In the twentieth century the coal industry became synonymous with strong unions and robust industrial relations. The event in that large and strategic industry had a profound effect on the rest of the economy and historians have researched and written about them in intimate detail.¹ By comparison, the story of the related metal mining sector has been largely ignored. There are probably many reasons for this, including the relative tranquillity of labour relations in metal mining, the comparatively untroubled shrinkage and adjustment of that sector to a free international market for its products, and the failure of miners there to develop, or join, rich and powerful unions that might have promoted and financed research into their own history. However, limited understanding of the evolution of labour relations in metals also blinkers our understanding of those in coal. Both sectors shared a common technology, organisational techniques, capital base, management and labour force,² and comparative analysis of their differing paths of development might be expected to provide a deeper appreciation of the various forces that shaped them. This could eventually be conducted along the lines set out by Church and Outram³ in their recent comparative international study of coal. To facilitate this, it might be appropriate here initially to review the research agenda for metals as it has been set out in a highly diverse literature, and to suggest some other potentially significant lines of inquiry. General comparisons with contemporary experience in the coal industry will be made as appropriate.

The discussion will be divided into four sections. Firstly, a review of established observations on the development of organised labour in metal mining. To note the proposed close similarities between the different sections and regions of the non-ferrous industry, but their sharp departure from experience in coal and iron. Secondly, a critical examination of the reliability of those observations. Did actual practice support these general conclusions? Thirdly, a review of the established explanations of the observed patterns of worker behaviour. Why was the record of organised labour different in coal and metal mines? Fourthly, an investigation of whether the established explanations are entirely adequate or whether other forces might also be at work. In particular, whether there might have been important difference in the ‘social capital’ of the various communities that might place established ‘micro’ explanations in a wider ‘macro’ context. Throughout this discussion, practice in iron mining must, unfortunately, remain shadowy. To the extent that much iron ore was raised from the coal measure, many of its workers joined in common arrangements there. However, practice in the increasingly important, and locationally separate, ironstone sector remains an untold story.

The numerous detailed studies of the development of trade unionism among coal miners suggest that informal collective bargaining had already become common in that industry by the beginning of the nineteenth century and that in many areas there was an increasing willingness of groups to combine together on a widening local basis to influence wage negotiations. From the late 1850s to the early 1870s coal prices gradually increased creating a favourable background for successful organisation and
a number of durable local and county organisations were established. Progress was suspended during the difficult conditions of the late 1870s and 1880s but resumed positively thereafter. As B.R. Mitchell concluded, 'By 1900, trade union organisations were firmly established in all of the main coalfields and in many of the smaller ones, and they had at least a presence everywhere.' In that year there were over 420,000 union members, a figure which had doubled by 1913, when unions accounted for more than three-quarters of the industry's work force. By contrast, the Webbs, writing in 1894, concluded that, 'among the tin, lead, and copper and miners trade unionism is, as far as we can ascertain, absolutely unknown.' On a more local level, while Colls’ volume on the social history of the miners in the north eastern coalfield provides accounts of numerous strikes the development of large and well-organised unions, Hunt’s study of the neighbouring Pennine districts concludes that, ‘no trade unions ever existed in the lead mining region - only temporary combinations, geographically limited, to gain specific ends.’ In their otherwise detailed accounts of lead mining and mining communities in the northern Pennines, Raistrick and Jennings entirely ignored what they clearly saw as a non-issue.

Neither was the phenomenon confined to the north of England. In his study of Welsh mining, Lewis concluded that, by comparison with the coal and iron industries, ‘lead mining has been singularly free from major disputes’ while Barton observed that in the copper and tin mines of south west England, ‘Strikes and other forms of industrial unrest were uncommon in Cornwall.’

These patterns of behaviour appear to have been sustained when metal miners migrated to overseas districts, even where strong local unionisation was taking place. Rowe noticed, for example, that, ‘In California as in the Old Country, the (Cornish) Cousin Jack, as a rule, was not a good union man’ and that they had brought with them, ‘to the mining camps of the Rocky Mountains and Pacific Coast the highly independent individualism which had hampered the effective development of unionism in Cornwall.’ A small number of miners argued for greater working class solidarity, but for most, ‘Their conception of co-operative action … did not go much further than the fraternal organisation of mutual benefit and aid societies’ Todd also noticed that the Cornish were not ‘union minded’, suggesting that they separated themselves from, rather than combine with, other mining labour in order to maximise the returns for their superior skill and experience. Randall, writing about a British mining venture in Mexico in the second quarter of the nineteenth century, emphasised that the company’s difficulties with its British labour derived more from their independence and ill-discipline than any form of collective bargaining or well-organised strikes.

Metal miners’ lack of interest in collective bargaining appears to have been matched by a reluctance to engage in radical political/revolutionary activity. Hunt wrote that among the Pennine miners, ‘There was no Luddism, nor machine breaking and no connection with political issues’ … ‘the movement for Parliamentary reform caused no disturbance in the lead dales; there was no hint of Chartism among the miners.’ Similarly, Rowe noticed that Chartism made ‘but a slight impression’ in Cornwall, and it is notable that during those turbulent years the Cornish were introduced as strike breakers in some of the northern coal fields. Lewis, writing about Welsh lead miners, thought that the evidence showed them to be, ‘intelligent and sober, spending what little leisure they had in political, religious and philosophical study and discussion, and in male voice singing.’ Smout, writing about Scottish miners,
observed that they had a reputation for turbulence in the seventeenth century but ‘by
the late eighteenth century their reputation was improving, and by the nineteenth
century all middle class observers were unanimous in their opinion of the intelligence
and sobriety of the men at Leadhills and Wanlockhead.’ Most recently, Mills has
shown that nowhere in the country did metal miners join in the late nineteenth century
campaign to improve their own conditions of health and safety, such improvements as
did take place being effectively foisted upon them by pre-established Coal Mines
Inspectorate.

Is this view of the sturdy independence and quiescence of metal miners justified? Yes -
but with important reservations. A careful reading of the literature certainly fails to
reveal the emergence of permanent organised union activity before the end of the
nineteenth century. But there were many strikes - in all areas - and their number
increased rapidly during the last half of the nineteenth century. Further, the profile of
the development of industrial action, and its causation, was similar to that seen in the
coal industry over the period – it was simply at a lower level. During the eighteenth
and early nineteenth centuries, metal miners, like coal miners, commonly vented their
anger at periodic reductions in their living standards by joining riots and other
‘tumults’ against rising food prices or non-payment of wages. Examples of such
events - described by Hobsbawm as ‘collective bargaining by riot’ - are found for all
areas throughout the eighteenth century but they became more frequent during the
price inflation of the wars years at the end of the century. In the mid-1790s, for
example, Cornish miners terrorised local corn dealers into price reductions, and lead
miners in north east Wales helped forcibly to prevent the export of corn in order to
sustain local supplies. In the northern Pennines a long period of relative tranquillity
was shattered by a riot of several hundred lead miners on Alston Moor 1797 against
food shortages and rising prices. With the return to normality after the war, riotous
behaviour declined and in Wales and the north of England it became rare. Only in
Cornwall was there some semblance of a radical tradition that occasionally expressed
itself in tumultuous gatherings. The last considerable riot with miner participation in
that county took place in 1847, but thereafter increasingly secure food supplies from
abroad largely eradicated the problem.

