferred to day wages. It is said that any men so employed were disparaged or “treated with contempt” by the others and an attempt to introduce day wages at Betws Garmon in 1876 led to riot.<sup>25</sup> It was in some respects an ideal system for it meant the lead miner was deeply involved in his task and unlike the worker in the textile mills, was not alienated from it by having his work pattern dictated by a machine.

Pollard’s study of the history of management shows that the advent of industrialisation demanded a new work discipline based on regularity.<sup>26</sup> The changes this brought about in the pattern of bargain working may not always have been apparent but, as Hunt points out, in reality the style of the bargains gradually changed so as to make the men wage earners.<sup>27</sup> It could be argued that the nineteenth century lead miner no longer sold the produce of his labour, only his time.

It was not just the economic pressures generated by the Industrial Revolution that made it necessary to maximise output by a tighter control of production. A further change of great significance was that mine ownership moved from the landowner and merchant to the joint stock company; investment by the public demanded the early prospect of reward.

The old, casual, work attitudes were no longer acceptable. Some substitute had to be found for the discipline of the factory, so the specification of the bargains and the time keeping of the men, tightened in the second half of the eighteenth century, were tightened further. There are no references to the men working 8 hour instead of 6 hour shifts at Leadhills and [6] Wanlockhead, as was done elsewhere at the time. But there was a demand for increased output and in the 1830s the overseers were being exhorted to visit all the works frequently and at night as well as during the day, to ensure the men were working at their bargains.<sup>28</sup> Fines were the accepted method by which discipline could be enforced and the rules drawn up by the Leadhills Company in 1864 declared that any man working

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a bargain who did not start at the time appointed, or who left before his time expired, would be fined 2/6, about a days earnings.<sup>29</sup> But it was an old problem that lingered on. In 1906 a report on the mines observed laconically, 'few of the men work full time'.<sup>30</sup>

Pollard sees mining as one of the earliest industries to develop a management structure.<sup>31</sup> But at Leadhills and Wanlockhead the looseness of the bargain system seems to have allowed an ebb and flow of domination between the men and the overseers. This is particularly evident in the bargains for working ore. At one time these produced separate bargains for the labouring, moving ore and wastes. Getting the miners to do their own labouring became a preoccupation of the management. But if one overseer secured some advantage, another lost ground.

Another effect of bargain working was that labour costs could not be easily forecast. If attempts to reduce production costs did not have the desired effect, then there had to be further cut backs. Unfortunately, the bargain books for the early years of the nineteenth century are missing from the Scots Mines Company's records and the effects of a dispute over water rights with the other operator, The Leadhills Company, colours the later scene. The resulting cut back in the operations demanded economies but, although the management were described as "tyrannical", the bargain books show complaints about low rates were sometimes successful.<sup>32</sup> Discontent was certainly rife and the entire workforce of the Scots Mines Company came out on strike in 1836.<sup>33</sup> Dissatisfaction at Wanlockhead did not lead to an all-out strike but a partnership who disputed a bargain in 1845 were refused any other and, since this meant they no longer had work in the mines, they recorded how they "had to leave (their) homes for no reason but for pleading for a fair living".<sup>34</sup> The situation seems not unusual in metal mining, for disagreements over hard bargain rates led to miners being locked out in the Tamar Valley in 1866.<sup>35</sup> On the other hand, the cuts in rates that followed too generous a bargain at Talargoch in 1856 led to a celebrated strike there.<sup>36</sup>

### **Bargain Records at Leadhills and Wanlockhead**

Lead mining as a progressive industry began at Leadhills c1638 under the direction of Sir John Hopetoun and at Wanlockhead, the Duke of Queensbury let ground in 1675.<sup>37</sup> The Leadhills Library has a collection of the Bargain Books and Mine Journals of the Scots Mines Company from 1745 to 1852. Many reflect the managerial style of James Stirling, a remarkable Scotsman who was a mathematician of European reputation before he accepted the appointment to Leadhills in 1734. He was then 43 years of age and he had had no experience in mining. But if not a miner he was undoubtedly a manager and by imposing the orderliness he found in mathematics upon the disorder he found at Leadhills, he made the mines there the best run in the country.<sup>38</sup> The records show his insistence on detailed instructions for each bargain and to ensure these instructions were followed, the overseers had to visit the various workplaces regularly and record their visits.

