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**Ironmasters and Steelmen: Authority
and Independence in Lanarkshire's
Iron and Steel Industries, 1870-1900.**



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Abstract

This thesis analyses the nature of labour relations, particularly the exertion and extent of authority, within Lanarkshire's iron and steel industries from 1870 to 1900.

Various issues are addressed: firstly, managerial hegemony and worker autonomy are investigated in each industry. Although significant variations occurred, employers' recurrent ascendancy within the pig iron industry contrasted with labour's extensive influence over work processes in the malleable iron and steel industries. Labour's greater independence in the malleable ironworks and steelworks correlates to higher skill levels in comparison with pig ironworkers, reflected by more substantial wages and more influential trade unions. These factors also produced a more equitable and consensual relationship with capital, which was unable to exhibit the level of authoritarianism wielded by pig ironmasters. The level of collectivisation amongst capital and labour is also illustrated. Examination of production processes reveals extensive labour sectionalism in each industry, which influenced the relationship between different groups or sub-categories of worker and affected the development of trade unionism. Similarly, the continuation of individualistic attitudes amongst employers was a pronounced feature that curtailed the effectiveness of employer organisations. This thesis reinforces the arguments of historians who stress the continued influence of skilled, independent sections of labour and capital's difficulty in exercising significant levels of control. Alternatively, doubt is cast on hypothesis promulgating the homogenisation of labour during the late 19th century. Indeed, little evidence of the collectivisation of either capital or labour is apparent, whilst individualism and heterogeneity characterised Lanarkshire's iron and steel industries during this period.

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Abbreviations

AI&SWGB – Associated Iron and Steel Workers of Great Britain.

ASMS – Associated Steel Millmen of Scotland.

ASS&IW – Amalgamated Society of Steel and Iron Workers.

BSSAA – British Steel Smelters’ Amalgamated Association.

GIC – Glasgow Iron Company.

GI&S Co. – Glasgow Iron and Steel Company.

ILP – Independent Labour Party.

ISTC – Iron and Steel Trades Confederation.

LCMU – Lanarkshire County Miners’ Union.

NABF – National Association of Blast-Furnacemen.

NAI – National Amalgamated Ironworkers.

NFLA – National Free Labour Association.

NUISW – National Union of Iron and Steel Workers.

SCS – Steel Company of Scotland.

SIA – Scottish [pig] Ironmasters’ Association.

SMITCAB – Scottish Manufactured Iron Trade Conciliation and Arbitration Board.

SMITA – Scottish Manufactured Iron Trade Association.

SMSTCAB – Scottish Manufacturing Steel Trade Conciliation and Arbitration Board.

SPMA – Steel Plate Makers' Association.

SSMA – Scottish Steel Manufacturers' Association.

SSIMA – Siemens Steel Ingot Makers' Association.

SSPMA – Scottish Steel Plate Makers' Association.

WB&Co. – William Baird and Company.

WSSA – West of Scotland Steelmasters' Association.

Introduction.

The exertion of authority and the struggle for independence are central features of human history. Although the distribution of power varies in every society, inequalities are particularly acute under capitalism. Marx states the essence of the capitalist labour process is control of the labourer and appropriation of the labourer's produce.¹ Further, Weber argues, 'the great majority of all economic organisations...reveal a structure of dominancy'.² Employers' ability to impose hegemony and labour's capacity to maintain autonomy has provoked virulent historiographical debate since the 1960s. Melling identifies the central issue of labour history as, 'the degree of control which employers and workmen could exercise over the capitalist labour process.'³ Moorhouse concludes, 'capitalist society is a system of hierarchical inequality'.⁴ The study of labour history is quintessential to consideration of Lanarkshire from 1870-1900. The manufacture of iron and steel was the catalyst that transformed Lanarkshire from a rural backwater to among the most industrialised areas in Victorian Britain. Indeed, Lanarkshire was central to the Scottish economy and became a microcosm of industrialisation in Lowland Scotland. The furnaces eagerly consumed Lanarkshire's mineral wealth, stimulating a vast expansion in mining from the 1830s and producing numerous surrogate industries, including mechanical and structural engineering, brick-making and tool manufacture. Lanarkshire's ironworks and steelworks supplied the

¹ Karl Marx, *Capital*, Vol.1, (London, 1972), p.378.

² Max Weber, *Economy and Society*, Vol.3, (New York, 1968), p.942.

³ Joseph Melling, 'Non-commissioned Officers: British Employers and their Supervisory Workers, 1880-1920', in *Social History*, 5 (1980), p.188.

⁴ HF Moorhouse, 'History, Sociology and the Quiescence of the British Working-class: a Reply to Reid', *Social History Review*, 4 (1979), p.482.

Clydeside shipyards' raw materials, thus providing the essential link between the coalfield and the sea. Consequently, Lanarkshire was affected by industrialisation to an unparalleled degree and remains a fertile area to study historical hypotheses regarding the power relationship between capital and labour. Before a detailed analysis of the topic occurs, it is important to consider the wider historiographical debate in order to place the social, industrial and economic experience of Lanarkshire more firmly within the national context.

Marxist interpretations focus upon class formation and experience resulting from developments in the labour process. Hobsbawm notes the rise in labour militancy in the early 1870s and argues the period of the Great Depression, from 1873-1896, witnessed the 'radicalisation' of the labour movement, particularly during the 1880s and 1890s.⁵ Competitive pressures from c1880 encouraged the intensification of work, downward wage pressure, greater mechanisation and increased supervision of labour.⁶ Kirk states, 'the issue of power and control...assumed added...importance in a period of worsening market conditions...employers in this period...intensified their attempts aggressively and unilaterally to exert control over workplace matters'.⁷ This encouraged the creation of polarised class identities and radicalised labour, reflected by the growth of a mass labour movement, the expansion of trade unions and the emergence of the Labour Party, as well as the development of socialism by 1900.

Marxism provides an enduring interpretation. Foster and Price, who focus on labour struggles in particular industries or localities, refined EP Thompson's 'class conflict'

⁵ EJ Hobsbawm, *Labouring Men*, (London, 1964), pp.317-318, 329.

⁶ Richard Price, *Labour in British Society*, (London, 1986), p.96.

⁷ Neville Kirk, *Change, Continuity and Class: Labour in British Society 1850-1920*, (Manchester,

model of society in the 1970s and 1980s.⁸ Knox and Kirk adapted Braverman's de-skilling thesis in the 1990s, and perceive the development of an increasingly homogenised working-class from 1880.⁹ In 1994, Savage and Miles sought to, 'defend a sophisticated approach to class analysis', whilst in 2000, MacRaild and Martin stated, 'there remain strong arguments for maintaining a Marxist presentation of class as an important aspect of the history of labour'.¹⁰

However, such interpretations can be challenged on several points. Firstly, the level of conflict between capital and labour is contentious. Revisionist arguments reject the class conflict approach. Joyce places greater emphasis on paternalism, accommodation and deference as characterising employers' relationship with workers. Joyce claims employers established an implicit 'social contract' with employees, under which developed a personal relationship of altruism and benevolence in return for loyalty and labour.¹¹ Gospel states, 'paternalism provided an ideological dimension to the employment relationship, based on notions of protection, reciprocal obligations and harmony.'¹² However, from 1880-1900 Joyce and McIvor observe the usurpation of individual contract bargaining between

1998), p.170.

⁸ Richard Price, *Masters, Unions and Men: Work Control in Building and the Rise of Labour, 1830-1914*, (Cambridge, 1980). John Foster, *Class Struggle and the Industrial Revolution - Early Industrial Capitalism in three English towns*, (London, 1974).

⁹ William Knox, *Industrial Nation: Work, Culture and Society in Scotland, 1800-Present*, (Edinburgh, 1999), p.129. Kirk, *Change*, pp.150-151, 156.

¹⁰ Mike Savage and Andrew Miles, *The Remaking of the British Working Class, 1840-1890*, (London, 1994), p.ix. Donald MacRaild and David Martin, *Labour in British Society 1830-1914*, (Basingstoke, 2000), pp.15-17.

¹¹ Patrick Joyce, *Work, Society and Politics: the Culture of the Factory in later Victorian England*, (London, 1980).

¹² HF. Gospel, *Markets, Firms and the Management of Labour in Modern Britain*, (Cambridge, 1992), p.25.

employer and worker by a collectivist, institutionalised phase of industrial relations.¹³

Similarly, Christiansen and Philips observe increased bureaucracy as industries matured, which curtailed personal relationships between employers and workers.¹⁴

Britain's ironworks and steelworks are categorised as exemplifying co-operative industrial relations. Burnham and Hoskins conclude from 1870-1930, 'labour relations throughout the period were on the whole good.'¹⁵ Docherty maintains steelworkers' unions were, 'industrially moderate', and accommodating towards capital.¹⁶ Fraser states unions generally adopted moderate policies and increasingly advocated negotiation and conciliation rather than strike action, as part of a policy intended to achieve acceptance and support from the middle-classes.¹⁷ Employers also came to appreciate the benefits of discipline, restraint and collective bargaining that arose from recognition of trade unions.¹⁸ Alternatively, Foster, Melling, McKinlay, McIvor and Morris regard the west of Scotland as a particularly militant region, where industrial relations were especially acute. Indeed, 'Clydeside employers were more draconian and anti-union than their southern counterparts'.¹⁹ Further, Renfrew states Lanarkshire contained the, 'most draconian of all employers' organisations'.²⁰ However, Johnston challenged this view in 2000, maintaining the

¹³ Joyce, *Work*, pp.336-340. See also Arthur McIvor, *Organised Capital - Employers' Associations and Industrial Relations in Northern England, 1880-1939*, (Cambridge, 1996), pp.16-17.

¹⁴ Jens Christiansen and Peter Philips, 'The Transition from Outwork to Factory Production in the Boot and Shoe Industry, 1830-1880', in SM Jacoby and M Sanford (eds.), *Masters to Managers*, (New York, 1991), p.18.

¹⁵ TH Burnham and GO Hoskins, *Iron and Steel in Britain 1870-1930*, (London, 1943), p.245.

¹⁶ Charles Docherty, *Steel and Steelworkers-the Sons of Vulcan*, (London, 1983), pp.23-24.

¹⁷ Hamish Fraser, *Trade Unions and Society - the Struggle for Acceptance, 1850-1880*, (London, 1974), pp.58-60.

¹⁸ *Ibid*, pp.101-103.

¹⁹ Arthur McIvor, *A History of Work in Britain, 1880-1950*, (Basingstoke, 2001), p.209.

²⁰ Sandy Renfrew, 'Militant Miners? Strike Activity and Industrial Relations in West Scotland', in

authoritarianism of Clydeside employers, including Lanarkshire's iron and steelmasters, is exaggerated.²¹

Secondly, the nature and level of power wielded by capital and labour has provoked debate. Many historians assume the forces of capital dominated labour.²² McIvor states, 'labour and the unions...were invariably the inferior protagonist', whilst Gray claims, 'the enormous relative strength of Victorian employers...accentuated the inherent despotism of industrial capital.'²³ Fraser affirms, 'discharge notes, blacklists and evictions were among the principal weapons applied by employers' associations to intimidate unionists.'²⁴ However, Melling perceives capital's adoption of subtler methods of control; Melling argues throughout the Scottish economy there occurred, 'tighter workplace controls, heavier workloads, fresh incentive systems, mechanisation and rationalisation.'²⁵ Garside and Gospel categorise employers' control within the workplace as, 'personal', through direct supervision, 'administrative', based on rules of acceptable behaviour and, 'mechanical', embedded in machinery and the production process, and also note the extension of welfare provision to enhance control.²⁶

William Kenefick and Arthur McIvor (eds.), *The Roots of Red Clydeside*, p.164.

²¹ Ronald Johnston, *Clydeside Capital, 1870-1920: A Social History of Employers*, (East Linton, 2000), p.181.

²² Patrick Joyce, 'Work', in F.M.L Thompson, *The Cambridge Social History of Britain 1750-1950, Vol.2*, (Cambridge, 1990), p.177. Alistair Reid, 'Politics and Economics in the Formation of the British Working-class: a Response to HF. Moorhouse', *Social History*, 3 (1978), p.361.

²³ McIvor, *Work*, p.215. Robert Gray, 'Bourgeois Hegemony in Victorian Britain', in Jon Bloomfield, (ed.), *Class, Hegemony and Party*, (London, 1997), p.84.

²⁴ Fraser, *Trade*, p.218.

²⁵ Joseph Melling, 'Scottish Industrialists and the Changing Character of Class Relations in the Clyde Region c.1880-1918', in Tony Dickson (ed.), *Capital and Class in Scotland*, (Edinburgh, 1982), pp.80, 96-101.

²⁶ WR. Garside and HF. Gospel, 'Employers and Managers: their Organisational Structure and Changing Industrial Strategies', in Chris Wrigley (ed.), *A History of British Industrial Relations 1975-*

However, the apparently omnipotent power possessed by Victorian industrialists was in many respects illusory. Reid maintains skilled workmen retained control of the production process within the shipbuilding industry, whilst Zeitlin observes similar circumstances within engineering works.²⁷ Littler and Phelps Brown argue skilled workers possessed considerable autonomy, magnified by industrialists' lack of technical knowledge.²⁸ Indeed, it can be argued there existed sections of ironworkers and steelworkers who dominated the workplace. Littler states, 'a good example of craft control is provided by the nineteenth century ironworks.'²⁹ Gospel and McKinlay maintain technological knowledge was often the preserve of the shop floor in the iron and steel industries.³⁰ Labour's hegemony was closely related to the accumulation of skill, defined by More as, 'any combination, useful to industry, of mental and physical qualities, which require considerable training to acquire.'³¹ Although skill levels varied, 'process' work was typical of ironworks and steelworks, which generally required more mental than physical dexterity. It was nonetheless, 'work of the highest skill'.³² Burgess notes 'genuine' skill could be amplified by 'socially constructed' skill, including apprenticeships and seniority rules that

1914, (Loughborough, 1982), pp.99-115.

²⁷ Alistair Reid, 'Employers' Strategies and Craft Production: the British Shipbuilding Industry, 1870-1950', in Steven Tolliday and Jonathan Zeitlin, (eds.), *The Power to Manage? Employers and Industrial Relations in Comparative Historical Perspective*, (London, 1991), p.35. Jonathan Zeitlin, 'From Labour History to the History of Industrial Relations', *Economic History Review*, 40 (1987), pp.170-174.

²⁸ Craig Littler, *The Development of the Labour Process in Capitalist Societies*, (London, 1982), pp.8, 67. Harry Phelps Brown, *Origins of Trade Union Power*, (Oxford, 1983), p.131.

²⁹ Littler, *Development*, p.66.

³⁰ Gospel, *Markets*, pp.22-23. Alan McKinlay, 'Philosophers in Overalls? Craft and Class on Clydeside, c.1900-1914', in William Kenefick and Arthur McIvor, (eds.), *Roots of Red Clydeside, 1910-1914? - Labour Unrest and Industrial Relations in West Scotland*, (Edinburgh, 1996), pp.88-89.

³¹ Charles More, *Skill and the English Working Class, 1870-1914*. (London, 1980), p.15.

³² *Ibid*, pp.160, 119.

restricted the labour supply.³³ Trainor and Littler argue control of the production process was also affected by the system of sub-contracting, which prevailed in iron and steelworks during the 19th century.³⁴ Indeed, the power of skilled workers and the sub-contracting system created an implicit loss of managerial control.³⁵ Gospel notes, 'in industries where skilled labour was crucial...it often continued to be crucial and workers maintained considerable control.'³⁶ Trainor, Reid, Burgess and Melling also emphasise the importance of an intermediary or 'foreman' class of skilled worker, who were pivotal figures in many industries. However, there remains considerable argument over the loyalties of key workers. Garside and Gospel argue foremen were direct agents of capital, whilst McGuffie claims subcontractors performed similar functions.³⁷ Alternatively, Littler highlights the ambiguities of workplace influence, 'the simple pairing of management/worker, control/subordination and capital/labour is open to question: many labouring occupations entailed supervisory functions and petty capitalist motivations.'³⁸ Indeed, the heterogeneity of influence and identity will become a recurrent theme of this thesis.

Thirdly the extent of collectivism amongst labour and capital is contestable. Many

³³ Keith Burgess, 'Authority Relations and the Division of Labour in British Industry; with special reference to Clydeside, c.1860-1930', *Social History*, 11 (1986), pp.214-215. See also More, *Skill*, p.107.

³⁴ Richard Trainor, *Black Country Elites. The Exercise of Authority in an Industrial Area 1830-1900*, (Oxford, 1993), p.139. Littler, *Development*, p.65.

³⁵ William Knox, 'The Political and Workplace Culture of the Scottish Working-class, 1832-1914', in Hamish Fraser and RJ Morris, (eds.), *People and Society in Scotland, Vol.2, 1830-1914*, (Edinburgh, 1990), p.143.

³⁶ Gospel, *Markets*, pp.22-23.

³⁷ Garside & Gospel, 'Employers', pp.99-115. Chris McGuffie, *Working in Metal - Management and Labour in the Metal Industries of Europe and the USA, 1890-1914*, (London, 1985), pp.69-70.

³⁸ Littler, *Development*, p.78.

employers initially regarded unions as a direct challenge to their authority and resented the drive to, 'independency', unions embodied.³⁹ Ironically, whilst employers condemned the principle of unionism, labour's success encouraged employers to imitate their workers and form employers' organisations.⁴⁰ The increasingly formalised nature of workplace conflict is reflected by the development of trade unions and employer organisations. Indeed, Price argues mid-Victorian notions of independence and individualism, gave way to group representation and organisation from 1880.⁴¹ McIvor and Johnston argue from 1880, employers increasingly organised in response to intensifying pressures from the marketplace, the state and trade unions.⁴² Burgess perceives greater class polarisation and observes, 'general intensification of class conflict after 1890, involving an increasingly aggressive response from organisations representing both capital and labour.'⁴³ Finally, Gray argues the 1890s witnessed, 'the emergence of the new labourist class organisation and consciousness'.⁴⁴

Capital's ability to resist organised labour was affected by inter-relationships between firms. Although employers banded together to increase their influence, the potency of such organisations is questionable. McIvor, Johnston and Gospel argue employers' organisations were vigorous. Indeed, McIvor and Johnston maintain employers became increasingly class-conscious; in north-west England McIvor

³⁹ H.I. Dutton and J.E. King, 'The Limits of Paternalism: the Cotton Tyrants of North Lancashire, 1836-54', *Social History*, 7 (1982), p.60.

⁴⁰ Andrew Yarmie, 'Employers' Organisations in Mid-Victorian England', *International Review of Social History*, 25 (1980), p.209.

⁴¹ Price, *Labour*, pp.94-95.

⁴² McIvor, *Organised*, p.90. Johnston, *Clydeside*, p.2.

⁴³ Keith Burgess, *The Challenge of Labour*, (London, 1980), p.86.

observes, 'powerful and effective employers', organisations championing class interests as a defensive response to trade unionism.⁴⁵ Gospel states, 'employers...hoped to deal with unions from a position of collective strength and acted in the knowledge that their competitors were in the same position.'⁴⁶

Alternatively, Phelps Brown, Tolliday and Zeitlin maintain British employers' organisations were weak, divided and ineffectual.⁴⁷ Although Zeitlin maintains the primacy of, 'institutional forces', in shaping, 'relationships between workers and employers', he argues such institutions were generally weak.⁴⁸ Zeitlin states employers failed to establish supervisory and managerial hierarchies or powerful organisations to articulate their class interests.⁴⁹ Phelps Brown states individualism characterised the engineering employers, whilst Zeitlin notes the industry's diversity prevented employers obtaining unity.⁵⁰ Reid notes similar restrictions on shipbuilders, compounded by the skilled nature of their workforce.⁵¹ Finally, Yarmie observes internal conflicts of interest resulting from intense competition, whilst large employers only combined effectively when entire industries were threatened.⁵²

Similarly, Reid maintains the working-class were also characterised by sectionalist divisions and highlights conflicting interests stemming from differing cultures,

⁴⁴ Robert Gray, *The Labour Aristocracy in Victorian Edinburgh*, (Oxford, 1976), p.186.

⁴⁵ McIvor, *Work*, p.208. See also Johnston, *Clydeside*, p.2.

⁴⁶ Gospel, *Markets*, p.32.

⁴⁷ Phelps Brown, *Origins*, p.135. Steven Tolliday and Jonathan Zeitlin, *Shop Floor Bargaining and the State - Historical and Comparative Perspectives*, (Cambridge, 1985).

⁴⁸ Zeitlin, 'From', pp.159-184.

⁴⁹ *Ibid.*

⁵⁰ Phelps Brown, *Origins*, p.135. Jonathan Zeitlin, 'The Internal Politics of Employer Organisation, The Engineering Employers' Federation, 1896-1939', in Tolliday & Zeitlin, *Power*, pp.52-80.

⁵¹ Reid, 'Employers', p.48.

⁵² Andrew Yarmie, 'Employers' Organisations in mid-Victorian Britain', *International Review of Social History*, 25 (1980), pp.209-235.

occupations and wages, as being the normal features of working-class experience, whilst instances of class solidarity and common experience are viewed as unusual occurrences.⁵³ Further, Sabel states, 'the workforce was regularly split along skill lines into distinct groups, perpetuating themselves in different ways.'⁵⁴ McGuffie argues from 1890-1914, 'far from the working-class becoming more homogeneous and unified, it has in reality become more diversified, heterogeneous and disunited.'⁵⁵ This perception refutes the increasingly homogenised, organised working-class depicted by Price, Knox, Kirk, MacRaild and Martin.

Examination of Lanarkshire's iron and steel industries will clarify such issues.

Further, Gray, McIvor and Dickson endorse regional studies' significance, whilst

Burgess argues, 'the focus for analysis needs to be more regionally as well as

industrially specific.'⁵⁶ Despite its pivotal role in Scotland's economy, Lanarkshire's

ferrous metals manufacturing industries have received scant attention from

historians. In 1986 Duncan wrote, 'we know next to nothing about collective

bargaining and trade union representation among that most numerous body of

ironworkers...the blast-furnacemen.'⁵⁷ In 1996, McKinlay admitted, 'we know

relatively little about the labour process or trade unionism in Scottish steelworks.'⁵⁸

Indeed, historians have traditionally concentrated on industries like coal-mining,

shipbuilding and engineering. This has encouraged the development of fundamental

⁵³ Alistair Reid, 'Marxism and Revisionism in British Labour History', *Bulletin of the Society for the Study of Labour History*, 52:3 (1987), pp.46-8. Kirk, *Change*, p10.

⁵⁴ Charles Sabel, *Work and Politics: The Division of Labour in Industry*, (Cambridge, 1982), p.xi.

⁵⁵ McGuffie, *Metal*, p.ix.

⁵⁶ Gray, *Labour*, p.8. McIvor, *Organised*, p.4. Dickson, *Capital*, p.3. Burgess, 'Authority', p.232.

⁵⁷ Robert Duncan, *Wishaw, Life and Labour in a Lanarkshire Industrial Community, 1790-1914*, (Motherwell, 1986), p.88.

misconceptions; More refers to, 'the iron and steel industry', 'iron and steel manufacture', and, 'iron and steel workers'.⁵⁹ Such phraseology promotes the perception of a solitary industry where analogous workmen toiled. However, in Lanarkshire from 1870-1900, the production of iron and steel was not the function of a single industry. There were three separate iron and steel manufacturing industries, in which independent firms produced particular commodities for distinct markets at different works using divergent productive techniques. The singularity of Lanarkshire's pig iron, malleable iron and steel industries reflected the peculiarity of local minerals and the available technology. Integrated iron and steelworks, manufacturing both pig iron and steel, did occur in Lanarkshire during the 19th century and became common during the 20th century, but from 1870-1900, Lanarkshire's ironworks and steelworks typically produced separate commodities.

In order to assess the extent of collectivism, independence, authority and autonomy, this thesis shall be divided into five chapters. Chapter one will analyse the growth of each industry. The hegemony of individual firms together with the strengths and weaknesses of each industry will be discussed, with particular attention placed upon co-operative ventures between firms to illustrate the level of collectivism amongst capital. The term, 'master', used by Victorians to describe the owner of a manufacturing enterprise, incorporates assumptions regarding dominance and power. Although this may reveal Victorian employers' self-perception or the manner in which they wished to be regarded, the term shall be employed here as

⁵⁸ McKinlay, 'Philosophers', p.87.

⁵⁹ More, *Skill*, pp.119, 121, 143.

interchangeable with more neutral vocabulary such as ‘employer’. Therefore, its use is not an endorsement of capital’s dominance. Chapter two is a case study, examining two companies in greater detail and illustrating any similarities or discrepancies between firms. There is little insight gleaned from examining managerial hegemony without comparison with capital’s nemesis. Indeed, Knox argues the relationship between capital and labour as well as the wage/effort bargain, ‘can only be understood by examining the labour process and the material conditions of the workers’.⁶⁰ Consequently, chapter three analyses labour in each industry, examining the comparative influence and autonomy of various workers.

Relationships between labour groups shall be discussed together with trade union development and wages, the reward for labour. Pre-decimal monetary terminology and British imperial weights and measures will be employed in the discussion on wages and output. In the Victorian period, twelve pence (12d.) comprised one shilling (1s.), with twenty shillings making one pound (£1). Similarly, for weights, one metric tonne equals 2,200 pounds (lbs), and one kilogram equals 2.2lbs.

Imperial weights are depicted below.

Table 1. Imperial Weights

1 ton =	2240 lbs. =	1018.18 kg.
1 hundredweight (cwt.) =	112 lbs. =	50.91 kg.
1 quarter (qtr.) =	28 lbs. =	12.73 kg.
1 stone (stn.) =	14 lbs. =	6.36 kg.

⁶⁰ William Knox, *Hanging by a Thread; the Scottish Cotton Industry, c1850-1914*, (Cambridge, 1995), p.38.

Although this thesis will attempt to illustrate the experience of each labour section, it should be noted that the available sources favour certain groups, especially skilled workmen, to a greater extent than others. Chapter four is a case study delineating two groups of workmen in detail to clarify the extent of labour's autonomy. Finally, chapter five will examine conflict and compromise between capital and labour, highlighting significant strikes in each industry and illustrating the mechanisms established for mitigating disputes. The methodology encompasses examination of primary sources including the minutes of arbitration boards, employers' associations and trade union reports. Government papers and the Reports of Royal Commissions on Trade Unions (1867), Truck (1871), Wages (1887), and Labour (1892), provide useful testimony from industrialists and unionists. Trade journals such as *Engineering* and *The Engineer*, provide interesting comment on market conditions and trade developments, whilst Lanarkshire's newspapers provide comprehensive coverage of strikes, events and local issues.

Analysis of capital's influence within Lanarkshire's iron and steel industries together with the manifestation of labour autonomy within the workplace from 1870-1900, may explain some of the apparent paradoxes of labour relations and provide evidence in support or refutation of various historical hypotheses. This thesis shall examine the nature of labour relations, the application of power within each industry as well as the extent and limitations of authority, whilst the development of collectivisation amongst labour and capital will be assessed. In particular this thesis shall explore the disparity of Lanarkshire's iron and steel industries, together with the resilience of individualism and independence amongst capital and labour from 1870-1900.

Chapter 1. Masters of Iron and Steel.

In any analysis of labour history, the masters' role is of crucial significance; particularly where the central issue considered is the extent of authority and independence. Renfrew and McIvor note the draconian attitudes of Scottish employers, whilst Reid states that in comparison with northern England, 'the west of Scotland employers were more authoritarian and more anti-union, keen to seize any opportunity to weaken or even destroy labour organisations.'¹ Knox notes a linkage between authoritarianism and independence, 'Scottish employers were raised on the virtues of self-help and individualism and these values instilled in them a steel-like attitude to challenges to their authority.'² Alternatively, Melling argues employers shifted emphasis from crude expressions of capitalist power, such as evictions and lockouts, towards subtler forms of control, whilst Joyce emphasises compromise and co-operation in labour relations.³ Finally, Johnston declares, 'the notion of the Clydeside autocratic employer is a myth.'⁴

To fully appreciate the extent and direction of managerial hegemony, it is first necessary to examine the rise and prominence of the firms and industries in this period. Therefore, sections one and two shall illustrate the development of Lanarkshire's iron and steel industries, highlighting notable individuals and firms. In section three, the relative strength of capital in each industry will be analysed and the

¹ Renfrew, 'Militant', p.164. McIvor, *Organised*, p.115. Reid, 'Employers', p.38.

² Knox, *Industrial*, pp.159-160.

³ Melling, 'Non-commissioned', pp.183-221. Joyce, *Labour*, p.67.

⁴ Johnston, *Clydeside*, p.181.

various expressions of capitalistic power discussed.

1. Background

1.1 Pig Iron.

Lanarkshire's extensive mineral deposits were mined since the medieval period, although ironworks were not established until the late 18th and early 19th centuries. By the 1820s there were various pits around Coatbridge operated by masters including William Dixon, James Merry and William Baird. Since 1792, the Monkland Canal linked Lanarkshire's coalfield with Glasgow, whilst from 1826 the Monkland & Kirkintilloch Railway enhanced communications, reduced transportation costs and was financed by local industrialists including Merry and Dixon.⁵ Despite the growth of coal-mining, the area was considered uneconomic for iron manufacture until James Beaumont Neilson pioneered efficient utilisation of local minerals at Calder in 1828. The 'hot blast process' achieved higher temperatures and greater fuel efficiency, transforming Lanarkshire's splint coal and blackband ironstone into the ideal fuel and raw material for pig iron production. This new technology triggered the rapid industrialisation of Coatbridge, particularly after Neilson's patent expired in 1839.⁶

⁵ Strathkelvin District Libraries and Museums, *The Monkland and Kirkintilloch Railway*, (Strathkelvin, 1976), p.4.

⁶ *Engineering*, 15 Jan.1875. PJ Riden, 'The Iron Industry', in Roy Church, (ed.), *The Dynamics of Victorian Business, Problems and Perspectives to the 1870s*, (London, 1980), p.67.

Table 2. Lanarkshire's Pig Ironworks.⁷**No. of Blast-furnaces**

Works/Principle Owner	Location	Founded	Closed	1869	1880	1901
Wilsontown, Wm. Dixon	Carnwath	1799	1842			
Clyde, Dunlop & Wilson.	Rutherglen	1786		6	5	5
Omoa, Robert Stuart	Shotts	1789	1868			
Calder, Wm. Dixon.	Coatbridge	1800	1921	8	6	6
Shotts, Shotts Iron Co.	Shotts	1801	1947	7	5	6
Chapelhall, Monkland Iron & Steel Co.	Chapelhall	1825	1886	3	3	
Gartsherrie, Wm. Baird & Co.	Coatbridge	1828	1967	16	14	12
Dundyvan, Dunlop & Wilson.	Coatbridge	1833	1868			
Calderbank, Monkland Iron & Steel Co.	Airdrie	1835	1887	6	6	
Summerlee, Summerlee & Mossend Co.	Coatbridge	1836	1930	8	8	7
Coltness, Coltness Iron Co.	Newmains	1837	1927	12	12	9
Carnbroe, Merry & Cunninghame	Coatbridge	1838	1921	6	6	5
Castlehill, Shotts Iron Co.	Carluke	1838	1884	3	3	
Langloan, Addie & Sons	Coatbridge	1841	1919	8	7	5
Wishaw, GI&SC.	Wishaw	1858	1930	3	3	4
Quarter, Dunlop & Wilson	Hamilton	1865	1887	4	5	
Total Number of blast-furnaces				90	83	59

The ironworks depicted in table two were typically created in the early part of the 19th century and often spawned large industrial conglomerates producing extensive wealth and power for their owners. The Bairds of Gartsherrie became Scotland's largest pig iron manufacturer. (See chapter two.) In Airdrie, James Merry assumed control of his father's coal business in 1836. In 1838 he partnered Alexander Cunninghame and briefly Alexander Allison, to construct Carnbroe ironworks. Merry & Cunninghame expanded into Ayrshire forming Glengarnock Iron Company in 1842 and creating Ardeer ironworks in 1854. After Cunninghame's death, the firm became a public limited company, Merry was chairman and JC Cunninghame, Alexander's nephew, became Managing Director. In 1871 the company's profits

⁷ George Thomson, (ed.), 'The County of Lanark', in, *The Third Statistical Account of Scotland*, (Glasgow, 1960), p.47.

totalled £277,000, having averaged over £125,000 annually since 1861.⁸ By 1875 the firm controlled twenty blast-furnaces, twenty-three collieries and twenty-six iron ore mines, employing over 5,000 men. Following Merry's death in 1877, JC Cunninghame, his son John and Robert Muir managed the firm. John Cunninghame became Chairman of the Scottish Coal Masters' Association and Vice-President of the Iron and Steel Institute, reflecting the firm's importance.

William Dixon settled in Lanarkshire in 1770, becoming chief partner and ultimately owner of Calder ironworks. His family erected Wilsontown ironworks, whilst WS Dixon, (William's grandson), built Govan ironworks in 1843 and partnered his father at Calder by 1862. The firm held, 'very extensive coal and ironstone mines', in Lanarkshire and several adjacent counties, and owned two steamships transporting Spanish ironstone.⁹ In 1873, *Engineering* stated, 'William Dixon (Limited) has become possessed of an immense business.'¹⁰ In 1877, the firm employed from 5,000-6,000 hands and operated eleven blast-furnaces by 1886. WS Dixon's death in 1880 terminated family involvement. Nevertheless, 'the operations of this company...have become very extensive and of great industrial and commercial importance.'¹¹

The Neilson family had numerous industrial connections; Walter Neilson was associated with Dixon at Govan ironworks, his son John ran Oakbank Engineering works and James Beaumont Neilson was his second son. John Neilson's sons,

⁸ *Engineering*, 23 Aug.1872.

⁹ *Ibid*, 11 Apr.1873.

Walter and William, trained at Oakbank; Walter partnered his father, with George and John Wilson in 'Wilson & Company', founders of Summerlee ironworks. Another son, Hugh, had extensive interests in merchant shipping. In 1840 the Neilsons founded Mossend ironworks to produce malleable iron. Around 1870, Walter Neilson acquired Summerlee with his brother Hugh and two sons. By 1884 Summerlee Iron Company owned, 'very extensive mining properties in Lanarkshire, Stirlingshire, Dumbartonshire and Renfrewshire', working coal and ironstone.¹² The firm produced 1,000 tons of coal daily, 85,000 tons of pig iron annually and their steamship imported Spanish ore. William Neilson managed Mossend until 1882, when his son James gained control. Finally, Walter and Hugh Neilson, with several partners, formed Clydebridge Steel Company Ltd. in 1887 at Cambuslang. In 1896, the Summerlee & Mossend Company were:

Iron and coalmasters, and iron and steel manufacturers, chemical manufacturers, engineers, iron founders, brickmakers and manufacturers of products from metals and minerals and other substances, shipowners, carriers, storekeepers, traders and dealers in metals, minerals and in any other business the Company may think capable of being convenient or advantageously carried out.¹³

Lanarkshire contained various smaller pig ironmasters. In 1870, Monkland Iron & Steel Company employed 2,000 men, produced 20,000 tons of pig and 10,000 tons

¹⁰ *Ibid.*

¹¹ *Engineering*, 25 June 1880.

¹² *Engineering*, 29 Aug. 1884.

¹³ North Lanarkshire Archives, (henceforth NLA), Articles of Association, Summerlee & Mossend, Iron & Steel Company Ltd., June 1896. COTSL87:020:1.

of malleable iron annually, and owned various collieries.¹⁴ Robert Addie, Robert Miller and Patrick Rankine established Langloan ironworks in 1841, but from 1860-1897 Addie's family had complete ownership.¹⁵ In 1864, Robert Addie & Sons were valued at £40,000 and controlled collieries at Rosehall and Viewpark.¹⁶ Henry Houldsworth created Coltness Iron Company and erecting two blast-furnaces by 1839 and constructed Dalmellington ironworks in Ayrshire in 1849. By 1899, Coltness had nine furnaces, an ammonia-recovery works, extensive mineral properties, brickworks and a small steel foundry with capital estimated at £800,000.¹⁷ Even the smallest firms possessed numerous pits to fuel their ironworks; Clyde ironworks owned Bogleshole No.2 and No.4 pits, Carmyle No.1, Easterhill, Newton No.1, No.2 and Kenmuir No.2 between 1879 and 1902.¹⁸

From the 1830s various Monklands ironmasters extended their financial enterprises into the mid-Lanark mineral fields. The Bairds, Merry, the Neilsons and Dixon, together with indigenous, landowners and industrialists including Lord Belhaven, Henry Houldsworth and John Watson, financed the Wishaw & Coltness railway, completed in 1844.¹⁹ The new railway joined the Monkland & Kirkintilloch, completing the link with Glasgow and accelerating industrialisation; in 1840, Wishaw had three pits, but by 1851 there were fifteen and the population had

¹⁴ *Airdrie Advertiser*, 18 Dec.1869.

¹⁵ *Engineering*, 8 Oct.1897.

¹⁶ Andrew Miller, *The Rise and Progress of Coatbridge and Surrounding Neighbourhood*, (Glasgow, 1864), p.125.

¹⁷ *Engineering*, 21 July 1899.

¹⁸ NLA, 1992/225, Wages of Furnacemen and Miners, Clyde Ironworks, 1879-1920.

¹⁹ Robert Duncan, *Steelopolis, the Making of Motherwell, c.1750-1939*, (Motherwell, 1991), pp.20-21.

doubled.²⁰

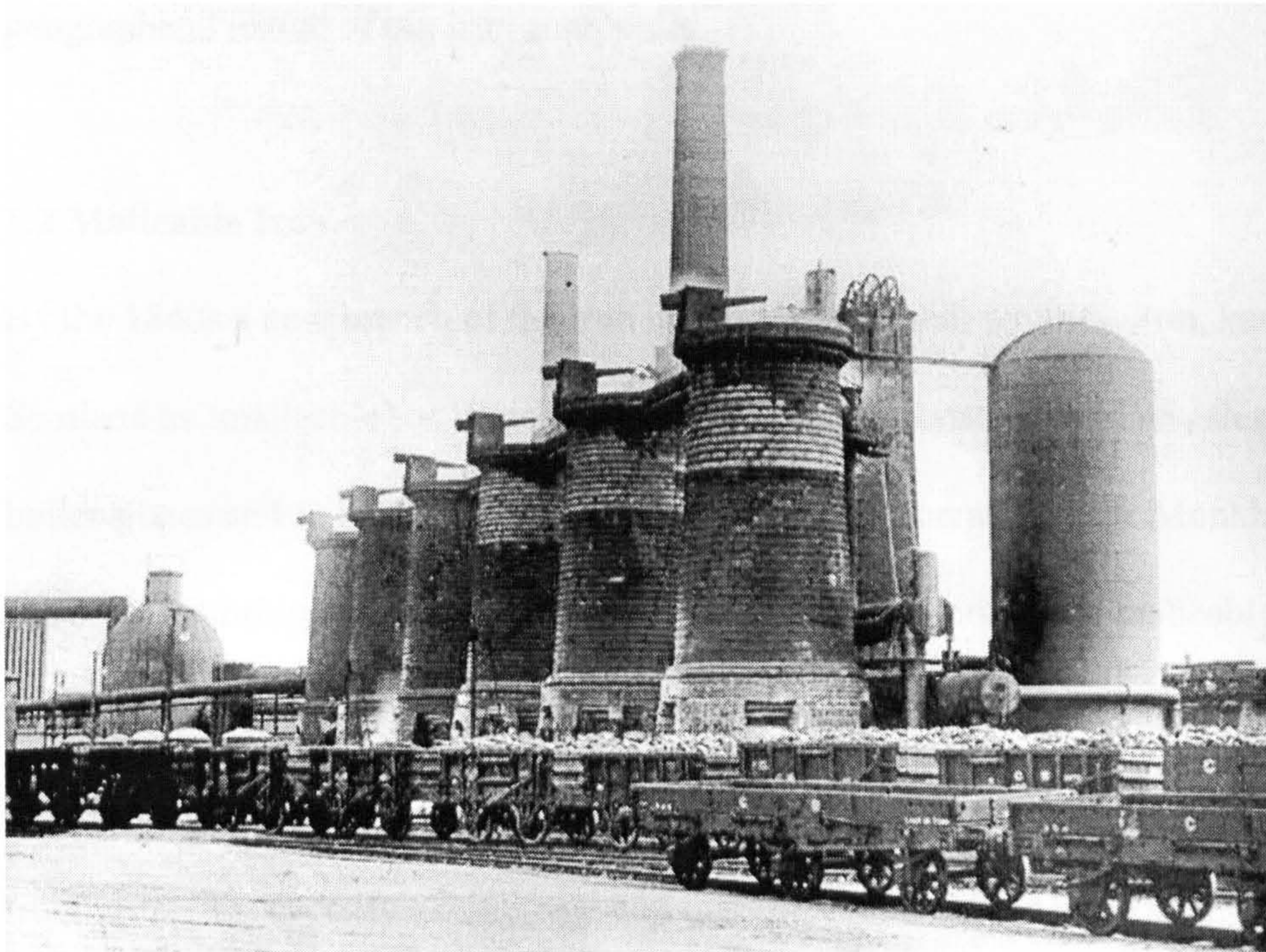


Figure 1. Coltness Pig Ironworks, c1890. The loaded railway wagons illustrate the importance of transportation networks.

By financing the transportation infrastructure, pig ironmasters opened the area for development and expanded their own commercial interests. Indeed, Lanarkshire's pig ironmasters owned ironworks and numerous pits throughout west central Scotland.²¹ Although smaller than certain foreign competitors, the geographical expanse and scale of operations undertaken by even the smallest producer emphasises the firms' financial and economic strength, casting doubt upon McIvor's assertion that, 'British companies remained relatively fragmented and small in scale.'²² It also negated the development of a close personal relationship between masters and employees. Consequently, if the paternalist relationship described by

²⁰ Duncan, *Wishaw*, p.37.

²¹ Alan Campbell, *The Lanarkshire Miners – a Social History of their Trade Unions, 1775-1874*, (Edinburgh, 1979), p.98.

Joyce had existed, prior to 1870 it became weakened by the excessive size and geographical extent of pig iron companies.

1.2 Malleable Iron.

By the 1840s a new branch of the iron industry developed; wrought iron, known in Scotland as 'malleable' or 'finished' iron was used to construct bridges, ship-plates, boiler-plates and rails. Thirteen malleable ironworks operated in the Monklands in 1870.²³ Coatbridge also became the foremost Scottish producer of malleable iron tubes following the foundation of the Caledonian works in 1844. Malleable ironworks employed pig iron as a raw material, which encouraged some pig ironmasters to diversify. Dundyvan and Calderbank contained malleable works, whilst Mossend ranked among the largest producers in Scotland by 1876.²⁴ Although pig iron manufacture constituted a simple refining operation, malleable iron production required more sophisticated, capital-intensive production processes, incorporating puddling, shingling and rolling operations. (See chapter three.) Therefore, many firms remained within or, after initial diversification, reverted to coal and pig iron markets; Merry & Cunningham and Bairds put Motherwell malleable ironworks into liquidation in 1849, which was acquired by Glasgow Iron Company, (GIC), together with Lord Belhaven's Wishaw ironworks in the 1860s. In 1872, only the Bairds at Muirkirk, together with Dixon's at Govan and Monkland

²² McIvor, *Organised*, p.15.

²³ George Thomson, 'The Iron Industry of the Monklands – an introduction', *Scottish Business History*, 5.2 (1982), p.32.

²⁴ Thomson, 'Iron', p.37. Anthony Slaven, 'John Neilson', in Anthony Slaven and Sydney Checkland, (eds.), *Dictionary of Scottish Business Biography, Vol.1, the Staple Industries*, (Aberdeen, 1986), p.56.

produced malleable and pig iron.²⁵

A new breed of ironmaster emerged within the malleable industry. Whilst many pig ironmasters in the 1830s and 1840s were financially vigorous coalmasters integrating forwards, most malleable ironmasters commencing business in the 1850s and 1860s possessed limited wealth. Significantly less capital was required to found malleable ironworks; in 1802, Calder pig ironworks, containing two blast-furnaces, cost around £20,000 to create, compared with £4,000-£5,000 required for a malleable ironworks in the 1860s.²⁶ Gartcosh malleable ironworks, containing eight puddling and two reheating furnaces, two forge trains, a merchant and guide mill, two steam hammers and various tools, buildings and steam engines, was purchased in 1871 for £7,010.²⁷ Some skilled ironworkers possessed the resources to become ironmasters. Miller states, 'those engaged in the trade, particularly the rollers and furnacemen, earned such big money that it was mainly from their ranks that the future active partners and/or executive directors were drawn to form new companies.'²⁸ Richard Dimnack, an English roller, and Hugh Martin, a Scottish heater, founded Merryston ironworks in 1851. In 1858 Dimnack also founded Drumpellier ironworks with Richard Henderson.²⁹ John McAra, a shingler at Gartness, co-founded Rochsolloch ironworks, whilst George Garrett, a roller at Clifton, co-founded Waverley in 1881.³⁰ James Kerr, a former puddler, became master of Etna ironworks.³¹ Finally, Thomas

²⁵ JC Carr & AEG Wright, *History of the British Steel Industry*, (London, 1962), p.82.

²⁶ George Thomson, *Iron Industry of the Monklands*, unpublished manuscript, pp.18-19.

²⁷ *Engineering*, 28 May 1869, 22 Dec.1871. Thomson, 'Iron', pp.36-37.

²⁸ Thomas Miller, *The Monkland Tradition*, (Edinburgh, 1948), p.45.

²⁹ Thomson, 'Iron', pp.37-38.

³⁰ *Ibid*, p.38.

³¹ James Kerr, 'The Manufacture of Wrought Iron', *Journal of the West of Scotland Iron and Steel*

Ellis worked as a puddler and roller in Shropshire. Ellis became a partner at Globe and Phoenix ironworks and erected ironworks at Dundyvan around 1858, 'since grown to be the most extensive establishment of the sort in Scotland'.³² Ellis partnered his father-in-law, James Leonard, a former roller at Dundyvan, forming North British ironworks in 1869.³³ Therefore, a significant portion of malleable ironmasters' originated from the shop-floor; further differentiating them from pig ironmasters whose background generally lay in agriculture or mining.

The development of iron manufacture stimulated associated industrial enterprises including mining, tool-making, engineering and foundry work. Widespread economic activity triggered monumental changes to the environment and social structure. In 1830 Lanarkshire was predominately agricultural with few substantial towns. By 1870, the continued expansion of the iron and coal industries transformed Lanarkshire and facilitated the growth of towns like Coatbridge, Wishaw and Motherwell, whilst numerous villages including Newarthill, Mossend and Newmains mushroomed around the pits and ironworks. Labour-intensive industries encouraged immigration, creating an unparalleled increase of 1.25 million people in Lanarkshire from 1801-1911.³⁴ Amenities lagged behind population growth, creating various social problems including over-crowding, inadequate sanitation and insufficient water supplies in Motherwell by 1887. In Coatbridge, 'the ironworks vomit their filth into the motionless stream, and the waters are red, black, or brown'.³⁵

Institute' [henceforth *JWSISI*], Vol.3, (Glasgow, 1896), p.206.

³² *Engineering*, 1 Aug.1884.

³³ Thomson, 'Iron', p.38.

³⁴ Thompson, *Cambridge*, p.3.

³⁵ John Stewart, *The Iron Burgh and Other Sketches*, (Coatbridge, 1912), p.11.

Numerous works' chimneys caused air pollution exacerbating poor levels of public health. Coatbridge lay:

Within a crescent of blast-furnaces, and in the town are a large number of rolling mills, forges and tube works, the hundred chimneys of which form quite a forest of brickwork capped with fire...Dense clouds of smoke roll over it incessantly and impart to all the buildings a particularly dingy aspect.³⁶

To penniless immigrants arriving in search of work and opportunities, the Lanarkshire ironmasters' authority was both physical and psychological. Their works commanded the landscape and overwhelmed the senses. Wherever the eye could see it was confronted with the evidence of their energy, wealth and power. Pit bings and chimneys towered over towns and villages. The various works produced an all-pervasive noise and the numerous furnaces resulted in Lanarkshire becoming known as, 'the land of fire'.³⁷ Clouds of smoke hung permanently over Coatbridge and Motherwell, reducing visibility and choking lungs, whilst at night the glaring furnaces illuminated the night-sky to the extent that newspapers could be read in central Coatbridge, despite the absence of street-lighting.³⁸ The most eloquent testimony to the almost omnipotent power of the 19th century industrialist came from Reverend Hamilton, who commented that Lanarkshire's ironmasters, 'turned day into night and night into day!'³⁹ However, it can be argued that much of the masters'

³⁶ David Bremner, *The Industries of Scotland, their Rise, Progress, and Present Condition*, (Edinburgh, 1869), pp.35-36.

³⁷ F. Groome, (ed.) *Ordnance Gazeteer of Scotland*. (Edinburgh, 1886), p.47.

³⁸ Bremner, *Industries*, p.36.

³⁹ William Hamilton, *Work and Prayer*, (Coatbridge, 1937).

power was illusory. To accurately assess managerial hegemony, it is necessary to analyse each industry from 1870-1900.