One probable cause of the decreasing incidence of riots in the early nineteenth
century was the increasing frequency of the withdrawal of labour as a means of
addressing work grievances. As in many other industrial trades across Britain, these
events usually were motivated by ‘reactive/defensive’ concerns - defending
established work practices/income levels - rather than ‘pro-active/offensive’ attempts
to secure better conditions. Thus although few in absolute number, strikes became
more common in all areas as non-ferrous metal mining encountered increasing
overseas competition and difficulties as the century progressed. Table 1 provides
some indication of that process by pulling together scattered references to industrial
action across the industry that has been gleaned from the occasional references in the
existing literature. It is almost certainly incomplete as a record of all of the strikes that
took place during the period but it probably includes most of the significant events
and represents the general trend of development. It clearly shows that in every district,
the miners were perfectly capable of banding together when they thought that their
interests were seriously threatened - and that they often did so with considerable
success.

Table 1
### Chronology of British Metal Mining Strikes

<table>
<thead>
<tr>
<th>Date</th>
<th>Place</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700</td>
<td>Esgairhir</td>
<td>Working practices</td>
</tr>
<tr>
<td>1704</td>
<td>Mine Adventurers, Cardiganshire</td>
<td>Bargain prices</td>
</tr>
<tr>
<td>1760s</td>
<td>Hillcarr Sough, Derbyshire</td>
<td>Sunday working</td>
</tr>
<tr>
<td>1770</td>
<td>Millclose, Derbyshire</td>
<td>Not known</td>
</tr>
<tr>
<td>1795</td>
<td>London Lead Co., North Pennines</td>
<td>Not known</td>
</tr>
<tr>
<td>1795/6</td>
<td>Beaumont mines, North Pennines</td>
<td>Higher bargain prices/subsist and subsidised food</td>
</tr>
<tr>
<td>1816/7</td>
<td>London Lead Co., North Pennines</td>
<td>Reduced wages</td>
</tr>
<tr>
<td>1818</td>
<td>Beaumont mines, North Pennines</td>
<td>Restoration of bargain prices/subsist</td>
</tr>
<tr>
<td>1822</td>
<td>Halkyn mine, Flintshire</td>
<td>Working practices</td>
</tr>
<tr>
<td>1826</td>
<td>Mold mines, Flintshire</td>
<td>Length of shift and working practices</td>
</tr>
<tr>
<td>1833</td>
<td>Berehaven, Ireland</td>
<td>Bargain prices</td>
</tr>
<tr>
<td>1835</td>
<td>Berehaven, Ireland</td>
<td>Bargain prices</td>
</tr>
<tr>
<td>1836</td>
<td>Leadhills, Lanarkshire</td>
<td>Not known</td>
</tr>
<tr>
<td>1841</td>
<td>Lane End and Keldside, Yorkshire</td>
<td>Payment of wages</td>
</tr>
<tr>
<td>1849</td>
<td>Beaumont mines, North Pennines</td>
<td>Working practices/hours</td>
</tr>
<tr>
<td>1850</td>
<td>Halky and Talargoch, Flintshire</td>
<td>Length of shifts</td>
</tr>
<tr>
<td>1852</td>
<td>Talargoch, Flintshire</td>
<td>Length of shifts &amp; working practices</td>
</tr>
<tr>
<td>1853</td>
<td>Boswedden, Cornwall</td>
<td>Victimisation and bargain</td>
</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Event/Change</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>1856</td>
<td>Talargoch, <em>Flintshire</em></td>
<td>Length of shifts</td>
</tr>
<tr>
<td>1856-7</td>
<td>Balleswidden, <em>Cornwall</em></td>
<td>Introduction of gas lighting</td>
</tr>
<tr>
<td>1859</td>
<td>Balleswidden, <em>Cornwall</em></td>
<td>Reduced bargain prices</td>
</tr>
<tr>
<td>1863</td>
<td>Snailbeach, Shropshire</td>
<td>Not known</td>
</tr>
<tr>
<td>1864</td>
<td>Berehaven, <em>Ireland</em></td>
<td>Length of shifts</td>
</tr>
<tr>
<td>1865</td>
<td>Coalpithole, Peak Forest, <em>Derbyshire</em></td>
<td>Length of shifts</td>
</tr>
<tr>
<td>1866</td>
<td>Caradon, Gunnislake and West Devonmines, <em>Devonshire</em></td>
<td>Working practices</td>
</tr>
<tr>
<td>1868</td>
<td>Berehaven, <em>Ireland</em></td>
<td>Bargain prices</td>
</tr>
<tr>
<td>1870-1</td>
<td>Arkengarthdale mines, <em>Yorkshire</em></td>
<td>Length of shift and working practices</td>
</tr>
<tr>
<td>1871</td>
<td>Dolcoath, <em>Cornwall</em></td>
<td>Higher wages</td>
</tr>
<tr>
<td>1872</td>
<td>Teesdale</td>
<td>Higher wages</td>
</tr>
<tr>
<td>1872</td>
<td>Various mine across <em>Cornwall</em></td>
<td>Wages, bargain rates, hours, five week month</td>
</tr>
<tr>
<td>1872</td>
<td>London Lead Co., <em>North Pennines</em></td>
<td>Subsist payments</td>
</tr>
<tr>
<td>1873</td>
<td>Rhandirmwyn, <em>Carmarthenshire</em></td>
<td>Bargain prices</td>
</tr>
<tr>
<td>1873</td>
<td>Tincroft, <em>Cornwall</em></td>
<td>Reduced surface wages</td>
</tr>
<tr>
<td>1874</td>
<td>Wheal Basset, <em>Cornwall</em></td>
<td>Reduced wages</td>
</tr>
<tr>
<td>1880</td>
<td>Dolcoath, Cook’s Kitchen, Tincroft and Carn Brea, <em>Cornwall</em></td>
<td>Higher wages</td>
</tr>
<tr>
<td>1882</td>
<td>Weardale, <em>North Pennines</em></td>
<td>Subsist payments</td>
</tr>
<tr>
<td>1891</td>
<td>Levant, <em>Cornwall</em></td>
<td>Safety concerns</td>
</tr>
<tr>
<td>1893</td>
<td>West Basset and South Frances, <em>Cornwall</em></td>
<td>Victimisation</td>
</tr>
</tbody>
</table>