Two records were kept. A day book, called the Journal and a Bargain Book. The Journals were a diary of each day's activities. The overseer recorded the time he attended the morning "rendezvous", where the miners gathered before going underground, the mines and other workplaces he visited during the day; the bargains set, or finished and assessed, and the ore smelted. As was the custom of the time, most of the overseers wrote a fine copperplate hand and even after two centuries most of the entries are easily read. As the name indicates, the Bargain Books were a record of the bargains set and the monies they earned. Each bargain defined the place in some way, listed the men in the group and each was signed for by one of them, presumably the leading hand, by the overseer and by one of the mine clerks. There is an index at the end of each book.

Each generation of overseers tended to follow the style of entries used by those before and the half century to 1800 saw little change.

The Scots Mines Company were not, of course, the only operators at Leadhills, so the overall picture may be distorted by theirs' being the only records extant.

The records of the Wanlockhead mines are incomplete. No Bargain Books remain and the Day Books only cover some of the years 1755 to 1811. Copies of these are on microfilm in the Wanlockhead Museum Archive.

There are records of bargains being worked at Wanlockhead by 1683, probably by English miners.<sup>39</sup> But 50 years later the Leadhills books show that both Scots and English, the Camerons and MacLachans as well as the Whit fields and Roans, were working bargains underground.

### **Examples of bargains made at the mines**

#### **Dead Work**

The payments for driving levels and cross-cuts were per fathom mined, fathomtale. Such mining was often referred to as 'tutwork', and expressions derived from the German word *totd* meaning dead or fruitless.

Leadhills, 31st Oct. 1745. Agreed with James Allardyce and Partners, to drive 5 fathoms to the West in the Vein, Susannah ground, at forty shillings per fathom.

Leadhills. 18th February, 1786. To Thomas Whitfield and seven more to drive six fathoms to the south in the Forehead of Gripes level at Seven pounds and Six shillings per fathom.

The rock in this forehead was reported in the Journals as being very hard and these six fathoms took six weeks to drive.

Gripes level was the great drainage level through the Leadhills mines and it was still being driven fifty years later.



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3rd January, 1838. To Robert Whitfield and Seven Partners to drive five fathoms of Gripps level at Browns vein at the rate of five pounds and ten shillings per fathom.

It is likely that Robert was a descendant of the Thomas Whitfield who was working in the level in 1768.

The rate for starting from the surface was usually low for the rock was likely to be fractured and spoil could be easily removed.

15th September, 1766. To James Thomson and three more to begin at the surface near Stouts Shaft and drive ten fathoms of an Inset towards Corbiehall Vein at ten shillings per fathom.

Work by the partnership continued until the 11th December when their final bargain was rated at 14/- per fathom. When this was completed, they were moved to a distant mine, Rispenleuch and on the 2nd January, 1767, another partnership was put into the New level, as it was called, and work continued at a higher rate of 25/- per fathom.

About the same time work began in the Mennockhass Crosscut at Wanlockhead. This was driven under the watershed to bring water from the mennock streams to drive the mine pumps.

1st October, 1763. To David Cock and Partners, Eight pickmen, to begin the Mennockhass Crosscut at the [7] Company's High Miln at £1 per fathom ... the rock being hard.

The rock in the crosscut proved very hard indeed and the price rose to £11 per fathom. Crosscuts tended to attract high rates since the ground was not relieved by mineralisation or faulting. One of the highest noted in the early period is another from the Wanlockhead books.

1st September, 1800. Agreed with James Hastie and Partners to drive five fathoms of the Whytes Cleuch Low Crosscut, or to the 30th November, and to pack their work in the Engine Shaft at £13 per fathom.

Sinking a shaft in hard and wet ground presented even greater difficulties and could earn the highest rates.

Wanlockhead. June 1759.

Six pickmen have been set to sink the High Engine Shaft having agreed to ten fathoms at fifteen pounds per fathom ... The shaft consists of a hard blue stone and goes but slowly.

## Getting Ore

When driving a level in the vein there was the chance of finding ore. Should this happen, the miners were paid at a flat rate of 5 shillings per bing: 72 stone in the Amsterdam measure used at the mines equivalent to about 90 stone Avoirdupois.<sup>41</sup>

4th January, 1768. To Thomas Hislop and three more to drive three fathoms to the North in the forehead of the Low Level in the Rispenleuch vein at four pounds per fathom and Five shillings per bing of ore.

Once into the vein, the miners would take out the ore. However, in the early period they would not be paid for the quantity of ore they mined but for the lead this eventually produced. Lead that was sold to provide the money for the men's infrequent pay days.