2. The Iron and Steel Industries, 1870-1900.

2.1 Pig Iron

Pig ironmasters' authority was built upon the bedrock of financial might. By 1870, Lanarkshire dominated the Scottish pig iron industry and ranked in the largest three manufacturing districts in Britain. Output reached 1,080,000 tons in 1872, rising to 1,160,000 tons in 1899. Enormous stocks were placed in public warrant stores administered by Connal & Co. in Glasgow, which amassed 1,034,427 tons in 1889. Pig iron warrants were valued like currency and traded on the Glasgow Exchange, or, 'iron ring', by brokers. Successful brokers achieved massive profits; in January 1880 Alexander Donaldson left estate worth over £190,000 despite his youth. Conversely, John Swan & Brothers Ltd. went into liquidation in 1890, when prices plummeted. Such firms formed professional bodies including the Iron Brokers' Association and the Glasgow Association of Iron Merchants. Lanarkshire's pig iron was desirable because of, 'superior quality...which renders it exceedingly serviceable for foundry purposes'.⁴⁰ Nonetheless, quality varied and individual ironworks' produce was valued at different rates. Lanarkshire's prices were quoted in almost every industrial market in the world and constituted a notable part of the global economy. Orders from New York were cabled to Glasgow from 1882, whilst other British manufacturing districts and foreign firms had resident representatives on the Glasgow Exchange. However, Lanarkshire's ironmasters did not possess economic

dominance. The Cleveland area of north-eastern England was Lanarkshire's principal competitor, producing pig iron that was generally cheaper and inferior for foundry work, but acceptable to Lanarkshire's malleable producers, thus bolstering their independence from Lanarkshire's pig ironmasters.

Dickson highlights Scotland's economic vulnerability to cyclical fluctuations, apparent in the demand and profitability of Lanarkshire's pig iron.⁴¹ In the early 1870s the industry experienced an unprecedented boom mainly fuelled by exports. 1872 was described as, 'the most remarkable [year]...experienced in the whole history of the iron trade of Scotland.'⁴² In 1870, the average price per ton was fifty-eight shillings, which accelerated to 101s. in 1872. Indeed, prices rose from ninety to 124s. in three weeks.⁴³ However, by 1878, 'the depression which now prevails in the pig iron market is...quite unequalled at any time during the last thirty years.'⁴⁴ Trade was re-invigorated from 1880 by American demand, before another slump in 1884. The Monkland Iron Company went into liquidation and Quarter's furnaces were permanently extinguished in 1887. Trade revived in 1889 and slowly increased during the 1890s, mainly resulting from steel manufacturers' demand, whilst warrant prices in 1899 were the highest for twenty-five years.⁴⁵ Carr and Wright argue cyclical demand encouraged the development of arbitration procedures in Britain's

⁴⁰ *Engineering*, 16 Jan.1874.

⁴¹ Tony Dickson, *Scottish Capitalism, Class State and Nation from before the Union to the Present*. (London, 1980), p.195.

⁴² *Engineering*, 17 Jan.1873.

⁴³ *Ibid*.

⁴⁴ *Ibid*, 29 Nov.1878.

⁴⁵ *Ibid*, 13 June 1890, 12 Jan.1900.

iron and steel industries.⁴⁶ (See chapter five.) Although this failed to occur until 1900, fluctuating profitability did produce varying levels of managerial hegemony, which will be discussed in section three.

British pig ironworks were increasingly threatened by foreign competition; in 1880, America equalled and by 1900 doubled Britain's output.⁴⁷ American prices eventually dominated the Glasgow market, whilst German demand fell reflecting Lanarkshire's declining reputation for quality, as blackband ironstone diminished, prompting several firms to purchase Spanish iron ore mines. In 1900 American prices fuelled another Scottish boom with prices rising the furthest for twenty years. Foreign competition reduced exports and increased pig ironmasters' reliance upon domestic markets. Indeed, Lanarkshire's burgeoning steel industry became increasingly important to pig ironmasters who augmented production of hematite iron, which was the preferred iron for steel-making. In 1897, out of seventy-seven blast-furnaces, six made basic iron, thirty-four made hematite iron and thirty-seven worked hematite ore. Few pig ironmasters produced steel except those already manufacturing malleable iron, although Merry & Cuninghame commenced production at Glengarnock in 1885. This might reflect pig ironmasters' inexperience of the required techniques, the steel industry's intensive competition, the greater potential for industrial conflict with skilled labour, or simply a lack of foresight. The Houldsworths considered steel-making around 1888, but the family's iron-making heritage and insufficient technical knowledge restricted Coltness to steel founding

⁴⁶ Carr & Wright, *History*, p.93.

⁴⁷ Burnham & Hoskins, *Iron*, p.39.

and ultimately a concentration on coal-mining as their pig iron business declined.⁴⁸

Although Merry & Cunninghame integrated forwards, from 1870-1900, only the Glasgow Iron Company (GIC) integrated backwards from malleable iron and steel to pig iron production, constructing three blast-furnaces in 1884. The enormous financial outlay dissuaded other malleable producers from manufacturing pig iron, reinforcing the industries' separation and ironmasters' independent character.

Pig iron firms did diversify into the production of ammonia, recovered from blast-furnace gases. This was pioneered at Gartsherrie in 1879, followed by Summerlee and Langloan in 1882, and Govan in 1888.⁴⁹ By 1895, 95,503 tons of ammonia sulphate was produced in Scotland, rising to 107,657 tons in 1896. However, ironmasters often preferred to subcontract ammonia production. R&J Dempster, gas engineers, leased ammonia plants at Carnbroe and Shotts. Dempster even bought Langloan ironworks in 1899 to establish ammonia works.⁵⁰ Consequently, at Langloan pig iron became a by-product of ammonia production rather than *vice versa*. The reluctance to diversify was mirrored by limited technical innovation. Indeed, Burnham and Hoskins describe the pig iron industry as, 'stationary'.⁵¹ From 1870-1900, there were fewer blast-furnaces, but size and fuel-efficiency increased. In 1879 Summerlee had four of the largest furnaces in Scotland, seventy feet high, with closed tops.⁵² Average furnace output rose from 182 tons per week in 1876 to 216 in 1885, whilst the quantity in blast fell from 116 in 1876 to ninety in 1885.

⁴⁸ John Carvel, *The Coltness Iron Company*, (Edinburgh, 1948), pp.61-71.

⁴⁹ J. Gillespie, 'Notes on the evolution of Blast Furnace Recovery Plant', *JWSISI*, Vol.XII, No.2, (Jan.1905), pp.50-51.

⁵⁰ *The Engineer*, 6 Oct.1899.

⁵¹ Burnham & Hoskins, *Iron & Steel*, p.38.

However, basic techniques altered imperceptibly, contradicting Littler's claim that iron and steel industries were, 'at the forefront of industrial change'.⁵³

Various firms adopted limited liability status, including Shotts in 1871, the Monkland Company and Merry & Cuninghame in 1872.⁵⁴ William Dixon Ltd. was created in 1873; Addie & Sons altered status in 1892 and Coltness in 1899. However, Dixons retained majority share-holdings, whilst the Coltness company's, 'first directors will consist chiefly of members of the Houldsworth family and other persons already interested in the concern'.⁵⁵ Therefore, capital was generated without relinquishing control and altered status made little difference to company policies, contesting Joyce's argument that paternalism's demise partly resulted from the growth of public limited companies.⁵⁶ Consequently, Lanarkshire's pig iron industry was technically inanimate with limited alterations to managerial authority. Although increasingly threatened by competitors from 1870-1900, pig ironmasters failed to diversify, mechanise or re-organise management structures sufficiently to prevent overall decline during the period.

2.2 Malleable Iron

In 1870 Britain was the world's largest producer of malleable iron. The industry was created, 'under a regime of sturdy individualistic efforts', and followed similar

⁵² *Engineering*, 22 Aug. 1879.

⁵³ Littler, *Development*, p.73.

⁵⁴ *Engineering*, 21 June 1872.

⁵⁵ *Ibid*, 30 May 1873, 21 July 1899.

⁵⁶ Patrick Joyce, 'Languages of Reciprocity and Conflict; a further Response to Richard Price', *Social History*, 9 (1984), p.225.

cyclical peaks and troughs to pig iron.⁵⁷ Few pig ironmasters entered the trade; Carr and Wright note, 'most of Scotland's wrought iron was manufactured in independent establishments.'⁵⁸ Like pig iron, malleable iron was graded for sale at different prices, traded in the Glasgow market and Cleveland remained the keenest competitor. However, whilst most pig iron was exported the domestic shipbuilding industry was malleable iron's greatest consumer, with a meagre export market. In 1871, *Engineering* noted, 'shipbuilding iron is in such great request that the Scotch makers cannot overtake their orders.'⁵⁹ However, during the 1880s malleable iron was displaced as the shipbuilders' and engineers' material of choice; British production of malleable iron totalled 2.5 million tons in 1870, consuming 43.7% of pig iron production, but only 23.5% in 1890 and 13% in 1900, as larger stocks were used to manufacture steel.⁶⁰ Although malleable iron declined nationally, in Scotland it retained significance. In 1898, *Engineering* reported the continuing demand and in 1899 noted, 'prices remain at the topmost pitch.'⁶¹ The industry's survival resulted from the development of alternative products, including chain iron, hoops and tubes. In 1895, James Kerr, Etna's ironmaster observed:

Twelve or thirteen years ago anyone who ventured to express the opinion that malleable iron was not doomed to be totally superseded by steel would have been laughed at...Although steel has developed locally to an enormous extent, still, in this district at the present moment there is a greater output of malleable

⁵⁷ Burnham & Hoskins, *Iron & Steel*, p.37.

⁵⁸ Carr & Wright, *History*, p.82.

⁵⁹ *Engineering*, 5 May 1871.

⁶⁰ Burnham & Hoskins, *Iron & Steel*, p.157.

⁶¹ *Engineering*, 7 Jan.1898, 29 Dec.1899.

iron than there ever was.⁶²

Table 3. Lanarkshire's Malleable Ironworks.⁶³

No. of Furnaces

Name	Location	Founded	Closed	1864	1888	1901
Calderbank	Airdrie	1839	1887	68	68	
Dundyvan	Coatbridge	1839	1868	56		
Gartness		1840	1868	18		
Mossend	Mossend	1840	1900	28	60	
Motherwell	Motherwell	1845	1903		50	33
Merryston	Coatbridge	1851	1885	10		
Coats	Coatbridge		1854	18	31	14
{Phoenix	Coatbridge	1857				
North British			1868	6		
Globe		1868	1884			
Scotia}		1884	1897			
Rochsolloch	Airdrie	1858		12	14	26
Drumpellier	Airdrie	1858	1902	19	18	19
Clifton	Coatbridge	1861	1913	19	20	28
Phoenix II	Coatbridge	1861	1921	26	38	22
Excelsior	Wishaw	1863		22	34	20
Coatbridge	Coatbridge					
Tinplate	Coatbridge	1864		2	14	14
Gartcosh	Gartcosh	1865			7	7
North British II	Coatbridge	1868	1927		37	34
Clydesdale	Mossend	1870				26
Dalzell	Motherwell	1871			20	
Milnwood	Wishaw	1872			6	9
Crown	Coatbridge	1874	1913		11	12
Milton Tinplate	Motherwell	1877	1882			
Woodside	Coatbridge	1878	1950		10	11
Pather	Wishaw	1880	1935		12	13
Waverley	Coatbridge	1881			16	25
Dundyvan	Coatbridge	1883			10	14
Globe II	Motherwell	1884	1921		12	21
{Brandon	Craigneuk	1884	1887			
Etna}		1887			10	19
Coatbridge	Craigneuk	1855	1913		10	10
Stenton	Wishaw	1895	1923			18
Victoria	Coatbridge	1898				14
Total				274	508	409

Note - Works bracketed represent the same site renamed by different owners.

This qualifies the arguments of Knox, Riden, Burn, Clegg, Fox and Thompson who

⁶² Kerr, 'Manufacture' pp.208-209.

perceive malleable iron's displacement during the 1880s.⁶⁴ Continued demand was reflected by a net increase of eight new malleable ironworks from 1870-1900, depicted in table three.⁶⁵

There were various important differences between malleable and pig ironworks.

Although MacRaild and Martin claim the 1870s witnessed, 'the erection of huge iron and steel mills', malleable ironworks were smaller, but more capital-intensive than pig ironworks.⁶⁶ In 1884 Dundyvan contained nearly 500 steam engines, 'forty puddling furnaces, ten mill furnaces, two forge trains, four steam hammers and five separate rolling mills'.⁶⁷ Masters usually owned a single ironworks employing several hundred workmen, although Coats employed 500 men in 1880 and Mossend contained 2,000 in 1876.⁶⁸ A similar process manufactured steel. Therefore, malleable firms were ideally situated for diversification. Indeed, Victoria ironworks was created to manufacture merchant iron bars with the option of diversifying into steel production. Malleable ironmasters did not generally produce pig iron or coal and purchased fuel externally. However, certain firms, including GIC, owned malleable works at St. Rollox, Motherwell and Wishaw, in addition to various collieries and brickworks. Like other malleable producers, GIC ultimately manufactured steel, but its greater operating scale and larger financial reserves uniquely facilitated pig iron production, making GIC the only malleable producer to

⁶³ Thomson, *Third Statistical Account*, p.51.

⁶⁴ Knox, *Industrial*, p.133. Riden, 'Iron', p.78. DL Burn, *The Economic History of Steelmaking, 1867-1939*, (1940), p.82. HA. Clegg, Allan Fox & AF Thompson, *History of British Trade Unions since 1889, Vol.1, 1889-1910*, (Oxford, 1964), p.23.

⁶⁵ Thomson, *Iron*, p.32.

⁶⁶ MacRaild & Martin, *Labour*, p.8.

⁶⁷ *Engineering*, 1 Aug.1884.

erect blast-furnaces in Lanarkshire during the period.

2.3 Steel

Several ironworks produced limited quantities of steel since the early 19th century.

Whilst local industrialists swiftly realised steel's advantages, technical difficulties retarded the industry's development. Although Henry Bessemer experimented at

Calder, Lanarkshire's pig iron contained excessive sulphur and phosphorous causing

Bessemer's abandonment of the process, which subsequently achieved success in

England during the 1850s.⁶⁹ Consequently, steel production remained negligible and

Lanarkshire's pig ironmasters encompassed significantly greater wealth and power than malleable iron or steelmasters from 1830-1870.

During the 1870s steel became increasingly sought after. The Royal Navy's senior architect commented, 'steel must eventually displace iron in shipbuilding'.⁷⁰ This

was reflected by the creation of Scotland's first steelworks by the Steel Company of Scotland, (SCS), at Hallside near Rutherglen in 1873. Rising demand from existing

maritime customers convinced various malleable producers to either completely convert or add steel to their existing product. In 1881, Dalzell produced

Motherwell's first commercial steel ingots and William Neilson adapted Mossend to contain five Siemens twelve-ton steel furnaces.⁷¹

⁶⁸ *Engineering*, 6 Feb.1880.

⁶⁹ *Ibid*, 25 June 1880.

Scotland's steel industry received further impetus in 1882 when Gilchrist introduced his, 'basic Bessemer process', employing phosphoric pig iron to produce steel. Merry & Cunninghame and GIC, which became the Glasgow Iron & Steel Company (GI&S Co.), quickly adopted Gilchrist's Basic Bessemer process, although both subsequently converted to Siemens manufacture in 1893. In 1885, Merry & Cunninghame's guests at Glengarnock, 'witnessed every stage of the manufacturing of basic steel, from the tapping of the blast-furnace, on through the Bessemer Converter, to the casting, hammering and rolling of the ingots into finished plates'.⁷² In Coatbridge the Woodside Steel & Iron Company was formed in 1883. In 1886, Coats, Drumpellier and Phoenix commenced steel-making. *Engineering* declared:

Scotland now bids fair to secure a position in the steel-making industry not much, if at all, inferior to that long held by the Sheffield district. Coatbridge has been for many years most extensively identified with the iron trade...it is only now that it is beginning to go in for the steel trade; but the need for its doing so has been abundantly demonstrated by recent experience.⁷³

By 1887, Lanarkshire produced more Siemens steel than any other region. There were six large works; Newton, Blochairn, Parkhead, Dalzell, Clydesdale and Mossend, (see table four). Continuous expansion was fuelled by rising demand. In

⁷⁰ *Engineering*, 2 Apr. 1875.

⁷¹ *Ibid*, 2 June 1882.

⁷² *Ibid*, 14 Aug. 1885.

⁷³ *Ibid*, 7 May 1886.

1887, *Engineering* noted, ‘this extraordinary alteration in the condition of things - a revolution, as it might almost be termed - has been brought about by the placing of orders for an unlooked for large quantity of steel for shipbuilding and other purposes.’⁷⁴ Finally, instead of converting malleable works, some firms specifically established steelworks including Clydebridge and the Lanarkshire Steel Company. The Bessemer process involved the integration of iron and steel manufacture and incorporated the charging of molten pig iron into steel converters. Alternatively, the Siemens process charged solidified pig iron. The predominance of Siemens over the Bessemer process in Lanarkshire further encouraged steelmasters independence from ironmasters. McGuffie notes, ‘steel could be economically produced in small plants without the integration associated with the Bessemer process’.⁷⁵

Table 4. Lanarkshire’s Principal Steel Manufacturing Firms.

Works/Principle owner	Location	Production Commenced
Newton, SCS	Hallside	1873
Dalzell, David Colville & Sons.	Motherwell	1881
Blochairn, SCS	Glasgow	1880
Mossend, Neilson.	Mossend	1881
Clydesdale, Bain & McCorkindale	Mossend	1884
Parkhead, Beardmore.	Glasgow	1879
Clydebridge, Neilson	Cambuslang	1887
Lanarkshire, John Strain.	Flemington	1889
Wishaw, GI&SCo.	Wishaw	1885

⁷⁴ *Engineering*, 9 Dec.1887.

⁷⁵ McGuffie, *Metal*, p.xxxii.

By 1890, Lanarkshire was the heart of Scotland's steel industry and among the UK's largest manufacturing districts. In 1892, Britain produced 2,916,640 tons including 1,418,830 tons of Siemens steel. 'Scotland...occupies first place for open-hearth steel, the make having been 461,967 tons'.⁷⁶ Steel furnaces developed from around twelve to forty tons capacity from 1881-1900.

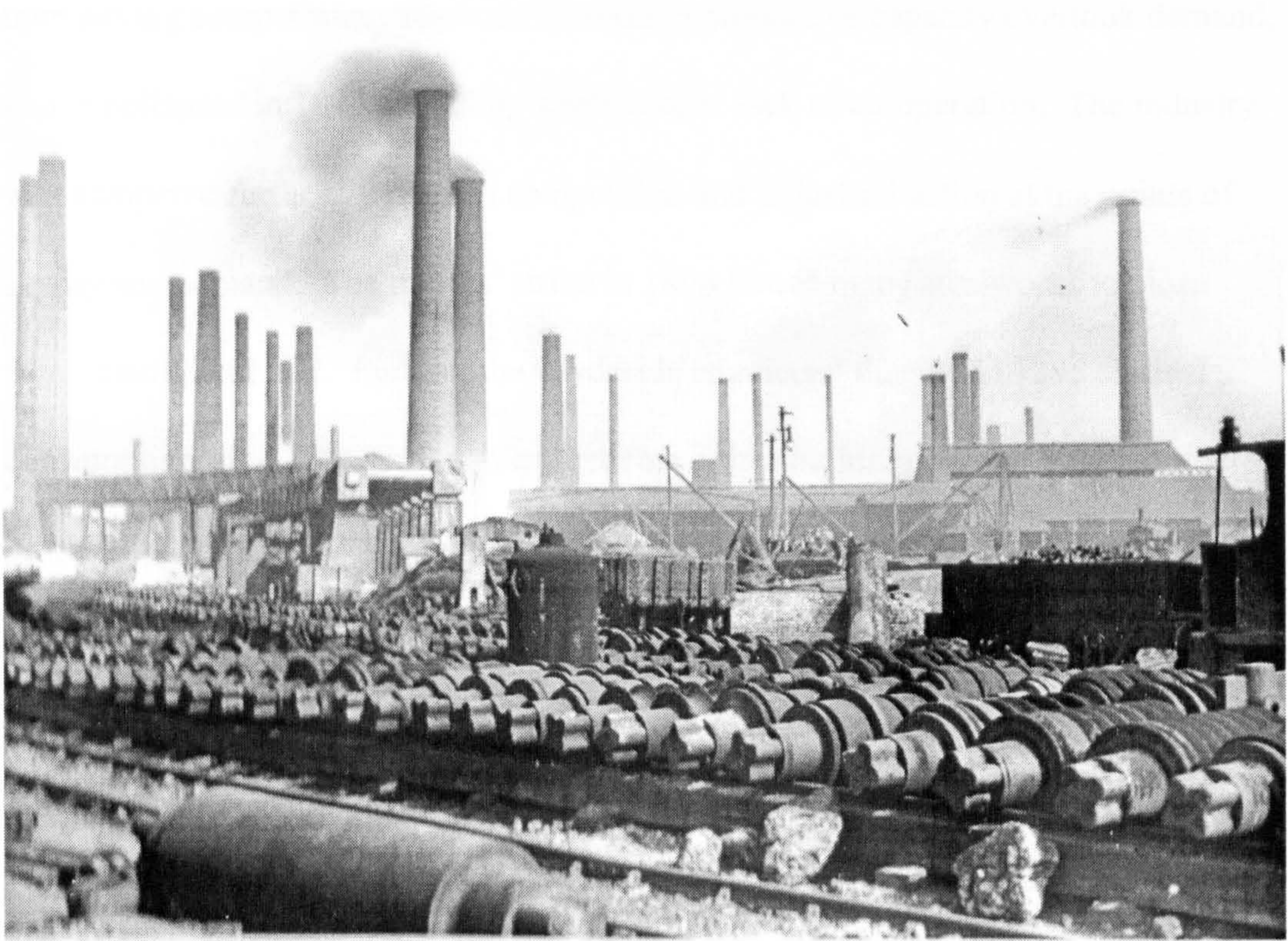


Figure 2. Dalzell steelworks, Motherwell, c1895. In 1881, Dalzell was the first of many malleable ironworks to produce steel and became one of the largest steel manufacturers in Scotland by 1900. Steel billets were propelled along these rollers (foreground) by teams of labourers.

By 1899, Colville's emerged among the most powerful producers in Scotland.

‘Colville & Sons...are apparently striving to gain the premier position in the kingdom for the manufacture of open-hearth steel.’⁷⁷ Colville’s were challenged by the Lanarkshire Steel Company’s construction of, ‘five big melting furnaces...and a powerful rolling mill’.⁷⁸ By 1900, steelmasters accumulated personal wealth that rivalled pig ironmasters; at his death in 1898, David Colville left over £225,000.⁷⁹

However, like pig and malleable ironmasters, the steelmasters experienced intensifying competition. The vast increase in productive capacity overtook demand, which collapsed in 1892, revealing steelmasters’ lack of co-operation. The industry was hampered further by English competition and industrial action at the points of supply and demand. The miners’ strike in 1894 forced many steelworks to close from insufficient fuel. Further, the Clydeside engineers’ dispute in 1895 slashed consumption until 1896, when, ‘very extensive ship-building orders’, revived steel production until 1900.⁸⁰ In 1897 Jeremiah Head, President of the Iron and Steel Institute, noted, ‘the severe competition between different districts and countries, has compelled more and more attention to be paid to all expedients which promise to save labour, time and other elements.’⁸¹ Despite the industry’s expanded economic significance by 1900, commercial pressures reinforced the importance of managerial authority over labour.

⁷⁶ *Engineering*, 7 Apr.1893.

⁷⁷ *Ibid*, 6 Jan.1899.

⁷⁸ *Ibid*.

⁷⁹ *Engineering*, 2 Dec.1898.

⁸⁰ *Engineering*, 6 Nov.1896.

⁸¹ *Engineering*, 14 May 1897.

The firms that composed Lanarkshire's iron and steel industries were not homogenous. Iron manufacture encompassed two completely different products competing in separate markets. Although several firms manufactured both commodities, the majority concentrated upon a single product, underlining the industries separation and reinforcing Payne's point, 'the ironmasters did not make steel and the steelmasters did not make iron'.⁸² Although the pig iron industry remained static throughout the period, the malleable iron industry was in flux throughout the 1880s as various firms converted to steel production, creating an entirely new industry. Only four firms produced all three commodities during the period; Summerlee & Mossend, Merry & Cunninghame, GI&S Co. and briefly Dunlop & Co. However, even these firms did not integrate production, emphasised by the abandonment of Gilchrist's process in 1893. Indeed, GI&S Co. produced pig iron at Wishaw that was transported to Motherwell for conversion into malleable iron for much of the period. Similarly, Neilsons produced pig iron at Summerlee, but malleable iron and steel at Mossend. Malleable iron and steelworks were more capital-intensive and required more complex production processes than pig ironworks. Indeed, technical diversity reinforced their separation. Finally, within each industry, firms varied widely in size, productive capacity and financial resources. Generally, pig ironmasters employed more workers and enjoyed greater wealth than malleable iron or steelmasters, although differentials narrowed by 1900. Some similarities existed; each industry experienced intensified competition resulting in greater emphasis on efficiency and productivity. Therefore, despite their

⁸² Peter Payne, 'Industrialisation and Industrial Decline', in Anthony Cooke, Ian Donnachie, Ann McSween and Christopher Whatley, (eds.), *Modern Scottish History, 1707 to the Present*, Vol.2, (East Linton, 1998), pp.82-83.

uniqueness, every firm sought greater control over labour costs. The means by which this control was exerted shall be examined in section three.

3. Power and Authority

In order to fully illustrate the masters' hegemony, it is necessary to analyse the various ways in which their power was employed, as well as considering the boundaries to their authority.

3.1 Economic Power

Rubinstein observes limitations upon British industrialists' economic power, noting the landed aristocracy's greater wealth.⁸³ Nonetheless, the importance of foreign exports, together with their prominent domestic position, gave Lanarkshire's pig ironmasters national and international significance. This stemmed from productive power and the huge stocks retained at ironworks and especially Connal's stores.

During the economic boom in 1872 Cleveland produced double Scotland's output, but held much smaller proportions of output as stock; Cleveland retained 40,000 tons in stocks compared with 194,000 in Glasgow. Indeed, 'the only stock of pig iron in the world that is worthy of the name is in Glasgow.'⁸⁴ Even during economically depressed periods, many ironmasters continued production in expectation of future price rises. Following the depression during the late 1870s, 'stock is far in excess of the highest total ever reached at any former period in the history of the Scotch Iron Trade.'⁸⁵ Storage diluted the derogatory effects of cyclical demand and provided Lanarkshire's masters with leverage on international prices. In 1875 *Engineering*

⁸³ WD Rubinstein, *Elites and the Wealthy in Modern British Society*, (Sussex, 1987), p.68.

⁸⁴ *Engineering*, 17, 26 Jan.1872.

declared:

Cleveland has hitherto failed to attain a worldwide commercial importance at all proportionate to the extent of its great industry. But it is otherwise with Scotland, partly from the fact that, owing to its large stocks, it very materially influenced the price of iron in all parts of the world, and partly because its No. 1 foundry iron...is in much request among founders in every iron-consuming town in both hemispheres.⁸⁶

The actions of Lanarkshire firms could affect Glasgow's prices. Therefore, during the early 1870s the influence of Lanarkshire's ironmasters extended around the globe; 'the daily quotation for pig iron on the Glasgow Exchange practically determines the prices of all the iron markets of England, the Continent, and America.'⁸⁷

However, the ironmasters' economic power was only sustainable for limited periods. Many other factors affected international demand and exerted greater influence on prices. Dickson argues reliance upon exports made the Scottish economy particularly vulnerable to demand fluctuations.⁸⁸ Indeed, demand for Lanarkshire's pig iron was adversely affected by Russia's eastern policy in 1873 and, 'an outbreak of cholera in some Mediterranean ports', in 1885.⁸⁹ Alternatively, Cleveland's labour dispute in

⁸⁵ *Engineering*, 20 May 1881.

⁸⁶ *Ibid*, 15 Jan.1875.

⁸⁷ *Ibid*, 17 Jan.1873.

⁸⁸ Dickson, *Capitalism*, p.195.

⁸⁹ *Engineering*, 24 Jan.1873, 27 Feb.1885.

1897 and the relief of the besieged town of Kimberley by British forces in 1900 boosted Glasgow's prices.⁹⁰ Lanarkshire's ironmasters remained vulnerable to cyclical depressions in world trade when Cleveland's cheaper pig iron was often acquired. Further, Glasgow's importance declined as foreign competition increased. By the 1880s and 1890s American pig iron prices generally determined Glasgow's prices, rather than *vice versa*. Therefore, for a short period Glasgow's market provided global influence for Lanarkshire's ironmasters, but from 1880-1900 such influence declined, corroborating Riden's view, 'prices...followed rather than led market forces.'⁹¹

Similar opportunities and threats emanated from market speculation. Speculators attempted to artificially raise prices in 1870, whilst depleted stocks in 1872 enabled capitalists to rig the market. Rigging also forced up prices in 1873, 1874, 1875 and various other periods including 1899.⁹² Such activity had associated risks; in 1872, 'the persons who were engaged in the late "rig"...have sold at a considerable sacrifice and "burned their fingers".'⁹³ Whilst the perpetrators sought anonymity, some Lanarkshire ironmasters colluded in market rigging. In 1873 one of the Neilson family, 'figured very prominently in Glasgow...in the famous "Iron Rig".'⁹⁴ Johnston regards price-fixing cartels as evidence of capitalists' collectivisation.⁹⁵ Similarly, Gospel notes the long tradition of price fixing and market sharing in

⁹⁰ *Engineering*, 27 Aug.1897, 23 Feb.1900.

⁹¹ Riden, 'Victorian', p.71.

⁹² *Engineering*, 19 Sept.1873, 2 Jan. 1874, 26 June 1874, 10 Sept.1875, 15 Sept.1899.

⁹³ *Ibid*, 6 Dec.1872.

⁹⁴ *Ibid*, 24 Oct.1873.

⁹⁵ Johnston, *Clydeside*, p.74.

Britain reduced competitive pressure on firms.⁹⁶ However, such activity was sectionalist behaviour that damaged other capitalists, such as excluded pig ironmasters and customers including malleable iron and steelmasters. In 1872, *Engineering* condemned, 'the insensate speculative greed which operated in the Glasgow market to such an extent as to cripple trade'.⁹⁷ In 1874, 'ironmasters, colliers, miners, shippers and founders, have all suffered by the high range of prices prevailing during the "rig"'.⁹⁸ Indeed, ironmasters were frequently victims of speculative behaviour perpetuated by Connal's stocks. By 1891 this persuaded various ironmasters that vast stocks had become a liability:

Never before have the ironmasters of Scotland felt more keenly the weight of the incubus created by these stores, and never previously has so earnest a desire found expression with them for their utter abolition, so that they might be freed from the at times all-powerful influence of outside and irresponsible speculators.⁹⁹

Consequently, there is little evidence of Johnston's 'shared capitalist class consciousness', evident in price-fixing.¹⁰⁰ Increased storage charges from 1889 and the ability to sell directly to consumers eventually caused the warrant stores' decline. During the boom in 1899, speculation was less evident than in previous booms in

⁹⁶ Gospel, *Markets*, p.16.

⁹⁷ *Engineering*, 17 Jan.1873.

⁹⁸ *Ibid*, 3 July 1874.

⁹⁹ *Ibid*, 2 Jan.1891.

¹⁰⁰ Johnston, *Clydeside*, p.75.

1879 and 1889.¹⁰¹ The trade in warrants declined so rapidly that by 1906 the Scottish Ironmasters' Association (SIA) considered abandoning the linkage between warrant-sales and wages, fearing labour might rig markets to obtain unrepresentative wage rises; 'the men got an advance of 10% because of a single transaction in warrants...[ironmasters] strongly suspected that this transaction had been engineered by the men themselves.'¹⁰²

Although diminished stocks and foreign competition terminated ironmasters' international influence, Lanarkshire's pig ironmasters remained epicentral to Scotland's economic infrastructure. Their guests at Glengarnock convey the regional economic importance of firms like Merry &Cunninghame in 1885:

Every phase of the iron and steel and allied branches of industry were represented by prominent men - from wealthy mineral proprietors, leading coalmasters, makers of pig iron, makers of malleable iron and of Siemens and crucible steel, merchants in all the branches of raw and finished materials, to the consumers, such as founders, boilermakers, tubemakers, civil and mechanical engineers and shipbuilders...¹⁰³

Yarmie states large capitalists exercised direct control over smaller firms and ancillary trades.¹⁰⁴ Indeed, pig ironmasters' charges or custom could significantly

¹⁰¹ *Engineering*, 12 Jan.1900.

¹⁰² Glasgow City Archives, (henceforth GCA) TD/171/1/1. Scottish Ironmasters' Association (henceforth SIA) minutes, 1899-1918, 29 May 1906, p.63.

¹⁰³ *Engineering*, 14 Aug.1885.

¹⁰⁴ Yarmie, 'British', p.145.

affect industries ranging from coal and ironstone mining, malleable and foundry iron, tube-making, steel, firebricks, transport, structural engineering and shipbuilding. For example, pig ironmasters provided extensive business to the Caledonian Railway Company, reflected by modest transportation costs with an average of 7/2d. per ton paid in 1883, compared with 8/6d. in Cleveland and 16s. in South Wales.¹⁰⁵

Economic downturns encouraged ironmasters to reduce costs and in 1879, 'railway companies have agreed to make concessions.'¹⁰⁶ Financial vigour promoted pig ironmasters' influence over other capitalists. However, this hegemony waned by 1900, reflecting pig ironmasters' greater economic vulnerability.

Gospel contends there were few large-scale manufacturing firms before 1900 and most iron and steel companies had little capital.¹⁰⁷ Although contradicted by certain pig ironmasters, Gospel's point is sustained by scrutiny of Lanarkshire's malleable iron and steelmasters, who generally possessed significantly less economic hegemony than pig ironmasters. Although Johnston claims steelmasters, 'operated in export-oriented markets', both the malleable iron and steel industries depended upon the Clydeside shipbuilding industry for the bulk of their orders.¹⁰⁸ Shipbuilding was highly cyclical, reflected by short-term contracts, whilst particular specifications required rendered stockpiling impossible, even during prosperous periods. Indeed, the malleable iron industry operated under a, 'hand to mouth', existence during certain periods.¹⁰⁹ In 1901, James Hamilton, Crown's master commented, 'the orders

¹⁰⁵ Burnham & Hoskins, *Iron & Steel*, p.140.

¹⁰⁶ *Engineering*, 7 Feb.1879.

¹⁰⁷ Gospel, *Markets*, p.17.

¹⁰⁸ Johnston, *Clydeside*, p.24.

¹⁰⁹ *Wishaw Press*, 1 Mar.1879.

were coming in from day to day and they were very glad to get them.’¹¹⁰ International events indirectly affected demand for malleable iron and steel by curtailing shipbuilding orders. Clydeside’s industrial disputes also afflicted Lanarkshire’s malleable ironworks and steelworks. In 1877, ‘should the threatened lock-out on the Clyde take place there will doubtless be a stoppage of many of the rolling mills.’¹¹¹ Further, in 1891 *Engineering* noted Lanarkshire’s steelworks suffering during a strike on Clydeside.¹¹² This was a familiar position for masters formerly involved in malleable iron. However, the displacement of malleable iron by steel for shipbuilding gradually forced malleable ironmasters to source alternative markets. Ironically, this reduced their dependency on Clydeside by 1891; ‘the steelworks are worse off than the ironworks, as they are now more directly interested in shipbuilding.’¹¹³ Malleable iron and steelmasters’ economic hegemony was curtailed by their requirement for coal and pig iron. Few produced either commodity and therefore price increases had adverse effects, particularly as intense competition ensured that additional costs were rarely transferred to consumers. In 1872 reduced orders and mounting fuel costs closed many malleable ironworks. Difficulties were exacerbated by pig iron’s scarcity, as pig ironmasters restricted production to exploit high coal prices. Malleable iron and steelmasters also suffered from the instability caused by speculation and rigging in the pig iron market, further exposing the lack of inter-industry co-operation with pig ironmasters and the inferior economic influence of malleable iron and steelmasters.

¹¹⁰ Glasgow University Business Archive (henceforth GUBA), Scottish Manufacturing Iron Trade Conciliation and Arbitration Board (henceforth SMITCAB), minutes, 4 June 1901, p.402.

¹¹¹ *Engineering*, 18 May 1877.

¹¹² *Engineering*, 7 Aug.1891.

¹¹³ *Ibid*, 21 Aug.1891.

Accelerating productive capacity and regional competition also mitigated steelmasters' influence. This was exacerbated during economic depressions. In 1893, *Engineering* reported, 'when prices begin to go up here a bit the North of England comes in and cuts them down.'¹¹⁴ Malleable ironmasters possessed limited economic leverage over local engineering firms who supplied steam engines and machinery. During the conversion to steel production, new orders were placed with local foundries and engineers. In 1883, Woodside placed orders with Dick & Stevenson of Airdrie for their engines and rolling mill gear, Miller & Co. for their heavy plate shears, and Murray & Paterson of Coatbridge for their steam hammer. More enduring potency was exerted over customers during boom periods; in 1900, 'the effect of such briskness in the steelworks is having an evil effect on the bridge-building industry, material not being obtainable for months after the orders have been lodged.'¹¹⁵ This resulted in bridge-works laying off labour, despite plentiful orders accruing from the Boer War. However, the limited scale of operations and demand ensured malleable ironmasters and steelmasters' economic influence over suppliers was commensurately limited, whilst intense competition restricted hegemony over customers.

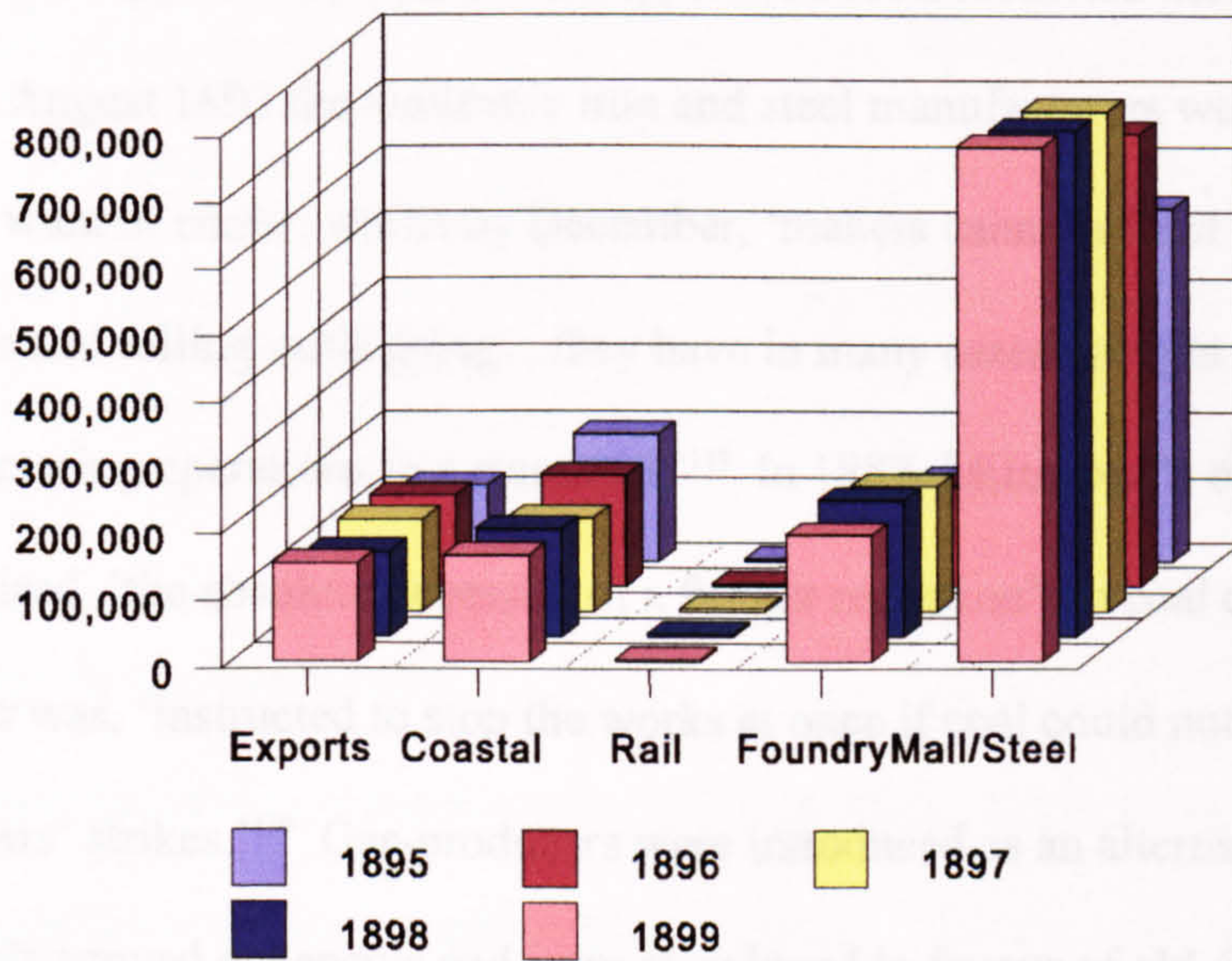
As the period progressed, changing market conditions altered the malleable iron and steelmasters' relationship with pig ironmasters. In the 1870s the malleable iron industry was a relatively minor consumer of pig iron, most of which was exported.

¹¹⁴ *Engineering*, 10 Feb.1893.

¹¹⁵ *Engineering*, 13 Apr.1900.

As consumers of pig iron, the malleable ironmasters and steelmasters suffered when pig ironmasters raised prices, although this potential source of weakness was diluted by the availability of alternative supplies, usually from Cleveland. However, burgeoning foreign competition, the growth of steel manufacture and continued production of malleable iron, greatly increased the importance of domestic consumption to pig iron producers. In 1886, 23.3% of Scottish blast-furnaces produced hematite iron, whilst by 1898, 53.3% worked hematite ore intended for consumption by steel manufacturers.¹¹⁶ The significance of annual domestic tonnage consumption in malleable iron and steelworks is illustrated in graph one.

Graph 1. Consumption of Scottish Pig Iron, 1895-1899.



¹¹⁶ *Engineering*, 21 May 1886, 16 Sept. 1898.

Nonetheless, pig ironmasters retained leverage from their dual role as producers of coal, required in bulk by malleable iron and steelworks. This also provided pig ironmasters with alternative strategies during periods of increased coal prices, a luxury most malleable iron and steelmasters did not possess:

The makers of pig iron are in a more advantageous position with reference to the coal supply than the finished iron and steel manufacturers. The latter have largely to purchase their coals, while the former invariably are the owners of coalfields. The blast-furnace owners, therefore, regulate their operation in such a way as to earn the best return. They have been known to put out iron furnaces in order to sell their coals in the open market, just because this course paid them best.¹¹⁷

Alternative suppliers existed, but transportation costs restricted most masters to local coal; in August 1893 the malleable iron and steel manufacturers were, ‘practically idle for want of coals’, whilst by December, ‘makers cannot afford to keep their furnaces and rolling mills going...they have in many cases brought their manufacturing operations to a standstill.’¹¹⁸ In 1887, Milnwood’s directors emphasised, ‘the absolute necessity of a further reduction’, in coal consumption, the manager was, ‘instructed to stop the works at once if coal could not be got owing to the miners’ strikes.’¹¹⁹ Gas-producers were introduced as an alternative fuel, but ultimately proved expensive and were abandoned in favour of old-fashioned, dross-

¹¹⁷ *The Engineer*, 6 July 1900.

¹¹⁸ *Engineering*, 25 Aug., 1 Dec.1893.

¹¹⁹ GCA, Milnwood Iron &Steel Company Ltd., Directors and Shareholders minutes, 27 Jan.1887.

fired puddling furnaces at Milnwood in 1889.¹²⁰

Economic power facilitated hegemony over other capitalists and labour. From 1870-1900, pig ironmasters generally enjoyed significantly greater economic influence than malleable ironmasters or steelmasters. However, in each industry economic influence varied throughout the period resulting from factors including international demand, market speculation and intensifying competition. Pig ironmasters' dominance was usually restricted to other firms of pig iron, malleable iron and steel producers or transportation companies. However, by 1900 their economic hegemony was circumscribed and ultimately eclipsed by steelmasters c1914. The gradual retreat from iron production and consolidation within coal mining by firms including Coltness, Dixons, Summerlee and Addies, reflected pig iron's fragility.¹²¹ Economic influence facilitated greater profitability, which increased the capacity to withstand protracted labour struggles. Carr and Wright note, 'by fixing the prices of iron the masters were indirectly fixing wage levels'.¹²² However, the correlation between prices and wages resulted in labour costs increasing proportionately to income. Therefore, capital's influence within the workplace requires greater examination.

3.2 Power in the Workplace

Many historians claim economic pressures, noted in sections 2.1 to 3.1, intensified capital's desire for effective authority over labour. McIvor states, from 1875-1885,

¹²⁰ *Ibid*, 14 Dec.1888, 1 Mar.1889.

¹²¹ Slaven & Checkland, *Biographies*, p.11.

¹²² Carr & Wright, *History*, p.64.

high labour costs and increased competition produced a crisis in profitability that prompted re-organisation, modernisation, tightened discipline and supervisory structures, as well as work intensification.¹²³ Alternatively, Kirk maintains, ‘traditionalism was...the dominant feature of British capitalism’s response’, expressed by attempts to cheapen and intensify labour.¹²⁴ Knox observes, ‘the sharpening of relationships between capital and labour’, during the late 1890s when ‘stricter codes of industrial discipline fractured reciprocity...heightening class antagonisms in industry’.¹²⁵ Price also asserts economic pressures mainly caused the abandonment of paternal social relations in industry.¹²⁶ However, the ability to enforce tightened labour controls depended upon product and labour market developments. Gospel argues the market chiefly determined labour management policy, whilst Melling states employers made more concessions under favourable economic conditions.¹²⁷ Further, McIvor insists, ‘general shifts in labour and product market circumstances influence the power balance between capital and labour, determining, to a large degree, fluctuations between offensive and defensive strategic modes’.¹²⁸ Similarly, Cronin observes greater managerial hegemony during periods of economic depression, whilst labour generally gained influence during economic prosperity.¹²⁹ Finally, Garside and Gospel argue most employers maintained, ‘that selling prices and market conditions (but not profits) should be the principal

¹²³ McIvor, *Organised*, p.70.

¹²⁴ Kirk, *Change*, p.165.

¹²⁵ Knox, ‘Political’, pp.145, 151.

¹²⁶ Price, *Labour*, p.149.

¹²⁷ Gospel, *Markets*, p.6. Melling, ‘Industrialists’, p.62.

¹²⁸ McIvor, *Organised*, p.21.

¹²⁹ James Cronin, ‘Strikes 1870-1914’, in Wrigley, *Industrial*, pp.74-98.

determinants of an employer's ability to concede wage demands.'¹³⁰

In Lanarkshire's iron and steel industries, the correlation between economic fluctuations and workplace hegemony was particularly acute due to the direct linkage between prices and wage levels. Customarily, in the iron industries, wage increases of 1s. accompanied price increases of £1 per ton. However, the pig iron industry had no general, automatic sliding-scale from 1870-1900. When prices rose, blast-furnacemen at ironworks demanded wage rises, but when prices fell ironmasters justified wage cuts; in 1879, 'labour, which was so arbitrary in its demands, has been brought to feel the necessity of being more reasonable.'¹³¹ The linkage mitigated the effectiveness of incentive payments, diluting a means of managerial control enjoyed in other industries.¹³² Indeed, during prosperous periods ironmasters often felt compelled to grant wage rises before blast-furnacemen demanded increases, for example at Shotts in 1879.¹³³ Significantly, individual firms negotiated sliding-scales separately with their workmen. Shotts ironworks agreed a new scale with their blast-furnacemen in 1880.¹³⁴ Pig ironmasters' concentration on wage rates supports Kirk's view of capital's traditionalism, but contradicts Melling's perception of evolving methods of control.

Joyce believes 'paternalism thrived best' in stable economic environments.¹³⁵ Whilst pig ironmasters' tendency to stockpile aided stability, their readiness to curtail

¹³⁰ Garside & Gospel, 'Employers', pp.99-115.

¹³¹ *Engineering*, 7 Feb.1879.

¹³² Reid, 'Employers', p.44.

¹³³ *Wishaw Press*, 4 Oct.1879.

¹³⁴ *Ibid*, 10 Jan.1880.

production in response to reduced prices or labour unrest was unlikely to solicit labour reciprocity. In 1870, a blast-furnace at Shotts was damped, 'as from the present low price of pig iron they cannot carry on the manufacture remuneratively.'¹³⁶ Blast-furnaces were damped even in periods when, 'neither miners nor furnacemen [are] proving in any way unreasonable or obstreperous in any demands.'¹³⁷ Reid argues cyclical demand was, 'a major obstacle to managerial rationalisation', and encouraged greater dependency on disposable manual labour rather than capital investment.¹³⁸ This is endorsed by pig ironmasters' limited technological innovation. Fraser states, 'to blow out a blast-furnace...was expensive and the large employer found it cheaper to make concessions than to risk a stoppage.'¹³⁹ However, when blast-furnacemen were, 'obstreperous', pig ironmasters could temporarily damp blast-furnaces whilst furnaces were only blown-out during prolonged disputes. This policy was facilitated by large stocks, which maintained profitability until the dispute's termination, encouraging managerial obduracy towards labour. During the depression in 1878 James Dunlop announced a wage reduction at Clyde. Dunlop, 'accompanied the announcement with the threat that if there is any hesitation on the part of the men about accepting they will blow all the furnaces out.'¹⁴⁰ This evidence validates the perception of authoritarian masters and substantiates Dutton and King's observation that industries subject to cyclical demand had reduced stability of employment, which hindered the development of a personalised relationship between

¹³⁵ Joyce, *Work*, p.xxi.

¹³⁶ *Engineering*, 19 Aug. 1870.

¹³⁷ *Ibid*, 13 Jan 1882.

¹³⁸ Reid, 'Employers', p.42.

¹³⁹ Fraser, *Unions*, p.119.