Throughout the period, the principal motivations for organisation – through riot and strikes – was the desire to defend, rather than to improve, a notional domestic and workplace status quo, including levels of income, rights, privileges and freedoms. This was by no means unusual. As Rule concluded in his wide ranging review of early industrial strife, ‘The struggle between labour and capital often took the form of conflict between capitalist attempts at subordination, and labour’s cherished independence.’28 Thus during the inflation of the Napoleonic war years miners demanded higher wages and subsidised food to sustain customary levels of real wages and following the post-war depression, they fought for the restoration of bargain prices and subsistence advances to previously normal levels (for example, Beaumont mines in 1818). During the 1820s and 1830s miners in Wales, Ireland and Scotland struck against changes in working conditions and depressed bargain prices while around the mid-century, many in Wales and the north Pennines successfully struggled to resist a lengthening of shifts and the greater regularisation of work.29 During the comparatively prosperous 1850s, there were withdrawals of labour at several major west Cornwall mines as miners endeavoured to reassert their position with their employers and recover lost ground in wages and earnings. The 1860s and 1870s saw the beginnings of increasingly severe depression in all sections of the industry and the number and incidence of strikes rose as miners again fought to sustain earnings and minimise the effects of cost reducing innovations in the organisation of their contracts.30 These changes, and resulting resistance, were usually encountered first, and with the most force, in the larger mining operations, into which the surviving industry was increasingly concentrated.31 Continuing falls in the market price of metals produced no respite from these problems and the last decades of the century saw numerous strikes as miners struggled to sustain incomes and living standards. As yet no attempts were made by metal miners to organise their own formal and continuing trade union structures, but some did look for membership of other established unions in related industrial fields. Roughly half of the miners at Leadhills, for example, joined the local coalminers’ Lanarkshire Union of Mineworkers during the 1890s, to be led into a disastrous strike by that union in 1898. Later, in the early years of the new century, many of those same men, together with lead miners around Stanhope in the northern Pennines, joined the Union of Gas Workers and General Labourers, and met with real success in industrial action at the end of that decade.32 But such activity remained unusual. Only with their return from the First World War, the radicalisation from mixing with other more militant groups, and sharply declining opportunities for lucrative migration, was there a sustained upsurge of interest in regular unionisation - and by that time the era of large-scale non-ferrous mining in Britain had gone for ever.

Taking stock of the progress of industrial relations over the period as a whole, a clearly new direction began to emerge during the third quarter of the nineteenth century. Like their compatriots in the coal industry, non-ferrous miners began increasingly to display group consciousness and band together in widening geographical groups to make common cause.33 However, unlike the coalminers, they were operating within a smaller, less strategic industry, gripped by almost unremitting depression. While the shoots of collective bargaining in coal mining encountered periods of prosperity in which they could be fostered, take root and deliver demonstrable returns, those in metal mining encountered harsh arid conditions where sustained benefits appeared never to be possible. Perhaps the differing record of success of unionisation in the two industries, particularly after the 1860s, derives not
so much from between the different labouring groups as the industrial conditions within which they operated.

Whatever the truth of such observations, however, there is little argument that prior to the second half of the nineteenth century, non-ferrous metal miners were indeed a fiercely independent lot - radical but largely unpolicised; steadfast in an attachment to increasingly out-dated working practices. They preferred emigration to amalgamation, and the chance to reinvent their traditional domestic structures made bearable the privations of even the most primitive frontier districts. These characteristics have been commented on by historians of metal mining in all parts of the United Kingdom, and they have all been explained in similar terms. That explanation rests on an analysis of the effects of the system of employment used in mines - a system that was held in place by the availability of land and access to other means of production in the largely remote mining districts - and a system which held the miners in a pre-proletarianised stage of development.\(^{34}\) As Hunt observed, under that system, the miners were not wage labourers but sub-contractors, ‘selling not their labour, but its proceeds’.\(^{35}\) More specifically, L.L. Price saw the miner as ‘in a sense his own employer’.\(^{36}\) He concluded that, ‘the comparative absence of strife is due, not to the elimination of the capitalist, but to the practical disappearance of the employer’.\(^{37}\) So compelling has this explanation become that it has been adopted not just for metal mining communities in Britain, but for many of those transplanted to foreign mining fields. Thus Rowe, noticing the independence, conservatism and lack of involvement of Cornish miners in the activities of trade unions in Montana in the late nineteenth century, claimed that it was their imported traditional employment system which ‘had made them averse to collective bargaining practices’.\(^{38}\)

The details of the employment system have been explored elsewhere.\(^{39}\) It may be sufficient to note here that the miners worked together in small partnerships – often based on the family unit – and they effectively sub-contracted to work specified areas of the mine, for long periods, at negotiated but fixed sums, supplying all of their own tools, explosives, wood supports etc. Two different types of contracts were negotiated depending on the nature of the work. ‘Tut’ contracts were agreed for development work, such as the sinking of shafts and the driving of levels, in which the miners received payment for the volume of ground extracted, while ‘tribute’ contracts arranged for the extraction of the ore. Under the tribute contract, miner partnerships received payment not for the quantity of ore produced, but rather a share of its market value. Thus while all miners contributed to the ventures’ working capital and shared in the risks of changing difficulties of mining operations, the tributers were also full partners with the mine and mineral owners in sharing in changes in the market prices of the ore produced. The length of the various contracts changed over time, from as much as six months or a year at the beginning of the eighteenth century to three months by the early nineteenth century and a month by the end of that century. In the contracting process, the miners pit their wits against management in negotiating a price for the pitch that they were working that would produce a ‘fair’ return over the whole period. If the ground ‘turned bad’ however – because it became harder to work or delivered less ore for their labour – they would suffer the misadventure along with their employers, while if it improved, they would also share in the additional profits, sometimes amounting to bonanza rewards. Most partnerships never saw spectacular results, but some did, and their good fortune kept others committed to the ‘lottery’.
The origins of the employment system were found in the ‘proto-industrial’ world of the sixteenth and seventeenth centuries – an era before large-scale high cost, deep mining technology, when mines were usually shallow and worked by small groups of miners on their own account. They leased or were granted areas of mineralised ground from land/mineral owners or held it under local customary law, such as the Derbyshire Barmote system and the Devon and Cornwall Stannaries, and they paid the owners a royalty of a share of the total output. In many/most cases mining was practised alongside small-scale independent farming activity as a means of raising a cash income to supplement family subsistence or pay the rent on leased farm land. As the need to pursue mineral deposits to ever greater depths increased, and the essential means of unwatering them became more effective but more expensive, the miners increasingly looked for additional, outside sources of finance, taking on merchants, small landowners, and mineral owners as partners. Those groups soon took the leading and dominant role in the industry but the miners steadfastly clung to their earlier independence.

Several factors facilitated metal miners in indulging their conservatism. Firstly, the new mining financiers were happy to share costs and risks in an industry that was notoriously unpredictable – far more so than coal mining, where the deposits were more regular and easily proved. Secondly, it made sense for them to ensure the productivity of their labour force through a system that tied rewards to skill and output rather than seek close supervisory management in dark labyrinthine underground workings. Thirdly, for most of the eighteenth and nineteenth centuries, the hand tools needed for driving and extracting ore were cheap and simple and easily within the capacity of the miners to provide themselves. Fourthly, workers that provided some of their own subsistence were likely to accept lower wages. Fifthly, the low level of population density in the remote upland of the Pennines, central Wales and Scottish lowland meant that there continued to be much available land for miner smallholding activities - and little competition for it from commercial farming. Only in Cornwall, with the intensive development of mining in the west of the county and a rapid expansion of population, was there major pressure on farm land. However, this was alleviated for much of the eighteenth century and early nineteenth centuries by the opportunities to many from inshore fishing.