12th March, 1774. To John Robinson and three more to drive three fathoms in the 8th Middling of Susannah Vein ... at Five Pounds and Ten Shillings per ton of Smelted Lead. They to pay for the dressing and the Company to pay for the smelting.

13th March, 1786. To Robert Hastie and seven more to raise ore by driving three fathoms from Mills Sump under level in Susannah Vein ... at three pounds per ton of smelted lead.

Often ore would be obtained from the spoil left from earlier operations.

11th January, 1768. To Robert Pears on and Five more to raise and dress ore from the old works in Laverlockhall till the 1st April... at five pounds ten shillings per ton of smelted lead. They to pay the Smelters wages and the Company to furnish fuel. They are to damnify no principal Drifts or Waygates.

These bargains demonstrate the complexity of the system, not just in the relationship between the Company and the partnership but between them and the others involved. There is little reference to the way these payments were shared but there is a reference to a miner not paying the others involved. In July, 1745, a miner called Wilson was accused of not paying his labourers. At first he was refused further bargains until the matter had been resolved but eventually the man's "indifferent" attitudes led to his being discharged.<sup>42</sup>

Adventuring might be used for "wildcat" development, or as a way of working over old ground.

September, 1st 1836. Agreed with Hugh Newbigging and partners to raise ore by adventuring on an old drift in Glencipp ground, Susannah Vein, and to make it fit for washing at £10 per ton of smelted lead till the 31st December. All to the satisfaction of the Overseers.

Their efforts were not successful and on the 22nd November it was recorded:-

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Both Overseers have examined the ground and found the men have made a fair trial, and as there is no prospect of doing any good by prosecuting it, the bargain is allowed to be given up.

There is no record of any payment being made. Reference has been made to bargains for moving ore and rubbish. The following indicate the way these altered.

16th July, 1782. Agreed with John Wilson, cobbler, and partners to run the rubbish from Ewarts bargain in Humby Vein to the Bank at £3 per fathom, and 3 pence per bing of ore.

1st March, 1841. Agreed with Wm. Gibson and seven partners ... to raise ore ... at £5 10s per ton of smelted lead to the 31st March ... They to labour the work to the Bank and to assist in filling the carts. Also Wm Gibson to be ready to assist at any time in smelting ...

### **Ore Dressing**

Bargains for dressing the ore prior to smelting could apply to particular operations, or could be given to a washing master.

4th March, 1740. Agreed with John Thomson Jnr and partners to dress the wastes in Glengonnar Burn from the road to the north end of the peat stack at £4 10s per ton of smelted lead.

26th August, 1743. Agreed with Wm Otto till the 1st January next to wash all the company's ore at £4 per ton smelted lead.

Otto was the washing master during the 1740s and entries in the Leadhills Diary shows that he employed 17 washers: 6 boys and 11 men.

### **Smelting**

The dressed ore was smelted to produce the lead bars which were the saleable produce from the mines. Unlike the mining operation, smelting was a relatively straightforward production process and the smelters were paid per ton of lead smelted. Since skilled smelters were few in number, it is arguable if they really worked bargains at all. However, the Scots Mines Company had at least two master smelters available to them in 1836 and one of these, William Gibson, was working as a miner at that time.

As will be seen from the bargains below, a crop consisting of different grades commanded different prices, or a single rate would apply to some particular portion.

13th February, 1768. To Thomas Hamilton and one more to smelt the Company's Blue Ore at Five Shillings and Six pence per ton, and the First Wastes at Six shillings per ton, and the Slime Pit wastes at Seven shillings per ton of smelted lead. They are to carefully attend to the smelting themselves and are to make

good lead, and skim the bars so as to leave no slag nor dross therein. The bars not to contain under eight stone, nor over eight stone and six pounds weight, and both parties are at liberty to end this bargain when they please.

7th July 1791. Agreed with William Moffat and John Hamilton to smelt part of the Company's Ore and Wastes at Five Shillings per Ton of Smelted Lead.

The latter bargain was still running in 1798 and tonnage was being measured every three months.

The article demonstrates the complexity of the bargain system as applied in the lead mines, but leaves many questions unanswered. The volume of bargain record in various collections could allow that sort of statistical analyses that would provide hard data of the way bargains varied within a mining ground, and the way the whole tenor of the system altered over the period of industrialisation. Even aided by a suitable computer programme it would be a considerable task but some such approach is needed to provide a real understanding of the miner's bargain.

## ACKNOWLEDGEMENTS

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