¹⁴⁰ *Engineering*, 4 Jan.1878.

capital and labour.¹⁴¹

Similarly, when faced with miners' strikes in 1874 and 1875, ironmasters agreed to damp furnaces, which reduced coal consumption until the dispute terminated. In 1880, eighty furnaces were damped for over a month in response to miners' action. Consequently, capital's response to miners' militancy victimised ironworkers. Conversely, stock values generally increased mitigating capital's suffering. During the miners' strike in 1872, curtailed iron production directly increased prices and warrants values. In 1894, *Engineering* noted, 'if the miners resolve on striking, the ironmasters would be compelled to close down their blast-furnaces, and thus cause an advance in the values of the iron in store.'¹⁴² Even threatened strikes increased prices; 'the market derives its strength at present from the extraordinary position of the labour market...there are disputes pending which excite much anxiety in the iron trade.'¹⁴³ Consequently, blast-furnacemen were more vulnerable to the miners' action than pig ironmasters, who frequently viewed industrial disputes with equanimity, contradicting Fraser.

During the economic depression from the mid-1870s, pig ironmasters were noticeably aggressive. In 1877, 'considerable numbers of blast-furnaces were damped down... owing to the wages dispute with the furnacemen', but re-lit when cuts were accepted.¹⁴⁴ This was repeated at Calder in 1878, Clyde in 1879, and

¹⁴¹ Dutton & King, 'Limits', p.62.

¹⁴² *Engineering*, 15 June 1894.

¹⁴³ *Ibid*, 23 May 1873.

¹⁴⁴ *Ibid*, 6-20 Apr.1877.

Dalmellington in 1883.¹⁴⁵ Furnaces were also damped for economic gain when coal prices surpassed pig iron; in 1879 ironmasters damped furnaces and sold their coal to profit from soaring prices, throwing over 2,000 blast-furnacemen out of work.¹⁴⁶ Similarly, in 1893, 'some eighteen blast-furnaces have been damped down...The ironmasters are now in a position to put their coal on the market and get the benefit of the high prices that have lately been reached.'¹⁴⁷ Therefore, ironworkers' welfare was subservient to short-term profitability. The bitterness engendered reinforces Reid's assertion that regular lay-offs prevented an effective paternalistic relationship occurring.¹⁴⁸ Finally, wage cuts generally succeeded when prices fell, but when prices rose wages advanced steadily. Therefore, pig ironmasters' authority fluctuated along with the economic pendulum, endorsing McIvor's correlation of product market developments and industrial power.

Joyce maintains that accommodation was more typical than conflict.¹⁴⁹ Alternatively, Melling maintains that by emphasising personal contacts with labour, industrialists' opposition to trade unionism was exacerbated.¹⁵⁰ Further, Campbell notes the, 'contradictory nature of paternalism which sought simultaneously to preserve traditional, hierarchical relationships in which employer authority was legitimised in a highly personalised form, and also to define these relationships as a co-operative

¹⁴⁵ *Ibid*, 4 Oct.1878, 1 Aug.1879, 30 Nov.1883.

¹⁴⁶ *Engineering*, 19 Jan.1879.

¹⁴⁷ *Ibid*, 1 Sept.1893.

¹⁴⁸ Reid, 'Employers', p.43.

¹⁴⁹ Patrick Joyce, 'Labour Capital and Compromise: a Response to Richard Price', *Social History*, 9 (1984), p.70.

¹⁵⁰ Melling, 'Industrialists', p.102.

partnership.’¹⁵¹ Indeed, pig ironmasters consistently displayed hostility towards labour organisations, which were perceived as a threat to managerial autonomy and a barrier to masters’ personal relationship with workers. Slaven and Checkland note that Lanarkshire’s ironmasters were notoriously aggressive, employing tactics including evictions, lockouts, blacklisting and the importation of replacement labour to break strikes.¹⁵² James Merry was, ‘autocratic’, and achieved, ‘an unenviable reputation for aggressive management and conservative, even harsh, labour relations. Friction was common at his works, strikes frequent, and strike breaking by importing Irish and Highland labour a repeated feature.’¹⁵³ Although such reputations were established around mid-century, they induced a corporate culture that was reiterated and reinforced by subsequent managers from 1870-1900. Despite Merry’s death in 1877, his firm recruited Welsh ‘blackleg’ labour as strikebreakers in 1880 and, ‘Russian Poles’, in 1887.¹⁵⁴ Similarly, Summerlee continued its staunch anti-union policy until 1913.¹⁵⁵ Further, the SIA refused to negotiate with the blast-furnacemen’s union until October 1899. Even when the SIA finally met labour representatives they resolved, ‘to make it clear at the outset...that freedom of labour would be insisted on.’¹⁵⁶ Alternatively, Carvel argues it was, ‘difficult to find another industrial organisation in which employers and employees pulled together with such co-operation and sense of *esprit de corps* as they did in the Coltness Iron Company’s

¹⁵¹ Allan Campbell, *The Scottish Miners, 1874-1939, Vol.1, Industry, Work and Community*, (Cornwall, 2000), p.257.

¹⁵² Slaven & Checkland, *Biographies*, pp.20-23, 49-57.

¹⁵³ Anthony Slaven, ‘James Merry MP’, in, *Biographies*, p.53.

¹⁵⁴ *Engineering*, 6 Feb.1880. *Motherwell Times*, 26 Nov.1887.

¹⁵⁵ Renfrew, ‘Militant’, pp.163-164.

¹⁵⁶ GCA, SIA minutes, 11 Oct.1899.

Works'.¹⁵⁷ However, Carvel concedes this partially resulted from a generous bonus system that was, 'hotly criticised by competitors whose approach to labour problems were not so progressive'.¹⁵⁸ Even if accurate, co-operative relationships at Coltness contrasted with bitter relations at other ironworks, including, 'dastardly outrages', such as the attempted sabotage of Dixons ironworks in 1874.¹⁵⁹

Joyce notes that large-scale operations negated paternalism.¹⁶⁰ Consequently, smaller malleable iron or steel firms should have been more paternalistic than pig ironmasters. Indeed, Fitzgerald contends paternalism, 'existed quite naturally among the large number of small and medium-sized businesses in the steel industry', in 1900.¹⁶¹ Further, Johnston argues employers enjoyed better relations with skilled labour; 'skill...was held in high esteem, and this was reinforced by the fact that many employers represented by the employers associations were themselves skilled craftsmen'.¹⁶² Certainly, malleable ironworks and steelworks contained higher proportions of skilled labour and various malleable ironmasters were former workmen. Indeed, James Riley, GI&SCo.'s manager and a former steelworker, was recognised for his humanity and trade unionists admitted, 'relations...had been of the kindest.'¹⁶³ However, when labour transgressed by stopping work without due notice, Riley reacted aggressively, threatening to bring workmen before the Sheriff and

¹⁵⁷ Carvel, *Coltness*, p.55.

¹⁵⁸ *Ibid.*

¹⁵⁹ *Wishaw Press*, 19 Dec.1874.

¹⁶⁰ Joyce, *Work*, p.336.

¹⁶¹ Robert Fitzgerald, *British Labour Management and Industrial Welfare, 1846-1939*, (London, 1988), p.84.

¹⁶² Johnston, *Clydeside*, p.203.

¹⁶³ GUBA, SMITCAB minutes, 4 June 1901, p.395.

successfully claimed damages against the men's union.¹⁶⁴ Further, at Blochairn, 'when trade was bad and the managers and employers not in a good temper, the men would not go near them.'¹⁶⁵ Payne describes David Colville & Sons as paternalistic, humanitarian employers.¹⁶⁶ David Colville's, 'daily progress from the railway station to the works was apt to be lengthy, delayed as he was by the numbers who intercepted him, to receive kindly greetings, good advice, and very often monetary aid in their difficulties.'¹⁶⁷ Company publications endorse this perception stating, 'the principals of the Company prided themselves upon their personal acquaintance with and interest in each man at the Works.'¹⁶⁸ However, John Hodge (Snr.) the ironworkers' union leader was sacked and black-listed by Colville, forcing Hodge to leave the area following a strike in 1872. Trainor argues paternalism legitimised employers' power, whilst, 'businesses which had expensive benefits or which courted their workforces with timely and ritualistic treats often enjoyed relatively harmonious relationships with their workforces.'¹⁶⁹ However, Trainor's conclusion is questionable. In 1886, Colville's conducted excursions to Dumfries for 1,000 employees.¹⁷⁰ Later that year Colville's sacked striking smelters and attempted to import Welsh replacement labour by railway, provoking the, 'Motherwell riots', when 3,000-5,000 people forcibly prevented blacklegs entering the works and fought with police.¹⁷¹ In the violence that followed, Archibald Colville was assaulted and

¹⁶⁴ *Ibid*, p.397.

¹⁶⁵ NLA, SMSTCAB minutes, 25 Jan.1895, p.45.

¹⁶⁶ Peter Payne, 'David Colville' in Slaven & Checkland, *Biographies*, p.98.

¹⁶⁷ *The Engineer*, 4 Nov.1896.

¹⁶⁸ NLA, *Jubilee of David Colville Sons Ltd., 1871-1921*, p.22.

¹⁶⁹ Trainor, *Black*, p.150.

¹⁷⁰ *Motherwell Times*, 12 June 1886.

¹⁷¹ Royal Commission [henceforth RC] on Labour, 1892, Vol.36,(16,518), p.396.

had a tooth knocked out.¹⁷² John Hodge (Jnr.) blamed Colville for provoking the riot; ‘one of the partners of the firm got onto the footboard of the carriage and brandished a revolver and was going to shoot all hands.’¹⁷³ Therefore, steelmasters’ paternalism had obvious limitations, undermining Fitzgerald, Joyce and Johnston’s arguments.

Malleable ironmasters also exhibited authoritarian attitudes. Many firms reduced the workmen’s notice from the customary fortnight, to a week, or even a day in periods of economic uncertainty. Firms also used this power to intimidate labour. Mr. Carrol, a workman with sixty years experience in malleable ironworks stated, ‘it was not unusual to give the men notice to leave when it was not the intention to stop the works.’¹⁷⁴ In 1867, John Kane, the ironworkers’ union leader, testified strikers at Dundyvan were evicted and John Matthews, a union activist, was blacklisted; there were, ‘many instances of that kind’.¹⁷⁵ In 1873, Blochairn gave workmen a day’s notice even though the company had plentiful orders, ‘reason being that they will be in an easier condition to deal with when it shall be resolved to reduce the wages.’¹⁷⁶ Some firms, including John Williams & Co. were aggrieved when generosity did not engender reciprocal goodwill. The firm, ‘complained of the treatment received at the hands of their workmen, notwithstanding that the firm has sufficiently paid higher wages than any other firm. A strike has existed among the puddlers of the establishment for six or seven weeks.’¹⁷⁷ The firm evicted strikers in December 1873 after millmen joined the dispute, which continued for three months until the strike

¹⁷² *Motherwell Times*, 29 Jan.1887.

¹⁷³ RC, Labour, 1892, Vol.36,(16,571), p.398.

¹⁷⁴ GUBA, SMITCAB minutes, 4 June 1901, p.403.

¹⁷⁵ RC, Trade Unions, 1868-1869, Vol.31, (8454, 8458).

¹⁷⁶ *Engineering*, 5 Dec.1873.

failed and the strike-leaders were sacked.¹⁷⁸ Indeed, Williams aggressive relationship with labour resulted in David Forrest, a puddler, assaulting Williams in 1890.¹⁷⁹

Dutton and King argue paternalist pretensions could aggravate disputes, as masters perceived trade unions as a barrier to their personal relationship with labour.¹⁸⁰

Dutton and King's argument is supported by examination of Thomas Ellis, who refused to join the Ironmasters' Association or participate in co-ordinated action against labour.¹⁸¹ Ellis valued personal ties with labour and rejected any external organisations hindering its continuance. 'Mr. Ellis was honourable in all his dealings, and his workmen had the highest esteem and regard for him. Rarely, if ever, did a wages strike arise amongst them.'¹⁸² However, Ellis paid 6d. extra per shift above standard rates. Therefore, like Coltness, immunity from industrial conflict arose from generous wages reciprocated by worker loyalty. Although elements of Joyce's 'social contract' are evident, they possessed a greater fiscal element than Joyce acknowledges.¹⁸³ When reciprocity broke down, Ellis was as ruthless as any Victorian capitalist. In 1879 Ellis discovered trade unionists at his works who refused to renounce their membership. Consequently, the unionists were served with eviction notices and Ellis stated:

All puddlers and ball furnacemen who are connected with the trades' union will

¹⁷⁷ *Ibid*, 13 June 1873.

¹⁷⁸ *Wishaw Press*, 6 Dec.1873. *Engineering*, 23 Jan.1874.

¹⁷⁹ *Wishaw Press*, 11 Oct.1890.

¹⁸⁰ Dutton & King, 'Limits', p.69.

¹⁸¹ *Engineering*, 3 June 1870.

¹⁸² *Ibid*, 1 Aug.1884.

¹⁸³ Joyce, 'Languages', p.225.

not be required, in order to give place to more sensible men. And be it known once for all that as I have no connection myself with any masters' union, I will not, upon any consideration whatever, employ any men connected with the trades' union.¹⁸⁴

Puddlers who did not comply were sacked and evicted. Such actions undermine Johnston's perception of exaggerated employer authoritarianism and Melling's emphasis on subtler methods of managerial control before 1900.

Campbell claims that presentations to employers were symptomatic of good relations.¹⁸⁵ Indeed, when Colonel Neilson's son George was married the *Bellshill Speaker* reported, 'Mr. Neilson, who is general manager of the works and highly respected by the employees, was presented with a handsome set of silver plate...and his bride a very handsome diamond appendage.'¹⁸⁶ However, this occurred in the middle of a long-term dispute and the presentation was made by blacklegs recruited to replace sacked strikers. (See chapter five.) Workmen also received presentations from labour; John Docherty, a hammer-man at Dalzell, received moleskin trousers and a waistcoat as a wedding present from levermen and hammer-drivers.¹⁸⁷ Further, capital made presentations to labour; in 1886 Dalzell's manager, William Cuthill, presented John Brassington, roller, with a clock for his marriage, although Brassington was labour activist and ultimately served as labour representative on the

¹⁸⁴ *Engineering*, 20 May 1870.

¹⁸⁵ Campbell, *Scottish*, pp.259-260.

¹⁸⁶ *Bellshill Speaker*, 28 Apr.1900.

¹⁸⁷ *Motherwell Times*, 14 Apr.1888.

steel industry's arbitration board.¹⁸⁸ Therefore, whilst presentations might authenticate good relations, deference should not be implied.

Industrial relations in the malleable trade were more adversarial than the pig iron industry as malleable ironmasters were unable to dominate their workforce. This occurred for various reasons. Generally, malleable ironmasters were financially weaker than most pig ironmasters. Fluctuating demand, restricted financial reserves, smaller stocks and greater capital costs combined to increase malleable masters' vulnerability. They also had more skilled and fractious employees and complained:

The workmen were very unstable and the least interruption of work became aggravated by the men putting on their coats and leaving the works...with these matters cropping up almost daily...The least suspension of work with all the oncost going on, increased the cost of manufacture.¹⁸⁹

The wages question was of central importance to industrial relations and usually indicated where the balance of power lay. Reid observes capital's continuing reliance on skilled labour; 'at the level of the individual firm...there were real difficulties involved in reducing work-group autonomy.'¹⁹⁰ Reid affirms in response to competitive pressures, masters' only option was to attempt wage cuts.¹⁹¹ Although there was no formal mechanism in Scotland for fixing wages rates, since the 1870 strike, (see chapter five), changes advocated by Cleveland's Arbitration Board were

¹⁸⁸ *Ibid*, 28 Aug. 1886.

¹⁸⁹ GUBA, SMITCAB minutes, 9 Feb.1900, p.255.

adopted in Scotland. In 1872, Lanarkshire's puddlers, shinglers and millmen received wage rises, 'without any need for a movement on the part of the men', as increases in England, 'determined the course of procedure of the Scotch ironmasters.'¹⁹² Similarly, in 1873 *Engineering* reported that English wage settlements, 'will also regulate the rate of wages among the ironworkers of Scotland.'¹⁹³ This also occurred in January 1880.¹⁹⁴ However, malleable ironworkers often opposed such cuts. Despite the economic slump in May 1873, Excelsior's millmen struck against wage cuts, resulting in Williams & Co. imposing eviction notices after a courtroom battle.¹⁹⁵ Garside and Gospel state, 'sliding-scales...provided employers with the ability to secure long-term wage agreements...without being obliged to discuss anything outside the realm of wages and prices which might encroach upon their authority.' Indeed, they perceive sliding-scales as, 'concessions obtained from employees...secured largely through their surrender of a separate or special interest in the determination of wages'.¹⁹⁶ Indeed, in eighteen months during 1874 and 1875, Lanarkshire's malleable masters reduced wages for all workmen by 42.5%.¹⁹⁷ In 1880, 'malleable iron firms throughout Lanarkshire have reduced the wages...there is a large amount of dissatisfaction amongst the men, but they are quietly submitting to it, as they find that trade is in a very unsatisfactory condition.'¹⁹⁸ Further, during the 'Great Depression', ironmasters

¹⁹⁰ Reid, 'Employers', p.35.

¹⁹¹ Alistair Reid, *Social Classes and Social Relations in Britain, 1850-1914*, (London, 1992), p.31.

¹⁹² *Engineering*, 26 July 1872.

¹⁹³ *Ibid*, 17 Oct.1873.

¹⁹⁴ *Wishaw Press*, 17 Jan.1880.

¹⁹⁵ *Ibid*, 12 June 1873.

¹⁹⁶ Garside & Gospel, 'Employers', pp.99-115.

¹⁹⁷ *Engineering*, 6 Aug. 1875.

¹⁹⁸ *Ibid*, 4 June 1880.

felt that wage reductions obtained via the sliding-scale were insufficient and in 1874 announced they would, 'no longer be bound', by the Cleveland Board's decisions on wages.¹⁹⁹

However, malleable ironmasters were forced to abandon this position once trade and their workmen's influence revived. The linkage to prices also provided large wage increases during periods of economic prosperity. Indeed, Garside and Gospel underplay masters' inability to prevent wage increases provided by sliding-scales, for example in 1879.²⁰⁰ Further, the adoption of the Cleveland Arbitration Board's decisions reduced friction, but resulted in Lanarkshire's malleable ironmasters possessing little pro-active ability in wage determination. Economic fluctuations rather than managerial policy determined wages, further supporting McIvor.

However, the timing of wage alterations remained contentious. Masters maintained individual policies at each ironworks over other issues, such as fuel quality and charge weights, which ultimately affected wages. This caused disputes at solitary ironworks including Clydesdale in 1878 and Stenton in 1896.²⁰¹ Further, when Crown's forge rollers complained that puddlers' irregular working lowered their output and wages, James Hamilton declared, 'that was the fault not of the employers but of their fellow workmen, and the employers could not be made to pay for what was no fault of theirs.'²⁰² This tacitly encouraged sectionalism within individual ironworks reducing the likelihood of combined labour action.

¹⁹⁹ *Ibid*, 11 Sept.1874.

²⁰⁰ *Wishaw Press*, 29 Nov.1879.

The steelmasters possessed similar levels of influence to malleable ironmasters. The skilled workforce, cyclical demand and intense competition restricted steelmasters' hegemony. Such limitations were exacerbated by the development of trade unions, including the British Steel Smelters' Association, (BSSAA) from 1886. Although most steelmasters recognised the unions shortly after their creation, FW Paul, Blochairn's master stated he, 'had always considered that unions were desirable provided they were conducted in a business-like way', certain employers refused to employ union labour.²⁰³ In 1888 Bain &McCorkindale opposed the BSSAA's presence.²⁰⁴ Further, Williams &Co. evicted fifty-five families in 1897 following a strike resulting from the sacking of a union official.²⁰⁵ However, the union provided alternative accommodation and the firm conceded defeat a month later.²⁰⁶ Finally, the Neilson family who managed Mossend and Clydebridge, ranked among the staunchest opponents of organised labour. Significantly, the Neilson family's managerial style developed within the pig iron industry at Summerlee.

Capital in each industry was intolerant of organised labour. Although pig ironmasters displayed more authoritarianism than malleable ironmasters or steelmasters, this mainly reflected the pig ironmasters greater dominance of their workforce, rather than attitudinal discrepancies amongst capital. Indeed, Yarmie argues, 'power rather than negotiation was the determining factor in labour relations...The choice of tactics generally depended on whether the union or the

²⁰¹ *Engineering*, 30 Aug.1878. *Wishaw Press*, 4 Apr. 1896.

²⁰² GUBA, SMITCAB minutes, 23 Mar.1900, p.281.

²⁰³ SMSTCAB minutes, 18 May 1894, p.34.

²⁰⁴ MRC, MSS36/BS1, BSSAA, Financial Statement, 30 June 1888.

²⁰⁵ *Wishaw Press*, 6 Feb.1897.

employer held the superior bargaining position.’²⁰⁷ Johnston also notes, ‘attitudes towards unskilled labour took the longest to change...the further down the skills ladder we go, the more likely we are to find employer intolerance turning into employer authoritarianism.’²⁰⁸ Indeed, pig ironworkers possessed fewer skills than malleable iron or steelworkers. Nevertheless, authority relations between masters and workmen were not restricted to the workplace and it is necessary to examine the masters’ hegemony in the wider community.

3.3 Power in the Community

Industrialists frequently adopted philanthropic or welfare policies within the community around their works. Howe alleges capital’s philanthropy provided more effective welfare provision than the state in the middle of the 19th century.²⁰⁹ Slaven and Doon-Wong argue, ‘characteristic of these men of business was their close identification with their local communities, their civic and philanthropic roles’.²¹⁰ Similarly, Knox notes paternalist and philanthropic strategies extended to, ‘encompass the complete locality’.²¹¹ Capitalists’ welfarism was related to issues of dependency and Searle claims employers were motivated more by pragmatism than idealism.²¹² Indeed, Joyce emphasises the importance of, ‘community building’ in facilitating capital’s, ‘possibilities for control’.²¹³ Joyce argues the social

²⁰⁶ *Ibid*, 6 Mar.1897.

²⁰⁷ Yarmie, ‘Employers’, p.233.

²⁰⁸ Johnston, *Clydeside*, p.174, 205.

²⁰⁹ Anthony Howe, *The Cotton Masters*, (Oxford, 1984), p224.

²¹⁰ Anthony Slaven & Kim Dong-Woon, ‘The Origins and Economic and Social Roles of Scottish Business Leaders, 1860-1960’, T.M. Devine, (ed.) *Scottish Elites*, (Edinburgh, 1994), p.162.

²¹¹ Knox, ‘Political’, p.143.

²¹² Searle, *Entrepreneurial Politics*, p.289.

²¹³ Joyce, *Work*, p.144.

manifestation of managerial power included the construction of houses, churches and schools, which encouraged a culture of subordination and deference towards capital.²¹⁴ Melling argues industrialists attempted to create stable communities to, 'complement the framework of managerial authority'.²¹⁵ Similarly, Knox contends that policies including the provision of company housing or public philanthropy ensured a higher degree of control over labour.²¹⁶ Alternatively, Garrard is sceptical of employers' ability to engineer 'social control' within the workplace or the community.²¹⁷ Indeed, Dutton and King argue for effective paternalism, 'operatives had to be willing to accept the masters' benevolence'.²¹⁸ There is evidence this did not occur in Lanarkshire.

Knox and Johnston argue paternalism was most effective in small towns.²¹⁹ Coltness Iron Company, based in Newmains, exemplifies the contradictions inherent in pig ironmasters mode of welfare policies. Carvel states, 'Henry Houldsworth and his associates were actuated by a genuine desire to improve the general condition of the working-class'.²²⁰ This was manifest in the construction of company housing, stores, schools and churches as well as the sponsorship of a penny savings bank and a Good Templars' band. However, deductions were made from labour's wages for rent, medical attendance, fuel, contributions to friendly societies or savings banks and school fees, regardless of whether workmen had children or not. Further, workmen

²¹⁴ *Ibid*, p.xvi.

²¹⁵ Melling, 'Industrialists', p.132.

²¹⁶ Knox, *Hanging*, pp.122-140.

²¹⁷ JA. Gerrard, *Leadership and Power in Victorian Industrial Towns, 1830-1880*, (Manchester, 1983), p.222.

²¹⁸ Dutton & King, 'Limits', p.72.

²¹⁹ Knox, *Hanging*, p.122. Johnston, *Clydeside*, p.202.

were expected to spend their advance in the company store or else their advances were stopped.²²¹ Ultimately company power was enshrined in a contract containing twenty-one clauses.²²²

Various pig iron companies supplied housing for their workforce, although quality varied enormously. In 1875 the *Glasgow Herald* reported, ‘the most wretched hovels that I ever saw...were at Calder, belonging to Messrs. Dixon.’²²³ Alternatively, at Addie’s housing, ‘for the first time in my experience, I found tenants speaking well of their landlord.’²²⁴ Rent generated income, whilst eviction proved a potent weapon against labour militancy. In 1877, blast-furnacemen at Quarter ironworks struck; ‘they were at once legally warned out of the houses which they occupied belonging to the employer.’²²⁵ Malleable ironmasters also provided housing and evicted workmen for union membership at North British in 1870 and striking at Dalzell in 1872. Although many malleable firms had insufficient resources for construction, firms including Milnwood sub-let housing.²²⁶ In 1873, GIC’s engine-keepers, firemen and steam-hammermen at Motherwell struck for several weeks demanding equal pay with their counterparts in Glasgow; GIC served eviction notices on strikers, breaking resistance within several days.²²⁷ Further, at Shieldmuir workmen who sheltered evicted strikers had their rents raised from 3/6d. to 7s. per week.²²⁸ Economic

²²⁰ Carvel, *Coltness*, p.55.

²²¹ RC, Truck, 1871,(16,488, 16,507), p.76.

²²² Carvel, *Coltness*, pp.56-58.

²²³ *Glasgow Herald*, 13 Jan.1875.

²²⁴ *Ibid.*

²²⁵ *Engineering*, 6 Apr.1877.

²²⁶ GCA, Milnwood minutes, 20 Dec.1888.

²²⁷ *Engineering*, 15 Aug.1873.

²²⁸ *Wishaw Press*, 12 June 1873.

rationale also caused evictions; during a trade depression in 1884, 'at Mossend Ironworks, upwards of 200 men are dispensed with, and most of them were warned out of the company's houses.'²²⁹ However, many workers were housed by subcontractors, (see chapter two), who held the power of eviction and solicited the resultant hegemony instead of masters.

Company stores further enhanced ironmasters' authority. In 1867, Alexander MacDonald, the Lanarkshire miners' union leader, stated, 'all large ironworks and pits have truck shops and one firm [Merry & Cunninghame] have eleven truck shops', around one-third of the total operated by Scottish ironmasters.²³⁰ John Cunninghame admitted workmen were pressurised into using the stores.²³¹ In 1871, the Royal Commission on Truck noted Lanarkshire's ironworks' advanced wages on condition it was spent in the company store.²³² Those who spent their advance elsewhere were marked down as 'slopers', whilst 'poundage' or interest was charged on loans and workmen who did not take advances were most likely to be dismissed during economic depression.²³³ John Kane testified Dundyvan's ironworkers struck for fourteen weeks and abolished truck, although it was reinstated.²³⁴ Summerlee also employed truck, provoking a strike in 1870 demanding its abolition.²³⁵ Some malleable firms including Milnwood found their company's constitution did not cover operating a store, but decided, 'any of the directors as individuals might do

²²⁹ *Motherwell Times*, 8 Mar.1884.

²³⁰ RC, Unions, 1868-1869, Vol.31,(15,526), p.294.

²³¹ Slaven, 'Merry', p.53.

²³² RC, Truck, 1871, Part II, Special Report, p.lxxi.

²³³ *Ibid*, (4308-4309, 9585-9659), pp.11-75.

²³⁴ RC, Unions, 1868-1869, Vol.31,(8423), p.14.

²³⁵ *Engineering*, 22 July 1870.

so'.²³⁶ Kane derided the stores' quality; 'at Mossend...cheese was supplied which was more like soap'.²³⁷ Various companies sold alcohol in an area within their store, called the, 'cage'. Motherwell malleable ironworks had a cage where, 'workmen were supplied with...liquor in exchange for the lines they received at the office'.²³⁸ In 1871, a manager described Calderbank's cage; 'it was not safe. They were like wild beasts. There was a mixture of all sorts - furnacemen and colliers: and the different grades would be casting up to one another and there were often fights ensued'.²³⁹ Drumpellier and Calder supplied alcohol, whilst Summerlee's public house sold 2,895 gallons of spirits and 3,865 gallons of malt whisky in 1870.²⁴⁰ Globe ironworks' store sold, 'porter and ale', and prevented retailers' vans delivering goods to company houses.²⁴¹ Mr. Gordon, a storekeeper, testified the system had, 'a degrading and demoralising tendency'.²⁴² Indeed, the combination of long pay runs, high prices and easy credit in company stores, encouraged workmen's indebtedness binding labour to the firm and fostering subservience. The stores reflected and reinforced workplace authority; a workman's wife testified although 'gaffers' families were treated respectfully, 'when they give you your article they pitch it to you as though you were a dog. They are sure of their money and know you must have your line'.²⁴³ Various strikes were motivated by labour's desire to destroy company stores including Mossend in 1870. From 1873-1896, falling prices raised working-class living standards by 30-50%, whilst the huge expansion of the co-

²³⁶ GCA, Milnwood minutes, 11 Aug.1887.

²³⁷ RC, Unions, 1868-1869, Vol.31,(8442).

²³⁸ T. Johnston, *Motherwell Memories*, (Hamilton, 1938), p.105.

²³⁹ RC, Truck, 1871,Vol.36,(3214), p.82.

²⁴⁰ *Ibid*, p.86.

²⁴¹ *Motherwell Times*, 1 May 1886.

²⁴² RC, Truck, 1871,Vol.36,(4679), p.87.

operative movement throughout the period capped the power of the works' store.²⁴⁴

In 1874 malleable ironworkers at Shieldmuir, 'advocated the starting of a co-operative society...which would render them independent of the masters.'²⁴⁵ The truck stores' operational procedures undermined any welfarist pretensions ascribed to malleable and pig ironmasters and embittered industrial relations.

Despite the stores' proliferation, Howe notes masters', 'wide range of cultural and philanthropic activities', and their widespread, 'contribution to welfare', in the mid-19th century.²⁴⁶ Indeed, Dalzell closed each Sunday, 'largely due to the Sabbatarian views of John Colville.'²⁴⁷ David Colville provided work for 350 unemployed steelworkers during the 1894 miners' strike stating, 'it was for them, as employers, to find work for the necessitous cases.'²⁴⁸ Philanthropy reinforced the masters' moral standing and reflected a desire to gain social respectability. However, philanthropy extended beyond the immediate community; Lanarkshire ironmasters subscribed generously to Glasgow University's construction at Gilmorehill in 1867.²⁴⁹ From £28,500 subscribed by industrialists, £11,500 emanated from ironmasters; Bairds provided £5,000, whilst Houldsworth gave £2,000 and Robert Addie, James Merry and two branches of the Neilson family each contributed £1,000. Such benevolence reflected ironmasters' status within Scottish society and reinforced their standing as prominent regional personalities, but hardly affected the lives of their employees.

²⁴³ *Ibid*, p.83.

²⁴⁴ James Hinton, 'The Rise of a Mass Labour Movement: Growth and Limits', in Wrigley, *Industrial*, pp.20-46.

²⁴⁵ *Wishaw Press*, 17 Jan.1874.

²⁴⁶ Howe, *Cotton*, p.271.

²⁴⁷ Arthur Pugh, *Men of Steel*, (London, 1951), p.108.

²⁴⁸ SMSTCAB minutes, 20 July 1894, p.38.

Labour regularly contributed to various charities that directly promoted their welfare; for example blast-furnacemen and malleable ironworkers provided funds to Glasgow Royal Infirmary in 1870 and steelworkers contributed to various hospitals and children's charities in 1894.²⁵⁰ Therefore, it is questionable if capital's egalitarianism bolstered their moral authority over labour or induced dependency within the workplace. Indeed, Gray maintains the importance of 'self-help' concepts to artisan culture was not conducive to acceptance of the passive, deferential or child-like role assigned to them by paternalist industrialists.²⁵¹

Labour resistance to various 'welfarist' measures from capital vindicates Gray's perception. The creation of works' schools providing philanthropic kudos for capital and created an educated, disciplined, future workforce. Knox states, 'the habits instilled...in the classroom were designed to make them amenable to the disciplines of the work rhythm of the factory...as well as to the authority of those above them.'²⁵²

Addie & Sons had a school at Rosehall in 1875, whilst the Houldsworths built a church that acted as a school and Sabbath school.²⁵³ Malleable firms also provided schoolrooms, including Motherwell ironworks, which also ran a Sabbath School in 1873. Although most works' schools had good accommodation compared with parochial schools, almost all had large numbers of pupils under a single master.²⁵⁴

Trade unionists rejected philanthropic motivations and claimed the schools

²⁴⁹ *Engineering*, 11 Oct.1867.

²⁵⁰ *Airdrie Advertiser*, 1 Jan.1870, *Motherwell Times*, 2 Oct.1894.

²⁵¹ Gray, *Labour*, p.185.

²⁵² Knox, *Industrial*, p.100.

²⁵³ *Glasgow Herald*, 13 Jan.1875.

²⁵⁴ Mary Mackintosh, 'Education in Lanarkshire: A Historical Survey up to the Act of 1872 from Original and Contemporary Sources', Glasgow University PhD thesis, 1968, p.462.

camouflaged financial gain. Alexander McDonald claimed that Merry

&Cunninghame:

In addition to school fees, charge every workman for the building and the maintenance of the school... I have estimated the cost of building one of the schools for which they have taken that penny per pound over eight years; and I can find that they could have built the school twelve times over.²⁵⁵

Mossend's ironworkers were also forced to contribute whether they had children or not.²⁵⁶ Dutton and King contend that labour placed limits on the effectiveness of paternalist strategies.²⁵⁷ Indeed, Mossend's workmen resented the imposition of a works doctor and expressed a wish, 'that the men should be allowed to elect their own doctor.'²⁵⁸ Similarly, in Shotts in 1882, 'in connection with the recent medical agitation at Shotts ironworks', a meeting of ironworkers appointed Dr. Duncan, 'independent medical practitioner for the district.'²⁵⁹ This supports Melling's argument that the term 'paternalism' is misleading, as industrialists' welfare decisions were often, 'reached after deliberate calculation of economic costs and benefits or with an overtly strategic purpose in mind'.²⁶⁰ The culture of the skilled working-class with emphasis on self-help promoted independence from capital's charitable initiatives. Further, 'workmen bitterly resented any suggestion of

²⁵⁵ Select Committee on Mines, Report, 1866, (6888), cited by Mackintosh, PhD thesis, p.462.

²⁵⁶ RC, Truck, 1871,(4965), p.84.

²⁵⁷ Dutton &King, 'Limits', p.69.

²⁵⁸ RC, Truck, 1871,(4968), p.84.

²⁵⁹ *Wishaw Press*, 22 July 1882.

²⁶⁰ Melling, 'Industrialists', p.101.

paternalism or deference in their industrial relationships'.²⁶¹ Indeed, each capitalist's primary concern remained the pursuit of profit; David Colville admitted, 'we are not philanthropists, and we do not carry on our business solely to give employment to the men.'²⁶²

Melling argues paternalism represents a 'set of ideas concerning the hierarchical ordering of society and the authoritarian tendencies of certain practices and principles'.²⁶³ This is corroborated by Grierson's analysis of the Volunteer movement, which revealed the value placed on social leadership by capital.²⁶⁴ James Merry was Lieutenant-Colonel in the volunteers, whilst some pig ironmasters recruited their own companies of Lanarkshire Rifle Volunteers, including Summerlee's 32nd Company and Gartsherrie's 43rd Company. Other pig ironmasters became officers included Captain John Neilson, and Ensigns James Addie and James Hunter.²⁶⁵ Fewer malleable iron and steelmasters participated apart from John Colville and James Kerr.²⁶⁶ Knox and Campbell argue the Volunteer movement reinforced managerial hegemony.²⁶⁷ Knox argues the rank structure represented, 'a hierarchical structure which reproduced the authority relations of the workplace.'²⁶⁸ Indeed, the most powerful pig ironmasters were the Volunteers most enthusiastic advocates. However, the establishment of workplace companies was impossible

²⁶¹ *Ibid.*

²⁶² NLA, SMSTCAB minutes, 19 Apr.1901, p.195.

²⁶³ Melling, 'Industrialists', p.102.

²⁶⁴ Lieut.-General Sir James Moncrieff Grierson, *Records of the Scottish Volunteer Force 1859-1908*, (London, 1909), pp.228-229.

²⁶⁵ *Ibid.*, pp.237-238. Miller, *Rise*, p.103.

²⁶⁶ NLA, LI2002/44, *Glasgow Directory*, pp.13, 98.

²⁶⁷ Knox, *Industrial*, p.98. Campbell, *Lanarkshire*, p.224.

²⁶⁸ Knox, *Industrial*, p.98.

without labour's co-operation. Indeed, Walter Neilson stressed the necessity of, 'genuine autonomy', for participating workmen.²⁶⁹ Participation afforded various social activities including shooting competitions, dinners and singing with volunteers from other iron and steelworks.²⁷⁰ Therefore, the movement's growth also encouraged social interaction between workmen, possibly facilitating more collectivist attitudes amongst labour.

Johnston states, 'firms involved in less hostile labour markets were able to cultivate company welfarism as a means of controlling workers.'²⁷¹ Further, 'paternalism was usually only effective in industries where poorly organised unskilled or semi-skilled workers were in the majority', and diminished as unions expanded.²⁷² Indeed, pig ironmasters generally adopted more interventionist policies in the community with associated welfarist measures than malleable iron and steelmasters. However, such policies were often resented and resisted by labour, diluting any resultant control in local communities.

3.4 Power in Society

Various historians emphasise the link between the workplace and society. Trainor states, 'a balanced portrayal of Victorian elite's exercise of authority, demands attention to the full range of their social interventions.'²⁷³ During the early 19th century numerous Lanarkshire works formed the nucleus around which company

²⁶⁹ Melling, 'Industrialists', p.99.

²⁷⁰ *Motherwell Times*, 19 May 1888.

²⁷¹ Johnston, *Clydeside*, p.202.

²⁷² *Ibid.*

²⁷³ Trainor, *Black*, p.20.

villages developed. In such communities industrialists exhibited widespread influence; Joyce notes, 'the possibilities for control in those colonies...were to remain enormous.'²⁷⁴ However, by 1870, many ironworks were located within established towns that contained a significant and increasing professional and mercantile middle-class, which curtailed ironmasters political influence.²⁷⁵ Wrigley notes increasing governmental concern over industrial disputes and industrialists' behaviour in the late 19th century. Autocratic employers could undermine acceptance of workplace authority and ultimately social discipline, whilst the extended franchise increased awareness of working-class grievances amongst MPs.²⁷⁶ Morgan and Trainor state, 'urban employers...enjoyed considerable electoral influence, at least down to the 1880s'.²⁷⁷ Yarmie argues political success facilitated masters' resistance to unfavourable legislation and ascribes industrialists' development of social and political leadership as a reaction against threats from trade unions and government.²⁷⁸ Political influence facilitated Bills favouring employers, including the Trade Union Bill in 1871, which restricted picketing. Johnston states Clydeside's employers were, 'politically significant', both nationally and locally and claims, 'the notion that the business interest was defensive, divided and politically weak, cannot be sustained.'²⁷⁹

Nonetheless, Howe argues masters' parliamentary election before 1860 represented the achievement of, 'individual political and social ambition', rather than a means of

²⁷⁴ Joyce, *Work*, p.144.

²⁷⁵ *Clarke's Motherwell Directory*, (Glasgow, 1896), pp.1-97.

²⁷⁶ Chris Wrigley, 'The Government and Industrial Relations' in Wrigley, *Industrial*, pp.135-158.

²⁷⁷ Nicholas Morgan & Richard Trainor, 'The Dominant Classes', in Fraser & Morris, *People*, p.128.

²⁷⁸ Yarmie, *British*, pp.145, 148.

²⁷⁹ Johnston, *Clydeside*, p.208.

promoting their industry's interests.²⁸⁰ Indeed, Lanarkshire's ironmasters were politically successful in mid-century. William Baird was elected MP for the Falkirk burghs, (including Airdrie), from 1841-1846, whilst James Baird held the seat from 1851-1857. Melling and Yarmie state industrialists were pre-dominantly Liberal.²⁸¹ However, various pig ironmasters were staunch Conservatives including the Bairds, James and John Addie, Alexander Whitelaw, Alexander and JC Cunninghame, as well as James and Walter Neilson.²⁸² Political allegiance divided individual firms; James Hunter, manager at Coltness was a Conservative, standing unsuccessfully in Glasgow in 1874, although James Houldsworth was a Liberal.²⁸³ Further, James Merry stood as Liberal candidate against George Baird, even though his partner JC Cunninghame was the Conservative parliamentary candidate in 1885. Indeed, James Baird was 'outraged' following his brother's defeat by Merry.²⁸⁴ Malleable iron and steelmasters generally exhibited greater support for the Liberals. Mr. Morton, manager of Motherwell Ironworks from 1852-1883, was a Liberal and served as Motherwell's Provost.²⁸⁵ Andrew Stewart of Clydesdale was also a Liberal and John Williams, Excelsior's ironmaster, stood for the party in 1885.²⁸⁶ All three Colville brothers were Liberals; David Colville, 'waved a red handkerchief over his head, and called for cheers for the "Grand Old Man"', at the polling booth in 1885.²⁸⁷ However, Alexander Miller of Globe malleable ironworks and R. Lang Anderson of

²⁸⁰ Howe, *Cotton*, p.92.

²⁸¹ Melling, 'Industrialists', p.100. Yarmie, 'British', p.148.

²⁸² *Motherwell Times*, 1 Aug., 14 Nov.1885.

²⁸³ Anthony Slaven, 'James Hunter', in, *Biographies*, p.47.

²⁸⁴ Robert Corrins, 'James Baird', in, *Biographies*, p.22.

²⁸⁵ *Motherwell Times*, 31 Oct.1885.

²⁸⁶ *Ibid*, 30 Aug. 1884, Nov.1885.

²⁸⁷ *Ibid*, 5 Dec.1885.

Brandon ironworks were Conservatives.²⁸⁸ Therefore, although pig ironmasters tended to be Conservative and malleable ironmasters tended to be Liberals, there was no strict correlation between industry and politics, sustaining Reid's claim that internal divisions weakened the masters' political influence.²⁸⁹

Although several ironmasters became MPs from 1840-1860, few were elected from 1870-1900. Many workmen previously felt obliged to support their master politically. In 1885, the pro-Liberal *Motherwell Times* warned:

Mr. Cunninghame is a large employer of labour in this district...it will perhaps only be natural, or at all events carrying out a line of conduct which has been pursued more than once before, should a considerable number of his employees support the Tory candidate irrespective of his politics.²⁹⁰

Nonetheless, the expanded franchise from 1884 diluted the Conservative masters' political influence. Donald Crawford, a lawyer, held northeast Lanark for the Liberals from 1885, despite the Irish vote going to the Conservatives, when he defeated JC Cunninghame. Crawford also defeated Alexander Whitelaw (Jnr.), the son of Bairds' manager, in 1886.²⁹¹ During the mid-1880s, Lanarkshire's working-class was increasingly politicised. Iron and steelworkers were prominent supporters of large-scale reform and political demonstrations in 1884 and 1886. The *Motherwell Times* noted, 'our working

²⁸⁸ *Ibid*, 3 Oct., 28 Nov.1885.

²⁸⁹ Reid, *Social*, pp.19-23.

²⁹⁰ *Motherwell Times*, 30 May.1885.

men have suddenly come to the consciousness of great power.²⁹²

Consequently, Liberal iron and steelmasters experienced greater electoral success than Conservatives during the period. Indeed, John Colville was supported by John Hodge and John Cronin, leaders of the two largest steelworkers' unions, during his successful election campaign in 1895.²⁹³



Figure 1. John Colville's election card, 1895. The Liberal party dominated Lanarkshire politics from 1870-1900 and Colville became MP for northeast Lanark from 1895-1901. Both Liberal and Conservative politicians employed patriotic imagery on their election cards.

However, industrialists remained prominent in civic affairs. Trainor notes that civic

²⁹¹ *Bellshill Speaker*, 8 Oct. 1892.

²⁹² *Motherwell Times*, 4 Sept. 1886.

positions, 'were sources of prominence and respect', whilst Howe states local government, 'enhanced [industrialists'] opportunities for control.'²⁹⁴ By 1879 pig ironmasters including William Neilson, Colin Dunlop and George Colt (Gartsherrie) served as JP's, William Dixon and James Houldsworth held the Lieutenancy of Lanarkshire, whilst Andrew Cunninghame was a magistrate and town councillor in Glasgow.²⁹⁵ Fewer malleable iron and steelmasters participated in civic affairs, although Robert Cassells of GIC served as JP and JCJ Freeth of Caledonian Tube Company was elected councillor for Coatbridge Burgh and served as magistrate.²⁹⁶ James Wilson, of Caledonian, acted as JP and was elected to the first Burgh Council in Coatbridge, where he became Baillie, Treasurer and Dean of Guild.²⁹⁷ Finally, John Colville's obituary stated:

It would be hard to name any religious or benevolent enterprise in the town to which he was not a tower of strength.... As a Volunteer officer, School Board Member, Burgh Commissioner, County Councillor and Provost, he served the community [promoting] the causes that lay nearest his heart, especially those of religion, temperance and social reform.²⁹⁸

Reid is sceptical of the social influence exerted by masters, noting the middle-

²⁹³ *Ibid*, 12 July 1895.

²⁹⁴ Trainor, *Black*, p.19. Howe, *Cotton*, p.133.

²⁹⁵ *Glasgow Post Office Directory, 1879-1880*, (Glasgow, 1879), pp.98, 105.

²⁹⁶ *Engineering*, 20 July 1900.

²⁹⁷ *JWSISI*, Vol.3, 1895, pp.173-192.

²⁹⁸ *Glasgow and Lanarkshire Illustrated*, (Glasgow, 1903), p.90.

classes' growing political involvement.²⁹⁹ Certainly, GIC's opposition failed to prevent Motherwell becoming a burgh under the Lindsay Act in 1865.³⁰⁰ Motherwell's first burgh election returned James Russell of Coltness and Robert Cassells as commissioners, but small-scale retailers dominated the remaining appointments.³⁰¹ Indeed, the middle-classes supplied the vast majority of Motherwell's elected officials until 1900.³⁰² Similarly, Johnston's evidence of businessmen's involvement in Airdrie's civic affairs is restricted to small-scale retailers.³⁰³ This supports Price, who argues the growth of civic authority diminished ironmasters' involvement in urban government.³⁰⁴ However, whilst Motherwell contained malleable iron and steel producers, the wealthier pig ironmasters exercised greater political influence in Coatbridge, which retarded the establishment of Burgh status and troublesome regulations: Glasgow's civic authorities fined Hannay & Sons in 1870 for creating a smoke nuisance at Blochairn.³⁰⁵ Coatbridge finally achieved burgh status in 1885, despite sufficient population since 1841. However, significant limitations were incorporated within the Coatbridge Burgh Act, with specific exemptions from public health enactments against black smoke emissions. The ability of civic authorities to confront industrialists was also curtailed by pig ironmasters' dominance of the institution. John Alexander of Gartsherrie became the first Provost from 1885-1894, whilst AK McCosh became Provost in 1900. In 1885 the Burgh commissioners reflected the industrial power base of Coatbridge,

²⁹⁹ Reid, *Social*, pp.19-23.

³⁰⁰ *Motherwell Times*, 14 July 1883.

³⁰¹ Johnstone, *Motherwell*, p.65.

³⁰² *History and Directory of Motherwell, 1899-1900*, (Hamilton, 1900), pp.131-132.

³⁰³ Johnston, *Clydeside*, pp.116-117.

³⁰⁴ Price, *Labour*, p.149.

³⁰⁵ *Engineering*, 2 Dec.1870.

comprising six ironmasters, two iron tube manufacturers and a brick manufacturer, with several middle-class retailers.³⁰⁶ Consequently, capital's control of civic authority in Coatbridge represented a new focus rather than a curtailment of the pig ironmasters' patrician role in society, thus challenging Price's point. Melling argues industrialists were frequently unsympathetic to other bourgeois groups.³⁰⁷ This is evident in Coatbridge, but not in Motherwell where industrialists including John Colville, Provost and MP, actively courted middle and working-class Liberals.

The malleable iron and steelmasters' comparative lack of political influence resulted in unfavourable terms being imposed by local authorities. In 1886, various firms in Motherwell and Wishaw appealed against valuations imposed by the Middle Ward of Lanarkshire. Milnwood wanted its valuation reduced from £500 to £300, Dalzell from £4,500 to £300, and Clydesdale from £2,400 to £1,300. Significantly, A&T Miller complained their Motherwell works was taxed considerably higher than their Coatbridge works. Motherwell's civic authorities charged £50 per furnace, whilst Coatbridge charged £20-25. In Motherwell the firms' appeals were rejected by the assessor, who accused Clydesdale of, 'carefully refraining from giving any information as to the cost of the works', and considered various firms' valuation as, 'absurdly low.'³⁰⁸ This corroborates Knox and Campbell' assertion that Coatbridge was amenable to employers' social control.³⁰⁹ Consequently, capital's political control varied between towns, with greater hegemony exerted by pig ironmasters in

³⁰⁶ NLA, Coatbridge Town Council Minutes, 6 Nov.1885.