From the miners’ point of view, the traditional employment system meant freedom from direct managerial control, the opportunity to use their skills in working rock and following lodes to maximise their returns and share in possible bonanza profits, and the latitude to keep their working hours relatively short, so that they could tend their smallholdings and enjoy a degree of leisure. But perhaps the greatest support for the maintenance of the traditional system of employment was the comfortable conditions in which the industry operated for most of the early nineteenth century. Urbanisation and industrial expansion at home and abroad created rapidly increasing demand for all metals while established competitors struggled to expand output, and still high cost transportation systems afforded effective protection to many markets. The decades around the mid-century in particular saw a ‘flood tide of prosperity’. While workers in the coal industry used such conditions to explore the opportunities for increased wages through collective bargain, metal miners were able to indulge their traditional freedoms - to move rather than fight when they became frustrated with local conditions, to reinforce the old rather than explore the new. Similarly, mines owners...
could afford to tolerate increasingly outmoded working practices and had no pressing need to confront a recalcitrant labour force.

The significance of the forces that sustained the traditional system through to the mid-nineteenth century is best illustrated by the effects of their weakening thereafter. Firstly, the context within which the industry operated changed, suddenly and permanently, as new rich mines in frontier districts across the world came on-line and improving land and ocean transport delivered a flood of new, low cost supplies to the market place. Mine owners were forced to respond and a number of other changes - principally technological - helped them to do so. Increasing pressure to minimise costs made them more reluctant to give subcontracting workers the opportunity to share in periodic bonanza profits. The productivity revolution offered by the introduction of mechanical drills was well beyond the financial resources of miner partnerships and could only be achieved by high levels of fixed capital investment. To take full advantage of that investment, the mine owners needed more carefully planned, directed and regular working. The traditional freedoms and opportunities of tributing were increasingly substituted by closely regulated tut contracts. Shifts were increased from six to eight hours, ‘Saint Monday’ was attacked and the five week month introduced. At the same time as the employers mounted their assault on the old system, many of the external forces supporting it also began to weaken. Opportunities for additional earnings from by-employment in agriculture and fishing diminishing with increasing population while widening industrialisation everywhere created employment outside of the industry for those that wanted to leave. These changes affected all areas of the country but their impact was most acute in west Cornwall. There the mines were deeper, higher cost, and worked with a larger capital investment than in most other regions, and there the agricultural supports for the traditional system were the most overstretched. They were also the first to feel the full force of rising international competition as copper prices declined sharply from the 1860s. Problems were exacerbated by spikes in coal prices during the period which drove up pumping costs, the second largest item next to labour charges in most mine accounts. The employers’ initial response to these vice-like market forces was simply to hold down wages, but by the early 1870s they also needed to start squeezing higher levels of labour productivity by changing working practices. Miners were to be more closely managed, work longer and more regularly. It produced an inevitable response. Whereas in 1866 the Mining Journal could record that, ‘a strike among the metalliferous miners of Cornwall and Devon is an occurrence to which we are …. entirely unaccustomed’, the years 1871-3 saw a series of industrial actions take place across the region. Most of these were random and unconnected responses from workers at separate mines but by 1874 there was even talk of a more permanent union being established in the county.

In the lead districts of Wales and the Pennines the effects of foreign competition were later and slower to take real effect, and with alternative employment nearby, workers tended to drift away from the industry without making organised attempts to defend their jobs. As Table 1 shows, there were a few random strikes, but nothing approaching the increasing level of friction in Cornwall. However, the lead miners were not without the same sensitivities as the Cornish when it came to attempts to limit their independence and change traditional terms and conditions of employment. They also took action to resist changes in the balance of employment from tribute to tut contracts and were particularly exercised by attempts to lengthen shifts to eight
hours. Most of these innovations were introduced into central and north Wales and the Pennines by Cornish mine captains, who increasingly came to dominate the national industry during the period. Thus lead miners in the Holywell district of north east Wales struck and rioted against Cornish managers’ attempts to lengthen the working shift in 1850 and two years later those at the nearby large Talargoch mine took similar action. Again, in 1856, Talargoch miners were out for four months in opposition to a sliding scale of wages that would limit extra returns to tributers from any beneficial turn in the ground they were working. All of this at a time when coal miners in neighbouring districts were customarily working twelve hour shifts, sixty hour weeks, and their best hope was a move back to eight hours. In the Pennines, traditional arrangements were, if anything, even slacker. At the mid-century, miners there were still accustomed to working virtually as and when they wanted, and attempts to introduce strictly enforced eight hour shifts and five day working resulted in a long and bitter strike at the extensive Allendale workings in 1849. The nature of that strike is particularly illustrative of the traditional attitudes still prevalent in the industry, with the miners refusing to enter into new bargains rather than directly withdrawing their labour. To the south, in Derbyshire, struggles over the eight hour shift could still provoke a strike at Coalpithole lead mine in 1865. As in Cornwall, however, such action had little long-term effect as the industry and its miners encountered increasingly hard times. The miners hit back with a few strikes - as in Teesdale in the 1872 and Weardale in the 1880s - but they could neither defend their old freedoms nor their long-term standard of living. Many turned instead to their own smallholdings, small mines, or left for neighbouring industry, and the industry modernised and downsized without major industrial conflict.

At several points in the above discussion, notice has been made of similarities with, rather than differences from, coal mining communities. This apparent contradiction of the opening assumptions of this discussion is explicable in terms of the wide variations in the pattern of evolution within the coal sector. At the beginning of the nineteenth century most coal mining districts were also still dominated by relatively small and shallow mines, employed largely independent groups of miners providing their own tools and receiving payment according to their productivity. They often still had access to land to provide an alternative source of subsistence and could move about freely. During that period industrial relations in the sector were also relatively calm. But as the century progressed many coal areas saw a rapid increase in the depths and intensity of mining. The numbers of miners increased rapidly and old traditions were undermined, management became more directive, communities became more dependent on paid labour and work and social relationships began to be transformed. Such changes, however, were not experienced everywhere. Some of the older ‘free miner’ coal communities evolved more slowly and their experience exhibited a greater resemblance to that of the metal mining areas than other parts of their own industry. Thus in their analysis of the reasons for the slow growth of coal unions in Scotland, Campbell and Reid rehearse many of the issues raised here in terms of the independent miners’ resistance to proletarianisation, while Fisher’s look at the free miners of the Forest of Dean finds many of the quiescent characteristics of metal mining communities. As will be seen later, these parallels enable the literature on strikes and unionisation among coal miners to be used to help elucidate the analysis of the behaviour of metal mining communities.
While the discussion of the employment systems, their changes over time, and alternative sources of income are clearly necessary to any explanation of the strike record in metal mining, it is unlikely that it is entirely sufficient just in itself. Numerous other factors were undoubtedly also at work in ensuring the long ‘quietism’ of the labour force. For example, social relationships in the ancient tin and lead districts were more gradated and blurred than in the new manufacturing and coal villages, frustrating the polarisation of groups and attitudes and maintaining numerous conduits and networks for the resolution of disputes before they assumed critical proportions. Perhaps it was not until the second half of the nineteenth century that metal miners fully developed the attitudes and traditions of truly proletarianised wage-earners employed by capitalists. Even then they usually continued to work for single mine companies, in a workforce of generally less than three or four hundred, compared with the large multi-pit coal companies with their several thousand employees. Underground management had a relatively light touch and, as Rule has observed, there was no class of employers comparable to the mill-owners of the North West, but rather a division of the entrepreneurial/capitalist function between mine speculators and mineral owners. The latter conducted their new function of capitalist employer alongside their traditional, pre-industrial role of landowner and lessor of miners’ smallholdings and independent (part-time) mine workings. Thus Williams has referred to the ‘strings of patronage and deference’ that bound together Welsh landowners and lead miners; Hunt has acknowledged the ‘grimly paternal discipline’ that transcended simple employer/employee relationships in the Northern Pennines and Harvey has written of the remnants of a feudal relationship in Leadhills where miners looked to landowners for basic levels of maintenance and protection. As Rule concluded for Cornwall, such relationships were ‘more subtle and complex than the cash nexus, in which charity and ceremony were important components.’ Resulting from, and contributing to, this relationship was a permeability of the boundaries between labour and ownership/management, initially sustained by the independence of the tributer partnerships and later the apprenticeship system of training and appointing managers from among the ranks of working miners. This preserved a self-perception among metal miners of being part of an aristocracy of labour. As such, their attitudes and aspirations were more moderate and ‘respectable’ than those of other parts emergent industrial proletariat and more closely associated with those of the lower middle class.

Alongside and reinforcing these attitudes, was the influence of Methodism, which was increasingly strong in the metal mining districts of the South West, Wales and the northern Pennines from the late eighteenth century. Payton has observed, for example, that, ‘trade union activists were also often officials in the Methodist chapels, class leaders and local preachers. They were better educated, articulate, experienced in the organisation and leadership of men.’ Like trade unionists, Methodists shared a, ‘common emphasis on fellowship, on mutual support and improvement, on solidarity.’ More than that, it has been suggested that there were divisions within Methodism which encouraged / discouraged differing levels of radicalism in mining communities. Rule has argued, for example, that the Wesleyan form of that movement, which remained dominant in Cornwall, was a particularly conservative influence, compared with the Primitive persuasion that broke away in 1812 and became the more popular form in many of the northern industrial cities. Unlike the radical, revivalist and democratic Primitives, the Wesleyans positively opposed and discouraged radicalism and promoted passive acceptance of earthly suffering in the
knowledge of final heavenly salvation. It could even be argued that it helped bolster support for the tribute contract system of employment, as the occasional exceptionally high or low earning could be seen as the work of Providence, rewarding or testing faith.60

The dominance and importance of Wesleyanism has also been observed in the lead districts of Nidderdale in Yorkshire. Jennings has calculated that in that dale as a whole, ‘no more than a third of the churchgoers were Anglican, over three fifths were Methodist, nearly three quarters of these in turn being Wesleyan, and the other groups, although an important element in the life of some townships, were numerically insignificant.’61 He also suggests that the material success enjoyed by many of the Wesleyan Methodists - consequent on the strict rectitude of their abstemious life styles - meant that they counted many prosperous and class-mobile members among their number, bridging class boundaries and engendering middle class attitudes.62 The picture was not the same everywhere however. Hunt has shown that in the northern Pennines, Methodism marginalised Anglicanism during the early nineteenth century but that the Primitives were far more effective in their evangelism in some districts than the Wesleyans. Thus by the 1851 religious census, Wesleyans were still the dominant group in Weardale but they had become outnumbered in Alston and Teesdale. While Hunt sees no evidence of increased social tension as a result of these developments, it is notable that the bitter strike at Allenheads in 1849 was led by members of the Primitive Methodists and their chapel was used as its rallying place.63 More pointedly, the two great unions which led the miners of the northern coalfield from the 1820s, and engaged in a number of major strikes, were dominated by Primitive Methodists.64 Down to the early twentieth century, several of the leaders of the Northumberland Miners Union, such as George Campbell and John Cairns, honed their oratorical skills, as well as their guiding philosophy, as lay preachers within the Primitive church.65 Nevertheless, Methodism in all of its forms continued to be regarded as a generally benevolent force by the mining employers and they were generally content to be even handed in their encouragement of church and chapel attendance.

Finally, notice might also be taken of the role of leisure pursuits, sports and pastimes, popular beliefs and attitudes and other related aspects of local culture in shaping - and being shaped by - workplace behaviour patterns. These influences have been given particular prominence in recent work by social historians of the coal industry,66 with some arguing, for example, that the strong Celtic bonds of Scottish and Welsh miners help explain their especially high propensity to strike.67 Such issues have not been much explored for metal mining communities outside of the South West, but experience there suggests that similar Celtic bonds produced a very different, but nevertheless very, significant effect. Thus the Cornish Studies series edited by Payton has published wide ranging material on evolving Cornish identity and culture,68 while Rule looked in some detail at the inter-relationship between Methodism, changing working conditions and popular beliefs and attitudes in Cornwall.69 It certainly seems fairly clear that metal mining communities everywhere in Britain had a relatively high level of social homogeneity and this had important effects on their industrial behaviour. Unlike the new ‘coal villages’ that assembled workers quickly from a wide variety of different occupational and geographical backgrounds, most metal mining communities had been established for centuries, saw relatively few incomers from outside of the region,70 and had deep filial inter-relationships. This presents some
challenging questions for historians of the coal industry. They have traditionally explained the comparative strength and weakness of British and German union development in the late nineteenth century in terms of the relative homogeneity of their labouring groups - the British seeing strong growth because their mining communities were socially homogeneous, while the Germans understood weakness in the context of the racial, cultural, religious and political divisions in the labour force. Similarly, much attention has been given to explaining the growth of British strong coal mining trade unions in terms of their isolation from other workers. In the metal mining industry even greater isolation has been given as a cause of slow unionisation. Comparison of the two mining sectors clearly suggests that there were other important factors also at work.

Some indication of what these other factors might be was hinted at in the Majority Report of the Royal Commission on Labour in 1891-4, namely that the numerous strikes in the mining industry occurred because of the absence or inadequacy of institutions for the discussion and negotiation of points of potential conflict and the effective separation of workers and their employers. Is it possible that metal mining communities had better conduits for the diffusion of conflict and the achievement of consensus than their counterparts in the coal industry? To investigate this issue, attention might be turned to the role of friendly and benevolent societies and other similar institutions in laying the foundations of effective civil society in the mining districts. These institutions had nurtured nascent trade unionism during the politically hostile years of the Anti-Combination Acts at the beginning of the nineteenth century and, nationally, were largely responsible for the organisational context out of which the union movement grew after 1825. Like organised religion, they commonly provided a local ‘training ground’ in democratic systems, leadership and financial control, as well as parallel conduits for discourse, consensus building, the bridging of class divisions, and engendering pro-business attitudes. More than occasional religious observance, they gave the opportunity for regular group interaction and dialogue. Writing of the role of such institutions in American industrial districts, Scranton concluded that frequent face-to-face dealings, ‘contributed to the construction of reciprocity and high-trust relations that made oral commitments binding and crafted a basis for private rather than litigated dispute settlement.’ Clear evidence of the importance of Scranton’s localised ‘webs of affiliation’ can be seen in Jones’s study of the role of the Manchester Unity of Oddfellows in Glamorgan, D’Cruze and Turnbull’s research on the membership and activities of that same organisation in Preston, and Gorsky’s study of friendly societies in Bristol. More specifically, their significance within mining communities has been signalled by Willies in his reference to the role Oddfellows, Buffalo and Forester lodges in the developing unrest in the Derbyshire Peak lead mining district during the First World War. The most significant work, however, was undertaken by Campbell in his investigation of Masonic and quasi-Masonic organisations among Scottish Free Colliers and coal mining community of Newtongrange. As he demonstrates, such institutions could produce a form of ‘dual unionism’, which had the capacity both to support, as well as frustrate, effective industrial relations. Unfortunately, Campbell did not pursue his investigation into the detail of the lodge membership this direction of research has been largely ignored in regional histories of English and Welsh coal mining. But might it have been significant in explaining the low level of formal trade union activity in metal mining communities? To investigate this issue, a limited study has been undertaken of the role that fraternal and/or
benevolent association might have played in the functioning of a sample of Cornish
mining communities during the second half of the nineteenth century.