³⁰⁷ Melling, 'Industrialists', p.132.

³⁰⁸ *Engineering*, 17 Sept.1886.

³⁰⁹ Knox, 'Political', p.150. Campbell, *Lanarkshire*, pp.34-35.

Coatbridge, than malleable iron and steelmasters in Motherwell. Capital remained politically divided, whilst the working and middle-classes became politically significant. Therefore, masters found it increasingly difficult to dominate society from 1870-1900. Consequently, capital's ability to maintain a united front assumed greater importance.

3.5 Co-operation and Competition

Some historians allege collaborationist tendencies amongst employers developed during the 19th century. Yarmie notes the formation of a, 'managerial ideology', from the mid-Victorian period.³¹⁰ Johnston alleges, 'Clydeside employers frequently acted out of class consciousness'.³¹¹ McIvor states, from c1880, 'the class identities of British employers were invariably sharpened', and argues increasingly powerful employers' associations, 'represented a consolidation of class awareness'.³¹² The synergy provided by an effective master's association might bolster capital's influence by establishing co-ordinated policies and united action. Knox maintains disenchantment with paternalism and the rise of 'oppositional' culture placed greater stress on employer co-operation.³¹³ Indeed, employers' organisations could strengthen capital's resistance to trade unions. Burgess argues managerial ideology promoted intolerance of unions, as the employer was the only source of legitimate authority.³¹⁴ Johnston states, employer organisations', 'main *raison d'être* was to

³¹⁰ Yarmie, 'British', p.142.

³¹¹ Johnston, *Clydeside*, p.206.

³¹² McIvor, *Organised*, pp.275, 7.

³¹³ Knox, *Hanging*, p.140.

³¹⁴ Keith Burgess, *The Origins of British Industrial Relations*, (London, 1975), p.iii-iv, pp.29-39.

control the labour force'.³¹⁵ Finally, Yarmie argues the main rationale of employers' organisations was to combat strike activity and trade unionism; 'the impulse to form associations derived from the employers' exaggerated sense of the need to defend individual rights and to protect managerial prerogatives.'³¹⁶ However, Yarmie notes the inherent contradiction between employer associations and capitalists' individualist principles during the mid-Victorian period and believes employers' associations were weakened by, 'the heterogeneous composition of the members'.³¹⁷ Melling also espouses the, 'diverse and fragmented character of Scottish employers'.³¹⁸ Melling states, 'employers did not form a coherent group...and could only be brought to act collectively with great difficulty.'³¹⁹ Reid states, 'employers' organisations were surprisingly weak', whilst Zeitlin argues British employers' associations lacked coherence.³²⁰ Zeitlin states employers were divided by competition, short-term interests and were, 'incapable of formulating any coherent definition of their class interests.'³²¹ Indeed, this thesis shall argue Lanarkshire's iron and steelmasters displayed insignificant collective action and generally remained individualistic in character.

McIvor avers that employers' organisations prosper where numerous competing units operate in relatively homogeneous product markets relying upon external labour, but concedes employer organisations were weakened by the 'characteristic heterogeneity'

³¹⁵ Johnston, *Clydeside*, p.202.

³¹⁶ Yarmie, 'Employers', pp.210-211, 215, 228.

³¹⁷ *Ibid*, pp.168-169, 235.

³¹⁸ Melling, 'Industrialists', p.67.

³¹⁹ *Ibid*.

³²⁰ Reid, 'Employers', p.35. Zeitlin, 'From', p.175.

³²¹ Jonathan Zeitlin, 'Shop Floor Bargaining and the State', in Tolliday and Zeitlin, (eds.), *Shop Floor*

of British product markets.³²² Indeed, throughout the period each of Lanarkshire's iron and steel industries had distinct products, separate masters' associations and marginal inter-industry co-operation. In 1899, the West of Scotland Steelmasters' Association, (WSSA), held offices in Royal Exchange Square, Glasgow, the pig ironmasters were represented by the SIA, based in St. Vincent Street, whilst malleable ironmasters were represented by the Scottish Manufactured Iron Trade Association, (SMITA), based in Coatbridge.³²³ There was no umbrella organisation covering all three industries and each association usually operated in isolation.

A loosely defined pig ironmasters' combination existed in Lanarkshire since 1840, although a formalised structure was evident by 1899, (see table five).³²⁴ Pig ironmasters periodically met to arrange wage rates and share information; in 1871 Bairds passed details of wage rates for various classes of ironworker to Robert Addie.³²⁵ Ironmasters occasionally agreed output restrictions to improve, 'the tone of the market', in 1877 and 1878.³²⁶ Indeed, co-operation in Lanarkshire's pig iron industry was limited in scope, occurrence and duration. In 1884 *Engineering* noted, 'although most of the ironmasters have an understood arrangement as to their production. Others have been acting independently.'³²⁷ Agreements on output restrictions proved contentious, particularly during economic depression, which

Bargaining and the State -Historical and Comparative Perspectives, (Cambridge, 1985), p.19.

³²² McIvor, *Organised*, pp.20-21.

³²³ British Parliamentary Papers, 6th Annual Abstract of Labour Statistics, 1899, p.12.

³²⁴ Thomas B. MacKenzie, *Life of James Beaumont Neilson, FRS, Inventor of the Hot Blast*, (Glasgow), p.45.

³²⁵ *Wishaw Press*, 27 Sept. 1879. NLA, Gartsherrie Letter Books, [henceforth GLB], 4 Aug.1871, U804/18, 11 Mar.1872, 22 June 1872, U8 04/19.

³²⁶ *Engineering*, 27 July, 23 Nov.1877, 22 Nov.1878.

³²⁷ *Ibid*, 12 Dec.1884.

abrogated an agreement in 1880. Disunity was also apparent during confrontations with labour. In 1880, blast-furnacemen struck against a proposed wage reduction. Despite four meetings, the masters failed to implement collective policy; ‘the marvellous absence of combined and steadfast action...characteristic of the ironmasters...has prevented any decided steps being taken.’³²⁸

Table 5. Scottish Ironmaster’s Association Members, 1899.³²⁹

Company	Ironworks, Location	Representative
William Baird &Co.	Gartsherrie, Coatbridge	Mr. McCosh (chairman)
<i>Ibid.</i>	Lugar, Ayrshire	Mr. Angus
<i>Ibid.</i>	Muirkirk, Ayrshire	<i>Ibid.</i>
<i>Ibid.</i>	Eglington, Ayrshire	Mr. Thorneycroft.
Merry &Cunninghame	Glengarnock, Ayrshire	Mr. McIntosh
<i>Ibid.</i>	Ardeer, Ayrshire	<i>Ibid.</i>
<i>Ibid.</i>	Carnbroe, Coatbridge	<i>Ibid.</i>
William Dixon Ltd.	Govan	Mr. Thomson
<i>Ibid.</i>	Calder, Airdrie	<i>Ibid.</i>
James Dunlop &Co.	Clyde, Tollcross	
Glasgow Iron &Steel Co.	Wishaw	Mr. Riley
Shotts Iron &Coal Co.	Shotts	Mr. Turnbull
Summerlee &Mossend.	Summerlee, Coatbridge	Mr. Neilson
Dalmellington Iron Co.	Dalmellington	
Carron Company	Falkirk	Mr. McClelland
Addie &Sons.	Langloan, Coatbridge	
Coltness Iron Company	Newmains	Mr. Russell

Disagreements occurred regularly; in 1886, *Engineering* observed; ‘the experience

³²⁸ *Engineering*, 2 Apr.1880.

of the past...would almost justify the conclusion that a combined movement of the Scotch ironmasters...is a very improbable thing.³³⁰ This evidence supports Carr and Wright's description of Scottish ironmasters as, 'extreme individualists'.³³¹

McIvor's admission that employer organisations were undermined by competition is substantiated.³³² In 1890 *Engineering* stated, 'the question of curtailment will resolve itself into a "survival of the fittest"'.³³³ Whilst the larger firms could adopt an independent course, unilateral action by smaller producers rarely succeeded. In 1881, James Dunlop damped Clyde's furnaces to improve trade, but other firms increased production and Dunlop's policy was ineffective.³³⁴ Therefore, capital's hegemony over other masters was inexorably intertwined with financial might and productive capacity. As unanimity remained anomalous within Lanarkshire, it is unsurprising that inter-district co-operation was extremely rare. However, Cleveland's ironmasters initiated a meeting with a Scottish ironmasters' deputation, which agreed output restrictions of 12.5% for six months from October 1881. The deputation was not empowered to make arrangements. However, ratification was achieved despite the individualistic resentment of some Scottish ironmasters who stated, 'they should be allowed to use their own discretion as to the keeping in or blowing out their furnaces.'³³⁵ Such attitudes were justified by the traditionally bellicose relationship with Cleveland's ironmasters; this was, 'the first instance of any public recognition

³²⁹ GCA, SIA minutes, 11 Oct.1899, p.1.

³³⁰ *Engineering*, 29 Jan.1886.

³³¹ Carr & Wright, *History*, p.66.

³³² McIvor, *Organised*, pp.20-21.

³³³ *Engineering*, 21 Feb.1890.

³³⁴ *Ibid*, 24 June 1881.

of the Scottish ironmasters by their competitors in Cleveland.³³⁶ The arrangement foundered in September 1882, following Baird's unilateral withdrawal, despite widespread opposition. Large firms' independence from the SIA's control was further demonstrated in 1886; Cleveland's ironmasters stated restrictive arrangements were impossible, 'so long as some of the large makers in Scotland kept aloof from the Scottish Associated Ironmasters.'³³⁷ Therefore, unilateral action by dominant pig ironmasters emasculated the SIA, corroborating McIvor's observation that large firms dominating particular markets undermined employers' organisations and Reid's observation that regional divisions exacerbated the masters' strategic weakness.³³⁸

McIvor and Johnston note smaller firms with fewer resources lacked the power to combat organised labour and tended to collaborate and delegate labour management to employers' associations.³³⁹ Such conditions prevailed in Lanarkshire's malleable ironworks where firms, 'mutually agreed' price increases in 1886, 'this arrangement applies even to the largest firms'.³⁴⁰ However, McIvor also notes correlations between product market developments and employer cohesion/division.³⁴¹ Intensive competition, which characterised the malleable trade, reduced collectivism. This environment hampered effective co-operation, which was usually limited to short-term price-fixing agreements. During economic depressions the struggle for

³³⁵ *Engineering*, 22 July 1881.

³³⁶ *Ibid*, 13 Jan.1882.

³³⁷ *Ibid*, 5 Mar.1886.

³³⁸ McIvor, *Organised*, pp.20-21. Reid, 'Employers', p.38.

³³⁹ McIvor, *Organised*, pp.20, 272. Johnston, *Clydeside*, p.40.

³⁴⁰ *Engineering*, 15 Oct.1886.

individual survival surpassed collectivism; in 1900, 'there is now no combination amongst the makers, and they all have a free hand as to selling prices.'³⁴² In 1893, competition between tube-making firms was so fierce that relationships disintegrated; 'their conduct is causing so much irritation that it becomes doubtful if it will be possible to revive the Association of Tubemakers'.³⁴³ Whilst some co-operation was conveyed by SMITA, it was unable to guarantee unanimous decision-making or uniformity of action. Individual masters ignored the collective line in order to reach agreement with labour or create a competitive advantage. The inability to co-operate prevented the creation of wider national or international agreements being reached. In 1887, the Belgian Sheet Manufacturers' Syndicate proposed a combined scheme with Scottish manufacturers to increase prices, but although some works favoured the idea, agreement proved unreachable.³⁴⁴ This sustains Reid's point that industries with numerous competing firms destabilised employer organisations.³⁴⁵

By the late 1890s malleable ironmasters overcame some differences, reflected by the formation of the Scottish Manufacturing Iron Trade Conciliation and Arbitration Board, (SMITCAB), in 1897. Within SMITCAB masters usually displayed a unified front against labour. However, the basic premise of competition remained unaltered. SMITCAB experienced difficulty collating statistics on output, selling price and costs, due to masters' reticence in sharing information with competitors. George

³⁴¹ McIvor, *Organised*, p.20.

³⁴² *Engineering*, 9 Nov.1900.

³⁴³ *Ibid*, 21 July 1893.

³⁴⁴ GCA, Milnwood minutes, 6 Oct.1887.

³⁴⁵ Reid, 'Employers', p.38.

Garrett, Rochsolloch's master stated, 'the greater majority of us would not like to tell at what price we are selling our iron'.³⁴⁶ James Kerr, Etna's master, declared such information would, 'enable me as an individual to sell at a shilling less', and undercut rivals.³⁴⁷ Consequently, fear of rival capitalists, rather than labour diluted collectivism, despite McIvor, Yarmie and Johnston's perceptions of employer class-consciousness. Indeed, in 1892, organised labour favoured, 'a combination of the employers in connexion with the iron and steel trades', to reduce competition and maintain prices and wages.³⁴⁸ In 1899, President Beard of the Iron and Steel Institute warned of the looming, 'survival of the fittest', and stated, 'the existence of private firms which represent individuality will greatly depend on the tolerance of the trusts and syndicates'.³⁴⁹ In 1903, thirteen malleable firms finally amalgamated, but from 1870-1900 the malleable trade was generally characterised by individualism.³⁵⁰

McIvor states, during the 1880s and 1890s, employers increasingly eschewed individualism by joining employers' organisations and accepted collective labour policies.³⁵¹ Indeed, Lanarkshire's steelmasters formed more combinations than ironmasters, supporting Johnston's view that when, 'faced with a skilled and unionised workforce, combination was the most logical course for employers to follow'.³⁵² In 1885, the four leading Scottish manufacturers, SCS, Colville's, Beardmore's and Neilsons formed a combination, 'for the purpose of...maintaining

³⁴⁶ GUBA, SMITCAB minutes, 15 Sept.1898, p.192.

³⁴⁷ *Ibid*, p.193

³⁴⁸ RC, Labour, 1892, Vol.36,(16,349), p.388.

³⁴⁹ *JWSISI*, no.1, Vol.3, Oct.1899, p.17.

³⁵⁰ *The Engineer*, 3 Apr.1903.

³⁵¹ McIvor, *Organised*, p.1.

prices at a remunerative level.³⁵³ Indeed, the Scottish Steel Manufacturer's Association, (SSMA), immediately raised prices. The combination afforded some protection and increased members' bargaining power in the local market. However, by adopting uniform prices steelmasters were forced to concede uniform wages to labour. Mossend's workmen struck in 1888 until Neilson matched Colville's 15-20% rise paid to smelters, millmen and hammermen.³⁵⁴ Non-members were also forced to adopt SSMA's wage levels; in 1888, Clydesdale suffered strike action as a result of, 'non-payment by the firm of the same rates as those paid by the leading works in the trade.'³⁵⁵ Consequently, independent steelmasters became enervated. The SSMA remained vulnerable to regional competition and cut prices in 1886, 'in the hope that they may keep the competition from English makers in check.'³⁵⁶ The SSMA attempted to stimulate prices in 1892, whilst John Colville visited America to secure orders in 1895.³⁵⁷ However, like ironmasters' associations, the SSMA was essentially a price-fixing body whose constituent firms remained competitors. The fundamental disunity was masked during prosperous periods, but revealed in full intensity during economic depressions when saturated markets reduced prices and intensified competition, threatening the survival of weaker firms. By 1895, economic pressure forced the SSMA's dissolution.³⁵⁸ This corroborates McIvor's view that product market developments were the, 'primary determinant', of employer cohesion

³⁵² Johnston, *Clydeside*, p.201.

³⁵³ *Engineering*, 6 Mar.1885.

³⁵⁴ *Ibid*, 6 Apr.1888, 20 Apr.1888.

³⁵⁵ *Ibid*, 23 Mar.1888.

³⁵⁶ *Ibid*, 5 Mar.1886.

³⁵⁷ *Engineering*, 7 Oct.1892.

³⁵⁸ Modern Records Centre, (henceforth MRC), MSS365, Box56, Siemens Steel Ingot Making Trade of the North of England and West of Scotland, (henceforth SSIMT) minutes, 14 Jan.1895, p.73.

or divisions.³⁵⁹ Further, Melling's perception of the contradictory effects of economic forces from 1880 is reinforced. Melling argues economic pressure underlined, 'tendencies towards co-operation and consolidation amongst industrialists' and simultaneously illustrated, 'the important divisions which remained.'³⁶⁰

Johnston states, 'many organisations came into being specifically to ensure that employers retained the upper hand in the capital/labour relationship'.³⁶¹ Indeed, the Siemens Steel Ingot Makers' Association, (SSIMA), was created in 1890 to redress the balance with the smelters' union, the BSSAA, which was formed in 1886 and expanded into northern England by 1890.³⁶² Although formal rules governing SSIMA were not established until 1900, by 1893 regular meetings with steel-makers in northern England occurred, with eight English and four Scottish firms participating.³⁶³ This facilitated a combined approach towards common labour questions and the regions negotiated jointly with the BSSAA. However, the delay in formalisation reflected the steel-makers continued independence, ensuring that SSIMA remained a loosely affiliated association until December 1900.

Individualism was particularly acute in Scotland. Although Colville's, the SCS, the Lanarkshire and Beardmore's attended SSIMA meetings regularly, numerous prominent firms did not participate, including Mossend. Although Mossend had joined the SSMA, the SSMA remained a price-fixing body, whereas SSIMA

³⁵⁹ McIvor, *Organised*, p.20.

³⁶⁰ Melling, 'Industrialists', p.131.

³⁶¹ Johnston, *Clydeside*, p.202.

³⁶² *Engineering*, 10 Oct.1890.

³⁶³ MRC, SSIMT minutes, 19 May 1893, p.1, 7 Dec.1900, p.258.

negotiated with organised labour, which rendered it unacceptable to James Neilson. The latent suspicion of combination re-appeared in 1894 when SSIMA invited the participation of another English and six Scottish firms; Mossend, Clydebridge, A&J Stewart & Clydesdale Ltd., GI&S Co. and Glengarnock. However, only the English firm attended the next meeting and prospects for unity were lowered by the SSMA's disintegration in 1895. A conference of steel-makers from Scotland and northern England was held, 'with a view of forming a combination to maintain prices'.³⁶⁴ However, agreement was impossible; 'all efforts at combination on the part of the manufacturers have...been broken off, and the rule is now, "Every man for himself"'.³⁶⁵ The failure to achieve unity stimulated a price war that witnessed the lowest recorded price of ship-plates and angle bars ever seen in Lanarkshire. By March 1895, prices were so low that, 'a fresh cut is not unlikely to drive the weaker makers to close down, which some persons think is the best thing that could happen'.³⁶⁶ By September, continued financial pressure forced the Lanarkshire steelworks to withdraw from SSIMA, as it felt unable to accept the wage rates endorsed by other steelmasters.³⁶⁷

SSIMA's failure to become a representative national employers' association reflected the limited collectivism of Scottish firms. This resulted from intense competition and a fear of embroilment in labour disputes. Several firms preferred separate regional associations for Scotland and northern England, 'as a strike might occur...in

³⁶⁴ *Engineering*, 18 Jan.1895.

³⁶⁵ *Ibid*, 15 Feb.1895.

³⁶⁶ *Ibid*, 1 Mar.1895.

one district in the issue of which firms in the other district might not be interested'.³⁶⁸ By reaching separate accommodations with labour, firms might simultaneously avoid involvement and take advantage of their competitors' difficulties. This strategy is evident in Scottish firms' refusal to attend SSIMA's meetings. From the GI&SCo, the Lanarkshire, Stewart & Clydesdale, and the Summerlee & Mossend Company, only GI&SCo. replied positively to invitations.³⁶⁹ Even those who attended found agreement impossible; 'the question of forming an Association...was brought forward and discussed at considerable length, but...very divergent views on the subject were held'.³⁷⁰ This evidence vindicates Fitzgerald, Carr and Taplin who affirm the company remained the key unit determining industrial relations in the steel industry.³⁷¹

By 1900 various factors combined to persuade steelmasters of the necessity of a tighter national coalition. Firstly, foreign firms won orders on the Clyde and the Tyne, which strengthened demands for unity.³⁷² Secondly, some English steelmasters were defeated by labour and lamented the insufficient support of other firms.³⁷³ Indeed, Zeitlin argues labour strategies were curtailed by the lack of cartelisation and authority over individual members of employers' associations.³⁷⁴ Steelmasters' sense of weakness was exacerbated by continual challenges from labour, such as the

³⁶⁷ MRC, SSIMT minutes, 3 Mar.1895, pp.99-100.

³⁶⁸ *Ibid*, 27 Mar.1896. p.124.

³⁶⁹ *Ibid*, 19 Nov.1897, p.169.

³⁷⁰ *Ibid*, pp.171-172.

³⁷¹ Fitzgerald, *British*, pp.5, 77. Carr & Wright, *History*, pp.73-4, 145-6, 149-150.

³⁷² MRC, SSIMT minutes, 13 Nov.1900, pp.250-251.

³⁷³ *Ibid*, 13 Feb.1900, pp.224-225.

³⁷⁴ Zeitlin, 'From', pp.159-184.

insistence on 'working round', (see chapter 4.2), which was perceived as a direct challenge to managerial prerogative. By 1900, the increased power of organised labour finally goaded steelmasters into a formal combination, rather than a loose coalition. Although the GI&S Co, who also remained out-with the SIA, refused to join the proposed national association, Scottish firms' response, 'was on the whole distinctly favourable', whilst nearly all of the English firms concurred.³⁷⁵

Consequently, SSIMA finally adopted formalised rules and procedures in December 1900 with George Ainsworth of Consett and David Colville elected President and Vice-President in January 1901, over ten years after SSIMA's inaugural meeting.³⁷⁶

The excessive delay reflected steelmasters inherent individualism and distrust of uniform policies that diluted their independence.

Limited united action was achieved before formal association. In 1898, SSIMA petitioned against proposed legislation regarding steam engines and boiler inspection.³⁷⁷ Johnston regards this uncharacteristic success as evidence that, 'undermines the notion that capitalists were by nature individualistic.'³⁷⁸ However, Johnston ignores SSIMA's failures before 1900 and concentrates on the post-1900 period for evidence of steel-makers' collectivisation. Although SSIMA acted as a forum for discussion, little decisive leadership was displayed or common policies inaugurated. In 1901 the British Iron Trades Association requested co-operation regarding a deputation to America. However, SSIMA delegated participation to

³⁷⁵ MRC, SSIMT minutes, 7 Dec.1900, p.258.

³⁷⁶ *Ibid*, 31 Jan.1901, p.268.

³⁷⁷ *Ibid*, 25 May 1898, pp.174-175.

individual firms. Similarly, in response to the Compulsory Weighing and Measurement Bill in 1906, SSIMA sent a circular to members, but decisions regarding action were left to individual firms.³⁷⁹ Despite the informal nature of SSIMA prior to 1900, it did provide a vehicle for negotiations with the smelters. SSIMA facilitated a unified front to oppose wage demands that many firms would have found singularly irresistible. SSIMA was a defensive response to the BSSAA, rather than a pro-active attempt to secure regional unity. Indeed, in 1895 the union urged steelmasters to formally combine in order to avoid excessive competition that reduced wages.³⁸⁰ Continued individualist tendencies reflected steelmasters' doubts over the potency of collectivism to curb falling prices; 'experience had demonstrated the utter futility of Combinations for this purpose.'³⁸¹ In the early 20th century, Scottish steel-makers remained sceptical about the benefits of national federations. In 1903, only two years after its formation, the SSIMA was threatened with dismemberment when SCS proposed the formation of a separate Scottish Employers Association to deal with local issues, although national co-operation would remain on general wage questions, 'as far as practicable'.³⁸² SCS's proposal was intended to secure greater participation from Scottish firms who remained unwilling to co-operate with northern England. Alternatively, SSIMA argued this arrangement, 'would be a source of weakness rather than strength', and urged Scottish steel-makers outside SSIMA to join.³⁸³ However, firms including Clydebridge remained aloof until 1906.

³⁷⁸ Johnston, *Clydeside*, p.46.

³⁷⁹ MRC, SSIMT minutes, 3 May 1906, p.313.

³⁸⁰ *Ibid*, 4 Mar.1895, p.89.

³⁸¹ *Ibid*, p.90.

Lanarkshire's steel industry contained other employer associations, determined by product, which reinforces and extends McIvor's correlation between product markets and employer cohesion or divisions.³⁸⁴ In September 1897 an association of steel-plate makers was created. The primary objective of the Scottish Steel Plate Makers' Association, (SSPMA), was to increase prices.³⁸⁵ The SSPMA contained manufacturers of marine boilerplates, including many Lanarkshire firms already active in SSIMA, including Colville's, SCS and Beardmore's, together with GI&S Co. whose involvement had been inconsistent, and Stewarts & Clydesdale who repeatedly refused to join SSIMA. Therefore, whilst SSIMA represented ingot-makers who negotiated with the smelters' trade union, the SSPMA represented firms who produced plates and negotiated with the millmen's union. Therefore, in addition to different product markets, masters' associations mirrored divisions within organised labour. (See chapter three.) This supports Zeitlin's argument that class had little relevance to employer behaviour, which was influenced more by institutional forces such as trade unions.³⁸⁶

McIvor argues employers' organisations increasingly adopted broader industry-wide employer federations from 1890.³⁸⁷ However, within individual product markets, capital divided upon regional lines. Whilst two English boiler-plate manufacturers,

³⁸² *Ibid*, 4 Dec.1903, p.169.

³⁸³ *Ibid*.

³⁸⁴ McIvor, *Organised*, p.20.

³⁸⁵ MRC, Scottish Steel Plate Makers' Association, (henceforth SSPMA), minutes, 21 Oct.1897, p.13.

³⁸⁶ Zeitlin, 'From', pp.160, 175.

the Weardale Coal & Iron Company and John Spencer & Sons, participated in early discussions, these firms ultimately joined the Steel Plate Makers' Association, (SPMA), formed in October 1897 to represent manufacturers on England's north-east coast.³⁸⁸ Therefore, the SSPMA was a regional organisation, financed by members' contributions to a 'pool', forfeited by any firm transgressing the rules. The SSPMA rapidly established minimum prices for various specifications and negotiated discounted shipping rates.³⁸⁹ The SSPMA exchanged information with the SPMA and established a reciprocal protective agreement on 'home markets'.³⁹⁰ Successful joint action was achieved on certain points of mutual interest, such as negotiations with insurance companies on stamped boiler-plates, partly facilitated by the restricted number, (two), of English companies involved.³⁹¹ Johnston maintains many employer associations became, 'important forums for the propagation of a collective employer consciousness'.³⁹² Indeed, since November 1897, the idea of combining the SSPMA and SPMA had been discussed. However, attempts to form a National Association of Boiler-plate Makers in 1898 were hampered by the refusal of Mossend and Clydebridge, both owned by the Neilsons, to attend meetings.³⁹³ By September 1898, agreement seemed probable, but ultimately failed when GI&S Co. refused to join unless certain financial conditions were met.³⁹⁴ Financial pressures during economic depressions continued to hamper regional agreements into the 20th century. In 1905, Scottish manufacturers refused to protect English manufacturers

³⁸⁷ McIvor, *Organised*, p.90.

³⁸⁸ MRC, SSPMA minutes, 4 Oct.1897, p.3.

³⁸⁹ *Ibid*, 21 Oct.1897, p.19. 24 June 1898, p.65.

³⁹⁰ *Ibid*, 29 Nov.1897, p.27.

³⁹¹ *Ibid*, 6 Apr.1899, p.149.

³⁹² Johnston, *Clydeside*, p.2.

³⁹³ MRC, SSPMA minutes, 30 June 1898, p.69.

who were using, 'Scotland as their dumping ground at...ruinous prices.'³⁹⁵ Economic pressures and individual firms' recalcitrance combined to limit SSPMA's effectiveness within Scotland. Mossend and Clydebridge steelworks refused to join and Clydebridge conducted a vigorous price war against the SSPMA, advancing Fitzgerald's assertion, 'steel companies often undermined their regional, associations...if it was in their short-term interests.'³⁹⁶ Clydebridge forced SSPMA to cut prices as relations rapidly deteriorated. In 1902 the SSPMA resolved, 'to keep them [Clydebridge] under supervision', whilst each member was exhorted to, 'try to get as much information in regard to the Clydebridge Company as possible.'³⁹⁷ By undercutting the SSPMA Clydebridge was ostracised, but succeeded in, 'doing a large trade', culminating in SSPMA being forced to reduce prices by an unprecedented £1 per ton to £6 10s. in 1903.³⁹⁸ Therefore, economic forces had crucial significance for the cohesion of masters' organisations, supporting McIvor, but contradicting Tolliday and Zeitlin's argument that employers' organisations were not simply reactive bodies, but also pro-actively formulated policy.³⁹⁹ McIvor's analysis of the cotton, engineering and building industries in northern England reveals a, 'trend towards inter-association collusion at the regional and national, industry-wide levels.'⁴⁰⁰ Alternatively, Lanarkshire's steelmasters exhibited little inter-industry co-operation with pig ironmasters. Reid argues divergent products and markets reduced the effectiveness of Clydeside's shipbuilding employers'

³⁹⁴ *Ibid*, 27 Oct.1898, p.104.

³⁹⁵ *Ibid*, 9 May 1905, p.328.

³⁹⁶ Fitzgerald, *British*, p.5.

³⁹⁷ SSPMA minutes, 11 Nov., 9 Dec.1902.

³⁹⁸ *Ibid*, 8 Jan.1903.

³⁹⁹ Steven Tolliday and Jonathan Zeitlin, 'Employers and Industrial Relations between Theory and History', in Tolliday &Zeitlin, *Power*, pp.18-22.

organisations.⁴⁰¹ More pronounced divisions between pig ironmasters and steelmasters are apparent. The SIA was disinterested in local steel manufacturers' organisations and ignored the SSPMA's requests for information in 1898.⁴⁰²

Alternatively, greater evidence exists of co-operative ventures between malleable ironmasters and steelmasters. Firms such as Colville's and GI&SCo, who manufactured both commodities, acted as conduits between the organisations. Economic necessity also facilitated inter-industry co-operation and policy formulation in December 1898. The steel-makers limited financial reserves ensured continual dependence on the prompt payment of bills by customers. In order to combat 'long credit', it was suggested SSPMA adopt the pig ironmasters practice of enforcing payment on the 10th of each calendar month for the previous month's deliveries. The SSPMA also wished to make all sales for net cash rather than subject to a discount, 'the malleable iron-makers having adopted this system it was thought expedient to do the same.'⁴⁰³ Therefore, SSPMA contacted the Scottish malleable ironmasters' association, Spencers & Weardale in England and the five independent Scottish companies, (Mossend, Glengarnock, Clydebridge, the Lanarkshire and Calderbank), proposing a uniform contract note. Every firm agreed to adopt net prices and synchronised payment, apart from Mossend, who were finally persuaded after repeated entreaties.⁴⁰⁴ However, the coalition avoided the contentious question

⁴⁰⁰ McIvor, *Organised*, p.5.

⁴⁰¹ Reid, 'Employers', p.36.

⁴⁰² MRC, SSPMA minutes, 25 Jan.1898, p.40.

⁴⁰³ *Ibid*, 6 July 1899, p.171.

⁴⁰⁴ *Ibid*, 23 Nov., 7 Dec.1899, pp.216-229.

of enforcement, merely resolving to act in unison if any buyer refused to comply.⁴⁰⁵ Whilst merchants acquiesced to pig ironmasters' payment conditions, the malleable iron and steelmasters arrangement was tested within a week by merchants retarding payments, 'with the view apparently of breaking down the mutual arrangements recently made by the makers'.⁴⁰⁶ The firms resolved to charge interest to defaulters, whilst failure to pay would result in the termination of further deliveries. However, this was insufficient for Clydebridge, which insisted unless all the firms boycotted a particular merchant, they would not enforce the cash day. This proposal was considered, 'entirely new and somewhat drastic', and the entire agreement disintegrated.⁴⁰⁷ The SSPMA concluded, 'this unfortunate result, brought about through the attitude of one firm, was considered by the other makers present to be most detrimental to the interests of all concerned'.⁴⁰⁸ Consequently, the intransigence of one company was sufficient to destroy a policy adopted by two of Lanarkshire's employers' associations, which substantiates the perceptions of Reid, Tolliday and Zeitlin upon the weakness of employer collectivism.

However, in June 1900 malleable ironmasters approached the SSPMA to jointly reduce coal consumption, despite the failure of a previous attempt in 1898.⁴⁰⁹ Increasing fuel costs encouraged malleable ironmasters and steelmasters to seek solidarity with other consumers in an attempt to force price reductions by extending the Glasgow Fair Holidays. *Engineering* noted the measure:

⁴⁰⁵ *Ibid*, 6 Sept.1900, p.291.

⁴⁰⁶ *Ibid*, 13 Sept.1900, p.296.

⁴⁰⁷ *Ibid*, 27 Sept.1900, p. 302.

⁴⁰⁸ *Ibid*, 4 Oct.1900, p.306.

Has been resolved upon as protest against the cost of fuel. It is hoped by a shutdown - which will apply to steel, malleable iron, most engineering works, pipe-founders and boilermakers etc., to so affect the consumption of fuel that accumulations will ensue and prices ease off.⁴¹⁰

Pig iron firms were excluded; indeed, as coal producers, the collusion between malleable iron and steelmasters damaged many pig ironmasters' interests. Further, in July and November 1900 the malleable iron and steel firms sent a joint deputation to the railway companies to protest over increased charges.⁴¹¹ Consequently, from 1898-1900 malleable ironmasters and steelmasters finally forged a collective stance on several issues. However, the failure of various measures and the excessive delay in attempting co-operative measures, reiterates capital's fundamental reluctance to combine.

Collective fragility was also apparent in the field of labour relations where internal dissension and the continued policy of abstinence advocated by various leading firms weakened the various steelmasters' associations. Mossend and Clydebridge, both owned by Neilsons, maintained a policy of non-recognition towards trade unions. Therefore, they rejected participation in organisations like the SSIMT, which negotiated with the BSSAA. However, Mossend's refusal to join the SSPMA,

⁴⁰⁹ *Ibid*, 21 Apr.1898, pp.52-53, 28 June 1900, p.276

⁴¹⁰ *Engineering*, 13 July 1900.

⁴¹¹ MRC, SSPMA minutes, 22 July 1900, p.230, 11 Nov.1900, p.250.

essentially a price-fixing body, indicates a deeper distrust of formal associations.

This reflected the divergent corporate cultures of leading firms. Older established masters like the Neilsons and to a lesser extent, GI&SCo, who produced pig iron, coal and steel, tended to oppose masters' combinations. Alternatively, the latterly formed companies such as SCS and Colville's, established in the 1870s were more indulgent towards joint initiatives with organised labour or other masters.

Independent manufacturers like GI&SCo. could achieve greater freedom of action and certain benefits with labour relations, or increased orders gained by undercutting established price-fixing agreements in the case of Clydebridge. Therefore, individualism provided firms with material gains in periods of intense competition or labour strife. Finally, capital's antagonism to collective agencies was reiterated in 1901. The proposed National Federation of Employers' Associations and Trades Unions was intended to unite capital and labour against foreign competition. Although endorsed by unionists, capitalists rejected it. David Colville stated, 'the proposal was not one worthy of further consideration, being impracticable, and he thought it was the work of a crank who was not aware of the antagonism and difficulties of the case.'⁴¹² William Cuthill, Blochairn's new master observed that:

Employers had no union such as that of the employees, and with the addition of...boards of arbitration...the employees had two strings to their bow. The proposed association would give them another still. If they did not get what they wanted in one way they tried another.⁴¹³

⁴¹² NLA, SMSTCAB minutes, 19 Apr.1901, p.196.

⁴¹³ *Ibid*, 26 July 1901, p.200.

Lanarkshire's iron and steelmasters were divided by various factors that hindered the establishment of effective employers' associations. McIvor recognises boundaries to unity caused by differing business structures, product specialisation, as well as, 'diverging market experiences and differing levels of trade union implantation'.⁴¹⁴ McIvor states, 'combinations were undermined throughout the 19th century by competitive tensions, by disunity and fractured class consciousness...this should not obscure the fundamental point that divisions between employers were increasingly being transcended...between c1880 and 1914.'⁴¹⁵ However, the operations of the SIA and SMITA were confined to temporary price-fixing. Whilst the formation of SMITCAB in 1897 encouraged greater co-operation, the malleable ironmasters individual reservations remained visible. Although Lanarkshire's steelmasters did establish employers' organisations to a greater extent during the 1880s and 1890s, the destruction of the SSMA, the prolonged difficulty in reaching agreement within SSIMA, the ruptures within the SSPMA and the circumscribed and largely ineffectual co-operation between industries, all indicate the limited acceptance of collectivism amongst Lanarkshire's steelmasters. Whilst the influences of labour and product markets have been corroborated, this tended to fracture rather than unite Lanarkshire's employer organisations from 1870-1900. Fitzgerald affirms the iron and steel industries were, 'examples of failures of co-operation amongst employers.'⁴¹⁶ Indeed, many of Lanarkshire's employers retained an individualistic and anti-combination ethos throughout the period.

⁴¹⁴ McIvor, *Organised*, p.271.

⁴¹⁵ *Ibid*, pp.56, 91.

4. Conclusion

Lanarkshire's iron and steel industries were composed of a conglomeration of firms with few homogeneous features. Not only did the industries develop at different periods of the 19th century, Lanarkshire's geological characteristics combined with manufacturing techniques, contributed to the creation of three industries with distinct commodities, markets and managerial ethos. Pig ironmasters separation from malleable iron and steelmasters was magnified by differences in productive procedures, with pig ironworks remaining significantly less capital intensive than malleable iron or steelworks. Even within each industry, firms' varied widely in size, resources and influence. Generally, pig ironmasters enjoyed greater power than malleable iron or steelmasters from 1870-1900. This resulted from various factors including larger financial reserves and greater stocks, which reduced pig ironmasters vulnerability to fluctuating economic conditions or industrial action and provided leverage upon prices and wages. However, by 1900 this influence was increasingly curtailed by a reluctance to diversify, foreign competition and market speculation. Conversely, malleable iron and steel firms experienced greater vulnerability to economic fluctuations, exacerbated by less ability to determine wages and greater dependency upon fluctuating demand. Malleable iron and steel firms remained customers rather than colleagues of pig ironmasters, although their importance as such grew significantly by 1900. Indeed, the advent of steel triggered a gradual reversal in status, with steelmasters becoming increasingly influential, although this process remained incomplete in 1900.

⁴¹⁶ Fitzgerald, *British*, p.5.

Despite their disparity, pig ironmasters, malleable ironmasters and steelmasters' exhibited a common distaste to challenges to managerial authority. This became manifest in the form of evictions, blacklisting and replacement labour to achieve managerial objectives, contradicting Johnston and Melling. In each industry, capital's influence over labour was greatest during periods of economic depression, but receded during economic prosperity, confirming McIvor and Cronin's emphasis on product markets' significance. Although they retained similar attitudes, capital's overall ability to successfully confront labour differed in each industry; pig iron firms enjoyed greater dominance of their workforce than malleable ironmasters and steelmasters, reflecting their superior strength and the comparative weakness of unskilled blast-furnacemen. Consequently, whilst the masters exhibited common authoritarian tendencies, the malleable ironmasters and steelmasters were forced to co-operate with labour to a greater extent than pig ironmasters, who displayed the most aggressive tendencies for longest in the period. Indeed, Lanarkshire's pig ironmasters maintained an adversarial relationship with labour decades after a more conciliatory stance was adopted amongst equivalent English capitalists.

Pig ironmasters also adopted more interventionist policies in the local community and wider society, substantiating Melling's linkage of paternalism with authoritarian practices and principles. The provision of housing, truck shops and philanthropy, together with active participation in local politics and the Volunteer movement, reveals pig ironmasters' desire to influence society and reinforce workplace authority. However, whilst pig iron firms developed such schemes from 1830-1870,

the efficacy of these policies from 1870-1900 is questionable, given the reluctance of labour to accept dependency, the political advance of the middle and working classes, as well as the political divisions apparent within each industry and even within individual firms. Indeed, Johnston argues, 'only the larger firms...could rely on paternalistic labour control...the most rational strategy for the smaller companies was that of collaboration.'⁴¹⁷

Certainly, steelmasters and to a lesser extent, malleable ironmasters displayed greater preponderance than pig ironmasters to form employer organisations. However, in each industry the masters' individualism and strident independence restricted the effectiveness of such organisations, which struggled to enforce their will upon recalcitrant members, labour and other capitalists. Each firm's fundamental interests often lay in destroying competitors, rather than co-operation. The desire to combine generally resulted from competitive pressure and the growing threat from organised labour. Indeed, the steelmasters' organisations mirrored earlier sectionalist divisions amongst labour; SSIMA was an ingot-makers' association that negotiated with smelters, whilst the SSPMA was an association of firms manufacturing steel-plates, which were produced by millmen. Therefore, such organisations constituted a defensive, often short-term, response to perceived threats, rather than symptomatic of the development of shared class-consciousness amongst capital as McIvor and Johnston maintain.

⁴¹⁷ Johnston, *Clydeside*, p.40.

Employer organisations achieved little concerted action and were frequently dominated by the largest firms. Given the difficulty in securing combined action in each industry, it is unsurprising that few attempts were made to achieve greater inter-industry co-operation. Indeed, each industry retained separate masters' organisations with few co-operative ventures. Consequently, although participation in regional or national employers' associations could increase capital's influence for limited periods or within restricted areas, unity was transitory, often illusory and barely camouflaged the competitive, individualistic approach that characterised Lanarkshire's iron firms since their origin. Whilst the heterogeneity of Lanarkshire's pig ironmasters, malleable ironmasters and steelmasters has been illustrated, in order to fully appreciate the degree of divergence amongst capital, it is necessary to examine individual companies in greater detail. Consequently, a case study of two Lanarkshire firms will be provided in chapter two.

Chapter 2. Case Study - William Baird & Company and the Steel Company of Scotland.

Although there were certain features that traversed company structure or industry, chapter one has established that Lanarkshire's iron and steel companies were not homogenous entities. The level of financial resources, economic and social influence, as well as the capacity for independent action varied considerably between firms. Given the general failure of masters' associations to impose concerted action against external competition or organised labour, each firm developed individual policies to exert influence upon rival firms and workmen. Therefore, in order to illustrate the level of power enjoyed by individual masters, it is necessary to examine particular firms in greater detail.

1. The Firm

1.1 William Baird & Company.

The Lanarkshire family firm of William Baird and Company, (WB&Co.), was one of the most pre-eminent and powerful ironmasters in Britain. The Bairds' business origins were agricultural; Alexander Baird was a tenant of three farms around Coatbridge in Old Monkland Parish. To diversify family income, Baird leased coalfields at Woodside in 1809 and Rochsolloch in 1816. In the 1820s, William Baird, the eldest of Alexander's eight children, expanded the family's coal interests

by leasing Merryston coalfield.¹ The Bairds' collieries at Gartsherrie in Coatbridge lay close to the Monkland Canal and also utilised the Glasgow & Garnkirk Railway, from 1830, for transportation to Glasgow's markets.

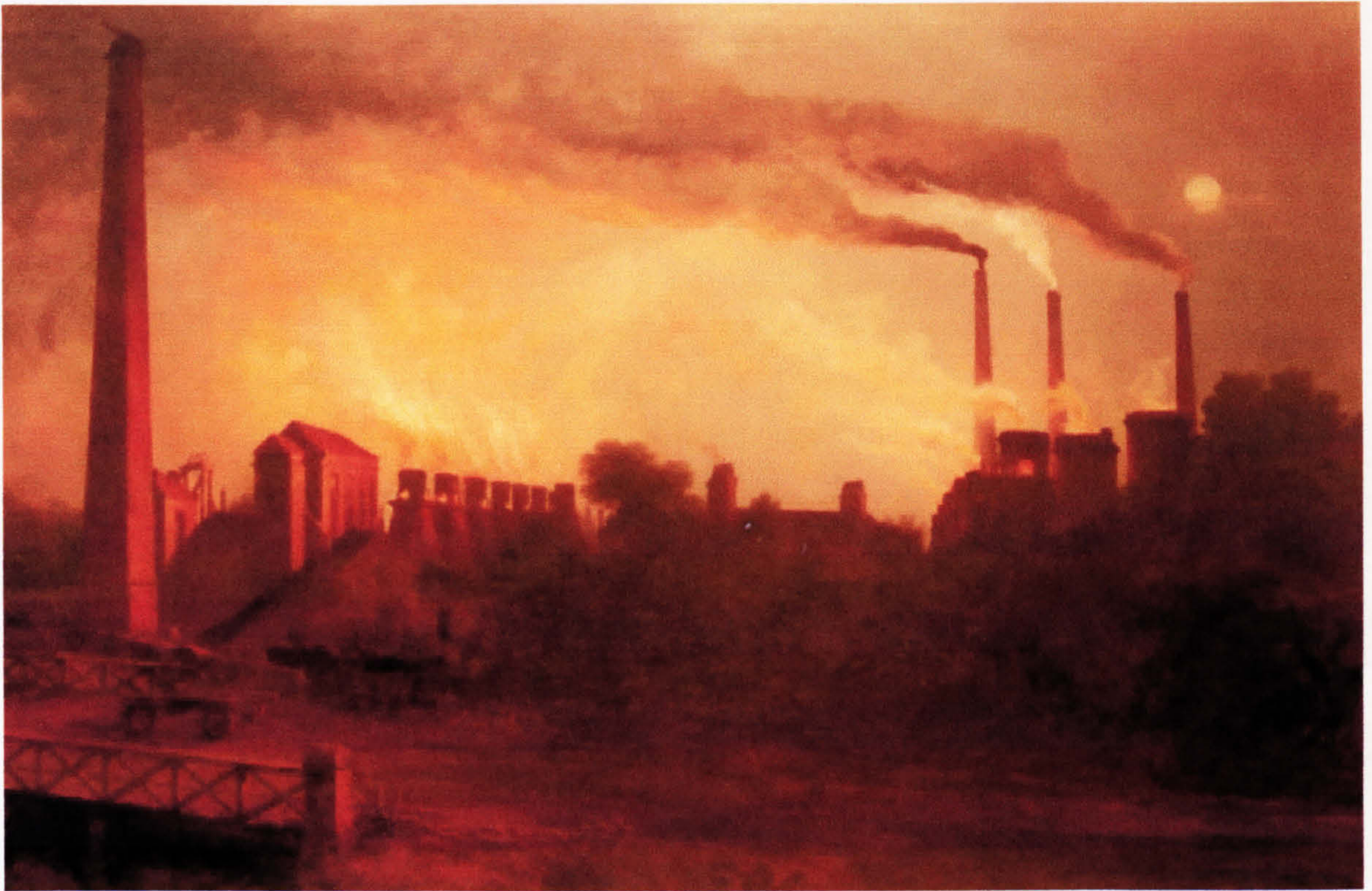


Figure 4. 'Gartsherrie by Night' by CR Stanley, 1854. Pig ironmasters' influence over their environment is conveyed by the illuminated sky above Coatbridge, produced by numerous open-topped furnaces at local ironworks including Gartsherrie, the largest ironworks in Scotland.

The development of Lanarkshire's pig iron industry was facilitated by the invention of new technology pioneered by James Beaumont Neilson, a family friend of the Bairds. The Bairds were among the first to exploit Neilson's hot blast process, leasing land at Gartsherrie in 1828 to build a pig ironworks, juxtaposed to the canal,

¹ Corrins, 'Baird', p.21

whose first furnace was put into blast in 1830.² (See figure one.) By 1869, Gartsherrie boasted sixteen blast-furnaces that consumed 1,000 tons of coal daily to produce 100,000 tons of pig iron per annum, transported on fifty miles of private railway by six locomotives and eighteen sixty-ton barges along the Monkland Canal.³ By 1876, Gartsherrie was considered, ‘the largest ironworks in Scotland and possibly in the whole world.’⁴

By the 1860s, Bairds expanded further forming ‘Eglington Iron Company’, a surrogate of WB&Co. that conducted their affairs in Ayrshire and frequently acted as a managerial training ground before progression to the Lanarkshire business. In addition to Eglington ironworks’ eight blast-furnaces, the Eglington Company acquired Blair ironworks with five blast furnaces, followed by Muirkirk, Lugar and Portland ironworks.⁵ The vast increase in productive capacity engendered by the Ayrshire branch, resulted in WB&Co. becoming, ‘responsible for 25% of Scotland’s output, making them probably the largest single producers of pig iron in the world.’⁶ By 1879, Baird’s operations incorporated forty-two blast-furnaces, whose combined output totalled approximately 300,000 tons per annum.

The Bairds were prominent producers of coal, predominantly to fuel their furnaces, but also for domestic consumption and export. In addition to various pits in Lanarkshire and Ayrshire, by 1879 Bairds enjoyed, ‘very extensive mineral leases in

² *Engineering*, 30 June 1876.

³ Bremner, *Industries*, pp.36-37.

⁴ *Engineering*, 30 June 1876.

⁵ Corrins, ‘Baird’, p.21.

⁶ *Ibid.*

the Kilsyth and Twechar districts in Stirlingshire, on which they are now making large demands.’⁷ The Bairds built a coking plant near Kilsyth and numerous houses for colliers, who were mainly imported from Ireland. In addition to their coal and iron interests, Bairds pioneered an ammonia recovery plant at Gartsherrie and invested in banking and railways. The Bairds large-scale and geographically diverse business activities produced an interest in the development of the communications infrastructure. This became manifest in Baird’s involvement with the canal system; William and Alexander Baird were Directors, whilst Alexander and Robert Baird were Deputy-Governors of the Forth & Clyde Canal. William Baird was also Director and Chairman of the Caledonian Railway, which carried much of the firm’s freight. Similarly, the passing of Glasgow, Bothwell, Hamilton and Coatbridge Railway Bill in 1874 was attributed, ‘chiefly through the perseverance and exertions of the Company.’⁸

1.2 The Steel Company of Scotland (SCS)

Like WB&Co., the SCS were pioneers in their field, constructing the first purpose-built steelworks in Scotland. Newton steelworks were erected at Hallside, near Cambuslang, in 1873. Newton was described as a, ‘gigantic establishment’, owned by a, ‘very powerful company’.⁹ However, the SCS possessed even greater ambition and planned to expand threefold; ‘it aims at becoming the largest steelworks on the Siemens system in the world.’¹⁰

⁷ *Engineering*, 18 Aug.1879.