Gosden has shown that the membership of such organisations was high in Cornwall
during the nineteenth century - at least equal to that of the other industrial counties of
England and significantly above the national average. Gosden has shown that the membership of such organisations was high in Cornwall during the nineteenth century - at least equal to that of the other industrial counties of England and significantly above the national average. Certainly by the mid-1890s the Oddfellows had nearly 4,000 Cornish members and the Ancient Order of Foresters, with thirty seven operative ‘courts’ and lower contribution rates, probably more. Unfortunately, it so far has not been possible to access the membership records these organisations, but detailed returns have been found for local lodges of freemasons under the United Grand Lodge of England. Although more exclusive and smaller that the two main benevolent societies, this fraternity had nearly 2,000 members in the county by the end of the century distributed between nearly thirty active lodges, most of which were established after the 1840. Relative to the size of its population, it was one of the most enthusiastically ‘Masonic’ provinces in the country.

There is no space here for a full exploration of the philosophical and operational characteristics of Freemasonry, but attention may be drawn to three principal ways in which it may have facilitated employer/employee relationships. Firstly it created physical opportunities to bring people together. Lodge meetings usually took place monthly, when formal ritual proceedings within the lodge itself were followed by an informal dinner and relaxed social interchange. Secondly, emerging from the intellectual aspirations of the Enlightenment, the philosophy of Freemasonry stressed the need to bridge established social, class and religious divisions, embrace science and technology and work within the market context. Indeed, the very ritual of Freemasonry is constructed around the disastrous consequences of the breakdown of harmonious worker/management relations. Thirdly, the oaths and obligations undertaken in the process of initiation into Freemasonry established the basis of very strong trust relationships between members. In principle at least, being ‘on the square’ created the potential for a highly effective forum for the resolution of workplace disputes and the evolution and maintenance of consensus. In more theoretical terms, Freemasonry was satisfying the criteria for the generation of ‘social capital’ by exercising both ‘closure’ and ‘multiplex relationships’ - closure in the sense that membership was selective and by invitation only, and multiplex, in that the networks created could be used for a wide range of different purposes, not just industrial relations. However, for truly multiplex working, particularly in the area of industrial relations, Freemasonry needed to be widely socially and occupationally diverse. Popular opinion commonly assumes that it was not - that masons were an exclusive middle class group. Was this the case? Analysis of membership returns for a sample of Cornish lodges operating in the principal mining districts suggest a variety of experience.

In some of the richer port towns, such as Truro and Hayle, there was a very clear preponderance of social classes I and II, but in the smaller, more specifically mining communities, such as Chacewater and St. Day, the social and occupational mix embraced all classes and occupations, roughly proportional to their role in the local economy. Even in the larger, regional mining centres, such as Camborne and Redruth, working miners were well represented alongside mine management within the lodges. Thus Table 2 shows the total number of lodge members in the principal occupational
groups for Boscawen Lodge, Chacewater (established 1857); Tregullow Lodge, St. Day (established 1865); Mount Edgcumbe Lodge, Camborne (established 1875); and Druid’s Lodge of Love and Liberty, Redruth (established 1851), between their foundation and 1901. For most of the period the active membership of the lodges in any given year was around forty, but this sometimes fluctuated significantly.

Table 2

Numbers in the Principal Occupations of Boscawen, Tregullow, Mount Edgcumbe and Druid’s Lodges to 1901

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Boscawen</th>
<th>Tregullow</th>
<th>Mt.Edgcumbe</th>
<th>Druids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miners</td>
<td>122</td>
<td>86</td>
<td>26</td>
<td>43</td>
</tr>
<tr>
<td>Mining Agents and Engineers</td>
<td>47</td>
<td>25</td>
<td>49</td>
<td>40</td>
</tr>
<tr>
<td>Engineers (Unspecified)</td>
<td>20</td>
<td>14</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Assayers and Chemists</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Carpenters and Smiths</td>
<td>14</td>
<td>20</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Builders</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Merchants</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Accountants</td>
<td>11</td>
<td>14</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Drapers and Grocers</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>Hotel and</td>
<td>15</td>
<td>11</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>
The exact status of the ‘miner’ group is unclear, but it seems to have covered a fairly wide spectrum. For example, of the miners that became members of Boscawen lodge, ninety one gave their occupation on initiation as simple ‘miner’, while twenty five declared that they were ‘gold miners’ and seven said they were ‘retired miners’. The average age of ‘miners’ on initiation was 29.9 years for the period 1857-1901 (twenty one years was the minimum permissible), rising between the 1870s and 1890s from twenty seven years to thirty two years. This was around the mid-point of the miners’ working lives and, given the costs of membership (around one pound per annum plus entertainment expenses) suggests that they were probably members/leaders of successful tribute partnerships. The ‘gold miners’ were slightly younger, with an average age of around twenty seven years over the period. Given that there was no gold in Cornwall, they were almost certainly reasonably well-off returned migrants, keen to re-establish their status in their home community, improve their networking potential at home or back overseas, and perhaps seeking preferment in obtaining local employment. Together they would have had a good view of the job market, locally and in its wider context, and able be able to appreciate the significance of short- and long-term changes.

On the evidence of the early records of Boscawen, Tregullow and Druid’s lodges, recruitment of miners of any description was slow before the sharp downturn in copper mining in the 1860s, with less than a dozen being initiated before the end of that decade. However, thereafter it exploded, with more than 100 being initiated across all four lodges during the sharp contraction in the industry during the 1870s. Recruitment then fell off to just over forty during the equally difficult 1880s but picked up again to over 100 during the 1890s. These fluctuations may have reflected increasing levels of job insecurity in the local industry but they also appears to have been connected with a desire to obtain Masonic membership as an aid to emigration. In the correspondence of every lodge there are frequent letters to Grand Lodge requesting the speedy dispatch of essential membership documentation because newly initiated brothers were ‘going abroad’, or leaving the country within days. This was particularly common in the 1890s, following the discovery of rich new goldfields in South Africa. There is no direct proof, but clear circumstantial evidence, therefore,
that many miners - young and old - were looking to Freemasonry as a means of gaining, or securing, employment opportunities. This was particularly important since migration - particularly emigration - was a major factor in keeping the supply of labour relatively scarce in all mining districts, even during years of rapid decline, and enabling the remaining miners to sustain and even improve their wage levels. In 1890, Peter Watson, a major shareholder in large mines in the South West, Wales, the Midlands and Scotland, testified to a Royal Commission that wages had so far not fallen in the lead mining industry. At one mine he knew of, Minera in Denbighshire, they had even been forced to increase them by up to forty percent. This was, ‘simply because a great many of the miners have gone to foreign parts, and if we did not increase the wages the other people would have gone to, and we should have been without miners.’

What was true for the miners was equally applicable to many of the other occupational groups that probably found most of their employment opportunities in and around the mines - the carpenters and smith, assayers and chemists, builders and accountants. It is less clear, however, for the mine agents, managers and engineers. There is little evidence that the larger mineral owners and mine promoters were members of these lodges and therefore no direct route to advancement. Nevertheless, with over 160 senior and middle managers active in these lodges alone - and with visiting arrangements to other lodges with wider and possibly better connected members - there were ample opportunities for learning of new developments in the industry, sounding the opinions of others, and, for the more junior people, finding better positions. Even more than experienced miners, mine engineers and managers had valuable skills to sell in other mining districts and with contracting opportunities in Cornwall, Masonic membership could facilitate movement. This was as true at home as it was abroad. Thus the founders of Aberystwyth lodge in the mid 1860s, serving the lead mining districts of central Wales, included a number of itinerant Cornish mining engineers, at least two of whom had returned to Britain from previous occupation in America. In that lodge they were also able to become acquainted with the Earl of Lisburn and Sir Pryse Pryse, two of the largest mineral owners and mining speculators of the area and principal employers of professional expertise.

Freemasonry may have had a part to play in local community and industrial relations, but how important was that role? Unfortunately it is not possible to produce clear quantitative estimates of the percentage of all miners that were involved in masonry but it was undoubtedly small. Total mining employment across Cornwall as a whole declined from over 30,000 at the mid-century to less and 10,000 by its end, but the numbers of mason/miners could never have amounted to more than a few hundred at any one time. With around 2,000 masons in the county in 1900 it is unlikely that more than a few hundred were working miners, though it is possible that in some communities they may have accounted for more than 1 in 20 of the male population over 20 years of age. The representation of mine management would certainly have been considerably higher but again very far from all embracing. Nevertheless the lodges might have played a strategic role in some communities. The Minute Books of Boscawen lodge in the small community of Chacewater, for example, reveal it to have had a highly mining focused membership between its foundation in 1857 and 1900. With more than 120 miners and over 60 mine managers and engineers it is likely that it could have played an influential role in the functioning of the local industry, particularly during the difficult years of contraction at the end of the century.
Similarly, when mining employment around St. Day suddenly contracted sharply in the late 1880s and early 1890s, the strong representation of miners and other mining related professions in the local Tregullow lodge increased its standing and influence within the surviving community. What does this all mean? Certainly masonic lodges were not acting as a direct substitute for more regular union organisation in the Cornish mining district. The numbers of miners involved was small compared the totals employed in the area – a few hundred against many thousands. They may also have been an exceptional and unrepresentative elite. However, there appears to be little doubt that lodges and their social gathering provided an unusual level playing field for miners and managers to maintain a discourse that would serve to inform, alert, and possibly help to resolve, workplace problems before they reached uncontrollable proportions. Together with their links through religion and other fraternal and benefit societies, they had the capacity to act as highly effective conduits for a continuing dialogue between all parts of the community – a form of social capital that may not have been so available in many of the more recent and hastily constructed coal mining communities. While those structures may have played an invaluable part in sustaining the ‘quietude’ of the Cornish metal mining communities during the relative prosperity of the early and middle decades of the century they proved increasingly ineffective in dealing with the severe strains caused by the need rapidly to modernise the techniques and organisation of the industry after the 1870s. Masonic membership may then have come to be seen more as a route to personal salvation from a sinking ship than as a vehicle for maintaining and progressing broad communal cohesion.

The real test of the significance of the Cornish Masonic experience for mining communities in other parts of the country is to be found through comparative analysis. Did metal mining communities in other parts of the country also see the emergence of lodges that embraced both management and labour in significant numbers? Were the Masonic lodges in coal districts more occupationally and socially divisive? The results of preliminary research are confusing. Analysis of the membership records of three lodges in Wakefield and one in Barnsley suggests that, in these rapidly growing coal mining districts, freemasonry was solidly middle class. The lodges included numerous coal owners, colliery agents and managers, mining engineers and surveyors – in 1880 they made up 20 percent of the membership of Friendly lodge in Barnsley but not a single ordinary miner. The rest of their number was made up by numerous professional, small manufacturers and retailers, embracing most aspects of the local economy, but very few who might be classified as working class. Unlike Cornwall, there were no opportunities for a regular dialogue between labour and management in the mining sector. When it is also noticed that Wakefield and south Yorkshire emerged around the mid-century as the ‘spearhead’ of the coal miners’ trade union movement, and that in the 1890s it experienced more strikes than any other English region, it is tempting to see this as clear evidence for proposition that masonry could play a key role in diffusing industrial conflict. However, the experience in the important central Wales lead mining district, appears to undo the linkage. Aberystwyth lodge, Aberystwyth and Mawddach lodge, Barmouth were the only two operating in the area for most of the period and both had an almost unrelieved middle- and upper-class membership. Like the south Yorkshire coal lodges, mine managers and engineers made up around 20 percent of their membership in the late 1870s but
there were no ordinary miners and no opportunities for a sustained dialogue between management and labour. Indeed, also like Yorkshire, the Welsh lodges offered better opportunities for the emergence of mine owner-manager collaboration than establishing consensus with workers. Nevertheless, regular trade unions failed to develop and industrial relations remained exceptionally uneventful. The cautious conclusion must be, therefore, that further and more wide-ranging research needs to be conducted, not just into masonry but the whole range of societies and institutions that helped build and shape local communities.

This article has focused on the changing character of industrial relations in the non-ferrous mining industry and made loose comparisons with parallel developments in the coal industry. Its principal conclusion is that there was not the great gulf between the two mining sectors that has commonly been proposed. The causes and chronology of the development of strikes were similar in both sectors - only the outcomes, in terms of the development of powerful and permanent trade unions were significantly different. To a large degree this may simply have resulted from the differing conditions in which the two industries operated - coalminers perceiving themselves to have great potential power in a large, strategic and expanding industry, while metal miners accepted that they worked in a small, marginal and shrinking sector, where occupational or geographical mobility offered the only real long-term prospect of defending their living standards. The are, however, also a number of more specific observations relating to the non-ferrous sector itself: the relevance of the experience of that sector for our understanding of the development of unions in the coal industry: and the potential of a new research agenda focusing on the role of fraternal and benevolent societies in constraining the radicalisation of mining communities in both sectors.