⁸ A. MacGeorge, *The Bairds of Gartsherrie*, (Glasgow 1875), pp.92-93.

⁹ *Engineering*, 24 Oct.1873.

Newton was initially constructed to produce rails and contained similarities to malleable ironworks, including steam hammers and rolling mills, although Siemens furnaces and gas-producers were employed instead of puddling furnaces. Unlike Gartsherrie, in 1873 Hallside incorporated the most modern layout and plant; 'all arrangements are in accordance with the most approved notions as to the practice of economy of labour, fuel etc.'¹¹ By 1876, SCS had erected a plate-rolling mill, 'it consists of three pairs of rolls - one pair for roughing and one pair of finishing rolls, each of seven feet long by twenty-six inches in diameter, a pair of the same diameter but four feet long, which can be used for cogging, roughing or finishing.'¹² The firm's technical competence was indicated by the rolls' construction by SCS employees under Thomas Williamson, the general manager. The rolling mill's completion enabled SCS to produce steel plates for shipbuilders. In November 1876, SCS obtained an Admiralty order to supply steel for six gunboats being built in Jarrow. This marked, 'the first order of the sort placed in Glasgow by the government'.¹³ By 1879, business was flourishing, 'such extraordinary demands have been made upon the Steel Company of Scotland during the last year or two in consequence of the extended use of steel for shipbuilding purposes, that it was found to be practically impossible...to get delivery of their goods fast enough.'¹⁴

This prompted SCS to expand, buying Blochairn ironworks for £60,000 in December 1879. In 1880, Blochairn was remodelled and laid out to manufacture steel from

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid*, 3 Nov.1876.

¹³ *Ibid.*

¹⁴ *Ibid*, 12 Dec.1879.

thirteen Siemens furnaces, with a combined capacity of 1,600-ton ingots per week. Newton was also enlarged and in 1879 encompassed fourteen melting furnaces in a continuous row, each of ten tons capacity, and eighteen reheating furnaces, which increased productive power from 2,500 to 3,000 tons per week. Newton also contained an eight-ton shingling hammer to manipulate slabs prior to rolling, a three-ton hammer for working slabs and ingots, with a second three-ton hammer for forgings. Newton's rolling mills included a powerful reversing rail mill to roll ten inch beams, two plate mills and one fourteen-inch bar mill, facilitating production of ship-plates, rails, angle bars, large sections etc., with another rolling mill planned.¹⁵ This equipment produced, 'special steel', with different properties including alloys, chrome steel, high explosive shell billets, Enfield rifle steel, telegraph wire steel, nickel steel, phosphorous steel, plate steel and bulletproof steel.¹⁶ In 1882, record-breaking output figures prompting observers to declare, 'the two establishments of the Steel Company of Scotland occupy the very front rank in the Siemens steel industry in the UK.'¹⁷ In 1886, Newton remained among the largest steelworks in Scotland, with a capacity of 260 tons per shift, compared with 196 tons at Colville's Dalzell steelworks.¹⁸

Although the development of ammonia recovery plant demonstrated considerable innovation, the labour intensive production of pig iron remained largely unaltered throughout the period. Bairds required considerably lower technical expertise and demonstrated less innovation than SCS. Indeed, by 1871, Bairds, 'had become

¹⁵ *Ibid.*

¹⁶ NAS, SCS, special steel records, 1874-1915.

¹⁷ *Engineering*, 11 Aug. 1882.

known as the most conservative firm in a conservative industry.’¹⁹ Alternatively, the production and rolling of steel billets were more complicated processes that required a greater aggregate of plant and a variety of skilled workmen as prerequisites. In the early 1880s, both Bairds and SCS were the most prominent firms within their industry. However, whilst WB&Co. remained dominant until 1900, SCS was increasingly challenged for productive supremacy.

2. The Masters

In 1870, the Baird family constituted an established industrial dynasty, which controlled a pervasive business empire and represented a prominent influence in Scottish society. WB&Co.’s business stature and profitability conveyed considerable personal economic power and influence to its masters. In 1876, James Baird’s obituary commented, with the exception of JB Neilson, ‘no other person in Scotland was more closely identified with the improvement and extension of the iron trade...in a commercial point of view, Mr. James Baird had no equal in connexion with the Scotch iron trade.’²⁰ The profit accumulated during WB&Co.’s early years is conveyed by legal settlement between Bairds and their former friend, JB Neilson, who sued WB&Co. for breach of patent. Neilson eventually won the case in 1843 and was awarded £106,000 in damages, which William Baird immediately paid by writing a cheque from his current account.²¹ During the boom of the early 1870s, the

¹⁸ *Ibid*, 25 Sept.1885, 19 Sept.1886.

¹⁹ Robert Corrins, ‘Andrew Kirkwood McCosh Snr.’, in, *Biographies*, p.49

²⁰ *Ibid*, 30 June 1876.

²¹ Corrins, ‘Baird’, p.22.

firm's four partners divided annual profits of around £1 million.²² Despite enormous personal wealth, Robert Baird remained parsimonious, recording his personal expenditure so minutely that even, 'tuppence', given to a, 'beggar', was noted.²³

Similarly, James Baird was proud of his brother William's practice of always paying in cash, 'he held strictly to cash payments, and no account due by William Baird and Company has ever been settled by a bill.'²⁴ James Baird held to this maxim so completely that he was unwilling to bank his fortune and Alexander Whitelaw wrote to him, 'urging him to do something about the vast quantity of money he had lying about.'²⁵

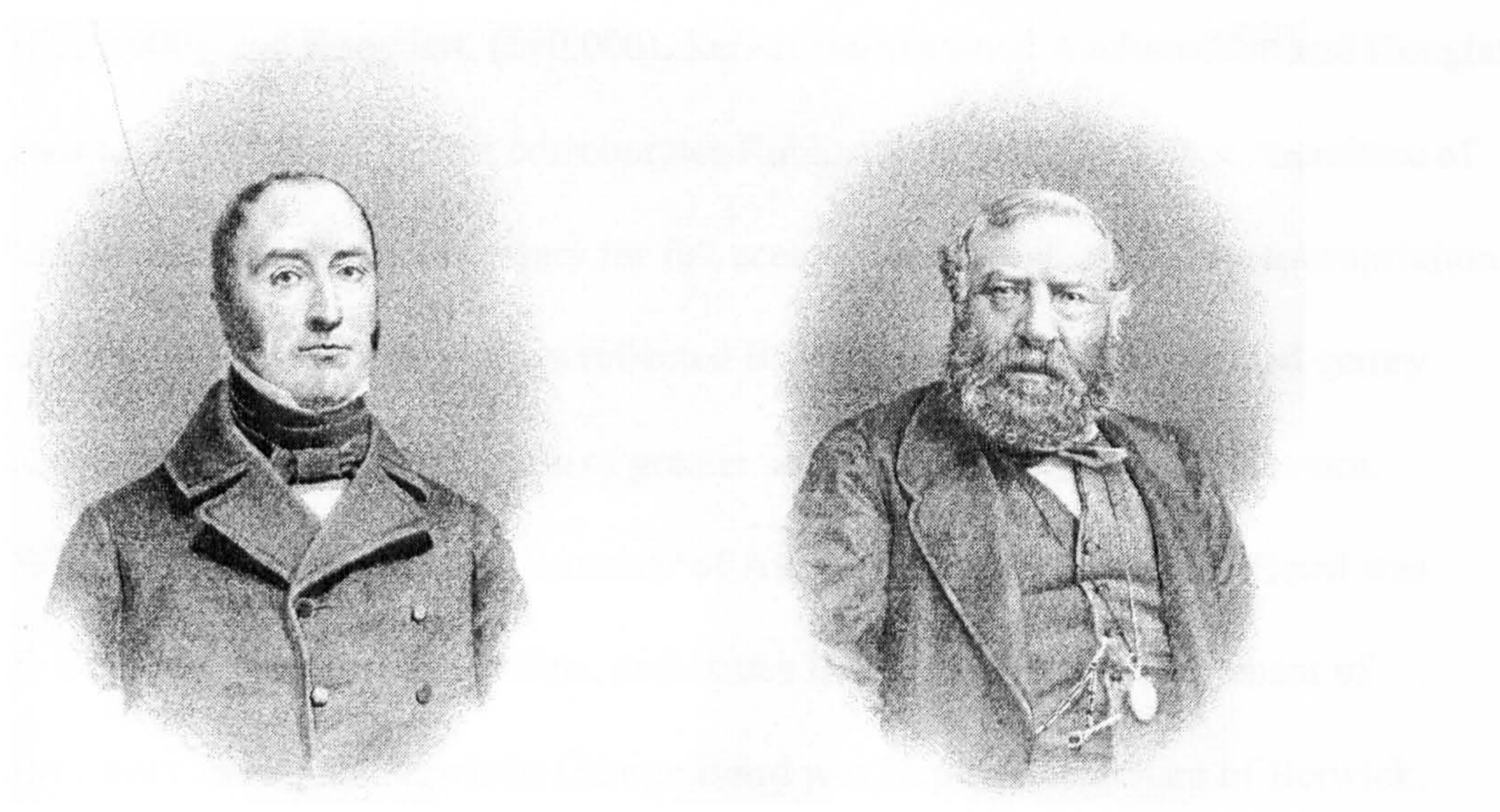


Figure 5. William and James Baird (right).

Subsequent generations of masters at WB&Co. also reaped considerable financial rewards; William Baird left a personal fortune of £2 million in 1864, whilst William

²² *Ibid*, p.23.

²³ GUBA, UGD164/1/7/1/7. Diary, Robert Baird, 18 Mar.1841.

²⁴ MacGeorge, *Bairds*, p.73.

²⁵ Corrins, 'Baird', p.23.

Weir bequeathed £2,200,000 in 1913, placing both in the top forty wealthiest people in Britain from 1809 to 1914, among only eight other industrialists, the remainder consisting of landed or commercial interests.²⁶

Financial success facilitated the adoption of greater social standing. This was reflected by the acquisition of various landed estates between 1853 and 1863 worth £1,115,000; William Baird acquired Elie estate in Fife and Rosemount in Ayrshire, John Baird owned Lochwood and Easterhouse estate, Alexander Baird owned Urie estate, James Baird had property at Cambusdoon, (purchased for £22,000), Muirkirk, (£135,000), and Knoydart, (£90,000), Robert Baird owned Auchmedden and Douglas Baird owned Shaws.²⁷ This corroborates Rubinstein's perception that, 'purchase of land remained socially necessary for full acceptance by society'.²⁸ The appropriation of estates and armorial bearings reflected Bairds acquired status as landed gentry, accompanied by the assumption of greater social responsibilities and honours. William Baird was Depute-Lieutenant of Ayrshire in 1863, Alexander Baird was Depute-Lieutenant of Kincardine, and James Baird was Deputy-Lieutenant of Inverness and Ayrshire, whilst George Baird was Depute-Lieutenant of Berwick. Finally, Alexander Whitelaw became Deputy-Lieutenant and JP for Lanark and Dumbarton. The Bairds transformation in status distanced them from their roots and their workforce socially, economically and geographically, thus diminishing the possibility of any paternalist relationship.

²⁶ Rubinstein, *Elites*, pp.30-32.

²⁷ MacGeorge, *Bairds*, pp.102-130. Corrins, 'Baird', p.22.

²⁸ Rubinstein, *Elites*, p.67.

The 1870s marked a period of transition for WB&Co. Since 1862 the Baird brothers had withdrawn from actively running the firm, whilst those with sons arranged their upbringing, 'so that they might be able to live in a manner more becoming to their position and rank.'²⁹ In 1876 the death of James Baird, the last surviving brother, caused the transfer of executive power to his nephews, Alexander Whitelaw and William Weir, as well as David Wallace, Weir's brother-in-law. Alexander Whitelaw was groomed for the role being, 'early trained professionally to take a responsible part in the great Gartsherrie business'.³⁰ Whitelaw worked in WB&Co. from his eighteenth birthday, becoming a partner in Eglington Iron Co. in 1852 and Gartsherrie in 1860. After James Baird's death he became, 'the practical head of the firm of Messrs. Baird & Co. of the famous Gartsherrie works', until his death in 1879.³¹

In February 1893, the firm's classification was altered by the adoption of limited liability status. 'Messrs. William Baird and Company Ltd.', were formed with capital of £800,000, divided into 80,000 shares worth £10 each. The new firm formally combined WB&Co. with the Eglington Iron Company.

The first subscribers are Messrs. William Weir, James Baird Thorneycroft, John Alexander, Robert Angus, Alexander Fleming, William Laird and AK McCosh, all of whom have for some time been partners in, one or both of the concerns...all of the capital of the company

²⁹ Corrins, 'Baird', p.22.

³⁰ *Engineering*, 11 July 1879.

³¹ *Ibid.*

is retained by the partners named, none of it being put in the market.³²

This diluted, but did not sever, the family connection with WB&Co. as Weir's mother was Janet Baird and Thorneycroft was Alexander Whitelaw's nephew.

Further, as all the partners were long-serving employees or extended relations who all served protracted apprenticeships under the Bairds, the original family firm's ethos remained intact. Consequently, although considerably larger than most firms described by Gospel, WB&Co. reinforces Gospel's view that even within capacious firms, organisational and managerial structures remained rudimentary.³³

Alternatively, SCS was created by a group of wealthy investors and technically experienced senior managers. This differentiated SCS's origins from WB&Co. and most of Lanarkshire's pig iron firms, which predominantly remained family businesses. Sir Charles Tennant Bart MP, owner of St. Rollox chemical work in Glasgow was, 'the chief instigator of the Steel Company of Scotland.'³⁴ Other directors included John Tennant, Archibald Shaw, (a Glasgow merchant), David and John Wilson, John Moffat, (a civil engineer), and Archibald Arrol, (a structural engineer).³⁵ Tennant hoped, falsely, that the steelworks could profitably employ the iron oxide, 'Blue Billy', generated as a waste product at St. Rollox. He acted as chairman until January 1895, although he remained Honorary President, when William Lorimer, a partner in Dubs &Co., Glasgow Locomotive Works, replaced him.

³² *Engineering*, 10 Feb.1893.

³³ Gospel, *Markets*, p.17.

³⁴ *Engineering*, 11 Jan.1895.

Significantly, the directors had no express connection with practical matters of steel production.³⁶ James Riley, General Manager and Thomas Williamson, Blochairn's manager, fulfilled this function.³⁷ Before coming to Lanarkshire, Riley, 'was intimately associated with the late Sir William Siemens in carrying on the Landore Steel Works, the first establishment of the kind in the world.'³⁸ Riley started as a workman, becoming foreman and rising through managerial ranks.³⁹ Consequently, Riley was, 'exceptional in being the only manual worker to gain a position of leadership in the steel industry during its revolutionary period.'⁴⁰ Riley was described as, 'certainly the most prominent leader in Siemens steel manufacture', who was, 'so well known in connection with the rise and progress of the Siemens steel industry of this country.'⁴¹ Riley controlled SCS from 1878-1894; he then occupied the same position with GI&SCo. in Wishaw, after it commenced Siemens steel production. In December 1894, Archie McLellan, the former manager of Calderbank Steel & Coal Company, succeeded Riley at SCS. FW Paul, Blochairn's manager, becoming President of the West of Scotland Iron and Steel Institute in 1897, reflected the firm's technical reputation.

SCS's managerial experience differentiated them from Bairds whose background lay in agriculture and coal mining. Further, many of SCS's senior managers were

³⁵ Peter Payne, *Colvilles and the Scottish Steel Industry*, (Oxford, 1979), p.26.

³⁶ Alistair Borthwick, *Hallside - One Hundred Years 1873-1973*, (British Steel Corporation, 1973), p.2.

³⁷ *Engineering*, 18 Mar.1881.

³⁸ *Ibid*, 2 Nov.1894.

³⁹ *The Engineer*, 22 July 1910.

⁴⁰ Charlotte Erickson, *British Industrialists, Steel and Hosiery 1850-1950*, (Cambridge, 1959),

Englishmen, schooled in managerial style south of the border. Riley's working-class background may have stimulated greater sympathy for workmen; *The Engineer*, noted:

Himself a man who had risen from the ranks, Mr. Riley was interested in all questions relating to labour, and it was mainly to his exertions that the Board of Conciliation and Arbitration in connection with the manufactured steel trades of the West of Scotland, of which he was first president, was formed.⁴²

Riley's conciliatory attitude continued after his departure to GI&SCo. where he became the first president of SMITCAB. In contrast, the managerial attitudes of William Baird & Co. were forged in the acrimonious industrial disputes of Lanarkshire's coalfield during the mid 19th century. These factors encouraged divergent company attitudes towards their firm's role within the local community and the treatment of organised labour within the works. Although both groups of masters sought to retain their authority and managerial prerogative, Bairds' corporate culture was distinctly imperious compared with the more pragmatic attitude of the SCS.

3. Economic Power

From 1870-1900, WB&Co. was the largest single producer of pig iron in Scotland. Productive dominance facilitated an independent position that other manufacturers

p.169.

⁴¹ *Engineering*, 21 Oct.1892, 2 Nov.1894.

⁴² *The Engineer*, 22 July 1910.

were forced to respect. WB&Co. was the most influential firm within the ironmasters' association and unlike smaller producers, was capable of successful autonomous action. Gospel argues managerial strategy was significantly determined by product markets; firms in larger, more stable, homogenous markets, operating continuous process technology, were more likely to propagate company loyalty as a managerial tactic and less likely to combine with other employers.⁴³ This is corroborated by consideration of Bairds. In 1882 an agreement between the ironmasters of Scotland and Cleveland was destroyed, despite the support of both districts, 'due to the fact that Messrs. William Baird & Company of Gartsherrie and owners of nearly all the ironworks in Ayrshire, would not continue in the combination.'⁴⁴ WB&Co. was quite prepared to use its economic power to harm rival firms; in 1884 after failed attempts to agree joint output restrictions, WB&Co. unilaterally reduced prices by 2/6d. per ton although the previous price was reputedly below the break-even point. The fact that Bairds were willing and capable of absorbing such losses illustrates their financial vigour and willingness to price competitors out of the market. Commentators declared the move, 'indicates something more than rivalry for orders.'⁴⁵ Similarly in 1901, 'Bairds tactic of reducing their prices by 7s. per ton took the trade completely by surprise. As some firms assert that they cannot produce at a profit, it is likely that a number of blast-furnaces will be blown out.'⁴⁶

Despite their capacity to dominate the pig iron market, like other producers,

⁴³ Gospel, *Markets*, p.6.

⁴⁴ *Engineering*, 8 Sept.1882.

⁴⁵ *Ibid*, 12 Dec.1884.

WB&Co.'s output was increasingly geared towards domestic steel consumption as foreign demand declined. In 1887 four furnaces at Gartsherrie were altered to produce hematite, whilst in 1893 Bairds purchased Spanish iron ore mines, 'capable of yielding for many years to come, large quantities of the finest ore for making hematite pig iron for use in the Bessemer and Siemens steel processes.'⁴⁷ The growing dependence on steel orders by 1900 curtailed WB&Co.'s influence, out-with the pig iron and coal industries, and reflected the progressive ascendancy of steel producers that culminated during the 20th century.

The SCS possessed direct and indirect influence upon Scotland's steel industry. Until the 1880s, SCS was the only significant Scottish producer. Consequently, SCS monopolised the Scottish market, although its price-fixing ability remained capped by English competitors, particularly if SCS's price outweighed the English firms' additional transport costs. Under Riley, SCS gained a reputation for technical innovation; a former workman noted, 'Mr. Riley was continually experimenting for the purpose of improving his output, as well as improving his methods of manufacture, all with an eye to cheapening costs.'⁴⁸ The firm acted as a model for Scottish steel producers and a 'nursery' where expertise and experience were gleaned. David Colville sent his son David to work at Hallside prior to steel production at Dalzell, which was, 'constructed to designs and specifications made under superintendence of Mr. W. Cuthill late of Newton steelworks, Hallside.'⁴⁹ The Colvilles also questioned experienced workmen recruited from Hallside to ascertain

⁴⁶ *Ibid*, 11 Jan.1901.

⁴⁷ *Ibid*, 5 Aug.1887, 12 May 1893.

⁴⁸ John Hodge, *From Workman's Cottage to Windsor Castle*, (London, 1931), p.29.

SCS's techniques.⁵⁰ Finally, GI&SCo. recruited Riley following the decision to enter the production of steel in addition to malleable and pig iron. Consequently, by shaping the experience and working practices of these influential men, SCS had an indirect effect over some of the largest firms in Lanarkshire's steel industry.

Obviously such influence waned as other firms joined the trade and gained familiarity with productive processes. However, SCS remained one of the 'big four' Scottish steel producers, which combined in 1885 to form the SSMA, which agreed prices and wage levels, generally followed by the remainder of the industry.

Consequently, SCS retained an influential voice over the industry's direction, albeit as part of a committee.⁵¹ The SCS was also an active member of SSIMA from 1890 and a co-founder of the SSPMA from its inception in 1897.⁵² Johnston argues firms within volatile markets and employing organised skilled labour, were more likely to delegate issues to employers' associations.⁵³ Indeed, SCS was incapable of the unilateral action achieved by Bairds and enjoyed considerably less influence over its industry from the mid-1880s to 1900. SCS depended upon the fluctuating demand of Clydeside's shipbuilders that dwindled during economic depressions. This was exacerbated by increased domestic competition that reduced SCS's market share. Further, from 1885, English firms sought to capitalise on Clydeside orders; 'Scotch makers...are to have their monopoly vigorously challenged'.⁵⁴ In 1898, W. Clark, Hallside's master stated, 'if we have to get the work we have to take the prices ruling,

⁴⁹ *Engineering*, 25 Feb.1881.

⁵⁰ Hodge, *Workman's*, p.30.

⁵¹ NLA, SMSTCAB minutes, 18 Feb.1895, p.48.

⁵² MRC, SSMA minutes, 16 Sept.1897, p.1.

⁵³ Johnston, *Clydeside*, pp.2-3.

and unless we can take these prices we will not get the work.’⁵⁵ However, the annual announcement of SCS’s dividend remained a barometer for contemporary observers that indicated the Scottish steel industry’s economic vigour. During the prolonged strike on Clydeside that sharply curtailed demand for steel, *Engineering* reported, ‘the best evidence of the state of the steel trade is the fact that the Steel Company of Scotland has paid no dividend this year, though they paid twelve and a half per cent last year.’⁵⁶

The SCS was as willing to assert itself as Bairds were, although legal support was often required. In March 1892, SCS sued Tancred, Arrol & Co., for £50,000, for a breach of contract. The firm pursued the bridge-builders for, ‘not having taken the whole steel required for the construction of the superstructure for the four main spans of the Forth Bridge from them.’⁵⁷ SCS received £20,000 in damages and was awarded two-thirds of its costs. The case reflected the firm’s readiness to demand its rights, but also the intense financial pressure the company was under. The firm’s pecuniary difficulties resulted in share values tumbling by ten shillings a share in March 1892 and by desperate attempts to reassure investors that SCS was still vigorous; ‘a very keen feeling is being expressed in business circles today at the dissemination of false news all over the kingdom yesterday regarding the Steel Company’s affairs.’⁵⁸ Therefore, as a public limited company from its inception, the SCS was aware of the need to avoid negative publicity that might damage share

⁵⁴ *Engineering*, 18 Dec.1885.

⁵⁵ SMSTCAB minutes, 30 Sept. 1898, p.176.

⁵⁶ *Engineering*, 4 Sept.1891.

⁵⁷ *Ibid*, 25 Mar.1892.

⁵⁸ *Ibid*, 18 Mar.1892.

prices. This also had implications for the firm's policy on labour relations, which broadly became more conciliatory.

The SCS was afflicted by various other factors that reduced its influence. Firstly, as a public limited company, the SCS's primary responsibility was to its shareholders. Therefore, from its inception managerial accountability was more acute than Bairds, whose executive possessed majority shareholdings and greater resultant autonomy. The SCS was also more vulnerable to market fluctuations. Like other Scottish steel manufacturers, SCS was heavily dependent on Clydeside's orders, supplying firms like Beardmores with steel for warships in 1885. Such business was profoundly cyclical and afflicted by periodic industrial disputes that affected steel producers adversely; during a prolonged strike on Clydeside in 1895, SCS suspended 3,000 workmen. This vulnerability was exacerbated by SCS's dependence upon a single product, whilst Bairds could switch emphasis from pig iron to coal production depending where the greatest remuneration lay. The SCS also relied upon a continuous supply of coal and was injured by restrictions in output or increased prices caused either by coalmasters or miners. In June 1894, 'at a meeting of the Scotch steel manufacturers...it was resolved that, in the event of a strike of the miners occurring, they would stop their furnaces.'⁵⁹ The pig ironmasters passed a similar resolution and Bairds shut down thirteen furnaces at Gartsherrie. However, even during widespread stoppages Bairds enjoyed greater immunity from financial repercussions due to copious stocks of pig iron that usually increased in value when output was restricted, whilst output was stockpiled when demand was low.

Conversely, SCS produced steel to precise specifications, had comparatively meagre stock levels and suffered accordingly during periods of high fuel costs.

The SCS's vulnerability was exposed in 1891 by an industrial dispute on Clydeside and exacerbated by reduced orders in 1892. This convinced SCS to reduce output by 50% and cut wages, resulting in a strike at Hallside that temporarily closed the works. By August 1892, SCS announced a slight profit, but it was insufficient to liquidate the debt from 1891.⁶⁰ The continued lack of orders resulted in SCS ceasing production for a month and announcing a deficit of £1,604 17/2d. for 1892, whilst its Chairman, Sir Charles Stuart Bart, condemned the Clyde Trust's charges that he maintained shut the firm out of Belfast's market.⁶¹ The downturn continued until 1894 when SCS achieved a profit of £14,296 12/4d., £10,000 of which was spent on plant reconstruction that increased capacity and bolstered competitiveness.⁶² Nonetheless, SCS remained perilously close to bankruptcy in 1895.⁶³

The SCS provided orders for engineering firms and foundries in Lanarkshire. Messrs. Miller & Anderson of Vulcan Foundry in Coatbridge supplied the firms' reversing engines for the plate-rolling mill in 1876.⁶⁴ However, this influence was most apparent in the firm's formative years and its demand declined as the period progressed. Therefore, SCS's influence over such firms was circumscribed and reminiscent of a large malleable iron producer, rather than an imposing pig iron

⁵⁹ *Engineering*, 15 June 1894.

⁶⁰ *Ibid*, 27 May 1892, 19 Aug. 1892, 9 Sept. 1892.

⁶¹ *Ibid*, 11 Aug. 1893, 25 Aug. 1893, 22 Sept. 1893.

⁶² *Ibid*, 23 Aug. 1895, 18 Sept. 1896.

⁶³ Payne, *Colvilles*, p.81.

manufacturer like WB&Co. The SCS generally experienced much less economic power than Bairds, both in terms of their ability to influence competitors and firms in related industries. However, both firms' economic power declined by 1900 as a result of external and internal factors. Firstly, pig iron was being superseded in economic importance by steel manufacture and although rival firms like Merry & Cunninghame were producing steel at Glengarnock, Bairds had no equivalent operation. Secondly, the productive power of new steel producers eroded SCS's influence. Finally, both firms also faced escalating threats from organised labour, although their responses proved markedly divergent.

4. Power in the Workplace.

The various works of WB&Co. employed huge numbers of workmen and indirectly supported a large proportion of Coatbridge's population. In 1870, about 1,000 men were employed at Gartsherrie and associated pits.⁶⁵ Gartsherrie's ironworkers were exclusively male, consisting of 380 men and twenty-three boys aged thirteen to eighteen years.⁶⁶ The firm held imprecise knowledge of its workforce; Alexander Whitelaw estimated it to be from 8,000 to 10,000, whilst *Engineering* gave the figure as 10,000 in June 1876.⁶⁷ This confusion might indicate the firm's rapid and extensive growth as well as the level of importance assigned to labour.

WB&Co.'s power over labour was determined by various alternating factors during

⁶⁴ *Engineering*, 3 Nov.1876.

⁶⁵ NLA, U803/03/39, replies to 'Queries of the Truck Commission'.

⁶⁶ NLA, U803/01/42, return to HM. Inspector of Factories, 3 Feb.1871.

the 19th century. In Lanarkshire the rapid expansion in pig iron production exacerbated the skilled labour shortage in the 1830s and 1840s. James Baird admitted, 'it was not easy to get the best, as the most experienced workmen were under engagements. We had accordingly to take what turned up, and I cannot say they were all of the best sort.'⁶⁸ Indeed, when Gartsherrie's first furnace was being fitted with the 'dam' of firebricks and the 'tuyere' from which the air was blown, 'the two keepers were helpless. They stood like sheep and acknowledged that they could not do it.'⁶⁹ Consequently, James Baird personally attempted to learn the practicalities of iron-making. He stated:

The keepers, who considered themselves very skilled labourers, and were disposed to claim some mystic knowledge that no-one else possessed, were not a little surprised at seeing me thus perform successfully the most particular and difficult work about the furnace.⁷⁰

By learning some of the trade's technicalities, James Baird became less dependent upon furnace-keepers than other pig ironmasters. However, despite his assertion Baird probably relied upon trusted senior staff including Archibald Smith, chief-furnaceman, for technical advice and John Whitelaw, pig iron weigher, who both worked at Gartsherrie for over thirty years.⁷¹

⁶⁷ RC, Truck, 1871, Vol.2, p.272.

⁶⁸ MacGeorge, *Bairds*, p.58.

⁶⁹ *Ibid*, pp.58-59.

⁷⁰ *Ibid*, p.59.

⁷¹ *Ibid*, p.76.

Notwithstanding the firm's cogent power, Bairds were acutely aware of the importance of keeping labour fragmented to maintain managerial hegemony. James Baird described the benefits accrued by labour's sectional arrangement:

I may say every man was the overseer of his neighbour. They were all engaged "by the piece," and if the Keeper did not do his duty the Filler and the Engineman suffered by it, and they were not slow in complaining. Again, if the Filler or the Engineman was remiss, it was to the loss of the Keeper. Thus every man was an overseer and his own interest made him sharp.⁷²

Consequently, the most powerful and dominant firm in Lanarkshire's iron and steel industries relied, to a great extent, upon its workmen to control each other rather than imposing direct managerial hegemony, supporting Reid and Zeitlin's argument that employers were reluctant to assume control over the production process by the introduction of de-skilling technology and more systematic management.⁷³

Gartsherrie was unusual as the system of piece rates was extended to include firemen and engineers, who usually received shift rates at other ironworks.⁷⁴ The firm's treatment of labour encompassed the, 'carrot and stick', approach noted by Pollard.⁷⁵ Bremner stated, 'workmen are liberally treated, but they must do their work carefully and well. Negligence and irregularity are unfailingly punished, while merit is as

⁷² *Ibid*, p.82.

⁷³ Zeitlin, 'From', pp.159-184.

⁷⁴ Bremner, *Industries*, p.37.

⁷⁵ S. Pollard, *The Genesis of Modern Management*, (1965), pp.174-208.

certainly rewarded.’⁷⁶ AK McCosh maintained his firm’s paternal benevolence towards loyal workmen; ‘there are a few old men who are at special jobs - men who are not capable of going to a furnace...These men are there more as a kind of pensioners than anything else.’⁷⁷ This perception was challenged by labour representatives who declared there were no men employed without work to do. Indeed, in comparison with Paisley’s mill-owners who provided convalescent homes, old age company pensions, enhanced working conditions and careful attention to health and safety issues, Bairds funded few labour welfare schemes, despite the pig iron industry being significantly more dangerous to life and limb than textiles.⁷⁸ (See chapter three.)

Government legislation regulating industry could potentially cap employers’ power over workmen. For example, the Employer’s Liability Act (1880) and Workmen’s Compensation Act (1897) provided financial payments to employees injured at work. However, Bartrip and Burman note the limitations of these acts and the imperceptive effect on safety. Masters obtained employers’ insurance, compelled workmen to contract out or passed compensation costs onto consumers.⁷⁹ This is endorsed by examination of WB&Co. Bairds listed the total number of accidents in their pits in Kilsyth and Bothwell from 1895 to 1897. At Kilsyth, a total of sixty-seven accidents were recorded including five deaths, two permanent injuries and sixty less serious accidents. The additional sum required to cover compensation costs was calculated

⁷⁶ Bremner, *Industries*, p.37.

⁷⁷ GUBA, UGD49/7/4. Proceedings at Conference, 3 June 1914.

⁷⁸ Knox, *Hanging*, pp.128-129.

⁷⁹ PWJ Bartrip and SB Burman, *The Wounded Soldiers of Industry - Industrial Compensation Policy, 1833-1897*, (Oxford, 1983), pp.150-151, p165-166, 213.

and divided by the output tonnage to set the new selling price, an additional 0.303d. per ton at Kilsyth and 0.279d. per ton at Bothwell.⁸⁰ By fractionally increasing prices, Bairds raised sufficient surplus income to cover compensation payments without reducing profitability. Passing the cost onto consumers rather than accepting their own responsibilities reveals WB&Co.'s attitude towards workmen in their charge. Whilst coal-mining and iron-making were inherently dangerous occupations, if the same emphasis and capital were invested in safety procedures as allocated to labour's spiritual welfare, fewer accidents may have occurred.

In the early 1880s, SCS received many plaudits for its technological superiority and commercial success. However, much of this success emanated from the firm's skilled workforce. In 1882, SCS achieved a record output of hammered slabs rolled into ship-plates, 'when a little extra effort was made by the workmen.'⁸¹ Labour's pre-eminence in achieving record figures was also highlighted at Blochairn:

The furnacemen and millhands made a spurt, and in two consecutive shifts of eleven hours each, the same plate mill charged 91 tons 13 cwt. and 76 tons 12 cwt....the work of the melting furnaces, steam hammer and plate-rolling mills far exceeds anything of the kind accomplished by other Siemens steelworks in Great Britain, if not the whole world.⁸²

The greater importance of labour within steel production compared with the pig iron

⁸⁰ NLA, U803/01/62. Vidimus of accidents, Kilsyth and Bothwell Collieries, 1897.

⁸¹ *Engineering*, 11 Aug.1882.

⁸² *Ibid.*

industry was mirrored by a more equitable distribution of workplace power between masters and men. However, both sides took advantage of the temporary ascendancy presented by economic fluctuations to assert their hegemony, reinforcing the correlation between labour market developments and influence identified by McIvor, Melling and Cronin.⁸³ The limited supply of skilled labour in Scotland initially placed workmen in an advantageous bargaining position and SCS had to accept many working practices imported from other regions and imposed on the firm. By 1892, steelworks proliferated in Lanarkshire and sources of alternative labour broadened, which together with the deteriorating economic situation, persuaded SCS to impose standardised practices. *Engineering* noted:

A determination on the part of the management to have all the employees put on an equal footing as to the extent of warning to be given in the case of alterations in working. Hitherto the system of warnings has been irregular, a notice terminating with one squad at a different time from that of another, so that when new contracts were taken or old ones finished the men could not be got to start or stop simultaneously. To obtain uniformity in this respect notices have been posted, both at Newton and Blochairn.⁸⁴

This evidence also reveals the fragmentary conditions of labour within Lanarkshire's steelworks from 1870-1892. Although SCS normally provided fourteen days notice, terminating workmen's employment, this was cut to a single day during economic

⁸³ McIvor, *Organised*, p.21. Melling, 'Industrialists', p.62. Cronin, 'Strikes', pp.74-98.

⁸⁴ *Engineering*, 18 Mar.1892.

depression, whilst during the slump in 1892, smelters' wages were reduced by 10%.⁸⁵ Further, SCS would terminate contracts prior to wage reductions in order to make labour more amenable to acceptance.⁸⁶ However, their workmen did not meekly submit to wage cuts. In 1878, SCS reduced wages by up to 20%, provoking millmen to strike. Labour's capability to resist placed substantial restrictions on the firm's hegemony. As in malleable iron and other steelworks, labour's influence was greater during periods of economic prosperity and large orders; in 1879, SCS gave notice of wage cuts that were later withdrawn, 'in consequence of the attitude assumed by the men, most of whom had resolved to strike against the reduction. There are several orders in hand for steel plates, etc., the execution of which could not be postponed.'⁸⁷ Similarly, in 1888 the firm acquiesced to a 10% wage increase, whilst in 1889, SCS conceded, 'very material advances in the wages of several classes of workmen.'⁸⁸ Further, in 1900 there was, 'a rupture between the masters and men at the Hallside works', caused by the workmen's demand for another wage increase.⁸⁹ The SCS's comparative weakness during prosperous periods further substantiates McIvor, Melling and Cronin's arguments.

Significantly, only a small core of office staff was directly employed by the SCS. In 1872 the firm's private salary cashbook listed nineteen employees, including three clerks, three chemists, five draughtsmen, a cashier, a materials and stores supervisor, a bookkeeper, a manager of works and two employees with unlisted jobs. The

⁸⁵ *Ibid*, 16 Dec.1892.

⁸⁶ *Ibid*, 4 Sept.1891.

⁸⁷ *Ibid*, 3 Oct.1879.

⁸⁸ *Ibid*, 9 Mar.1888, 15 Nov.1889.

⁸⁹ *Ibid*, 11 May 1900.

combined annual salary totalled £2,723 10/5d. with a monthly wage bill that varied between £125 in February to £463 6/3d. in November. Annual salaries ranged from £15 for Thomas Upton, (unspecified job title), to £80 for the highest paid clerk, £250 for a draughtsman/engineer and peaked at £600 for Charles Bladen, Works' Manager.⁹⁰ By 1880, the firm's greater size and maturity were evident from the quantity and variety of staff listed; thirty-five men were employed, including significantly more clerks and managers in addition to a salesman, but fewer draughtsmen, indicating the transition from initial construction to maturity. The jobs listed were seventeen clerks, two draughtsmen, four chemists, three order department superintendents, a salesman, a secretary, a bookkeeper, one unlisted employee and five managers. The greater managerial strata included James Riley, General Manager, William Smith and W. Williamson, both listed as Works' Manager, as well as Fred Morris, Plate Mill Manager and R. Harrison, Bar Mill Manager. Riley earned the largest single salary, £1,250 per annum, followed by Smith, £600, and Williamson, £500, whilst Harrison and Morris earned £250 each.⁹¹ Following Blochairn's incorporation, salaries for commensurate positions at each steelworks were documented, generally at equal levels, although where differences existed they usually favoured Hallside. From 1880-1881, Hallside's chemist earned £400, double the salary of Blochairn's chemist, whilst in 1890-1891 Hallside's works' manager earned £500, £100 more than Blochairn's equivalent. By around 1900, various changes occurred amongst the firm's salaried staff. The number of office workers had increased, reaching a total of forty-five by 1898, twenty-five of whom were

⁹⁰ NAS, SCS Cashbook 1872-1900.

⁹¹ *Ibid.*

employed at the 'town office' in Glasgow, including Miss Ina Sneddon, the first female office employee.⁹²

In 1891 there was also the first appearance of a salaried foreman, John Pugh, the Hallside roll foreman, whose wages were listed as £234 for the first year and £260 for the second.⁹³ Similarly in 1899, John Windle, the tyre mill foreman earned £450 per annum. These wages were equitable to managerial salaries, blurring the distinction between senior foremen and junior managers. This was personified by Duncan MacNeill, listed as Blochairn's Melting Shop Manager earning £450 from 1899-1900, but also listed as Blochairn's Melting Shop Foreman, earning £450 from 1900-1901.⁹⁴ MacNeill's salary and inter-changeability of job title reflected the value placed upon the most experienced workmen and supports Melling's observation of management's desire to wean senior workmen from the ranks of the working-class and establish their greater integration into the firm's managerial structure.⁹⁵ Further, this evidence reinforces Gospel's observation that many lower level managers were promoted from the shop floor and relied upon experience rather than formal training or education, which separated them from classically educated senior managers in the late 19th century.⁹⁶

Until c1890, the remainder of SCS's workforce was engaged under the system of subcontracting. At Bairds, subcontracting was largely limited to subsidiary areas like

⁹² *Ibid*, 1880-1899.

⁹³ *Ibid*.

⁹⁴ *Ibid*, 1872-1900,

⁹⁵ Melling, 'Non-commissioned', pp.183-221.

⁹⁶ Gospel, *Markets*, p.18.

ammonia recovery, but at SCS subcontractors were an integral part of manufacturing operations. The SCS did not directly employ labour, but engaged a subcontractor who hired, fired and supervised the work process. McGuffie notes the significant hegemony exercised by subcontractors over workman in the 19th century iron and steel industries, as well as their, 'quasi-autonomous powers *vis-à-vis* the owners'.⁹⁷ However, McGuffie states that despite their independence, European subcontractors acted as agencies of managerial authority, with which subcontractors entered a, 'profit-sharing relationship'.⁹⁸ In 1881, this relationship was personified by Thomas Chassett, Hallside's smelting contractor, and John Fulthorpe, the hammermen's contractor, whilst Geery & Martin subcontracted the labouring work, which included loading raw materials and other tasks detailed in table six for the week ending 2 July, 1881.⁹⁹ Significantly, table six demonstrates subcontractors paid their workmen's rent to the SCS, then deducted a charge from their employees' wages. (See also chapter four.) Therefore, the contractor, rather than the SCS, had the power of eviction, in addition to hiring, firing and disciplining labour.

⁹⁷ McGuffie, *Metal*, p.65.

⁹⁸ *Ibid*, pp.69-70.

⁹⁹ NAS, SCS Salary Book, 1880-1881.

Table 6. Weekly Payments to Geery & Martin, Contractors, Hallside, 1881.¹⁰⁰

Task	Quantity (tons, qtrs., cwt. lbs.)	Rate/ton	Payment
Unloading coal and dross	1142, 13, 2, -	3/4d.	£3 11/5d.
Loading pig iron off bank	517, 13, 3, -	2d.	£4 6/3d.
Loading Ore	154, 18, 2, -	2d.	£1 5/10d.
Loading Lime	5, 1, -, -	2d.	10d.
Loading canister	9, 2, 3, -	2d.	1/6d.
Loading purple ore	106, 8, 3, -	3d.	£1 6/6d.
Loading scale	32, 15, 3, -	2d.	5/6d.
Loading scrap from bank	3, 19, -, -	2d.	8d.
Loading rail ends	5, 16, -, -	2d.	11d.
Unloading scale	29, 13, 3, -	1½d.	3/9d.
Unloading cut scrap to bank	24, 12, 2, -	2d.	2/1d.
Loading billets off bank	4, 9, -, -	2d.	9d.
Broken scrap from drop	51, 18, -, -	1/6d.	£3 17/10d.
Broken moulds from drop	24, 12, 2, -	8d.	16/5d.
Broken ingots from drop	13, 15, -, -	10d.	11/6d.
Gas-making & unloading for Steel smelting dept.	1612, 1, 3, 14	1/5d.	£117 10/10d.
Gas-making for mill, forge & Steel foundry.			£39
Loading/unloading all steel.	53, 17, -, -	5/2d.	£1 4/9d.
Less amount retained for tube cleaning			-£5
Less rents for workmen.		£6 3/5d.	-£1 3/5d.
Net total payment			£168 3/11d.

These figures relate to the week ending 2 July 1881.

Alternatively, as Reid observes, the management's control over subcontractors was

¹⁰⁰ *Ibid.*

generally limited to the continuance or termination of their contract at the end of its stipulated period.¹⁰¹ This vastly reduced managerial flexibility and options, exacerbated by the dual role of skilled employees as both workmen and subcontractors. For example, FJ Morrison managed the Tyre and Forge Department at SCS's Blochairn steelworks in 1891. In his daily report, Morrison repeatedly complained about the quality of work produced by certain senior subcontracting rollers, named Peace and Cope. On 4th October 1891, Morrison noted, 'we had an awful day at Tyre Mill - out of twenty-three tyres rolled, only about six of them will suit our order, the rest are defective.'¹⁰² Morrison reiterated his complaints on 13th November and again on the 28th November, 13th December, 29th December 1891 and 4th February 1892. On 5th February he wrote, 'the tyres rolled are almost without exception shameful.'¹⁰³ As late as December 1892, Morrison still criticised Peace and Cope who continued rolling tyres to inaccurate measurements. Apart from withholding payment for defective work, there was little action Morrison could take.

Morrison's problem essentially stemmed from the system of subcontracting; subcontractors received tonnage payments, but paid their team of underhands a daily wage. The inferior standard of workmanship reflected the contractors' desire to maximise tonnage; Morrison wrote, 'again I have to complain of the workmanship of Cope the Tyre Roller...Cope's idea is quantity and he lets quality suffer for itself.'¹⁰⁴ If quality were below standard, Morrison's customers, in this case RY Pickering, railway-wagon builders in Wishaw, would reject the tyres. In May 1892, Morrison

¹⁰¹ Reid, 'Employers', p.43.

¹⁰² NAS, SCS, Blochairn Letter Book no.41, 4 Oct.1891.

¹⁰³ *Ibid*, 5 Feb.1891.

warned Cope that, 'a repetition of such work will mean more than simply having the tonnage deducted from his wages.'¹⁰⁵ However, as the rollers were influential workmen and subcontractors, they could not easily be dismissed. Skilled labour was difficult to replace, whilst reduced piece rates would inflame the SCS's other rollers. Consequently, Morrison was forced to closely supervise the rollers, although he noted that standards quickly declined when the men were unobserved. Given that the works operated twenty-four hours per day, inevitably periods of managerial supervision were limited. The difficulty in replacing these contractors is borne out by Morrison's failure to dismiss Peace or Cope despite continuous complaints about their workmanship for a period stretching over fourteen months.

This evidence contradicts McGuffie's claim that subcontracting possessed an, 'underlying employer-inspired rationality', and Littler's assertion that subcontracting favoured the masters.¹⁰⁶ Littler argues that the subcontracting system had five advantages for capitalists; this included flexibility that allowed the work system to meet sharp fluctuations in demand. Secondly, capital risks were spread and more easily determined thus saving the employer, 'numerous complex cost calculations...therefore internal subcontracting acted as a substitute for accounting'.¹⁰⁷ Thirdly, the system provided incentives and a path of upward mobility for key groups of workers. Fourthly, it bypassed the, 'awkward fact', that many employers lacked technical skills and knowledge. Finally, subcontracting was an, 'agency of effort stabilisation and task allocation', thus facilitating the firm's growth whilst

¹⁰⁴ *Ibid*, 4 Feb.1891.

¹⁰⁵ *Ibid*, 12 May 1892.

¹⁰⁶ McGuffie, *Metal*, p.69.

maintaining entrepreneurial control.¹⁰⁸

However, many of Littler's points can be contradicted by the experience of the firms under consideration. Firstly, although the Bairds did not rely on subcontracting to produce iron, great flexibility was achieved through the tactic of damping or blowing out furnaces in response to changing economic circumstance. Therefore, in this case stock levels were of greater significance than subcontracting in determining flexibility. Secondly, salaried office staff carried out SCS's accounting, whilst subcontracting was engaged in the production process and consequently no saving was achieved. Thirdly, although the system provided incentives, it also provided skilled workmen with enhanced power and capability to disrupt production. Littler's fourth point was not a consideration, given the wealth of technical expertise SCS possessed and although Baird's managers had less technical knowledge, subcontracting was still not required. There is also considerable evidence contradicting Littler's final point. Indeed, rather than acting as an agency for stabilisation, the widespread practice of subcontracting actually caused various disputes that adversely affected the firm's economic performance and embittered industrial relations. This might emanate from the, 'direct authoritarian rule', McGuffie claims was the basis of subcontractors' power over their workmen.¹⁰⁹ In 1881, Blochairn's smelters struck to terminate their employment by subcontractors and become directly employed by the SCS.¹¹⁰ Similarly, in 1881, Blochairn's hammermen carried out a protracted strike in protest against their treatment by James

¹⁰⁷ Littler, *Development*, p.67.

¹⁰⁸ *Ibid.*

¹⁰⁹ McGuffie, *Metal*, p.69.

Fulthorpe, the hammermen's contractor. The dispute persisted for two months when the hammermen appealed to Riley for aid. The men claimed their grievance did not concern wages, 'rather the person engaged as the contractor, and they said that they would return to their work on condition that he, Mr. James Fulthorpe, would no longer occupy that position.'¹¹⁰ Riley would not remove Fulthorpe as SCS had sufficient labour to maintain production. It seems that the majority of hammermen perceived subcontracting as the main issue; rather than return under Fulthorpe, the men took advantage of their mobility, 'more than half of the hammermen and drivers have left the district for England and have succeeded in finding employment.'¹¹²

Alternatively, the evidence provided supports Reid's perception of subcontracting. Reid notes that the system devolved responsibility for production onto skilled craftsmen and squad leaders. This restricted the options open to masters who wished to exert any form of influence over labour. Reid argues:

Though they might try to increase their control through stricter supervision, improved incentive payments and schemes for reducing labour turnover, these could at best provide only tactical improvements in a situation in which they had already conceded strategic autonomy to their skilled workers.¹¹³

This is generally endorsed by examination of the SCS, which retained direct control over a limited segment of their workforce. Ironically, the group over which the

¹¹⁰ *Engineering*, 10 June 1881.

¹¹¹ *Ibid*, 26 Aug.1881.