Firstly, the non-ferrous mining sector itself. The course of industrial relations in the non-ferrous sector over the eighteenth and nineteenth centuries as a whole followed a very similar pattern in all regions - there was no Cornish exceptionalism as is sometimes assumed. In all areas there was relatively tranquillity through to the mid-nineteenth century as a traditional system of employment sustained a perception - increasingly a delusion - among miners that they were an independent aristocracy of self-employed fellow adventurers in mining operations, with a high level of freedom to organise their working lives alongside other agrarian pursuits. Their mining earnings were usually not exceptionally high but we might say that they regarded themselves as proto-industrial workers rather than firmly established members of the emergent industrial proletariat. This situation started to change significantly after the mid-nineteenth century, when the industry suffered a sharp and sustained contraction as a result of rapidly increasing foreign competition and falling metal prices. The employers’ response was to turn to new technology and a re-organisation of work practices to reduce costs – in effect to challenge the traditional employment system. The miners’ struggle to defend their old independence, rights and privileges, resulted in an increasing number of strikes in most but not all areas. The problems were most keenly felt, and the defensive battle most hard fought, in those districts where population pressure had limited access to the land and where the regional economy offered the least opportunities for alternative employment. During the last quarter of the century the incidence and frequency of strikes in some of the most hard-pressed area, such as Cornwall, began to approach that of some coal mining districts. Unusually, increasing strike activity was not accompanied by the growth of large and
permanent unions – every strike was organised by its own local committee and largely dissolved with the end of that particular dispute. It was not until the early twentieth century that they began to be unionised and then by joining organisations that had originally evolved outside of the industry. The Webbs were correct in their observation of the absence of trade unions in the metal mining districts, but historians have been wrong in their supposition that this also meant an absence of radical industrial action in those areas. Indeed, although the periodic outbreaks of strike action were less seismic in their proportions, the tin, copper and lead miners’ story stands some comparison with the evolution of industrial action among the comparable independent collier communities in south west Scotland.

Secondly, the record of evolving industrial relations in the non-ferrous sector provides another perspective on the explanations sometimes advanced for the early emergence of radical unions in the coal sector. While the size of operations and the labour force clearly was significant in the location of strike activity in non-ferrous mining, geographical isolation most certainly was not. Indeed, most regional studies have taken the opposite view, seeing isolation from other industrial and mining districts as one of the principal explanations for the slow diffusion of trade union organisation to non-ferrous metal mines. Similarly, the effects of the introduction of new technology, mechanisation, de-skilling and attempts by management to change established workplace practices and customs appear to have been the major causes of strike action in both sectors, but the highly homogeneous British non-ferrous mining labour force followed a path of unionisation closer to that of the racially and religiously heterogeneous German miners than its own coal mining communities. Just as analysis of the developments in the coal industry can be better informed by looking at those in non-ferrous mining, so too can the social history of metal mining communities be illuminated by the coal mining experience. Thus regional variations in rising strike activity might be better understood by reference to differences in the levels of community paternalism shown by different metal mining companies as well as the effects of the inter-play of market forces for different sectors of the industry. Future investigation might focus, for example, on the relative level and significance of the paternalistic traditions of the London Lead Company in the northern Pennines\(^6\) compared to the role of the Cornish mineral owners, as well as the degree and speed of changes in lead and tin prices during the last years of the nineteenth century. Perhaps attention might also be given to potentially highly significant issue of differences in workplace conditions between the two forms of mining - comparing metal miners, deploying semi-skills in drilling and explosives, working upright in relatively small and highly dispersed groups, with colliers, working in relatively large groups, often on their knees, and using little more than muscle to pick and shift dauntingly large tonnages of material.

The third and most cautious conclusion of the study relates to the potential importance of the role of fraternal and benevolent societies in shaping community development in all sectors of the mining and quarrying industry. It has been argued that they may have formed an important part of the social capital of mining communities of all descriptions – being particularly strong in the older metal mining and free collier districts than the more recently formed coalmining communities – and that they could have provided a useful conduit for a regular dialogue between workers, managers and possibly owners. They were not a substitute for trade unions but might have reduced and delayed the need for them. Limited but compelling evidence of this was found it
the membership and activities of Freemasons’ lodges in a small number of Cornish mining communities. This may have been an aberration, rarely paralleled in other mining districts, but it suggests a future research agenda looking, not just at Masonry, but other tight knit groups with socially diverse membership and a system of active local lodges.

4 Church and Outram, Strikes, p. 39.
6 Mitchell, Economic Development, p. 188.
14 Rowe, Hard-Rock Men, p. 245.
16 R. Randall, Real Del Monte: A British Mining Venture in Mexico, Austin, University of Texas Press, 1972, pp. 126-7.
17 Hunt, Lead Miners, p. 135.
19 Lewis, Wales p. 286.
23 Rowe, Cornwall, p. 104.
24 Lewis, Wales, p. 277.
Rowe discusses the role of miners in ‘swing riots’ in the county in the 1830s (Cornwall, p. 246) and refers (Hard Rock, p. 11) to the last major food riot in the county in 1847.


Barton, Tin Mining, p. 148. The only recorded strike at the large Snailbeach lead mine in Shropshire occurred during this period, and the Berehaven mines in County Cork and the Arkengarthdale mines in Yorkshire saw a particularly long and bitter disputes during this period. See Kinnaird Commission, British Parliamentary Papers, 1864, 7, p. 519; Williams, Berehaven, pp. 151-8; L. Tyson, The Arkengarthdale Mines, British Mining, 53, 1995, p. 53.


As Hobsbawm concluded, ‘The miners were - and have largely remained - villagers’, Industry and Empire p. 35. Metal miners’ villages, particularly in west Wales and the northern Pennines, were smaller and more remote than most.

Hunt, Lead Miners, p. 136.

Price was an academic historian commenting on a system that was still operating when he wrote in 1891. See N. Harte (ed.), The Study of Economic History, London, Cass, 1971, p. xxvi.


Rowe, Hard Rock, p. 245.


See Jenkin, ‘Uses and Abuses’, p. 11.

Coal prices doubled between 1870 and 1873: Church, *Coal Industry*, p. 54.


For example, the employment statistics given in Burt, Waite and Burnley, *Cornish Mines*, compared to Church and Outram, *Strikes*, p. 20.


67 See Church and Outram, *Strikes*, pp. 56, 260.


70 There was often much short distance migration within metal mining districts but little between or into them, other than by management and engineers. R. Burt, *The British Lead Mining Industry*, Redruth, Dyllansow Truran, 1984, pp. 193-200.

71 Church and Outram, *Strikes*, pp. 246-7.


73 In 1833 Thomas Sopwith wrote of the Pennine lead districts still being ‘separated from the rest of the world’, in *An Account of the Mining District of Alston Moor, Weardale and Teesdale*, Alnwick, W. Davison, 1833, p.117, and in 1859 George Henwood described the ‘complete isolation of the inhabitants’ of Cornwall, in R. Burt (ed.), *Cornwall’s Mines and Miners*, Truro, Barton, 1973, p. 231.


81 See, for example, Baylis, *Yorkshire* and R. Challiner, *The Lancashire and Cheshire Miners*, Newcastle-upon-Tyne, Frank Graham, 1972.
85 The Freemason 23 September 1899, p. 465, reporting a meeting of the Provincial Grand Lodge of Cornwall.
86 See John Lane, Masonic Records 1717-1894, London, Freemasons’ Hall, 1895. Together with Devon and Somerset, there were around 100 lodges established in the South West during the eighteenth and nineteenth centuries, which compared with around 90 in Yorkshire and 140 in Lancashire. Together with London and the South East, these were probably the leading centres of English Freemasonry.
91 Second Report of the Royal Commission Appointed to Inquire into the Subject of Mining Royalties, 1891 British Parliamentary Papers 1890-1, 41, p. 44.
92 See Boscowen Lodge Minute Books 1857-1990, Cornwall County Record Office, AD 1576.
93 See Rose of Sharron Royal Arch Chapter returns and correspondence, Grand Lodge library.
95 See Church, Coal industry, pp. 675, 681.