¹¹² *Ibid*.

greatest jurisdiction was exercised was the permanent and professional staff, the least militant or troublesome element engaged at the steelworks. Indeed, SCS possessed more limited authority within the workplace than Bairds, resulting from SCS's greater dependency upon skilled autonomous labour in the production process.

5. Power in the Community

Each firm adopted markedly different policies regarding their role within the local community. Whilst SCS had relatively little involvement, Bairds adopted a proactive position outside the works' gate and developed a reputation as the most paternalistic pig ironmasters in Lanarkshire. This contradicts Joyce and Campbell's assertion that smaller firms were more suited to paternalist policies than large corporations.¹¹⁴ However, the majority of Bairds' paternalist policies were instigated from the 1830s to the early 1870s, when the company was less developed and the original members of the Baird family were living. Nonetheless, it could be argued that the firm's activities in the community encompassed much more than simple philanthropy. Indeed, Johnston argues firms in less hostile markets could cultivate company welfarism as a means of labour control, but were less likely to engage in combinations to ensure peaceful industrial relations.¹¹⁵ If motivations for Bairds' social welfare policies were linked to Bairds' authoritarianism, it seems logical to assume these were also applicable to lesser firms who made little pretension toward philanthropic intervention.

¹¹³ Reid, 'Employers', p.43.

¹¹⁴ Joyce, *Work*, p.336. Campbell, *Scottish*, p.256.

¹¹⁵ Johnston, *Clydeside*, pp.202, 40.

Lanarkshire was noted for sectarianism, violence, over-crowding and poor levels of public health. This resulted from the rapid transformation of places like Coatbridge, from rural hamlets to industrial urban population centres, following the development of the pig iron industry by firms including WB&Co. Having witnessed the transformation, the Bairds were fully aware of the social problems that accrued from the local environment. In 1842, Robert Baird described Coatbridge; 'there is not a worse place out of Hell, than that neighbourhood. Murder may be committed every day and never heard of.'¹¹⁶ Consequently, the Baird family devoted considerable energy towards the development of social welfare policies, such as the provision of local amenities including housing, schools, churches and shops. This supports Howe's argument that industrialists assumed many of the responsibilities of displaced landowners in the early 19th century.¹¹⁷ Indeed, given their agrarian origins, Bairds probably had intimate knowledge of duties traditionally assumed by prominent landowners in rural society.

The most obvious source of philanthropy emanated from the Bairds' religious beliefs, which affected both their working and social policies. The Bairds took an active role in establishing various churches and donated £4,600 towards the establishment and running of Gartsherrie Church in the 1840s.¹¹⁸ Alexander Baird bequeathed £20,000 for charitable works, from which Townhead church was established, whilst George

¹¹⁶ RC, *Children in Mines*, Vol.2, p.362, cited by RD. Corrins, 'William Baird &Co., Coal and Iron Masters 1830-1914', Strathclyde University Ph.D. thesis, 1974, p.347. Although Corrins provides a comprehensive account of Bairds' business history there is little analysis of industrial relations or the power relationship between capital and labour.

¹¹⁷ Howe, *Cotton*, pp.272-273.

Baird left £25,000 from which Coats Church in Coatbridge was erected in 1874.

Donations included sums provided to local clergymen, including Mr. McClelland, a missionary at Bargeddie, who was given £34 9/6d. in 1876.¹¹⁹ James Baird was a member of the General Assembly of the Church of Scotland. In July 1873, he established the 'Baird Trust' under which £500,000 was provided:

For the support of objects and purposes in connection with the Established Church of Scotland...promoting the mitigation of spiritual destitution among the population of Scotland, through efforts for securing the godly upbringing of the young, the establishing of parochial pastoral work, and the stimulating of ministers and all agencies of the said Church of Scotland.¹²⁰

In 1873 he also gave £7,500 towards the erection and endowment of five new churches in Aberdeen. Dickson attributes industrialists' support of the established Kirk in urban areas to a desire to, 'moralise', a rapidly expanding proletariat.¹²¹ This desire is perceptible in the Bairds who went further than most pig ironmasters, becoming the first and only Scottish producer to damp their blast-furnaces each Sunday from 6am to 4.30pm to allow workmen to attend church. The Bairds claimed, 'we saw a marked change in the people, both morally and physically.'¹²² However, Sunday labour was still required for the rest of the day, i.e. midnight to 6am and 4.30pm to midnight. Further, during the blast-furnacemen's strike in 1890-

¹¹⁸ MacGeorge, *Bairds*, pp.70-71.

¹¹⁹ NLA, U805/03/20. Letter, David Wallace to William Jardine, 30 Nov.1876.

¹²⁰ MacGeorge, *Bairds*, p.107.

¹²¹ Dickson, *Scottish*, p.208.

¹²² MacGeorge, *Bairds*, p.70.

91, the workmen demanded the introduction of time-and-a-half payments for Sunday working or the complete abolition of Sunday labour. Bairds adamantly refused, although this was customary at English ironworks. Charles Vickers, the Scottish agent of the National Association of Blast Furnacemen, (NABF), testified, 'our object was to bring forward the Scotch blast-furnacemen to something like a similar level to our English brethren in relation to Sunday labour.'¹²³ Therefore, whilst the Bairds might be considered enlightened by Lanarkshire's standards, compared with other regions the firm had little claim to moral leadership, weakening Johnston's point that the authoritarian reputation of Clydeside's employers is undeserved.¹²⁴ In 1892 the Royal Commission on Labour readily appreciated this during Commissioner Burt's questioning of William Snow, the NABF's General Secretary:

Commissioner Burt - 'The Scotch Sabbatarianism of which we have heard a great deal, does not apply very strictly to the blast-furnaces?

William Snow - 'It does not, nor Scotch Christianity either, nor humanity.'¹²⁵

Indeed, some workmen viewed Baird's activities with weary cynicism, interpreting the Baird Trust as an attempt to avoid eternal damnation for earthly sins; it was described as, 'the greatest fire insurance premium ever paid.'¹²⁶ Alternatively, Sunday labour was never customary in the Scottish steel or malleable iron industries and SCS's workmen could rest from Saturday afternoon to Sunday night, although

¹²³ RC, Labour, 1892, Vol.36, p.276.

¹²⁴ Johnston, *Capital*, p.180.

¹²⁵ RC, Labour, 1892, Vol.36, p.262.

this was not regarded as an example of the firm's Christianity or paternalism.

The firms erected their works in areas where suitable land was available for building or contained the required minerals. Such areas usually had insufficient stocks of existing housing, which forced the firms to build in order to attract a suitable workforce. By 1870 Bairds owned numerous houses around Coatbridge whilst, 'in acquiring the works in Ayrshire, whole villages of houses were included in the purchase.'¹²⁷ Many of their workmen lived in works' accommodation and in 1880 the number of company-owned houses at Gartsherrie stood at 1,089.¹²⁸ However, the firm also owned considerable numbers of houses in other districts of Lanarkshire and Stirlingshire. McCosh stated, from 1874-1892, Bairds spent £90,448 2s. building a total of 820 two-roomed houses.¹²⁹ This was considerably more than many pig iron firms and virtually all the malleable iron or steel firms could afford. Bairds' costs were largely recouped in rent over succeeding years; in 1870 rent deducted from wages ranged from 4/7d. to 7/8d. per month and averaged 49.9d. from 1893-94, although it should be noted that this average included rent from miners' housing, which was often inferior quality.¹³⁰ However, the standard of blast-furnacemen's housing was also criticised by union officials. Charles Vickers testified:

The houses in connexion with the furnaces are very poor specimens of houses; they contain only two rooms, and indeed generally only one; they

¹²⁶ Corrins, 'Baird', p.23.

¹²⁷ MacGeorge, *Bairds*, p.93.

¹²⁸ WB&Co., Valuation Book Vol.3, House Property Account 1880', cited by Corrins, Ph.D. thesis, p.327.

¹²⁹ RC, Labour, 1892, Vol.36, p237.

have no back way out, and the bed and everything is in the kitchen; they have no out-houses, no coal-houses or no wash-houses...This is the case with all the workmen's houses at the various works throughout the district.¹³¹

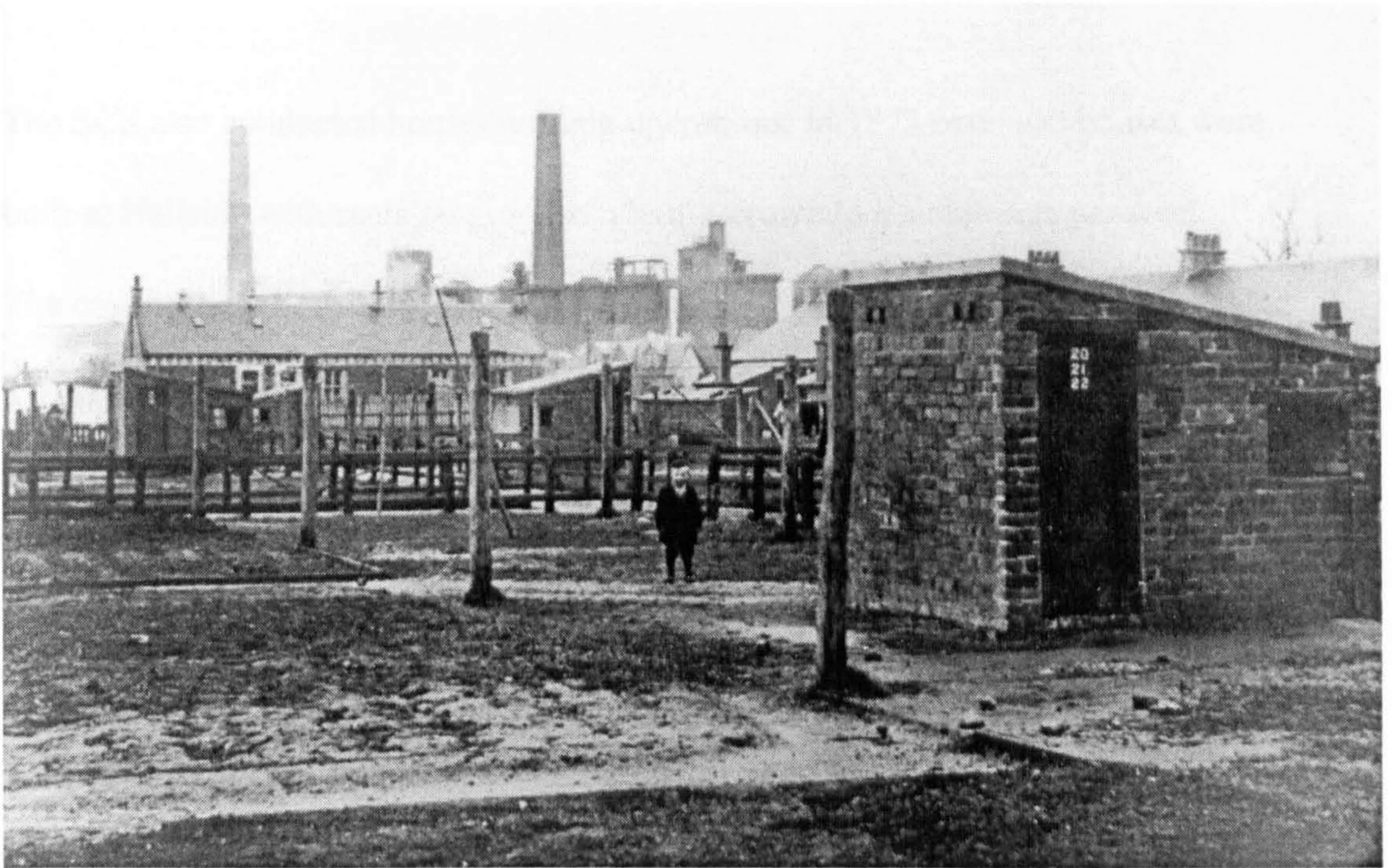


Figure 6. Ironworkers' housing and toilets, Coltness, 1900. The ironworks chimneys are in the background.

Vickers estimated that rent varied from 4/8d. to about 8/4d. per month in 1892, excluding rates and taxes, but stated that blast-furnacemen would pay higher rent to obtain better accommodation. He also noted houses with extremely poor sanitation:

With regard to privy accommodation, there is just simply one open place with

¹³⁰ NLA, U803/01/39 replies to 'Queries of the Truck Commission'. Also WB&Co. Valuation Book, Vol.6, 'House Property Account 1894', cited by Corrins, Ph.D. thesis, p.331.

¹³¹ RC, Labour, 1892, Vol.36, p.281.

three or four compartments, and that is intended for about ten or twenty occupants, and it is situated from fifteen to twenty feet from the houses; if they have coals delivered to them...these they must stow underneath their bed, that being the only place to stow them.¹³²

The SCS also conducted house-building operations; in 1873 over 100 houses were built at Hallside with rents ranging from half-a-crown to six shillings per week.¹³³

The cost of these houses is unclear, but in 1884 the SCS's 'outlay account' included a total of £24,958 13s. from November 1880 to July 1882 at Hallside, either on the upkeep and repair of existing property, or new building.¹³⁴

The Bairds conducted house-building operations on a much larger scale than the SCS, reflecting their greater financial resources and greater need. Whilst house-building was unavoidable, the quality of housing remained discretionary. The Bairds usually built superior quality properties for their ironworkers than their colliers, indicating the greater importance attached to these workmen.¹³⁵ Blast-furnacemen also benefited from the greater permanence of ironworks compared with pits that could work out in a generation, thus discouraging large investments in housing. The *Glasgow Herald* noted in 1875; 'Gartsherrie...is quite a town. The numerous rows are tenanted of course, by the ironworkers, the houses being substantial, and the sanitary arrangements excellent. Gargell, on the contrary, is extremely small, and on

¹³² *Ibid.*

¹³³ Borthwick, *Hallside*, p.11.

¹³⁴ NAS, SCS, Ledger No.2, Outlay Account, 17 July 1884, p.214.

¹³⁵ Corrins, Ph.D. thesis, pp.333-334.

the whole an unpleasant place.’¹³⁶ Housing quality also mirrored status in SCS houses; ‘stone-built for the foremen and management; and two-storey tenement blocks for the workmen.’¹³⁷ Therefore, housing provision reinforced workplace hierarchies and augmented sectional tendencies within labour. This tends to support Melling’s view of paternalism as the, ‘hierarchical ordering of society’.¹³⁸ Whilst both firms benefited from rental income, only Bairds could employ the threat of eviction to intimidate workmen with dependants, as the SCS’s subcontractors held this power rather than the firm until the late 1880s. Consequently, the provision of housing encompassed more significant advantages for Bairds than the SCS.

Prominent leaders of WB&Co. were closely identified with educational interests. Alexander Whitelaw was Chairman of Glasgow School Board from 1873 until his death and took an active interest in Gartsherrie Science School.¹³⁹ Bairds opened Gartsherrie Academy in 1844 at a cost of £2,500 with capacity of 631 pupils, whilst a second school was opened in 1857 for a further 430 pupils.¹⁴⁰ By 1872 more than 4,500 children were taught at Bairds’ schools; ‘in every place where any considerable number of houses were built, a school was erected, and a teacher engaged.’¹⁴¹

Workmen were forced to share Bairds’ enthusiasm for education and a portion of their wage was deducted to maintain the schools. Each workman had 5d. per month deducted in 1870, regardless of whether he had children; a further 7d. was deducted for one child at the school, one shilling for two children and 1/3d. for three or more

¹³⁶ *Glasgow Herald*, 13 Jan.1875, p.1.

¹³⁷ Borthwick, *Hallside*, p.11.

¹³⁸ Melling, ‘Industrialists’, p.102.

¹³⁹ *Engineering*, 11 Nov.1879.

¹⁴⁰ Miller, *Rise*, p.46.

children.¹⁴² Given that WB&Co. employed approximately 9,000 men in 1870, the income generated by such levies was considerable. However, the company maintained that the provision of education was altruistic. Alexander Whitelaw testified WB&Co. spent over £3,000 on education from 1861-1871.¹⁴³ Of course, the average annual cost of £300 was considerably smaller than the £250,000 profits received annually by each of WB&Co.'s four directors in the early 1870s.¹⁴⁴

Bairds' schools were associated with the Church of Scotland. Although large numbers of the workforce were Roman Catholic and often sent their children to Catholic schools, all workers were charged the same fees regardless of their religious convictions. Indeed, the firm's staunch support of the established church was reflected by little interest in the education of Catholics; in 1870 it carried out a survey of Kilsyth that noted 64.63% of the population was Catholic and 35.37% Protestant. Whilst ninety Protestant children were recorded as school going, no figure was supplied for Catholic children.¹⁴⁵ However, in 1875 the firm agreed to requests from Catholic workers in Kilsyth to terminate the school payment on condition that a priest or teacher confirmed the child's attendance at a Catholic school.¹⁴⁶ The firm also conceded that Gartsherrie Academy was not always popular with parents, regardless of religious persuasion. The Academy's quarterly report in 1872 noted the reluctance of parents to send their children, 'the notion seems to have been industriously spread abroad that pupil teachers do not deal gently enough with

¹⁴¹ MacGeorge, *Bairds*, p.94.

¹⁴² NLA, 'Truck Commission Queries', Apr.1870.

¹⁴³ RC, Truck, 1871, Vol.2, p.274.

¹⁴⁴ Corrins, 'Baird', p.23.

¹⁴⁵ NLA, U803/06/07. Census, Kilsyth Houses, 1870-71.

pupils of tender age and hence it is better to detain a child in St. Mary's.'¹⁴⁷ The report acknowledged a, 'fraction of truth', in this allegation and recommended the recruitment of female teachers to encourage greater enrolment.¹⁴⁸ The importance attached to education stemmed from Bairds' religious convictions and was reflected by the curriculum, 'care being taken for the religious, as well as for the secular, instruction of the children.'¹⁴⁹ Whilst the provision of schools may have extended Bairds' authority into wider society, the establishment of Burgh schools under the Scottish Education Act of 1872 dissipated such influence, although Bairds maintained their schools for a period, 'in order to secure that the religious teaching will be properly kept up.'¹⁵⁰

Another example of Bairds 'philanthropy' jointly paid for by labour, was the provision of medical care. Since 1844, WB&Co. provided a doctor at Gartsherrie, whilst in 1874 another two doctors were supplied for the Kilsyth area. However, trade unionists regarded the doctor as a managerial appointment in the firm's interests, whilst fatalities in Lanarkshire's pig ironworks were not subject to an enquiry or the coroner's inquest held in England.¹⁵¹ Like other welfare provisions, the cost of supplying medical care was deducted from workmen's wages. McCosh stated the charge was 3.75d. in 1879 and remained at this level until 1884.¹⁵² However, the firm's reply to the Truck Commission in 1870 placed this figure

¹⁴⁶ NLA, WB&Co., GLB, Vol.27, p.400.

¹⁴⁷ NLA, U806/01/33.1. Gartsherrie Academy, Quarterly Report, October-December, 1872.

¹⁴⁸ *Ibid.*

¹⁴⁹ MacGeorge, *Bairds*, p.94.

¹⁵⁰ *Ibid.*

¹⁵¹ RC, Labour, 1892, Vol.36, pp.280, 260-261.

¹⁵² *Ibid.*, p238.

considerably higher at 6.5d.¹⁵³ Examples of welfare provision that generally benefited the workmen and their families were the provision of medical care, educational facilities and housing. However, the significant sum extracted from workmen to pay their running costs tends to support Melling's argument, that the term 'paternalism' is essentially misleading, as welfare provision was only sanctioned after careful calculation of economic costs and benefits.¹⁵⁴ However, Gartsherrie Institute was an example of an establishment conferred without any financial contribution from labour. The Institute was gifted by William Weir in 1891 to provide, 'facilities for the self-improvement, recreation and social enjoyment of the workmen of Gartsherrie Ironworks and the inhabitants of the district.'¹⁵⁵ It provided sporting, recreational and bathing facilities, but banned the use or sale of alcohol whilst, 'no intoxicated person shall be allowed to enter, and no loud talking, swearing, improper language or quarrelling shall be tolerated'.¹⁵⁶

WB&Co. also built truck stores for their employees. Throughout the 1840s and 1850s, Baird's truck stores mirrored the abuses of power found in other Lanarkshire ironmasters' stores. Whilst wages could be spent wherever the employees wished, workmen who received advances were pressurised to use company stores. In 1854 James Baird conceded that advances were not granted unless 80-90% of it was spent in the store and declared, 'delegates urging a strike find the store a powerful agent against such [as] the moment they stop work the store stops advancing.'¹⁵⁷ However,

¹⁵³ NLA, 'Truck Commission Queries', Apr.1870.

¹⁵⁴ Melling, 'Industrialists', p.101.

¹⁵⁵ NLA, U803/01/73, Constitution and Rules of the Gartsherrie Institute, 1891.

¹⁵⁶ *Ibid.*

¹⁵⁷ Select Committee on Payment of Wages Bill 1854, p.137, cited by Corrins, Ph.D. thesis, p.351.

in the 1860s, Alexander MacDonald, the Lanarkshire miners' leader stated, 'the enlightenment of the age, the strong expression of public opinion and the bringing of their name frequently before the House of Commons', encouraged Bairds to, 'give up the Truck system...and establish Co-operative stores.'¹⁵⁸ Gartsherrie Ironworks Co-operative Society was formed by 1863, with various other stores established at nearby collieries and in Ayrshire. McCosh calculated the stores produced total sales of around £80,000 to £90,000 in 1892.¹⁵⁹ Whitelaw described the Gartsherrie store as initially run by a committee comprising three men nominated by the company, the chief cashier and two managers, whilst members of the Co-operative Society elected another twelve men.¹⁶⁰ Lenders, who could invest up to £20, supplied the capital.¹⁶¹ McCosh declared that shareholders received an annual dividend on purchases, whilst unregistered purchases and money from unclaimed dividends was paid into a charitable fund for injured workmen or their families.¹⁶² Officially the store was owned by the society, but Bairds owned the land, acted as banker, loaned capital and rented buildings, whilst company officials were required on the committee.

Despite the veneer of altruism, it can be argued that the function of the store essentially remained unaltered. The miners' and blast-furnacemen's representatives vehemently criticised the stores, which differed from ordinary co-operative stores in several key respects. Vickers noted that the dividend was paid annually rather than quarterly. Therefore, workmen who left Baird's employment after ten or eleven

¹⁵⁸ RC, Unions, 1867-1868, Vol.39, (15,352), p.294.

¹⁵⁹ RC, Labour, 1892, Vol.36, p236.

¹⁶⁰ RC, Truck, 1871, Vol.2, p.273.

¹⁶¹ *Ibid.*

¹⁶² RC, Labour, 1892, Vol.36, (13,618), p236.

months, even if they returned shortly afterwards, lost their dividend.¹⁶³ Such measures effectively tied workmen to the firm for longer periods. Secondly, Society members had to live in company-owned property or be employed as contractors. Workmen who were dismissed were automatically evicted from works' housing and no longer qualified for the dividend, whilst participants in strike action received no dividend until they returned to work.¹⁶⁴ Keir Hardie stated, 'it is called by the name of a co-operative store, but it is in the interests of the employer. It is a very insidious form of the old truck system...the amount of terrorism exercised on the men through the store dividend is very great and very injurious.'¹⁶⁵ Thirdly, although committee members were elected, the Society was not a democratic organisation; a vote was allocated for each 10s. lent to the society.¹⁶⁶ Therefore, those who lent the most money qualified for the largest number of votes, generally resulting in the highest paid foremen possessing greater control over the Society than ordinary blast-furnacemen. Vickers testified:

The committees are generally composed of the managers and foremen and the clerks of the works, and a few workmen and the doctor of the works generally whom the employers appoint, and for whose remuneration so much money is stopped...working men are in such a small minority that their voice in these meetings is of no avail.¹⁶⁷

¹⁶³ *Ibid*, p.282.

¹⁶⁴ *Ibid*, pp.282-283.

¹⁶⁵ *Ibid*, p.185.

¹⁶⁶ NLA, U807/01. Constitution of Gartsherrie Works Co-operative Society Store, 1863.

¹⁶⁷ RC, Labour, 1892, Vol.36, pp.280, 282.

Blast-furnacemen's and miners' representatives were united by a desire for stores operated like normal co-operatives and maintained that company stores were designed primarily as an agency of domination. Hardie claimed the stores facilitated for an employer, 'a control over the workmen, which he would not get if there was no store and no dividend.'¹⁶⁸ Vickers indignantly articulated blast-furnacemen's desire and ability for autonomy:

We, as a body of workmen, refuse to acknowledge that the managers have all the brains, or that in the capitalist there is all the brain. We maintain that there is a sufficiency of brainpower among the men to manage co-operative stores without their being dependent upon the management or the staff.¹⁶⁹

AK McCosh rejected such criticism declaring, 'I cannot conceive why anybody should find fault with the stores, unless it is to be made a crime that an employer should try to make things more comfortable for his workmen, and do things of that sort to benefit them.'¹⁷⁰

McCosh's protestations appear discreditable after examination of the Society's financial statements. In 1870, £596 7/6d. was spent on bread, £378 1/1d. on cheese and £364 9/6d. on oatmeal, but the largest sum was spent on whisky, with a total of 1,507½ gallons being sold in 1870, bringing £1,114 4/5d. into the store.¹⁷¹ Indeed, whisky was consistently the largest selling item with 1,492½ gallons sold in 1868 for

¹⁶⁸ *Ibid*, pp.185-186.

¹⁶⁹ *Ibid*, p.285.

¹⁷⁰ *Ibid*, (13,624), p.236.

£1,104 15/4d. and 1,343¼ gallons sold for £979 19/9d. in 1869.¹⁷² (See table seven.)

Although Bairds were content to sell around 1,500 gallons of whisky annually to their workmen from a shop located within their ironworks, any workman thought to be under the influence of alcohol was liable for instant dismissal, which was accompanied by eviction within twenty-four hours and loss of the annual dividend. Vickers stated, ‘even though the rules of the various works strictly prohibited drink being brought to the works or men being found intoxicated on the works they will supply men with drink during his working hours with or without pay.’¹⁷³ Whisky on tick was an irresistible temptation to many blast-furnacemen. The provision of hard liquor refutes the Bairds consistent claim to be a morally uplifting influence upon labour.

Table 7. Gartsherrie Co-operative Society Statement, Extract.¹⁷⁴

Year	1868	1869	1870
Bread	£899 8/2d.	£535 6/5d.	£596 7/6d.
Cheese	£363 2/4d.	£358 7/9d.	£378 1/1d.
Oatmeal	£740 9/8d.	£482 11/ 0d.	£364 9/6d.
Whisky	£1,104 15/4d.	£979 19/9d.	£1,114 4/5d.
Advances to men	£34,060 18/4d. (66.58%)	£28,805 4/0d. (67.44%)	£29,370 15/5d. (67.76%)
Benefit Fund Aid	£99 10/11d.	£60 1/5d.	£62 3/8d.
Net Profit	£531 18/2d. (4.41%)	£424 6/10d. (4.82%)	£543 12/9d. (6.08%)

Further, the Society’s statement reveals significant levels of borrowing in advance of wages. Baird’s workmen were paid monthly, whereas SCS employees had

¹⁷¹ NLA, U8 07/02. Gartsherrie Works Co-operative Society statement, 1868-1870.

¹⁷² *Ibid.*

¹⁷³ RC, Labour, 1892, Vol.36, p280.

fortnightly pay runs. Long wage runs encouraged indebtedness and the Bairds readily gave 'advances'. In 1870 advances to workmen totalled £29,370 15/5d. representing 67.8% of total wages. The figure advanced was consistently high; 67.4% of wages in 1869 and 66.6% in 1868. Therefore, approximately two-thirds of the workmen were constantly in debt to the company, which diminished the likelihood of independent or confrontational action against Bairds. This further reinforces Melling's view of the, 'overtly strategic purpose', behind the masters' welfare considerations.¹⁷⁵

The firm's paternalist attitude towards labour contained an element of condescension. James Baird believed the main responsibility of WB&Co. was to ensure its workers were, 'well fed, well-housed, and their children well educated. I think far more good can be done in that way, than by the workmen spending their wages to provide provisions for themselves.'¹⁷⁶ Baird regarded his workmen as incapable of looking after themselves, even in prosperous periods, as he equated greater income with greater alcohol abuse:

The poor men never had so much money in their hands before, and they did not make such good use of it as they might have done. Certainly not more than five to ten per cent of them improved their condition, or made themselves more comfortable in their homes...the great bulk of them emerged from this state of prosperity...in a state of wretchedness and misery -

¹⁷⁴ NLA, Gartsherrie Co-operative Society, statement, 1868-1870.

¹⁷⁵ Melling, 'Industrialists', p.165.

¹⁷⁶ Select Committee on Payment of Wages Bill, 1854, p.139, cited by Corrins, Ph.D. thesis, p.361.

themselves, their wives, and their children demoralised with evil habits.¹⁷⁷

Baird conveniently ignored the fact that these 'evil habits' were fuelled by Gartsherrie ironwork's store. Indeed, it can be argued that a large measure of Bairds' welfarism was designed to benefit the firm as much as the workmen. The provision of social amenities provided genuine social improvement for the community, but also respectability and social kudos for the firm and its masters. Such measures were intended to establish a morally upright and disciplined workforce. Crucially they were also perceived as a bulwark against social unrest, industrial upheaval and trade union development, which were all potentially harmful to WB&Co. *Engineering* noted:

The proprietors...considered it to be their duty, and to their advantage, to provide for the education of the rising generation of their workmen, and to see to the wants of those employed by them in a very liberal and comprehensive spirit. There are several schools maintained by the firm of Messrs. Baird and Company...A co-operative store has also been established under the patronage of the firm for the benefit of the workmen...It has been found by experience that these provisions very greatly prevent the workmen employed at Gartsherrie from joining trades' unions, and although they do not entirely destroy the effect of the great movements in strikes and disputes, they still mitigate these evils and reduce their sad effects on both masters and men...their universal adoption would gradually, but without fail, abolish the

¹⁷⁷ MacGeorge, *Bairds*, p.85.

present evils of trades' unions.¹⁷⁸

Therefore, Bairds' social and welfare policies should not be taken entirely at face value as the underlying motivation was multidimensional. Genuine philanthropy reflected Baird's religious convictions, but also provided social respectability for the family and their firm. The positive results were intended to create a contentedly docile workforce that would not seek redress through trade union membership. Consequently, a considerable element of self-interest was present in Bairds 'welfare' provisions. Indeed, Knox argues that until 1900, paternalist managerial strategies reinforced by belligerence to potential challenges to their authority, harnessed workers' allegiance, facilitated workplace control and undermined trade union organisation, particularly where large, powerful firms like Bairds confronted unskilled labour.¹⁷⁹ Yarmie correlates philanthropic interventionism and political influence, arguing that to safeguard the hegemony of the employing class and to create a subordinate and efficient workforce, a managerial ideology was created that legitimised the employers' authority, by assuming the role of economic and moral leadership over the working-class. The masters could legitimately control employees on the grounds of moral superiority, provided by philanthropy in local society.¹⁸⁰ MacDonald's analysis of Paisley's mill-owners further highlights the linkage between paternalistic management, civic philanthropy and political leadership, which was particularly effective in the locality around the works.¹⁸¹

¹⁷⁸ *Engineering*, 4 Oct.1867.

¹⁷⁹ Knox, *Hanging*, pp.134-135, 158, 178.

¹⁸⁰ Yarmie, 'British', pp.142-143.

¹⁸¹ Catriona MacDonald, *The Radical Thread: Political Change in Scotland, Paisley Politics, 1885-1924*, (East Linton, 2000), pp53-55.

The Bairds, whose interventionist policy in the surrounding community also became manifest in an active political agenda, substantiate MacDonald and Yarmie's arguments. Unlike most Victorian industrialists, Bairds were committed Conservatives and, 'never flagged in the efforts which they constantly made to promote the Conservative cause.'¹⁸² The Bairds exalted position in local society led to various family members being elected MP. In 1841 William Baird was elected to represent the Falkirk Burghs, (including Airdrie), the only contemporary Conservative burgh in Scotland, which remained Conservative for seventeen years.¹⁸³ James Baird followed William Baird as MP, whilst AK McCosh was Honorary Vice-president of the Old Monkland Junior Conservative Association.¹⁸⁴ Alexander Whitelaw became a Conservative MP for Glasgow from 1874-1879. The firm's political success contradicts Dickson's assertion, 'the political dominance in Scotland until the 1880s of the Liberal Party corresponded to the social dominance of the country's industrial bourgeoisie...Scottish Conservatism was reckoned to be a negligible force...the very word "Tory" evoking...intense public antipathy.'¹⁸⁵ The Baird's economic strength and widespread business activities within the local area helps explain this apparent paradox. This facilitated political influence, often expressed through a mixture of pressure and patronage.

WB&Co.'s finances funded political campaigns, although such contributions were

¹⁸² MacGeorge, *Bairds*, p.72.

¹⁸³ *Ibid*, p.73.

¹⁸⁴ NLA, U805/07/05. Letter, Johnston to McCosh, 8 Oct.1888.

¹⁸⁵ Dickson, *Capitalism*, p.251.

disguised as 'Law Expenses' in the firm's ledgers in the 1860s.¹⁸⁶ The Bairds greased the wheels of local politics by providing patronage and hospitality for voters. In 1857 James Boston, canvasser, had expenses totalling £71 9s., whilst John Dixon, James Baird's election agent, claimed various costs; 'fourteen pounds was for brandy, whisky, breakfasts and such like, including expenses I could not avoid when out canvassing.'¹⁸⁷ Financial rewards or favoured contracts were also placed with loyal voters; in 1873 William Baird was advised that during a forthcoming election, 'in the event of a contest, Mr. Hay will require to be looked after, as he voted Whig in 1865.'¹⁸⁸ The firm mobilised supportive elements of its workforce during elections, ensuring registration and eligibility to vote.¹⁸⁹ In September 1873, James Ritchie McLean urged that a tenant's rent was topped up to the £14 required to make him eligible to vote under the requirements of the Burgh valuation role.¹⁹⁰ Before 1870, Bairds largely depended on middle-class support for electoral success. Although one miner voted for Baird in 1841, all the remaining voters were small retailers or professionals, as most ironworkers and miners did not qualify for enfranchisement.¹⁹¹ However, from 1870-1900 the Baird's managers stood for Parliament in Glasgow, probably reflecting the increased middle and working-class voting power in Lanarkshire, which largely supported Liberals like John Colville who defeated Alexander Whitelaw Jnr. to become the local MP in 1895. Indeed, after Alexander Whitelaw's death in 1879, the Bairds and their managers were not

¹⁸⁶ NLA, U805/03/06. Letter, David Wallace to William Jardine, 27 May 1867.

¹⁸⁷ NLA, U815/13. Expenses, James Boston, canvasser, Falkirk Burghs Parliamentary election, Mar.1857. U8 15/15. Letter, John Dixon to James Baird, 16 Sept.1857.

¹⁸⁸ NLA, U805/11/01. Letter, Chrystal & MacFarlane to William Baird, 30 Aug.1873.

¹⁸⁹ NLA, U805/11/02. Letter, James Ritchie McLean to William Baird, 30 Aug.1873.

¹⁹⁰ NLA, U805/10/01. Telegram, James Ritchie McLean to William Jardine, 4 Sept.1873.

¹⁹¹ NLA, U815/02. Broadsheet, 'Poll, Falkirk District of Burghs election, 2 July 1841.

elected to Parliament during the period.

Although Bairds' parliamentary power waned, the firm retained considerable leverage in burgh politics. This ensured that candidates favoured by Bairds were placed in positions of social influence; during the election of the Inspector of Poor and [Tax] Collector at Cumbernauld, William Laird described the local candidate as 'unsuitable' and sought to place Mr. Longwill, a clerk at Bairds' Dalry works into the post.¹⁹² Bairds' leverage reached the highest levels of Scotland's political establishment. In 1873, James Cowie, Provost of Airdrie sought Whitelaw's help to secure the position of Matron at Airdrie Prison for a Mrs. Stewart. Cowie wrote, 'as the appointment rests with the Secretary of State perhaps you might be kind enough to get Mr. Whitelaw to recommend her.'¹⁹³

As Conservatives opposed to Irish Home Rule, courting Lanarkshire's Orange Lodges might enhance Bairds' political strength. Indeed, Bairds political, social and employment policies have prompted various historians including Johnston, Knox and McFarland to brand them sectarian employers. Johnston states, 'William Baird and company were notorious for their dislike of Catholicism and for their encouragement of the Lanarkshire Orange movement.'¹⁹⁴ Knox argues that Bairds displayed, 'an openly hostile attitude to Catholic Irish workers...and encouraged strong Orange sympathies', among their workforce.¹⁹⁵ McFarland declares, 'employers actively pursued a hierarchical structure of employment along religious lines', at various

¹⁹² NLA, U805/05/02. Letter, William Laird to William Jardine, 15 Sept.1872.

¹⁹³ NLA, U8 05/10/03. Letter, Archibald Cowie to William Jardine, 14 Sept.1873.

¹⁹⁴ Johnston, *Clydeside*, p.101.

ironworks.¹⁹⁶ McFarland claims the Protestant Irish received skilled occupations whilst employers including Bairds, 'employed Catholic Irish only in the capacity of puddlers' labourers and later blast-furnacemen'.¹⁹⁷ Marshall states that, 'fewer Roman Catholics were employed at Gartsherrie Ironworks than in other local ironworks.'¹⁹⁸ However, as evidence he quotes Campbell who examines Gartsherrie, but not other ironworks. Campbell states that 10% of workmen at Gartsherrie were Catholic, although 30% of Gartsherrie's local population was Catholic in 1851. Campbell notes that one of Alexander Whitelaw's sons was a Grand-master of Coatbridge Orange lodge in 1892, although he concedes, 'the evidence is circumstantial'.¹⁹⁹ Campbell observes, 'it is possible that the Bairds' religious convictions may have led them to encourage support for Orangeism among their workmen, or at least not actively discourage it.'²⁰⁰ Marshall also notes the lack of conclusive evidence, emphasising employers' difficulty in controlling or influencing Orangemen and arguing as labour was already divided along craft and social lines, employers did not have to promote sectarianism to fragment labour.²⁰¹ Therefore, although Campbell and Marshall are guarded, various historians argue the Bairds operated sectarian employment policies.

However, why did employers with such anti-Catholic views recruit so many Catholics? From the 1860s, WB&Co. advertised in Ireland to recruit workmen for its

¹⁹⁵ Knox, *Industrial*, p.93.

¹⁹⁶ Elaine McFarland, *Protestants First, Orangeism in 19th Century Scotland*, (Edinburgh, 1990), pp.86-87.

¹⁹⁷ *Ibid.*

¹⁹⁸ WS Marshall, *The Billy Boys-A concise history of Orangeism in Scotland*, (Edinburgh, 1996), p.43.

¹⁹⁹ Campbell, *Lanarkshire*, p.223.

expanding collieries around Kilsyth, significantly enlarging the area's Catholic population as a direct consequence.²⁰² Similarly, in 1891 Bairds enrolled Roman Catholic Lithuanians during the blast-furnacemen's strike. Indeed, Lanarkshire's iron and coalmasters repeatedly employed immigrant labour from the Highlands, Ireland and Lithuania to break strikes during the 19th century. Therefore, during labour supply constrictions Bairds energetically recruited Catholics. However, even during settled periods a significant proportion of Bairds' workforce was Catholic. Corrins estimates that 30% of Bairds' workforce was Irish in the 1850s and 1860s. Although this could include Protestants, the accident figures for 1860-64 and 1880-84, reveal 30% of workmen had distinctively Irish surnames, which would encompass Catholic Irish immigrants and their descendants and generally exclude Scots-Irish Protestants.²⁰³ The figure is three times larger than Campbell's, which is based solely on Gartsherrie rather than Bairds' entire labour force.

Further, the evidence employed to support the sectarian theory seems unreliable.

Knox supplies no primary sources but cites Campbell, who also states that in Lanarkshire's iron industry the, 'unskilled labourers and furnacemen were more commonly Catholics.'²⁰⁴ Campbell's source for this assumption is an undergraduate thesis by Ann McDonagh, which in turn cites the verbal reminiscence of one individual interviewed in 1977.²⁰⁵ Similarly, McFarland supplies no primary sources

²⁰⁰ *Ibid.*

²⁰¹ Marshall, *Billy*, pp.44-45.

²⁰² James Hutchison, *History of Kilsyth*, (Cumbernauld, 1986), p.126.

²⁰³ Corrins, Ph.D. thesis, pp.322-323.

²⁰⁴ Campbell, *Lanarkshire*, p.157.

²⁰⁵ Ann McDonagh, 'Irish Immigrants and Labour Movements in Coatbridge and Airdrie, 1891-1931'. Strathclyde University, undergraduate thesis, 1977, pp.3-4.

regarding Catholic recruitment by Lanarkshire's ironmasters, but, like Campbell, quotes from McDonagh's undergraduate thesis, which is again based on the oral testimony of the same individual. The unsubstantiated testimony of one person is hardly convincing, but even if accurate, the situation probably emanated from the system of progression rather than deliberate sectarianism. (See chapter three and four.) Progression placed recent arrivals, including Catholic Irish and Lithuanians, at the bottom of the skills ladder just as it had formerly impeded the attainment of skills by Presbyterian Scots when Englishmen, typically Methodists, held the skilled posts. Further, McDonagh also claims, 'the Irish were employed as Blast-furnacemen with Bairds of Gartsherrie (mainly Orangemen) and the Lanarkshire Steel Works (mostly Catholic)'.²⁰⁶ Given that average skill levels and wages at steelworks were considerably higher than pig ironworks, (see chapter 3), McDonagh's argument that Catholics received the unskilled, lower paid jobs in Lanarkshire's iron and steel industries seems flawed. Indeed, John Cronin, an influential trade unionist and elected leader of the most skilled and autocratic sections of labour in Lanarkshire's iron and steel industries was, 'an Irishman...In his younger days he had been trained for the priesthood.'²⁰⁷ Finally, WB&Co. did not employ any of Whitelaw's three sons, who had no involvement in company recruitment policies.²⁰⁸ Therefore, the Whitelaw's influence within the firm terminated in 1879 following the death of Alexander Whitelaw, (Snr.). Consequently, WB&Co. cannot be held responsible for the activities of Whitelaw's children in the 1890s. Although the firm would have welcomed any issue that fragmented workforce solidarity, sectionalism rather than

²⁰⁶ *Ibid*, p.44.

²⁰⁷ Hodge, *Workman's*, p.78.

²⁰⁸ Corrins, Ph.D. thesis, p.293.

sectarianism generally characterised the labour policies of WB&Co.

Whilst there is no convincing evidence of WB&Co. operating a sectarian employment policy, the Bairds and their managers supported the Conservative and later the Conservative Unionist political party. Conservative politicians did receive votes in Lanarkshire from Orangemen throughout the period, whilst the mobilisation of the Catholic Irish vote for the Conservatives in 1885 was unusual.²⁰⁹

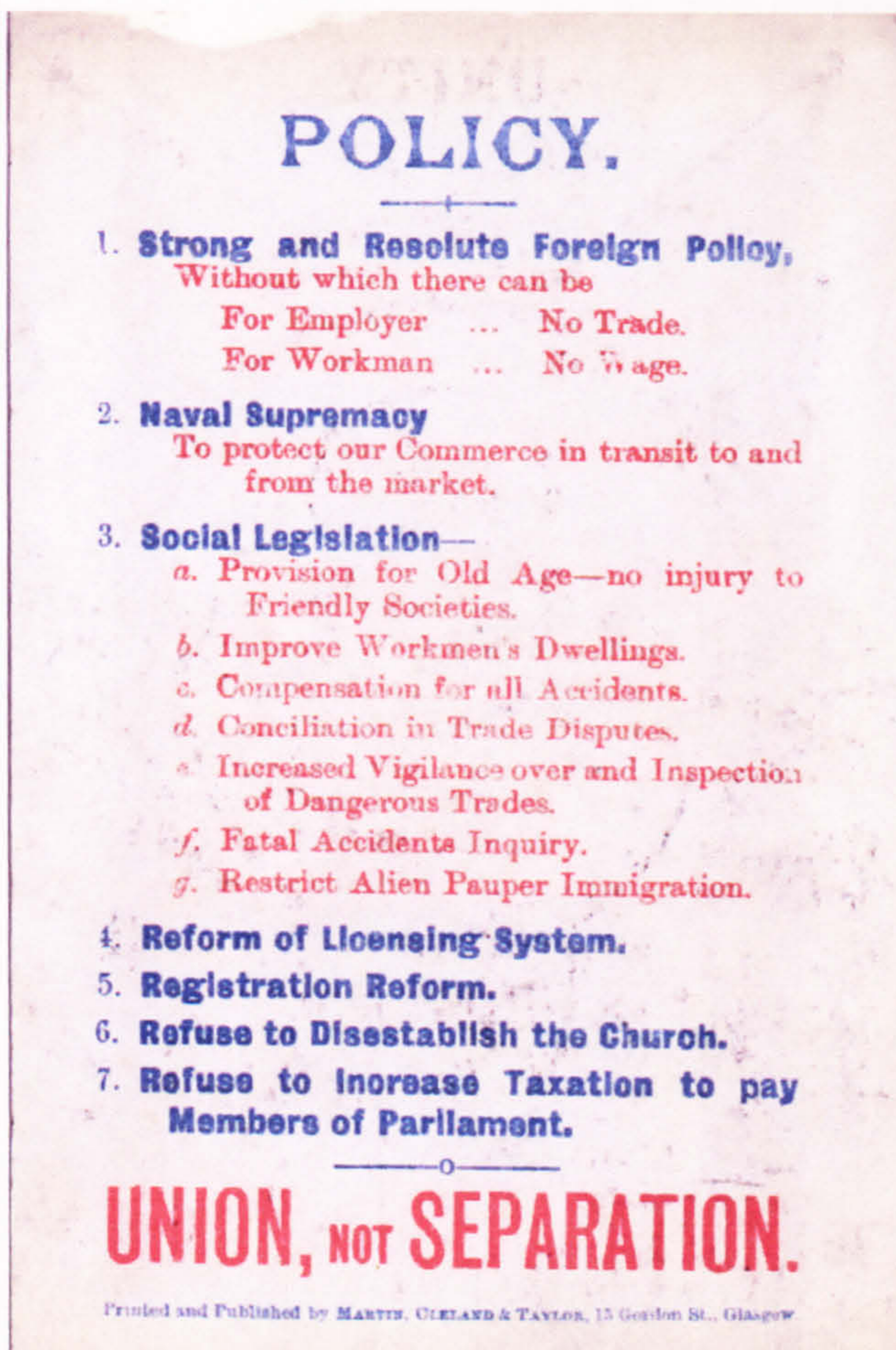


Figure 7. Election card, William Whitelaw, Conservative, 1895. The emphasis on social legislation is apparent in point 3.

However, policies endorsed by Conservative candidates including Alexander

Whitelaw Jnr., encompassed much more than opposition to Irish Home Rule.

Conservative's social legislation was deliberately intended to appeal to workmen, particularly the unskilled, who were most at risk from the factors listed in Figure 7.²¹⁰

Consequently, the Conservatives political support emanated from various causal factors and cannot be adequately explained by crude anti-Catholic determinism.

The SCS had considerably less influence in local affairs than Bairds. Although its chairman was an MP, the managers who actually ran the firm had negligible political influence. This was reflected by unfavourable judgements imposed on them by the local authorities. In February 1892, the County Valuation Committee for the Middle Ward of Lanarkshire imposed a valuation of £11,000 on the firm's Newton steelworks, which contrasted vividly with the company's valuation of £5,469.²¹¹

Although SCS supported a school and a church in Hallside, such activities were strictly limited in scale and were intended to benefit their workforce rather than shape wider society. The limited philanthropic and political involvement of the SCS contrasts vividly with the Bairds' pro-active policies. Therefore, although Yarmie and MacDonald's correlation of civic philanthropy and politics is substantiated by the Bairds' activities, it is barely discernable in the policies of the SCS.

6. Relationship with Workmen.

Melling, Reid and McIvor assert industrial relations within the west of Scotland were

²⁰⁹ *Motherwell Times*, 21 Nov. 1885.

²¹⁰ NLA, LI2002/89, election card, Alexander Whitelaw, 1895.

²¹¹ *Engineering*, 19 Feb.1892.

markedly more hostile than in other British regions.²¹² Johnston challenges this view and maintains Clydeside employers' autocratic reputation is mythical.²¹³ The challenge emanating from organised labour provoked varying responses from each firm. Benson argues industrial relations were bitterest in larger companies, reflecting the widened gulf between employer and employed, 'encouraging misunderstandings to arise, grievances to multiply, and trade unionism to develop.'²¹⁴ This is corroborated by examination of Bairds who by 1870 were already renowned for implacable opposition to trade union activity.²¹⁵ This policy developed since 1837, when Bairds first ordered the eviction of striking colliers from company houses.

James Baird stated:

Many of the wives and children suffered greatly during the fifteen weeks of their foolish idleness. When they returned, their condition was sadly changed...Most of the people who returned were in squalid wretchedness, and some of those who had left us had succumbed to their sufferings, and were in their graves.²¹⁶

Despite expressing sympathy in WB&Co.'s official biography, the Bairds took no personal responsibility for such events, which were blamed on workmen's foolishness or reckless union agitators. In 1842 Robert Baird stated no known

²¹² Melling, 'Industrialists', pp.183-221. Reid, 'Employers', p.38. McIvor, *Organised*, p.115.

²¹³ Johnston, *Clydeside*, p.181.

²¹⁴ Benson, 'Coalmining', pp.187-208.

²¹⁵ Corrins, 'Baird', p.22.

²¹⁶ MacGeorge, *Bairds*, p.69.

unionist was allowed to work in any of the firm's pits.²¹⁷ Indeed, John and George Baird served as officers in the Lanarkshire Yeomanry Cavalry, a force that charged and dispersed strikers in the 1840s and 1850s.²¹⁸ The staunchly anti-union policy within the firm remained constant for both the mining and iron producing sphere of operations. Whilst Baird's ironworks produced less violent and bitter confrontations than those experienced in the coalfield, Baird's treatment of ironworkers who challenged the firm was equally severe. This was first demonstrated during the furnace-keepers' dispute in 1843. When WB&Co. reduced piece-rates, some keepers decided to charge the firm with breach of contract, as no notice of the reduction was received. Before this occurred, James Baird had a warrant sworn out and several furnace-keepers were arrested in their beds, with another three detained next morning. WB&Co. charged the men with breach of a contract for failing to provide a month's notice of stopping work, although the workers argued Bairds maintained no such contract existed. The keepers were prevented from calling witnesses and other employees were denied access to the trial, held behind closed doors at Airdrie Burgh Hall, where the men were sentenced to sixty days imprisonment.²¹⁹ The case is interesting for various reasons. Firstly, the furnace-keepers' use of the law, rather than the violence and intimidation often associated with contemporary mining disputes, shows their greater sophistication. It also demonstrates Bairds' power within the locality, their influence over local magistrates and their readiness to intimidate labour. The victimisation of furnace-keepers, the most skilled and

²¹⁷ RC, *Children in Mines 1842*, Vol.2, p.362, cited by Corrins, Ph.D. thesis, p.361.

²¹⁸ MacGeorge, *Bairds*, p.119. Russell Wood, *Records of the Lanarkshire Yeomanry with some account of the Officers of the Corps, 1819-1910*, (Edinburgh, 1910), pp.28-29.

²¹⁹ Robert Baird, 'Papers regarding dispute between Gartsherrie Furnacemen and WB&Co., 1843', cited by Corrins, Ph.D. thesis, pp.368-369.

powerful opponents of managerial control in the pig ironworks, may be viewed as a demonstration of Bairds' hegemony. However, Bairds' aggression might also indicate recognition of the potential threat to managerial authority personified by furnace-keepers.

By 1870, Bairds possessed a long-established policy of non-recognition and non-negotiation toward trade unions, which continued virtually unabated from 1870-1900. The SIA refused to recognise any union presence in pig ironworks until 1900, a policy mirroring Baird's, probably resulting from WB&Co.'s dominant position and the influence of AK McCosh as chairman. Indeed, when a conference finally occurred with blast-furnacemen the other ironmasters refused to negotiate until McCosh was present.²²⁰ However, by the 1890s Bairds began to waver in their condemnation of organised labour. The firm now maintained their primary objection was to extreme unionism rather than labour-organisation *per se*. In 1892, Robert Baird, declared the refusal to meet trade unionists was due to, 'the extreme views held by the leaders', of some unions.²²¹ Baird maintained the various fragmentary unions within the coalfield made negotiations difficult, whilst indiscipline negated labour's guarantee to honour arrangements. He stated masters would negotiate if unions, 'were properly organised and had duly elected officials who would have power to act for the workmen and whose decision would be respected by them.'²²² McCosh echoed such sentiments; 'hitherto we have discouraged organisations; but what we have objected to principally is the methods adopted by those organisations.'

²²⁰ GCA, TD/171/1/1. SIA Minutes, 21 Nov.1900, pp.27-28.

²²¹ RC, Labour, 1892, Vol.36, p.226.

²²² *Ibid.*

It is not the organisations as organisations, but the methods they have adopted that we object to.’²²³ McCosh stated he would not object to moderate or reasonable unions. Indeed, ‘I should rather be pleased to see it. Certainly anything that will get us into more harmonious relations with the workmen and steady work is what we desire.’²²⁴

Despite such moderate language, it is possible to argue that Bairds equated ‘harmonious’ industrial relations with worker subservience. Although the NABF represented all blast-furnacemen and was recognised by many English ironmasters who applauded the NABF’s moderation and responsibility, (see chapter five), this did not facilitate the NABF’s recognition by WB&Co. The firm perceived organised labour as a challenge to managerial authority and a threat to its relationship with workmen. In 1887, McCosh wrote to the workers’ spokesman, ‘we cannot allow you to come between us and our employees. If they have any grievance, real or imaginary or any request, we are always ready and pleased to discuss the matter with them.’²²⁵ This supports Melling’s argument that adherence to paternalist policies could encourage industrial disputes, as trade unions were perceived as a barrier to the firm’s relationship with its workforce.²²⁶ Dutton and King affirm, ‘manufacturers saw their operatives’ adherence to trade unions as an act of rank ingratitude, a repudiation of the master’s concern for the physical and spiritual welfare of his hands.’²²⁷ This view is confirmed by Baird’s severe response to the blast-

²²³ *Ibid*, p.241.

²²⁴ *Ibid*.

²²⁵ NLA, GLB, Vol.38, p.869. McCosh to Thompson, 17 Dec.1887.

²²⁶ Melling, ‘Industrialists’, p.102.

²²⁷ Dutton & King, ‘Limits’, p.69.

furnacemen's strike in 1891. There was also an element of hypocrisy or at least double standard evident in the firm's attitude to organised labour. For example, in 1892 McCosh condemned the miners' limitation of output as, 'a weapon of war!'²²⁸ How then could he sanction his firm's mass lock out, the sacking and the eviction of strikers and their families, as well as the importation of foreign blackleg labour during the blast-furnacemen's dispute in 1891? Such actions endorse Yarmie's statement, 'whilst condemning the dictatorial practices of the union, the masters evolved analogous techniques for the purpose of weakening union strength by the victimisation of their members.'²²⁹ Whilst Yarmie's analysis concerned the mid-Victorian period, the Bairds retained such tactics later than other industrialists, supporting the authoritarian perception of Scottish capital.

Bairds clung to the view that the best interests of WB&Co. were indistinguishable from the best interests of their workmen. Similarly, WB&Co. believed its position was generally supported by senior and moderate blast-furnacemen. McCosh claimed in the West of Scotland the 'best' workman refuted, 'the extreme views which have been propounded by the leaders'.²³⁰ This supports Reid's argument that masters' central opposition to trade unionism was formulated by its, 'collective restrictions on individual initiative', that might retard the development of an, 'independent, intelligent, and innovative attitude among the workforce.'²³¹ McCosh linked the union leadership's antagonism towards the firm with their political beliefs decrying the unionist's, 'extreme views about employers as well as views on political

²²⁸ RC, Labour, 1892, Vol.36, p.241.

²²⁹ Yarmie, 'Employers', p.218.

²³⁰ RC, Labour, 1892, Vol.36, p.240.

matters.’²³² However, McCosh was less than tactful in expressing his own opinions, which led directly to the collapse of the conference between coalmasters and miners, following a successful strike in 1887. *Engineering* noted, ‘in making a statement on behalf of the coalmasters, Mr. McCosh, (of Messrs. Baird & Co.), let fall some injudicious and impolitic remarks, which so raised the temper of the workmen’s representatives that no positive progress...could be made.’²³³

Such employer attitudes weaken Johnston’s argument. Johnston maintains that from 1870-1920 employers in North-east England were, ‘most deserving of the label “authoritarian”.’²³⁴ This seems improbable, given that Cleveland’s ironmasters created the first Arbitration Board for pig iron in 1879 and recognised the NABF shortly after its creation in 1886; alternatively Lanarkshire’s ironmasters refused to create an arbitration board for pig iron or recognise the union until 1900. Although Johnston acknowledges Lanarkshire’s ironmasters were amongst the most authoritarian in Clydeside, he perceives a thaw in industrial relations from 1900 and cites the creation of the arbitration board and the rising wages of Clydeside workers compared with other regions. However, wage levels are an imprecise method of gauging employer authoritarianism within the pig iron industry, given the direct linkage between wages and the selling price of iron. Indeed, regional wage rates reflect regional variations in supply and demand, as well as the varying quality of pig iron worked, all of which directly affected wage rates at a district level. A more accurate measure of employer authoritarianism is provided by the workings of the

²³¹ Reid, ‘Employers’, p.47.

²³² RC, Labour, 1892, Vol.36, p.240.

²³³ *Engineering*, 18 Mar.1887.

Conciliation Board for the Pig Iron Trade of Scotland. Although established in 1900, as late as 1910 the Board, chaired by McCosh, possessed no power to alter anything other than wage rates. Despite the protests of the workmen's representatives, the Board was powerless to interfere in the workmen's conditions of employment, which remained the prerogative of individual firms, whilst masters including McCosh refused to adopt the principle of independent arbiters to settle disputes. (See chapter five.) Although the use of independent arbiters was enshrined in the rules of Lanarkshire's Malleable Iron and Steel Boards, McCosh questioned their judgement; 'what is the use of going to persons who do not know the conditions of those works, and who are not so well qualified to judge as ourselves?'²³⁵ Therefore, pig iron firms including WB&Co. remained invulnerable to the interference provided by similar arbitration boards in the malleable iron or steel industries and there is little evidence of changing attitudes amongst employers like McCosh.

However, consideration of SCS provides greater support for Johnston's arguments. Indeed, Johnston notes that steelmasters were, 'not as distinctly hostile to the principle of skilled trade unionism as the ironmasters.'²³⁶ As a newly established entity, SCS was not burdened with an established policy towards organised labour as the period commenced. This lack of 'baggage' facilitated the establishment of a more pragmatic and less patriarchal attitude towards labour. Indeed, SCS's relationship with its workmen fundamentally differed from Bairds. Firstly, steelworkers generally possessed considerably higher skill levels than blast-

²³⁴ Johnston, *Capital*, p.180.

²³⁵ GCA, UGD49/7/4, Proceedings at Conference, no.17, p.12.

²³⁶ Johnston, *Capital*, p.174.

furnacemen. (See chapters three and four.) The ability of various sections within the workforce to cause considerable disruption encouraged the adoption of a less didactic approach to labour relations. Since 1890, SCS conducted direct negotiations with the smelters' union as part of the SSIMT.²³⁷ Similarly, from 1890, negotiations with the millmen's union were conducted under the auspices of the west of Scotland Manufactured Steel Trade Conciliation and Arbitration Board, (SMSTCAB).²³⁸ Dialogue was encouraged by SCS's greater cyclical weakness. Bairds could afford to damp furnaces in response to fluctuating economic circumstances, concentrate on coal production if more remunerative, or rely on their immense stocks to see them through industrial disputes. However, SCS could not afford high stock levels, had no alternative product and relied upon sufficient orders in periods of high demand to survive the inevitable periods of economic drought. Consequently, the SCS was particularly anxious to avoid disputes during periods of high demand. Workmen who enjoyed greater bargaining power during such periods readily appreciated this.

Whilst the economic pendulum produced temporary ascendancy for either group, the overall result was rough equilibrium in the steel industry. Alternatively, blast-furnacemen were generally weaker than pig ironmasters throughout the period.

Therefore, it is unsurprising that the steel industry developed the machinery required for negotiation and conciliation much earlier than the pig iron industry. SCS became the first employer to recognise the BSSAA in 1886, following a meeting between James Riley and John Hodge, the general secretary.²³⁹ In 1890, Riley played a

²³⁷ MRC, SSIMT minutes, 19 May 1893, p1.

²³⁸ NLA, SMSTCAB minutes, 18 Sept.1890, p.1.

²³⁹ Hodge, *Workman's*, p.43.

prominent role in the creation of SMSTCAB, the Scottish steel industry's first conciliation and arbitration board. The Board conducted regular meetings between representatives of the steel firms and their employees, which took account of price fluctuations to negotiate alterations in wage rates. (See chapter five.) Hodge testified that union officials imposed discipline upon any recalcitrant elements of its membership to ensure that agreements were honoured.²⁴⁰ By working with union officials, steelmasters drastically reduced the quantity and severity of industrial disputes in the steel trade, which was marked by greater dialogue, understanding and unity of purpose than was evident in the pig iron industry. However, it should be noted that the crucial factor encouraging the employers' conciliatory attitude was the ability of skilled workers to disrupt production. The steel companies' confirmed this by their harsher treatment of weaker, unskilled groups, including the labourers, who were not included in sliding-scale agreements established in 1905.²⁴¹ Even in 1914, Scottish steel-makers still refused to sanction pay rises for unskilled workers and refused arbitration to solve the dispute.²⁴²

Conclusion

The heterogeneous nature of Lanarkshire's iron and steel industries is confirmed by examination of SCS and Bairds. Diversity is apparent in virtually every aspect of their professional operations including product, market, scale of operations, method of manufacture and financial resources. These divergent factors also produced a markedly different relationship with labour. Bairds' intransigence stemmed from

²⁴⁰ RC, Labour, 1892, Vol.36, p.407.

²⁴¹ MRC, SSIMT minutes, 30 Mar.1905, p.240.

²⁴² Johnston, *Capital*, p.174.

dominance of their workforce. AK McCosh's inability to negotiate with his workmen's representatives was mirrored by the refusal of pig ironmasters in general to accept the principles of conciliation and arbitration, until the conclusion of the period. As the dominant firm within the SIA, WB&Co. must take prime responsibility for the maintenance of adversarial industrial relations for long after firms like SCS had admitted their workmen's representatives to the negotiating table. This partly reflected the relatively weaker position of the steel company *vis-a-vis* their employees, which was exacerbated by the system of sub-contracting. Subcontracting failed to provide the advantages or characteristics claimed by McGuffie or Littler and diminished the SCS's managerial autonomy in the manner highlighted by Reid. However, SCS could be equally harsh when economic circumstances favoured their position. This was mirrored by an uncompromising stance when addressing the unskilled sections of labour.

More intangible differences are also identifiable. Baird's intransigence was grounded in the ethos of the firm that developed since the 1830s and owed much to the Baird family's self-perception and their role in the community, which was transmitted to subsequent generations of senior managers. These perceptions firmly placed the workforce as subservient to the firm, whilst simultaneously accepting the increased social, political and moral responsibility that accompanied such authority. Although Joyce's model would identify SCS as the more plausible paternalist employer, it was Bairds who provided the greatest amenities for their workmen. Whilst some of Bairds' social welfare measures were undoubtedly philanthropic, the alternative agendas identified by Melling also existed. Analysis of Bairds' welfare policies

reveals more pragmatic motivations and may also be viewed as an extension, as well as a continuation, of the anti-trade union policy apparent since 1837.

The firms' policies in wider society also proved markedly divergent. Like the English industrialists identified by Howe, Bairds embarked upon a long-term policy of shaping local society by philanthropic provision. Bairds also personify MacDonald and Yarmie's linkage between altruism and political influence in local society. Alternatively, SCS from its inception held more strictly to its role as a business entity. It could be argued that SCS was forced by economic realities to remain so, as the firm was unable to dominate its industry or significantly coerce labour. Indeed, Bairds were distinctly more autocratic than the SCS. This superficially confirms Johnston's perception of steelmasters as less authoritarian than ironmasters. However, this may reflect the strength of labour's opposition rather than differing company attitudes. Indeed, this thesis will argue that Johnston draws the right conclusion for the wrong reason, as his study of Clydeside employers is fundamentally weakened by its sole focus upon capital, without providing similar analysis of the workforce upon whom masters sought to impose their authority.

Authoritarianism stemmed from dominance, which in turn was directly related to strength and power. However, analysis of each firms' hegemony is rendered meaningless unless such analysis is considered relative to the power of their workmen. Given the prominent role required of skilled labour within the steel industry, SCS had little option but to tread more warily when dealing with labour issues. Although SCS had little hesitancy in asserting itself under favourable

circumstances, it also conceded the imperative of acceding to the workmen's demands when economic fluctuations provided temporary ascendancy to labour. From the position of general equilibrium it proved a short step towards negotiation and conciliation. The overall dominance of WB&Co. ensured Bairds' relationship with its workforce remained characterised by autocratic paternalism for most of the period. Given that policies of intransigence or negotiation adopted by firms such as William Baird & Co. or the Steel Company of Scotland, were in direct proportion to the level of power exercised by their workforce, it is necessary to examine the factors that affected labour's ability to impose its will upon capital. This will be analysed in chapter three.

Chapter 3. Labour.

Hinton states, 'a mass labour movement was formed in Britain', from 1870-1914, evidenced by a vast increase in trade union membership, the development of the co-operative movement and the formation of the Labour Party.¹ Kirk argues the combined process of industrialisation and urbanisation produced an increasingly homogeneous working-class, the gulf between the skilled elite and the labouring poor narrowed, patterns of leisure and housing standardised and a growing sense of class-consciousness developed.² James Cronin maintains class awareness increased from 1870-1914, whilst the influence of sectionalism amongst workmen is over emphasised.³ Knox also observes a 'growth of class consciousness', from 1880-1900, resulting from mass strikes, changes to the franchise and socialist activity.⁴ Labour's collectivism from c1880, replaced sectional or 'false consciousness', which as Foster argues, had insulated sections of the labour movement in earlier periods of industrial capitalism and effectively blocked the development of collective class-consciousness.⁵ Analysis of labour has particular resonance for societal developments. Burgess, Price and Knox argue workplace changes encouraged socialism amongst workmen. Knox states, 'the threat of technological displacement acted to radicalise the skilled workers in the direction of...the politics of class-

¹ James Hinton, 'The Rise of a Mass Labour Movement: Growth and Limits', in Wrigley, *Industrial*, pp.20-46.

² Kirk, *Change*, pp.150-151, 156.

³ Cronin, 'Strikes', pp.74-98.

⁴ Knox, *Industrial*, p.129.

⁵ Foster, *Class*, p.4.

struggle.’⁶ Burgess maintains industrial change made, ‘labour more homogenous as a class.’⁷ Price argues, ‘socialism emerged as a response to the restructuring of the labour process...socialism attained a newfound significance in the 1890s as restructuring began to impact on the skilled and semi-skilled’.⁸ Finally, although Savage and Miles support the perception of a more homogenised working class emerging from 1840-1940, they also argue that the overall trend of growing uniformity could simultaneously produce greater sectionalism and divisions during the 19th century, as skilled workers fought to defend their privileges and perceived, ‘their success or failure in individual terms’.⁹

Indeed, other historians emphasise working-class divisions. White states, ‘work people...were not a common labour pool of undifferentiated “hands”’.¹⁰ Littler argues labour remained fractious and skilled workmen even colluded with capital to ‘co-dominate’ unskilled labour.¹¹ Finally, McGuffie argues Britain’s ferrous metals industries incorporated, ‘the development of a specialised workforce’, resulting in, ‘a refined division for labour and a fragmentation of tasks’.¹² Such fragmentation had implications on labour autonomy. McIvor states, ‘the extent of workers’ power varied considerably...linked to such factors as skill, labour market scarcity, gender and levels of trade unionism.’¹³ Whilst trade unions were the most obvious

⁶ *Ibid.*

⁷ Burgess, *Challenge*, p.54.

⁸ Richard Price, ‘The New Unionism and the Labour Process’, in WJ Mommsen and HG Husung (eds.), *The Development of Trade Unionism in Great Britain and Germany, 1880-1914*, (1985), p.147.

⁹ Savage & Miles, *Remaking*, p.41, 48.

¹⁰ Joseph White, ‘Lancashire Cotton Textiles’, in Wrigley, *Industrial*, pp.209-229.

¹¹ Littler, *Development*, p.78.

¹² McGuffie, *Metal*, p.8.

¹³ McIvor, *Work*, p.246.

manifestation of labour's power, Reid notes, 'serious limitations to the power of the capitalist', when confronted with skilled workmen.¹⁴ McKinlay declares that in Scottish steelworks, 'in place of mechanisation and managerial control, Scottish steelmasters relied on an elaborate system of internal subcontracting which left the administration of production in the hands of craft-workers.'¹⁵ This thesis shall demonstrate that labour was generally fragmentary throughout the period whilst the workplace was characterised by sectionalist tendencies that restricted class-based co-operation. However, despite internal divisions, labour retained significant autonomy based upon the maintenance of skill and control of the productive system. Indeed, workers often retained independence from both capital and organised labour.

1. Background, 1830-1870.

Clarke and Dickson argue divisions between segments of the labour force on the grounds of occupation, culture and religion hindered the emergence of cohesive working-class organisation around mid-century.¹⁶ Indeed, since the pig iron industry's origins, Lanarkshire's workmen were divided hierarchically along demarcations of skill and experience. Experienced labour was essential to the production process, but scarce during the 1830s and 1840s. Consequently, ironmasters imported skilled labour from iron-working areas in England and Wales.¹⁷ In the 1830s, blast-furnace crews consisted of six to eight men, including the keeper,

¹⁴ Reid, 'Employers', pp.35-51.

¹⁵ McKinlay, 'Philosophers', pp.87-88.

¹⁶ Tony Clarke and Tony Dickson, 'Class Consciousness in Early Industrial Capitalism: Paisley, 1770-1850.', in Dickson, *Capital*.

¹⁷ Miller, *Rise*, p.172. Campbell, *Lanarkshire*, p.156.

weighsman, two chargers and several labourers, whilst the workmen's wives and children performed menial duties.¹⁸ Furnace-keepers were paid tonnage rates traditionally reckoned by, 'shillings to pounds'; price increases of £1 per ton of pig iron boosted wages by one shilling per ton.¹⁹ In malleable ironworks, similar arrangements governed puddlers' wages, but millmen's wages were increased by 10%.²⁰ In 1864, Miller stated:

Workmen had liberal wages - which were paid according to a tariff of rates on each ton of iron produced from the furnaces - this encouraged the men to keep the furnaces in good working trim; for the more iron they produced was beneficial both to employers and employed.²¹

Skilled labour received superior housing; two-storey tenements with four apartments for each family, compared with standard dwellings containing a single room measuring fifteen feet by ten.²² Such homes were sequestered from other ironworker's houses and often christened, 'English Rows'. Indeed, Knox states employers, 'built housing to separate foremen from ordinary workers.'²³ Similar segregation characterised Lanarkshire's malleable iron industry. Skilled English and Welsh ironworkers formed the industry's nucleus, whilst Lowland Scots, Highlanders and Irish immigrants provided unskilled labour. Skilled labour

¹⁸ Muir, *The Story of Shotts - A Short History of the Shotts Iron Company Limited*, (Cambridge, 1952), p.3. TS Ashton, *Iron and Steel in the Industrial Revolution*, (Manchester, 1951), p.189.

¹⁹ *Engineering*, 21 Mar. 1879.

²⁰ Carr & Wright, *History*, p.65.

²¹ Miller, *Rise*, p.170.

²² Johnstone, *Motherwell*, p.60. Miller, *Rise*, p.172.

²³ Knox, *Industrial*, p.137.

shortages re-occurred in 1869 when Staffordshire ironworkers migrated to Lanarkshire, lured by higher wages.²⁴ This is inconsistent with Dickson's assertion that from 1830s-1870s Scotland's abundant labour supply accelerated industrialisation and, 'hastened the subordination of labour to capital'.²⁵

Divergent ethnicity and superior status encouraged sectional conflict. In Coatbridge, Miller recalled English ironworkers', 'questionable reputation in pugilism.'²⁶

Similarly, Motherwell experienced:

Ill-feeling aroused by the importation of Englishmen and Welshmen to the "Malleable" and the Scotsmen resented their intrusion into the town. The Scots formed a gang known as the "Scotch Haggisites" and many and fierce were the encounters they had with their opponents, particularly on the fortnightly paydays, when funds and liquor were plentiful.²⁷

Violent working-class sectionalism was exacerbated by religious rivalry. English ironworkers established the first Methodist churches in Lanarkshire, whilst the settlement of numerous Catholic and Protestant Irish immigrants added a sectarian dimension to local society.

From 1870-1900, industrial toil typified Lanarkshire's male population; in 1881, the largest single occupation was coalmining, with 29,977 men employed, followed by

²⁴ *Engineering*, 1 Oct.1869.

²⁵ Dickson, *Scottish*, pp.194, 197.

²⁶ Miller, *Rise*, p.172.

iron-working, 23,900 workers and 1,458 steelworkers, compared with 14,308 professionals and 8,987 agricultural workers.²⁸ In 1901, 17,764 men worked in coalmines and quarries, whilst 17,678 worked in iron and steel, consisting of 6,394 pig ironworkers, 6,074 malleable ironworkers and 5,210 steelworkers.²⁹ Ironworkers' preponderance was greatest in Coatbridge, 'the iron burgh'. In 1901, malleable ironworkers made up 15% of Coatbridge's total male workforce, with pig ironworkers comprising another 10%, whilst only 8% were coalminers. Alternatively, Motherwell was 'Steelopolis'; 11% of Motherwell's employed males were steelworkers, whilst malleable and pig ironworkers accounted for another 8%.³⁰ Iron and steelworkers were almost universally male during the period, generally corroborating Rendall's point; 'iron and steel...did not provide work for women'.³¹ In 1871, from 12,840 ironworkers, ninety-five were female, in 1881 from 25,358 iron and steelworkers; forty-five were female, whilst female labour vanished completely by 1901.³² Although there is no record of female labour directly engaged in iron and steel production, women were employed in ancillary operations including the Tinsplate Company's tinning section.³³

1. Labour in Pig Ironworks.

Terms like 'ironworkers' require qualification due to labour's heterogeneity.

²⁷ Johnstone, *Motherwell*, p.175.

²⁸ Census of Scotland, 1881, Occupations of the People of Scotland, Lanarkshire, p.541.

²⁹ *Ibid*, 1901, pp.608-609.

³⁰ *Ibid*, pp.421, 463.

³¹ Jane Rendall, *Women in an Industrializing Society: England 1750-1880*, (Oxford, 1990), p.57.

³² Census, 1871, Vol.2, p.198. 1881, p.548.

³³ Miller, *Rise*, p.63.

However, it is possible to identify various work-groups within each industry and to outline their duties, skills and influence.

Blast-furnacemen

All workmen engaged around blast-furnaces were called blast-furnacemen. Blast-furnacemen's hours of labour were dictated by the continuous operations; 'blast-furnaces are never allowed to go out night or day, week-days or Sundays, on account of the difficulty, trouble, damage to the furnace, and great expense of relighting them.'³⁴ This resulted in two twelve-hour shifts; the day-shift from 6am-6pm and night-shift from 6pm-6am. However, in 1892 Charles Vickers, the NABF's Scottish secretary, stated labour shortages rendered shifts in Scotland several hours longer than England.³⁵ Shifts alternated weekly; 'this is effected by one set of men working all through one day and night once a week, the other set being off all this time; the day selected for this is Sunday.'³⁶ In return for working twenty-four hours every second Sunday, some blast-furnacemen received wages at time-and-a-half, thereby earning three shifts' pay, but this was not universal. Despite support for the, 'fifty-one hours system', in 1872 and agitation to adopt eight-hour shifts in 1891, hours remained unaltered from 1870-1900.³⁷

Blast-furnacemen received tonnage rates linked to iron's fluctuating market price.

During prosperous years from 1872-1873, prices and consequently wages were double those of 1870, although these fell by approximately 50% during the 1880s and

³⁴ Lady Florence Bell, *At the Works; a Study of a Manufacturing Town*, (London, 1907), p.51.

³⁵ RC, Labour, 1892, Vol.36, p.276.

³⁶ *The Engineer*, 16 July 1897.

early 1890s. Wages were also determined by the disparate experience and duties of blast-furnaceman. Miller observed:

There are various grades of workmen, who are paid rates in proportion to the importance of their position. They are divided into the following classes: - keepers, assistant-keepers, fillers, assistant-fillers, and since the operation of the hot blast there are firemen for the heaters.³⁸

Table 8. Blast-furnacemen's wages, Clyde Ironworks, 1900.³⁹

Occupation	Foundry, no.1 iron	Foundry, other no.s	Basic/hematite iron	Daily Shift wages
Furnace-keeper	6¼d.	5¾d.	4⅞d.	6/9d.
Assistant-keeper	4⅝d.	4½d.	3⅞d.	5/5d.
Furnace-filler	5⅝d.	5¼d.	4½d.	5/11d.
Assistant-filler		2 13/16 th d.	2½d.	4/2d.
Pig-lifter		3⅝d.	5⅝d.	
Labourer				3/8d.

The grade of iron ore worked also affected wages, (see table eight). However, shift rates were paid if the tonnage produced was low, effectively guaranteeing a minimum wage.⁴⁰

Furnace-keepers

Furnace-keepers received the highest wages, reflecting their status as the most

³⁷ *Engineering*, 19 Jan.1872.

³⁸ Miller, *Rise*, p.171.

³⁹ NLA, Clyde ironworks, furnacemen's wages, 1 Aug.1900.

experienced and skilled blast-furnacemen. Furnace-keepers controlled blast-furnace operations, aided by an underhand or, 'assistant-keeper'. Keepers determined the proportion and quantities of raw materials or 'charge', when to remove or 'tap' waste products or 'slag', and when to tap the molten iron. Decision-making was based upon observation; no accurate gauges or instrumentation capable of measuring furnace temperature or chemical composition existed.⁴¹ Consequently, human experience and precise judgement were essential prerequisites for successful operations; in 1892, Professor Austin noted, 'the variation of a few degrees may, at certain stages of metallurgical operations, be fatal to success.'⁴² In 1907, Bell stated, 'to be a "furnace-keeper", and responsible for the furnace being in absolute working order, is one of the most responsible posts at the works.'⁴³

Furnace-keepers' work contained an extremely high discretionary content and keepers personified virtually every skill identified by More.⁴⁴ Clegg notes labour's bargaining strength is related to the employer's difficulty in replacing labour. Consequently, labour's bargaining strength is closely related to skill. Indeed, 'the more skilled the worker is the greater the difficulty in replacing him.'⁴⁵ Further, Littler links skill levels with modes of control in workplace organisation.⁴⁶ Indeed, keepers' skill levels provided a strong bargaining position with employers together with significant autonomy from managerial control and power over other blast-

⁴⁰ RC, Labour, 1892, Vol.36, p.276.

⁴¹ *Engineering*, 23 Sept. 1892.

⁴² *Ibid.*

⁴³ Bell, *Works*, p.66.

⁴⁴ More, *Skill*, pp.16-54.

⁴⁵ HA Clegg, *The System of Industrial Relations in Great Britain*, (Oxford, 1970), pp.30-31.

⁴⁶ Littler, *Labour*, p.8.

furnacemen.

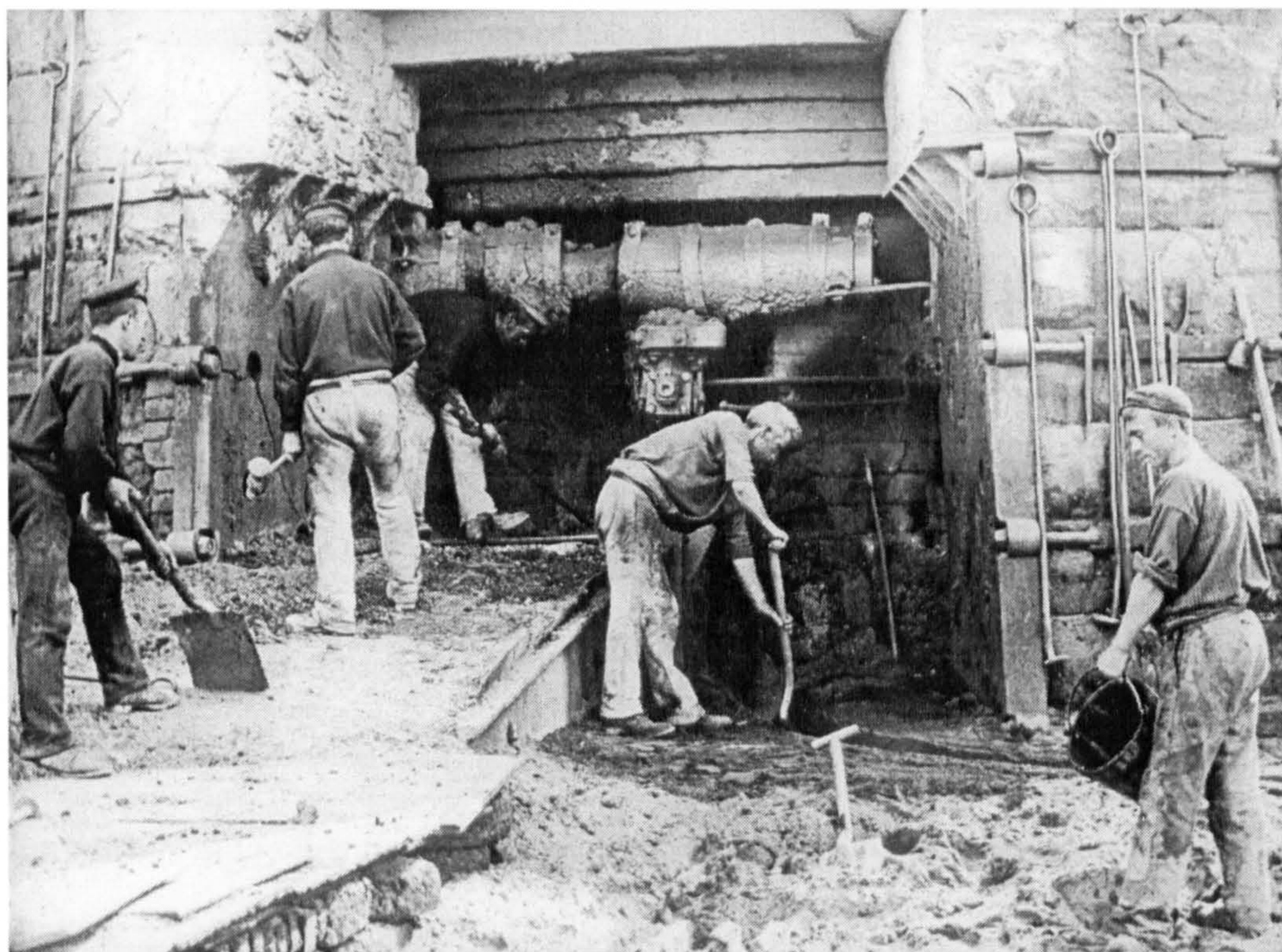


Figure 8. Preparing to tap a blast-furnace, Coltness, c1890. Furnace-keepers instructed the furnace team when to tap the furnace. An iron bar was hammered (centre-left) into the tap-hole, releasing molten iron, which flowed along channels shaped in damp sand.

However, in Lanarkshire during the 1870s, some of the keepers' privileges were eroded. Firstly, keepers' wages declined relative to the enormous sums earned from 1840s-1850s, mainly due to increased labour supplies.⁴⁷ Secondly, by 1879, keepers lost their sub-contracting status and were directly employed by firms; at Clyde ironworks furnace-keepers received 6¼d. per ton of no.1 grade iron.⁴⁸ This supports Littler's argument that subcontracting diminished from 1875-1900.⁴⁹ The quantity of Lanarkshire's blast-furnaces declined, but capacity increased. This reduced the

⁴⁷ Miller, *Rise*, p.170.

⁴⁸ NLA, Clyde Ironworks, furnacemen's wages, 1879-1920.

number of furnace-keepers, but increased their responsibility, thus accentuating keepers' authority despite the loss of subcontracting status.

Keepers' supervisory function blurred their distinction with foremen and references to 'furnace foremen' at Shotts appeared in local newspapers in 1883.⁵⁰ Foremen were recruited from the furnace-keepers and were responsible for several furnaces. They were empowered to dismiss any blast-furnaceman for disorderly conduct or drunkenness without appeal. In 1892, Vickers claimed foreman prejudiced against certain individuals abused this power; 'instead of giving the man proper opportunity of vindicating the cause of his alleged misconduct, the man is forcibly removed from the works and forcibly removed from his home without his case being considered at all.'⁵¹

Furnace-Fillers

Furnace-fillers transported and inserted the charge into the furnace top, aided by an assistant-filler. In 1869, average charges consisted of about ten cwt. of coal, six and a half cwt. of roasted ore, half cwt. of red ore and two and five-eighths cwt. of lime, with about sixty charges thrown into the furnace during a twelve-hour shift.⁵²

⁴⁹ Littler, *Development*, pp.72-78.

⁵⁰ *Motherwell Times*, 10 Nov.1883.

⁵¹ RC, Labour, 1892, Vol.36, p.284.

⁵² Bremner, *Industries*, p.38.

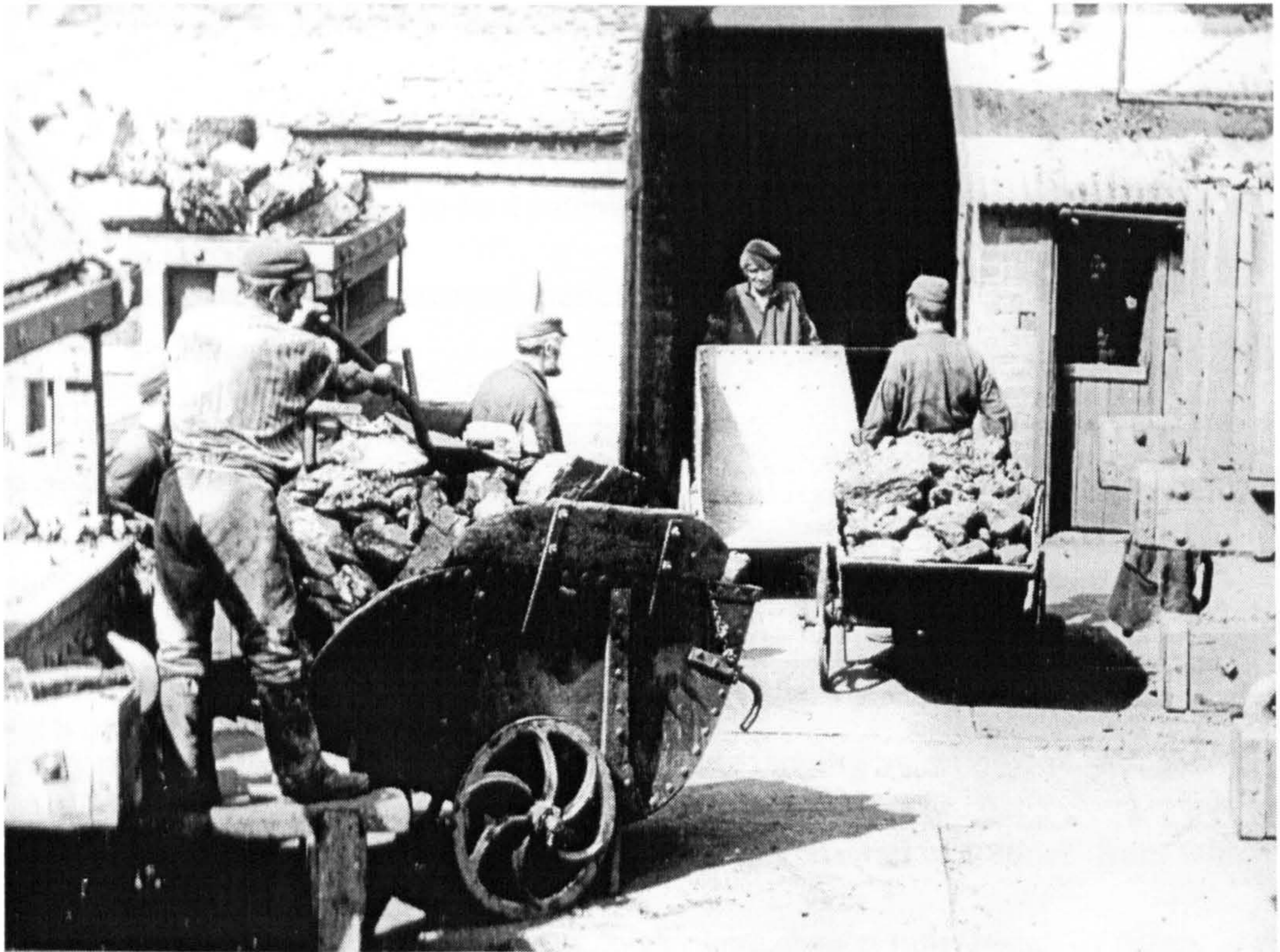


Figure 9. Furnace-fillers entering the elevator, Coltness c1890. The laborious nature of the task is obvious: each barrow contained up to five cwt. of coal, ironstone etc., and were transported from railway wagons to the furnace elevator. This method was still employed at Gartsherrie in the 1950s.

Furnace-fillers were also called ‘barrowmen’ or ‘chargers’. Keepers directed the fillers who possessed limited skill, autonomy and decision-making ability. Indeed, the *Motherwell Times* stated, John Kelly, a furnace-filler, ‘was of weak mind’.⁵³ In 1869, at Gartsherrie:

Two men are employed to feed each furnace. One fills half a charge of coal into a large iron barrow, and the other, half a charge of the other materials into a second barrow. The men and barrows reach the staging communicating

⁵³ *Motherwell Times*, 11 Oct.1884.

with the mouth of the furnace by means of a hydraulic lift. The coal is thrown in first, and the other materials immediately afterwards. The occupation of the 'fillers' appears to be a somewhat dangerous one, as the flames shoot out upon, and almost surround them.⁵⁴

Bell stated, 'the work of the charger is arduous and trying to the health. Men with susceptible lungs are apt to be much affected by the combination of the rapid breathing necessitated by handling the heavy barrows and the fumes inhaled with every panting step.'⁵⁵ Fillers also assisted during tapping by driving an iron bar through the tap-hole. Molten iron ran into a central channel or 'runner' from which smaller channels known as 'sows' and 'pigs' were shaped into 'beds', as fillers inserted or removed obstacles to guide the flow.⁵⁶ Tapping required caution; if the molten metal touched water it, 'would at once spark up in the air, besides being very dangerous it is a great loss to the men as they get no pay for a bed of iron that has been disturbed in this way.'⁵⁷ Despite their arduous labour, furnace-fillers could complete their task in less than twelve hours.⁵⁸

⁵⁴ Bremner, *Industries*, p.39.

⁵⁵ Bell, *Works*, p.64.

⁵⁶ H. Bauerman, *A Treatise on the Metallurgy of Iron*, (London, 1890), p.227. *Motherwell Times*, 5 May 1905.

⁵⁷ NLA, The Town and Country Ramblers' Association Minutes, 9 Apr.1881.

⁵⁸ *The Engineer*, 16 July 1897.

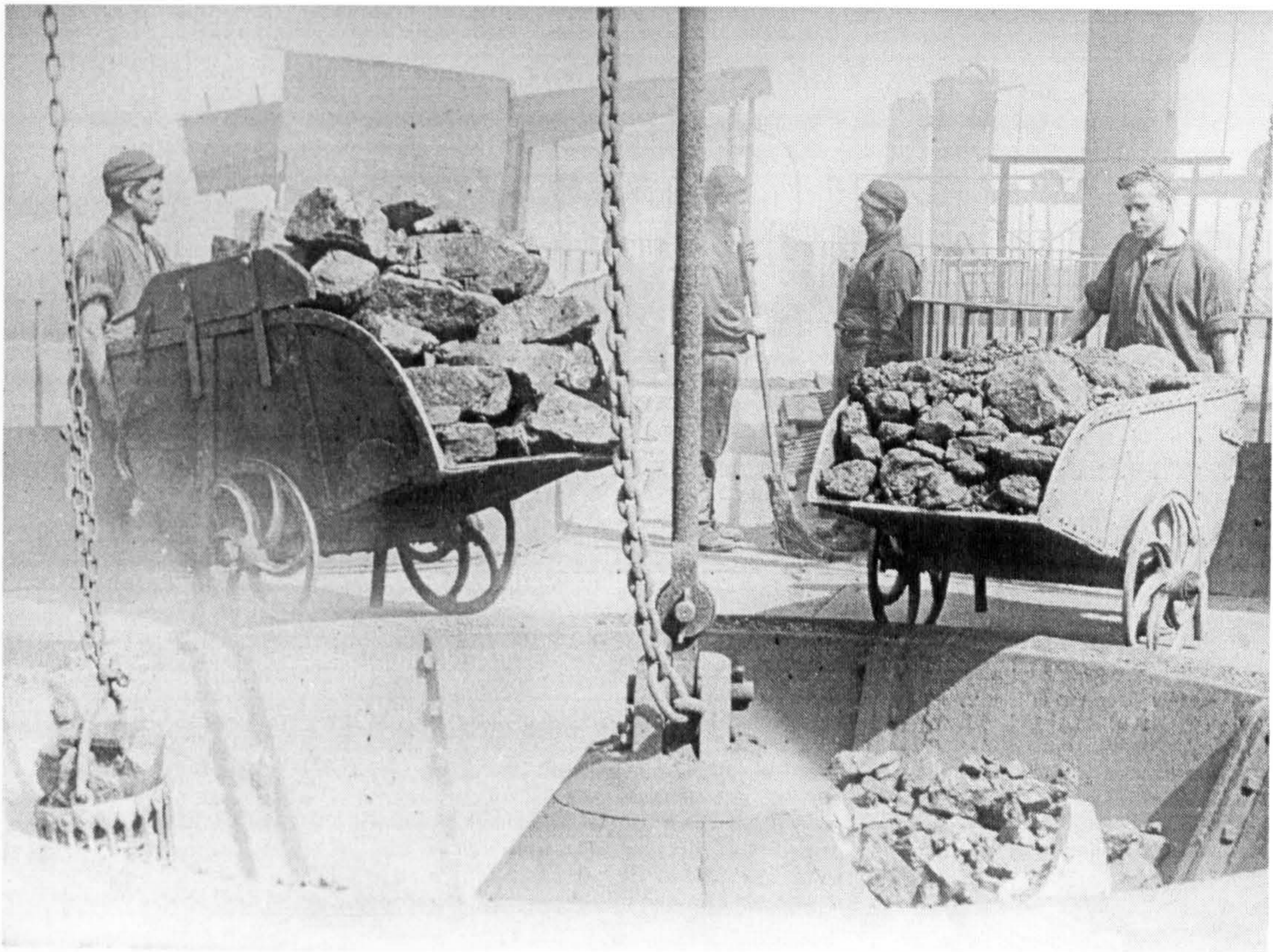


Figure 10. Charging the furnace top, Coltness c1890. These men are working about 70 feet above the ground. When the cone (foreground) was lowered, the charge fell into the furnace. This action allowed noxious gasses to escape that often caused dizziness when inhaled, increasing the hazards associated with furnace-filling.

McIvor notes the intensification of work during this period. Burgeoning blast-furnace capacity, which necessitated greater labour for fillers, substantiates this.⁵⁹ Further, Reid argues that unskilled rather than skilled workmen were most at risk from new technology, whilst Littler states greater worker skill equated to greater job security.⁶⁰ Indeed, by 1897, furnace-filling was mechanised at some American works, but most British ironworks retained hand-charging throughout the 19th

⁵⁹ McIvor, *Work*, pp.66-75.

⁶⁰ Reid, 'Employers', p.47. *Gospel, Markets*, p.24.

century.⁶¹ Therefore, although the technology to replace furnace-fillers' had developed, mechanisation did not displace Lanarkshire's furnace-fillers until the 20th century.

Pig-lifters

Although the productive process was complete, when the iron pigs cooled and solidified, they were loaded into railway wagons by 'pig-lifters'. Like furnace-fillers, pig-lifters' workload expanded with furnace capacity, although tonnage rates also raised wages.⁶² In 1872 pig-lifters received 2½d. per ton for, 'lifting and weighing iron from pig beds and putting into boats, trucks or five ton stacks.'⁶³ Pig-lifting was the most physically demanding labour at blast-furnaces. *The Engineer* claimed pig-lifters could complete their work in eight hours although:

The work is exhausting, and the fact of their being able to get done in so short a time is largely due to their exerting themselves to a degree that it would be unreasonable to expect men to keep up for twelve hours...a pig of iron weighs over a hundredweight, and each of these has to be picked up from the ground, carried a distance of some twenty yards on average, and thrown into a wagon, a fair day's work being for each man to thus dispose of 450 pigs.⁶⁴

⁶¹ *The Engineer*, 16 July 1897.

⁶² GUBA, SMITCAB minutes, 23 Mar.1900, p.271.

⁶³ NLA, Gartsherrie Letter Book, 17 June 1872.

⁶⁴ *The Engineer*, 16 July 1897.



Figure 11. Pig lifting at Coltness, c1890. Each pig weighed over 1 cwt. Dropping onto the ‘v’-shaped stone fractured the pig, which was then loaded into wagons for transportation. Although the pig-lifter’s hands and legs are protected by leather, the exhausting nature of pig-lifting is apparent.

Around 1900, piglifters were replaced by overhead travelling cranes at Dowlais in Wales, further supporting Reid and Gospels’s view of technological displacement. However, mechanisation was not widely implemented at Lanarkshire’s pig ironworks in 1900. Consequently, although pig-lifters’ vulnerability to mechanical displacement was apparent, they were not adversely affected. Pig-lifters unskilled status rendered independent industrial action unusual. However, pig-lifters at Shotts struck to achieve wage parity with other ironworks in 1895.⁶⁵

⁶⁵ *Wishaw Press*, 28 Sept.1895.

Other Furnacemen

Various other categories of workmen were employed. Firemen operated the stoves or ovens that heated the air, before it was blown into the furnace. At some ironworks, including Gartsherrie, assistant-keepers controlled the hot-blast ovens and instructed the firemen. Gangs of 'slagmen' or 'slaggers' removed solidified waste. This was a major undertaking; from ten to twenty-seven hundredweight of slag was produced per ton of iron. Bremner noted:

Two men are employed at the hearth, scooping out the slag and cinders with a huge spoon suspended from a crane, and from time to time stirring up the contents of the furnace. This is very severe labour, and the faces of the men engaged in it have a half-roasted appearance.⁶⁶

Slagmen filled the containers then broke up and dumped the slag. Although strenuous, skill was unnecessary. At Gartsherrie general labourers carried out slagging. Horses occasionally hauled slag for dumping in 'slag-heaps', whilst at larger works slag was emptied into wagons pulled by locomotives.⁶⁷ In 1897, *The Engineer* predicted that mechanisation would soon dispose of slagmen's labour.⁶⁸ Furnace-labourers carried out general duties and had the lowest wages, skill levels and prestige of all ironworkers. When pigs were broken from the sows, labourers raked over and levelled the pig beds, brought fresh supplies of damp sand and used

⁶⁶ Bremner, *Industries*, p.39.

⁶⁷ Gale, WKV. *Historic Industrial Scenes - Iron and Steel*, (Derby 1977), illustration 25.

⁶⁸ *The Engineer*, 16 July 1897.

shovels and rough moulds to make new channels.⁶⁹ Labourers were paid an hourly or shift rate and labourers were often hired and fired daily. Works' boys toiled as general assistants to blast-furnacemen and frequently made the pig beds. They were often furnacemen's sons, who received informal training as they matured.

Traditionally, skilled jobs were kept within families. Miller stated, "keeping" was considered a sort of hereditary occupation, which...descended from sire to son."⁷⁰

Furnace-keepers were more likely to disclose information and experience to family members, thus providing an advantage over other junior employees.



Figure 12. Boys making pig-beds, Coltness, c1890. One boy (right) dampes the sand whilst others shape the pig-beds that were filled with molten iron. Despite the danger, one boy is bare-foot.

⁶⁹ Gale, *Iron & Steel*, illustration 26.

Ancillary Labour

‘Enginemen’ or ‘mechanics’ operated and maintained machinery, usually steam engines, at ironworks. In 1878, mechanics worked sixty hours a week, although knowledge rather than brawn was required. *The Engineer* claimed, ‘enginemen, boiler tenders, and others, are at their posts for the twelve hours...but a great part of their time is spent in quiet supervision’.⁷¹ Nonetheless, there were hazards from the risk of boiler-explosion. Bricklayers provided building maintenance and general bricklaying labour, but their particular skill was re-lining blast-furnaces with firebricks. In 1873, two blast-furnaces at Monkland ironworks were ‘blown out’ when the ‘bosh’ and firebrick lining wore out; repairs took several months to complete.⁷² Although blast-furnaces were capable of operating for several years before re-lining, once re-lining commenced, speed was vital due to the substantial cost of idle blast-furnaces. Larger ironworks employed ‘locomotive men’, divided between engine-drivers and firemen, to operate the railway engines that hauled pig iron and coal. Similarly, bargemen transported loads along the Monklands canal. At Gartsherrie in the 1890s, Mr. Forsyth was employed as a ‘barge-boy’ assisting the bargeman until obtaining work driving locomotives.⁷³ Many pig ironworks had small foundry departments employing skilled moulders. Moulders perceived themselves as separate from blast-furnacemen, with whom they had littler interaction. Indeed, moulders were organised into a separate sectional trade union since 1831. Foundry-men’s autonomy was highlighted at Shotts in 1876, where even after five weeks strike, ‘rather than submit to a reduction of wages the men prefer to go idle and take

⁷⁰ Miller, *Rise*, p.171.

⁷¹ *The Engineer*, 16 July 1897.

⁷² *Engineering*, 14 Mar.1873.

ten shillings per week from their trade union.’⁷⁴

Pig ironworks contained numerous varieties of workmen, with differing skills and responsibilities, reflected by varying wage levels, hours of work, conditions, vulnerability to mechanical displacement and bargaining power. Firms also imposed different levels of notice terminating employment. At Coltness;

Class A., furnace-keeper, assistant-keepers, furnace-fillers, pig-lifters, bellmen, gas-men, blowing and elevator enginemen, and odd or ‘relief’ men connected with furnace operations, four weeks notice each; Class B., of other workmen fourteen days notice each; Class C., common labourers and farm servants one day’s notice each.⁷⁵

The continued, fragmentary nature of pig ironworkers’ employment is at variance with Kirk and Knox’s perception of an increasingly homogenised working-class. Indeed, the extreme heterogeneity of labour confused experienced ironmasters and union officials, indicated by the dialogue between AK McCosh of Gartsherrie, Chairman of the Scottish pig iron industry’s arbitration board, James Gavin, the workmen’s secretary, and Alexander Gavin, Dalmellington’s ironmaster, over workmen referred to as ‘putters’.

Chairman - “What are putters?”

James Gavin - “They are called assistant fillers.”

⁷³ NLA, unnumbered, oral testimony, Mr. Forsyth, 2000.

⁷⁴ *Engineering*, 9 June 1876.

⁷⁵ RC, Labour, 1892, Vol.36, p.278.

Chairman - "Boys?"

James Gavin - "No, not boys. They are men able to take a shift at the filling when the work is going."

Chairman - "Where are they employed?"

James Gavin - "I know some are employed at Kilwinning, Lugar and Muirkirk."

Chairman - "I was not aware of that."

James Gavin - "We call them putters."

Alexander Gavin - "Mr. Chairman, these are what we call squibbers, I think."

James Gavin - "No, squibbers are not the same as putters."⁷⁶

The confusion prevalent within the industry as late as 1914 is testimony to the singularity of employment in pig ironworks. However, Lanarkshire possessed two separate iron industries.

2. Labour in Malleable Ironworks.

The malleable iron industry differed significantly from pig iron. Firstly, malleable ironworks were smaller and generally employed fewer workmen. Secondly, although pig iron production was a simple refining operation, malleable ironworks incorporated more complex productive processes. This resulted in malleable ironworks being more mechanised and capital-intensive; in 1865 the *Glasgow Herald* described Dundyvan ironworks:

All over the immense building there was one continuous roar of revolving machinery, the rattling of wheels, the roaring of fiery furnaces, the hissing of steam, the resounding blows of the immense hammers, which shook the very earth, to say nothing of the hoarse voices of sweat and dust-covered workmen, and the continual ringing of iron.⁷⁷

Malleable ironworks were divided into two main, separate areas; the 'forge' contained puddling furnaces, usually located in a row or 'bank', shingling hammers and the first rolling mill or 'forge train'. The 'Mill' contained re-heating furnaces, rolling mills, plate-shears and other machinery to finish the product, whose operators were communally referred to as 'millmen'. Normally, one hammer and rolling mill were allocated to every six or seven puddling furnaces. Consequently, 'puddlers' within the forge were numerically the largest labour section. Puddlers worked pig iron into balls of malleable iron within their furnace. After puddling, iron was usually transported on small carts or 'bogeys' to the hammer, which shaped the metal into a rectangular 'bloom'. Blooms passed through the forge train for rolling into bars approximately an inch thick, five inches wide and twelve to fifteen feet long, before progressing 'through the mill' for re-rolling and finishing.⁷⁸ The greater sophistication of productive techniques was reflected by a wider preponderance of skills than in pig ironworks. Unique skills, together with experience and productive location, generally determined the influence workmen exerted. Therefore, it is necessary to examine the labour sections and their inter-relationships more closely.

⁷⁶ GUBA, Proceedings at Conference, 3 June 1914, pp.4-5.

⁷⁷ *Glasgow Herald*, 26 Aug.1865.

⁷⁸ This corresponds to Williams' description of ironworking in 1915. Alfred Williams, *Life in a*

Charge-wheelers

Charge-wheelers transported raw materials including pig iron to puddling furnaces. Charge-wheelers were paid tonnage rates by puddlers, which at Phoenix in 1900, were fixed at 7d. per ton.⁷⁹ This rate was settled after a dispute between charge-wheelers and puddlers that necessitated an arbiter's intervention. Therefore, although charge-wheelers observed some subservience towards puddlers, they were capable of asserting themselves through SMITCAB's mediation. However, charge-wheelers' independence before SMITCAB's creation in 1897 is questionable.

Puddlers

Puddlers were subcontractors who operated the puddling furnaces and employed underhands. (See chapter four.)

Bogey-boys

Bogey-boys transported the iron balls from the puddlers to shinglers using a barrow or 'bogey'. This provided opportunities to observe puddlers and shinglers, frequently leading to work as an underhand.⁸⁰ The *Glasgow Herald* noted, 'men and boys rushing here and there with balls of fire, or iron barrows full of burning "slag" or cinders.'⁸¹ Miller stated:

The labour in many departments is severe, yet the wages are a great

Railway Factory, (Trowbridge, 1969).

⁷⁹ GUBA, SMITCAB minutes, 1 June 1900, p.318.

⁸⁰ Gale, *Iron & Steel*, illustration 53.

inducement to the youths of the labouring classes, who are fond of getting employment at these works, where, after a few years, they acquire the requisite knowledge and skill to enable them to fill the ranks of the workmen in the several stages of malleable iron manufacture.⁸²

Shinglers

Shinglers worked at the steam hammers, ‘shingling’ balls of iron into rectangular blooms. The Nasmyth steam hammer had three or four tons’ capacity supplemented by steam acting above the piston.⁸³ In 1881, Wylde noted; ‘the noise of the shingling hammer when at work is fearful. At some works near Coatbridge...the vibration produced from the hammer is so great, that we have felt the ground shake under the feet in the roadway seventy or eighty feet off.’⁸⁴ The iron ball was fragile and required care to avoid fragmentation, but it was gradually welded together by increasingly powerful blows.⁸⁵ Bremner observed shinglers at work:

The manipulation of the ball under the hammer is severe work, and requires great expertness. The “shingler” uses a pair of tongs about four feet in length, and with these seizes the ball and turns it on the anvil every time the hammer ascends. He so manages that the iron assumes the shape of a brick; and the operation occupies only two or three minutes.⁸⁶

⁸¹ *Glasgow Herald*, 26 Aug.1865.

⁸² Miller, *Rise*, p.173.

⁸³ Williams, *Railway*, pp.17-18. Gale, *Iron &Steel*, illustration 48.

⁸⁴ J. Wylde (ed.), *The Industries of the World*, (London, 1881), p.68.

⁸⁵ Gale, *Iron &Steel*, illustration 48.

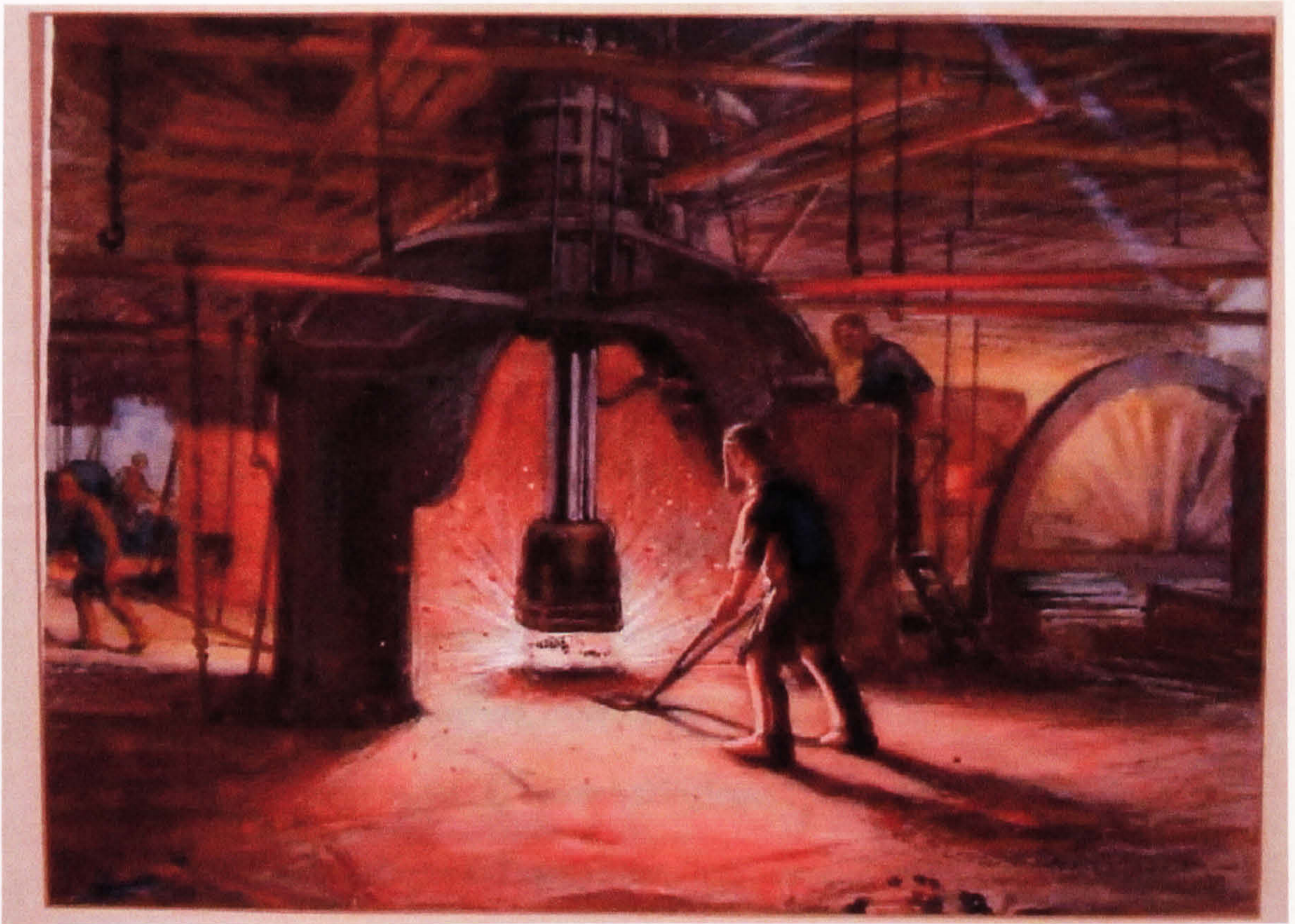


Figure 13. Shingling at Waverley ironworks, Coatbridge, c1920. The shingler manoeuvres the iron with tongs whilst the hammer-driver (right) controls the hammer's action. Victorian techniques were still employed in 1920.

In 1865, the *Glasgow Herald* described Dundyvan's shinglers; 'the men engaged at the great hammers are incased in leggings of iron, and have strong deep guards upon their faces; and they require such protection, for the sparks of half-molten metal flying about are sometimes as big as rifle balls.'⁸⁷ Shingling was described as, 'a skilled job as well as a heavy one', whilst the strenuous labour involved demanded

⁸⁶ Bremner, *Industries*, p.53.

⁸⁷ *Glasgow Herald*, 26 Aug. 1865.

both strength and youth.⁸⁸ In 1915, Williams noted, ‘the shingler is clever and expert [although] the work is very laborious. By the age of fifty the shinglers...are usually worn out’.⁸⁹ Robert Gallagher, Tinsplate’s master acknowledged, ‘shingling was an important job on which many other workmen depended and the employer looked for the best man he could get.’⁹⁰

The hammer was operated by the ‘hammer-driver’, who was directed by the shingler. Hammer-drivers were as young as seventeen years. In 1901, a workman at Crown was described as, ‘a regular spare hammer-driver’, although he was, ‘a boy who had never wrought a full shift.’⁹¹ More claims ironworks employed a system of learning known as ‘following up’, whereby workmen were attached to a gang or observed a more experienced mate.⁹² Indeed, hammer-drivers observed shingler’s work closely and could ultimately progress to become shinglers. This took considerable time; Mr. Spence an assistant-shingler at Drumpellier, ‘had been eleven or twelve years at the hammer in different works’, before being promoted to forehand.⁹³

Lanarkshire’s shinglers were subcontractors who engaged a hammer-driver or assistant-shingler up to 1897. Alternatively, in Cleveland firms directly employed assistant-shinglers.⁹⁴ Other regional variations occurred over the task of ‘turning up’ iron, accomplished by English shinglers, but the puddler’s prerogative in

⁸⁸ Gale, *Iron & Steel*, illustration 48.

⁸⁹ Williams, *Railway*, p.18.

⁹⁰ SMITCAB minutes, 9 Feb. 1900, p.242.

⁹¹ *Ibid*, 4 June 1901, p.407.

⁹² More, *Skill*, p.118.

⁹³ SMITCAB minutes, 9 Feb.1900, p.242.

⁹⁴ *Ibid*, 8 July 1897, p.24.

Lanarkshire.⁹⁵ Shinglers took little independent industrial action, but successfully opposed puddlers and masters over the issue of 'turning up' in 1871.⁹⁶ Nonetheless, shinglers often allied themselves with puddlers to oppose reductions in tonnage rates.

Heaters

From the forge, bar iron was transferred to the rolling mill, to be, 'finished'. The bars were cut into rectangular piles and reheated within furnaces operated by 'heaters'. Elbaum claims heaters employed two underhands, whilst heater's work required, 'considerable practical knowledge of the heat treatment of metals, which could only be gained by long experience.'⁹⁷

Rollers

Re-heated iron was passed back and forth through the rolls, which gradually compressed the blooms into the desired thickness. This process removed more slag, increasing quality and value. The most basic grade was, 'Crown' or 'Merchant' iron.⁹⁸ If cropped, reheated and re-rolled, value increased to 'Best Iron'. Repetition produced 'Best Best' or 'BB' iron, and a further re-rolling produced 'BBB' iron.⁹⁹ During sheet-rolling, the roller passed the iron between rolls on a 'live' pass when iron was compressed. The roller's assistant, known as the 'backer' or 'catcher', in a 'dead' pass without compression, returned the iron. The roller adjusted the screws on the rolls before sending it on another live pass. In heavier, 'cogging mills', where

⁹⁵ *Ibid*, p.25.

⁹⁶ *Engineering*, 17 Feb.1871.

⁹⁷ Elbaum, 'Labor', p.77.

⁹⁸ Gale, *Iron & Steel*, illustration 51.

⁹⁹ *Ibid*.

larger pieces of iron or steel were worked, the screw was operated mechanically.

Where mechanical traversing gear was not installed, an underhand or 'hooker' was employed to manoeuvre the hot metal.

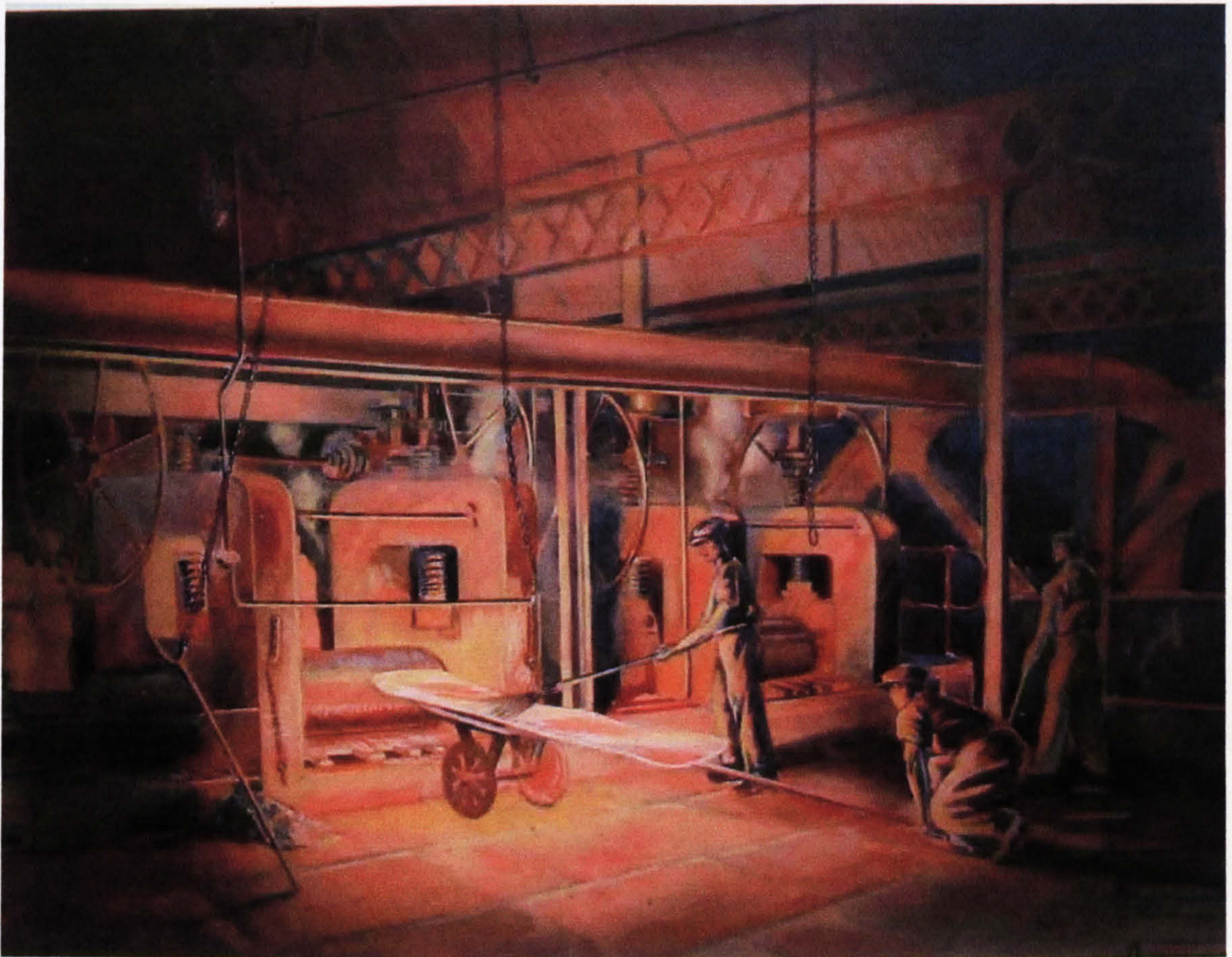


Figure 14. Rolling at Waverley ironworks, Coatbridge, c1920. The iron plate is inserted into the rolls for compression to the desired thickness.

Most rollers worked in the mills, but some also manned the forge train. Burnham and Hoskins calculate in 1872 there were over 1,000 rolling mills in Britain, in which the maximum output per man employed was about 200 tons per year.¹⁰⁰ Around mid-

¹⁰⁰ Burnham & Hoskins, *Iron & Steel*, p.162.

century, rollers were the most skilled and highly paid malleable ironworkers. Rollers worked the blooms into various products including bars, rails, angles, billets, sheets and plates to precise customer specifications. Gale notes, 'rail rolling was heavy work and needed considerable skill.'¹⁰¹ These 'hand rollers' used tongs to position, turn and feed the iron between the rolls, which were usually driven by beam engines and water-cooled.¹⁰² The rollers adjusted the rolls' width, judged by eye, to achieve the specification. Indeed, 'with hand rolling the accuracy depended on the skill of the operators.'¹⁰³ Further, in tinplate works millmen rolled sheets, 'as thin as writing paper...it measures just exactly the 160th part of an inch.'¹⁰⁴ This evidence supports Gospel who argues British iron and steel employers relied upon traditional skills and labour intensive methods, despite foreign competitors' greater employment of capital equipment, as Britain's skilled labour supply was adequate whilst the diverse product range restricted standardised, mass-produced methods.¹⁰⁵

Rollers generally perceived themselves as a separate and probably superior entity from puddlers and shinglers, particularly during the earlier part of the period. Like furnace-keepers, the rollers' power accrued from long experience; Harris noted that rolling, 'demanded a long physiological apprenticeship.'¹⁰⁶ Superior financial status enabled some rollers' transition to ironmaster. Although some steel rollers were threatened by mechanical displacement, the testimony of Edward Trow, a union

¹⁰¹ Gale, *Iron & Steel*, illustration 88.

¹⁰² *Ibid*, no.83, no.84.

¹⁰³ *Ibid*, no.83, no.93.

¹⁰⁴ *Glasgow Herald*, 26 Aug. 1865.

¹⁰⁵ Gospel, *Markets*, pp.20-21.

¹⁰⁶ JR. Harris, *Skills, Coal and British Industry in the Eighteenth Century*. History, Vol.61, no.202, June 1976, p.178, cited by Campbell, *Lanarkshire*, p.43.

leader, in 1892 reinforces Reid's views:

Machinery in iron has displaced very few men...it is in the steel where the men have been displaced and it is in the steel where the improved machinery is introduced...puddling employs the same number of men...so does shingling, so does forge rolling, so does all the work on the banks both inside and out, and in the mills so far as iron is concerned.¹⁰⁷

Various ironmasters claimed that labour was better rewarded in Lanarkshire than England.¹⁰⁸ High wages resulted from the greater output of Scottish rolling mills.¹⁰⁹ Although Lanarkshire's monetary wages were higher, Scottish forehand rollers were subcontractors who paid their underhands, whilst Cleveland's underhands were directly employed.¹¹⁰ Elbaum states rollers employed mill crews of up to fifteen or more underhands.¹¹¹ Lanarkshire's rollers were paid fortnightly; forehands' received tonnage rates, but paid their underhands shift rates. Burn notes the variety of piece rates; indeed underhands were divided, graded and paid according to experience.¹¹² In December 1899, Waverley's underhand rollers claimed their rates were as follows; the first man received 6/7d., second 6/0d., third 5/5d. and the fourth 5/1d. per shift.¹¹³ However, Waverley's forehands disputed the figures, claiming the first man received 5/4d., second 4/9d., third 4/2d. and fourth 3/10d. per shift. These wages were

¹⁰⁷ RC, Labour, 1892, Vol.36,(15,320), p.339.

¹⁰⁸ SMITCAB minutes, 9 June 1898, p.128.

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*, p.127.

¹¹¹ Elbaum, 'Labor', p.77.

¹¹² DL. Burn, *The Economic History of Steelmaking, 1867-1939*, (Cambridge, 1940), p.15.

¹¹³ SMITCAB minutes, 23 Mar.1900, p.265.

increased by 5% in December 1899 and another 5% in January 1900, following price increases.¹¹⁴ The forehand's net wage was determined by deducting his employees' wages from his income. This encouraged conflict:

The rollers are contractors and, that being so, their hope was to make the largest possible wage for themselves by arranging for the lowest wages to be paid to their chaps. It was only in the hope that they would have large tonnage that they could offer to pay large wages.¹¹⁵

This refers to forehands' tonnage contract with masters, calculated on average furnace output. Lower tonnage reduced forehands' income, although their wage bill remained constant.¹¹⁶ Therefore, forehands were vulnerable to reductions in tonnage rates by capital or supply restrictions earlier in the productive process, caused by puddlers' irregular working or breakdowns of the shingling hammer.

Clegg maintains that even unskilled labour, 'can exercise considerable bargaining strength because of a strategic position in the production process.'¹¹⁷ However, strategic positioning could also reduce bargaining power. Indeed, the production process magnified forge-rollers' vulnerability as they required hot metal from puddlers and shinglers, whereas mill-rollers' iron was reheated on entry to the mill. Consequently, strategic position within the production process restricted forge-rollers' bargaining power. In 1899, forge-rollers from various works unanimously

¹¹⁴ *Ibid.*

¹¹⁵ *Ibid*, 24 Apr.1900, p.307.

¹¹⁶ *Ibid*, 9 Feb.1900, p.255.

agreed subcontracting was unacceptable and requested employers directly employ their underhands.¹¹⁸ In 1900, Rochsolloch's forge-rollers again requested subcontracting's termination, arguing as under half the furnaces were operating they could not afford underhands' wages.¹¹⁹ Forehands also complained of lower tonnage rates and increased labour costs; 'owing to the Education Acts they now had to employ young men, where boys formerly did.'¹²⁰ The result was, 'the rate was so low in some works, they could not afford to pay an underhand...when finished with their shift they sometimes found that they had lost money during the day and had to pay for the privilege of working.'¹²¹

Consequently, although rollers exercised considerable authority over underhands in 1870, by 1900 they were unable to inflict the 'co-domination' described by Littler. Indeed, forehands' demand for underhands forced them to compete against each other.¹²² Forehands were, 'paying fifty per cent. more for chaps, and even then they could not get them, and had to pay pocket money to induce them to work.'¹²³ The provision of bonus payments was indicative of the rollers' fluctuating hegemony, reminiscent of the shifting, 'frontier of control', cited by Melling with the significant difference that the frontier shifted between workmen, rather than between capital and labour.

¹¹⁷ Clegg, *system*, p.32.

¹¹⁸ SMITCAB minutes, 9 Feb. 1900, pp.256, 257.

¹¹⁹ *Ibid*, pp.255-257.

¹²⁰ *Ibid*, p.258.

¹²¹ *Ibid*.

¹²² *Ibid*, p.260.

¹²³ *Ibid*, p.256.

Shearers

Shearers or 'cutters down' worked in the mill operating the plate-shears that cut puddled bars before heating and trimmed the rough edges off iron sheets after rolling. Shearers', 'duties have always been to lift, weigh, stock when required, and cut down the whole production of the forge.'¹²⁴ From 1904, shearers were paid tonnage rates suggesting they previously received shift rates. Evidence from Lanarkshire's malleable ironworks reinforces Joyce's point that the decline of subcontracting was protracted in iron and steel trades as well as Daunton who states, 'the plants were, in fact, a collection of teams under the control of the workmen, rather than a monolithic enterprise under the immediate direction of the owners'.¹²⁵ Whilst Daunton described ironworks in the mid-19th century, this situation persisted in Lanarkshire until after 1900.

Ancillary Labour

Foremen

Garside and Gospel describe foremen as, 'direct agents of the entrepreneur', who took over many functions of the subcontractor by 1900.¹²⁶ McIvor describes foremen as, 'pivotal figures of managerial authority', responsible for hiring, firing, instilling discipline, handling grievances, planning work, controlling the pace of production and determining wage rates, concluding, 'managerial power was thus effectively designated to this key cadre of supervisory workers, who virtually controlled

¹²⁴ *Ibid*, 31 July 1907, p.376.

¹²⁵ Joyce, 'Work', in *Cambridge*, p.157. MJ Daunton, *Progress and Poverty - An Economic and Social History of Britain, 1700-1850*. (Oxford, 1995), pp.229-230.

workers' destinies'.¹²⁷ Melling notes, 'entry to the work process, the control of specific areas of work, the handling of particular tools and machines, the conditions and methods of payment, and problems of disciplining and supervision, all involved the question of control at the workplace.'¹²⁸ However, in Lanarkshire's malleable ironworks subcontracting persisted and forehands retained these functions. Melling emphasises foremen's importance to the establishment of managerial control, but notes the contradictory pressures on foremen.¹²⁹ Trainor also notes that despite capital's attempts to increase foremen's hegemony in Staffordshire's iron industry, craft autonomy, 'remained powerful'.¹³⁰ Reid and Melling argue masters attempted to distance foremen from the ranks of labour.¹³¹ This process was aided by social events; in 1878, Motherwell ironworks held a, 'concert and assembly', for the, 'managers, clerks and foremen of the Glasgow Iron Co.'¹³² However, Burgess stresses foremen's ambiguous identity, arguing they were neither assimilated as a faction of capital nor labour.¹³³ Similarly Reid states foremen were an, 'unreliable tool of supervisory control'.¹³⁴

Although foremen directed unskilled labour, their influence over forehand puddlers, shinglers and rollers is vague. Ironmasters including Mr. Kerr from Etna and Mr. Hamilton from Crown, doubted foremen's ability to control puddlers and rollers,

¹²⁶ Garside & Gospel, 'Employers', pp.99-115.

¹²⁷ McIvor, *Work*, p.243, p.82.

¹²⁸ Melling, 'Industrialists', p.63.

¹²⁹ Melling, 'Non-commissioned', p.191.

¹³⁰ Trainor, *Black*, p.142.

¹³¹ Reid, 'Employers', p.44. Melling, 'Industrialists', p.79.

¹³² NLA, Concert Programme, Motherwell Ironworks, 15 Feb.1878.

¹³³ Burgess, 'Authority', p.212.

¹³⁴ Reid, 'Employers', p.44.

claiming subcontracting was more effective.¹³⁵ From 1897, foremen's influence was also undermined by SMITCAB, which guaranteed labour delegates' right to intervene in shop-floor disputes. Foremen's antagonism towards labour delegates was repeatedly demonstrated. In 1898, Vice-President Mincher, 'complained that sometimes when the board delegate went to intervene he was snubbed by the gaffer.'¹³⁶ Foremen were often so abusive that delegates asked, 'employers to instruct their foremen to be courteous to the Operatives Representatives when they approached them on business.'¹³⁷ Not only were foremen hostile towards organised labour; some were more tyrannical than ironmasters. Indeed, labour even looked to capital for protection from foremen. John Cronin, a union leader, stated, 'the operatives felt...they had a moral right to ask [masters] to do what was right. If they had not, they would be placed in the hands of every petty foreman.'¹³⁸

This evidence suggests that by 1900, malleable ironworks' foremen were assimilated into capital. However, it also conveys delegates' infringement upon foremen's traditional authority and their limited ability to coerce skilled labour. Indeed, it could be argued that managerial efforts to assimilate foremen were an admission of weakness and recognition that without foremen's complicity, no effective workplace control was feasible. Although foremen were assimilated into the managerial strata by 1900, forehands remained out-with masters' influence. Consequently, managerial hegemony within malleable ironworks was circumscribed.

¹³⁵ GUBA, SMITCAB minutes, 9 Feb.1900, p.259.

¹³⁶ *Ibid*, 9 June 1898, pp.139-140.

¹³⁷ *Ibid*, 20 Jan.1898, p.69.

Additional Labour

Malleable ironworks also contained labour not directly employed in the production process including engineers, boilermakers, moulders and blacksmiths, who received shift rates. However, only the largest firms, including GIC, employed locomotive men. Despite their preponderance, time-men exercised minimal collective power, reflecting their disunity. In 1878, Mossend ironworks announced wage reductions, 'to affect all time-men in connection with the works including, engineers, joiners, moulders, blacksmiths, locomotive men and general labourers', whilst in 1884 time men's wages were reduced by GIC without opposition.¹³⁹ In 1876, Motherwell and Mossend ironworks each announced wage cuts for all workmen, 'with the exception of the ironworkers proper...[to] include all descriptions of skilled time workmen, as well as labourers...upwards of 1,200 men will be affected in the Motherwell district.'¹⁴⁰ The distinction made between time men and, 'ironworkers proper', indicates the separation between ancillary labour and workmen directly producing iron.

Further, malleable ironworkers shared few common characteristics with pig ironworkers. Blast-furnacemen had lower average skill levels and furnace-keepers monopolising most discretionary authority. Alternatively, average skill levels were higher and more evenly dispersed throughout malleable ironworks. Mr. I. Lowthian Bell, president of the Iron and Steel Institute in 1873, acknowledged this and highlighted the greater dependency on skill, or 'human manipulation,' in the

¹³⁸ *Ibid*, 9 Feb.1900, p.250.

¹³⁹ *Engineering*, 25 Oct.1878, 2 May 1884.

¹⁴⁰ *Ibid*, 2 June 1876.

malleable iron industry compared with either the pig iron or mining industries.¹⁴¹

This was reflected by greater autonomy and bargaining power amongst malleable ironworkers and lower levels of managerial control. However, malleable ironworkers were even more sectional than pig ironworkers; labour was divided between 'ironworkers proper' and time men, between the forge and the mill, between different types of subcontractor as well as between forehand and underhand. Even singular sections like underhand rollers were sub-divided with varying, duties, wage rates, experience and skills. Examination of malleable ironworkers further disputes Knox and Kirk's perceptions of an increasingly homogenised working-class and the mechanical displacement of skilled labour. Alternatively, Reid's perceptions of sectionalism and the independent autonomy of skilled labour are supported.

3. Labour in Steelworks.

From 1873 a new faction of labour appeared in Lanarkshire, following the opening of Newton steelworks. Although Newton and the Lanarkshire steelworks were specifically designed as such from conception, Lanarkshire's steelworks generally developed as extensions of existing malleable ironworks, due to the similarity of productive techniques. Consequently, many of the skills and demarcations inherent in malleable ironworks were also evident in steelworks. However, levels of mechanisation were greatest within Lanarkshire's steel industry. Dalzell was renovated at the beginning of the 20th century and incorporated mechanical slab-

¹⁴¹ *Engineering*, 23 May 1873.

charging machines, operational by 1905.¹⁴² Dalzell also erected, 'two powerful rolling mills, which have almost trebled the capacity of their predecessors.'¹⁴³

Marxist interpretations highlight the threat to skilled labour posed by mechanisation and Knox argues de-skilling produced a homogenised working-class.¹⁴⁴

Consequently, if Knox's perception is accurate, Lanarkshire's steel industry should encompass fewer sectionalist splits than either the malleable or pig iron industries.

However, despite increased mechanisation, Docherty notes the pervasiveness of hierarchical seniority systems amongst steelworkers, stating, 'the seniority system applies in the melting shops, forges, finishing departments and all steel production areas...Experience in the industry is revered above all other attributes.'¹⁴⁵ Few

historians have examined labour in the Scottish steel industry. The limited historiography that exists fundamentally underestimates labour's heterogeneity.

McKinlay states:

The first-hand smelter controlled the entire manufacturing process and was the prime sub-contractor of labour...the steelworker entered the industry as a labourer, progressed through all the tasks around the furnace and eventually assumed responsibility for some aspect of production.¹⁴⁶

However, significant proportions of steelworkers never worked at furnaces. Indeed,

McKinlay only mentions smelters and labourers, completely ignoring numerous,

¹⁴² NLA, NLC2000/415, Brochure, David Colville & Sons Ltd., 1905.

¹⁴³ *The Engineer*, 15 Aug.1902.

¹⁴⁴ Knox, *Industrial*, pp.5, 145.

¹⁴⁵ Docherty, *Steelworkers*, p.40.

¹⁴⁶ McKinlay, 'Philosophers', p.88.

significant sections of labour in addition to various ancillary workers. Indeed, this thesis shall argue that labour in Lanarkshire's steelworks was more heterogeneous than the ironworks.

Some generic features existed; steelworks and malleable ironworks operated continuously, but closed from Saturday afternoon to Sunday night, reflecting the lower cost of restarting steel and puddling furnaces and the greater opposition of skilled labour to Sunday working. Steelworkers' and malleable ironworkers were also divided into two, twelve-hour shifts. Although the first eight-hour shift pattern was adopted in West Hartlepool in 1897, Lanarkshire's steelworks retained twelve-hour shifts until after 1918.¹⁴⁷ Although several steelworks originally employed Gilchrist's process, the over-whelming majority commissioned the Siemens system. Therefore, the labour assessed will be Siemens' steelworkers, who were divided into numerous categories.

Gas-producermen

Producermen operated the gas-producers that fuelled the furnaces. Producermen worked seventy-eight hours per week; in 1900, John Cronin described their labour as, 'very disagreeable and very hard, as well as unhealthy'.¹⁴⁸ There were various sub-categories of producermen; firemen, ashmen, fire-cleaners and coal-wheelers. At Wishaw in 1897, firemen and ashmen were paid 4/9d. per shift, whilst fire-cleaners received five shillings.¹⁴⁹ Producermen occasionally took independent industrial

¹⁴⁷ Burnham & Hoskins, *Iron & Steel*, p.240.

¹⁴⁸ NLA, SMSTCAB minutes, 6 Dec.1900, p.175.

¹⁴⁹ MRC, MSS36/W30.1, Rates and mode of Working, Wishaw, 21 Dec.1897.

action, but were generally unsuccessful without wider support reflecting their limited bargaining power; in 1891, 'the gas-producers have come out on strike, but as they are not supported by the smelters, it is expected to collapse very shortly.'¹⁵⁰

Charge-wheelers

Charge-wheelers transported raw materials to the furnace. Charge-wheelers were also referred to as the 'fourth man' or 'labourer' at the furnaces. Smelters at each furnace communally paid a charge-wheeler in proportion to their own wage, in contrast to malleable ironworks where charge-wheelers were employed by forehand puddlers. In 1897, charge-wheelers at Wishaw received five shillings per shift, with one man supplying each furnace.¹⁵¹ In 1902, J. Rae, Wishaw's BSSAA representative noted, 'there is one wheeler to each of the thirty-two ton furnaces and five wheelers for the other four, making eleven [wheelers] for the ten furnaces.'¹⁵² Duties included the transportation of pig iron and scrap steel; eight to fourteen tons of scrap for the largest furnace and over ten tons to each thirty-two ton furnace. Charge-wheelers received 5/1½d., per shift, but the senior operative or 'leading man' received 6s.¹⁵³ McGeown states that charge-wheelers would substitute for absent third-hand smelters to gain experience and hasten their elevation; 'we were preparing for the day when we would take our first third-hand shifts, and they would be hectic if we hadn't the know-how.'¹⁵⁴

¹⁵⁰ *Engineering*, 24 Apr.1891.

¹⁵¹ MRC, mode of working, Wishaw, 1897.

¹⁵² MRC, MSS36/W30.3, Correspondence, Wishaw BSSAA to Hodge, 28 Mar.1902.

¹⁵³ *Ibid.*

¹⁵⁴ Patrick McGeown, *Heat the Furnace Seven Times More: an Autobiography*, (London, 1967), p.10.

Smelters

The smelters, occasionally referred to as ‘melters’, were responsible for the Siemens furnaces. (See chapter four.)

Ladlemen

From the furnace, molten steel was cast into a ladle, usually lifted by a crane or situated on rails and shunted by a steam locomotive to the ingot casting pits. During this period, ladlemen controlled the steel. Ladlemen were divided hierarchically with first-hands possessing greater responsibility and higher shift rates than lower grades.

Table 9. Ladlemen’s Wage Rates, 1893-1901.¹⁵⁵

Grade	Motherwell, 1893	Wishaw, 1897	Wishaw, 1898	Blochairn, 1898	Lanarkshire, 1901.
First-hand	4/9d.	4/8d.	4/8d.	5/3d.	4/3d.
Second-hand	3/8d.	4/5d.	4/5d.	4s.	3/6d.
Third-hand	3/4d.	3/3d.	3/4d.	3/6d.	N/A.

Disparate shift-rates for different grades are shown in table nine, which also illustrates the divergent rates at separate works in 1898. Ladlemen’s duties included cleaning ladles after tapping and removing ‘skulls’, (lumps that blocked the ladle’s poring lip). At some steelworks ladlemen lined the ladle with firebricks, but this was not required at Wishaw. Ladlemen also removed slag that collected on the molten steel’s surface. At Wishaw another ladleman was employed by the firm, ‘on account

¹⁵⁵ MRC, MSS/L4.1, ladlemen’s rates, Wishaw and Blochairn, June 1898. MSS36/L6.1 Correspondence, Flemington BSSAA to Hodge, 1901. MSS36/M38.1 Correspondence, Motherwell BSSAA to Hodge, 11 Nov.1893. Mode of working, Wishaw, 1897.

of so much extra work with the slags', who was occasionally assisted by pitmen, in return for which he assisted pitmen when required.¹⁵⁶

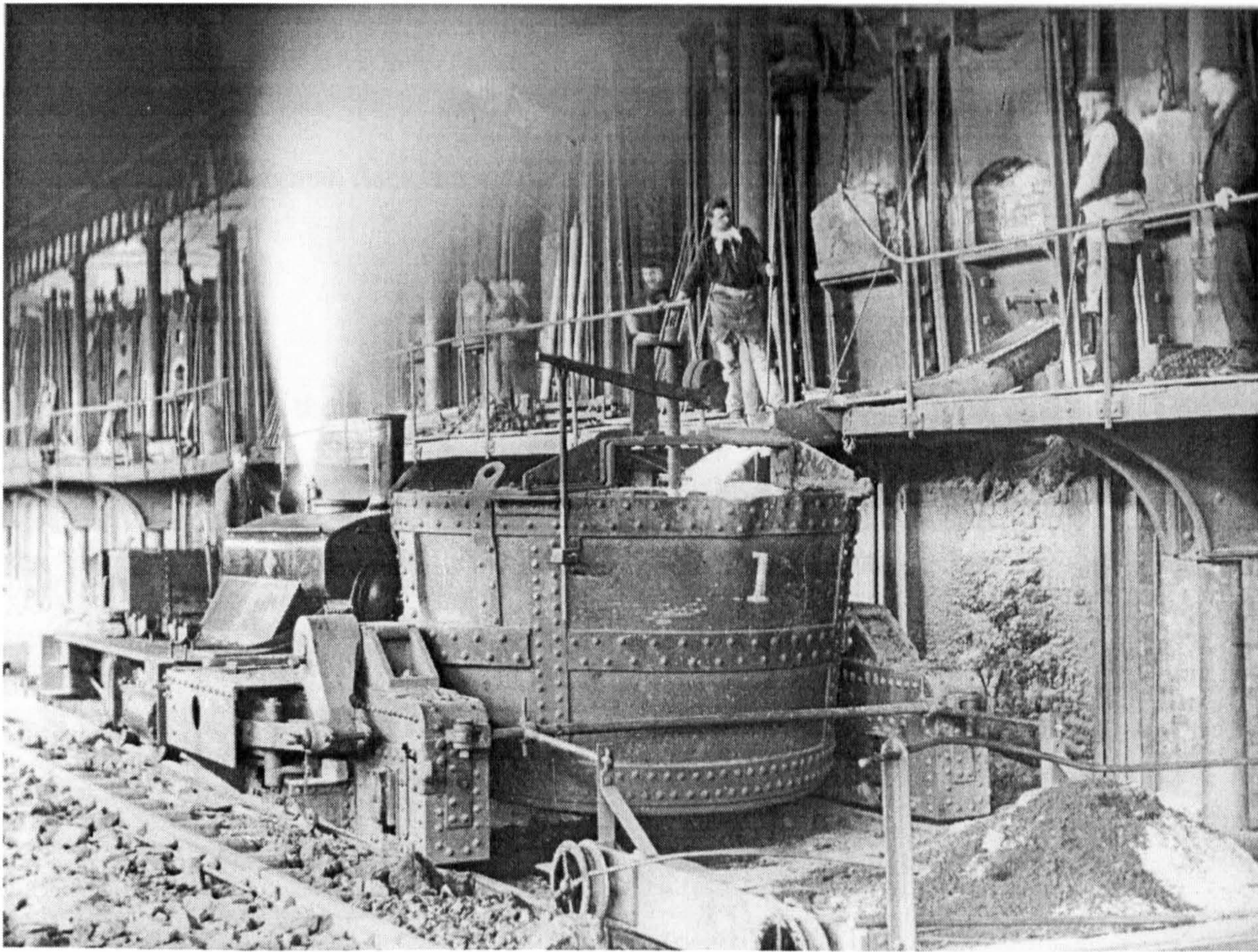


Figure 15. Tapping steel at Dalzell, c1895. Workmen on the gantry pour molten steel into the ladle. The greater level of mechanisation in steelworks is indicated by the steam locomotive, which shunts the ladle to the ingot casting pits. Cranes also accomplished this task.

Teamers/Pitmen

Teamers supervised pitmen who worked at the casting pits where molten steel was cast from ladles into ingot moulds. At Wishaw in 1897, pitmen were paid 2¼d., per

¹⁵⁶ MRC, mode of working, Wishaw, 1897.

ton less 25% on the whole tonnage of the shop divided equally between the men.¹⁵⁷

One pitman was employed for every two furnaces, plus one extra man; 'for eight furnaces there will be five men per shift'.¹⁵⁸ More workmen reduced the average labour required, but also reduced individual wages. By 1900, in Wishaw there were, 'no pitmen as the slagman does that work.'¹⁵⁹

Soakermen

Soakermen worked at the soaking pits used to retain steel ingots' heat. In 1896, soakermen at Hallside, who received daily rates, demanded higher rates or conversion to tonnage payments, as the number of operating pits had doubled to four, but the same numbers of men were employed.¹⁶⁰ In 1901 Blochairn's soakermen were employed by subcontractors and paid shift rates. This was described by John Cronin as a, 'sweating system'.¹⁶¹

Hammermen

Hammermen had similar responsibilities to shinglers. Hammermen were subcontractors and worked with a hammer-driver, but also employed other workmen. At Dalzell in 1885, wage reductions prompted a strike by seventy hammermen and levermen, with thirty bogiemen 'thrown idle'.¹⁶² Apparently, hammermen employed levermen and bogiemen to transport ingots from the soaking pits. Indeed, during another dispute at Dalzell five months later, hammermen, 'together with the

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ MRC, MSS36/W30.4, Correspondence, Henderson to Hodge, 25 Aug.1900.

¹⁶⁰ NLA, SMSTCAB minutes, 10 Mar.1896, p.82.

¹⁶¹ *Ibid.*, 6 Dec.1901, p.197.

assistants whom they employ - in all about 100 hands - struck work'.¹⁶³ This exactly matches the quantity, 'thrown idle', in September 1885, confirming hammermen's employment of levermen and bogiemen. Occasionally these workmen conducted independent industrial action; at Hallside in 1901, 'the men at No. 2 hammer have stopped work without notice on account of the helpers refusing to work.'¹⁶⁴ A larger subcontractor, who controlled all the hammers at individual steelworks, employed the hammermen. In the 1880s, a subcontractor named James Fulthorpe employed Hallside's hammermen. Individual subcontractors could be extremely unpopular, which also sparked disputes. (See chapter two.)

In 1881, Hallside's hammermen struck alongside the smelters, but refused to return to work even after the smelters submitted. Although hammermen possessed skill, this could be acquired relatively quickly, rendering hammermen vulnerable to replacement labour. *Engineering* noted, 'the managers have several gangs of new hands learning how to manipulate steel under the hammer, some of whom have already become very proficient at the work.'¹⁶⁵ The firm recruited blacklegs from junior employees, indicating a lack of solidarity. Within a month, *Engineering* stated, 'having trained a number of good hands to do the work', the company was, 'practically independent', of the strikers.¹⁶⁶ New processes also weakened hammermen's hegemony in September 1885; ingots were taken direct from soaking pits to the hammers, circumventing the re-heating work formerly controlled by

¹⁶² *Engineering*, 18 Sept.1885.

¹⁶³ *Ibid*, 5 Feb.1886.

¹⁶⁴ SMSTCAB minutes, 21 Mar. 1901, p.182.

¹⁶⁵ *Engineering*, 1 July 1881.

¹⁶⁶ *Ibid*, 29 July 1881.

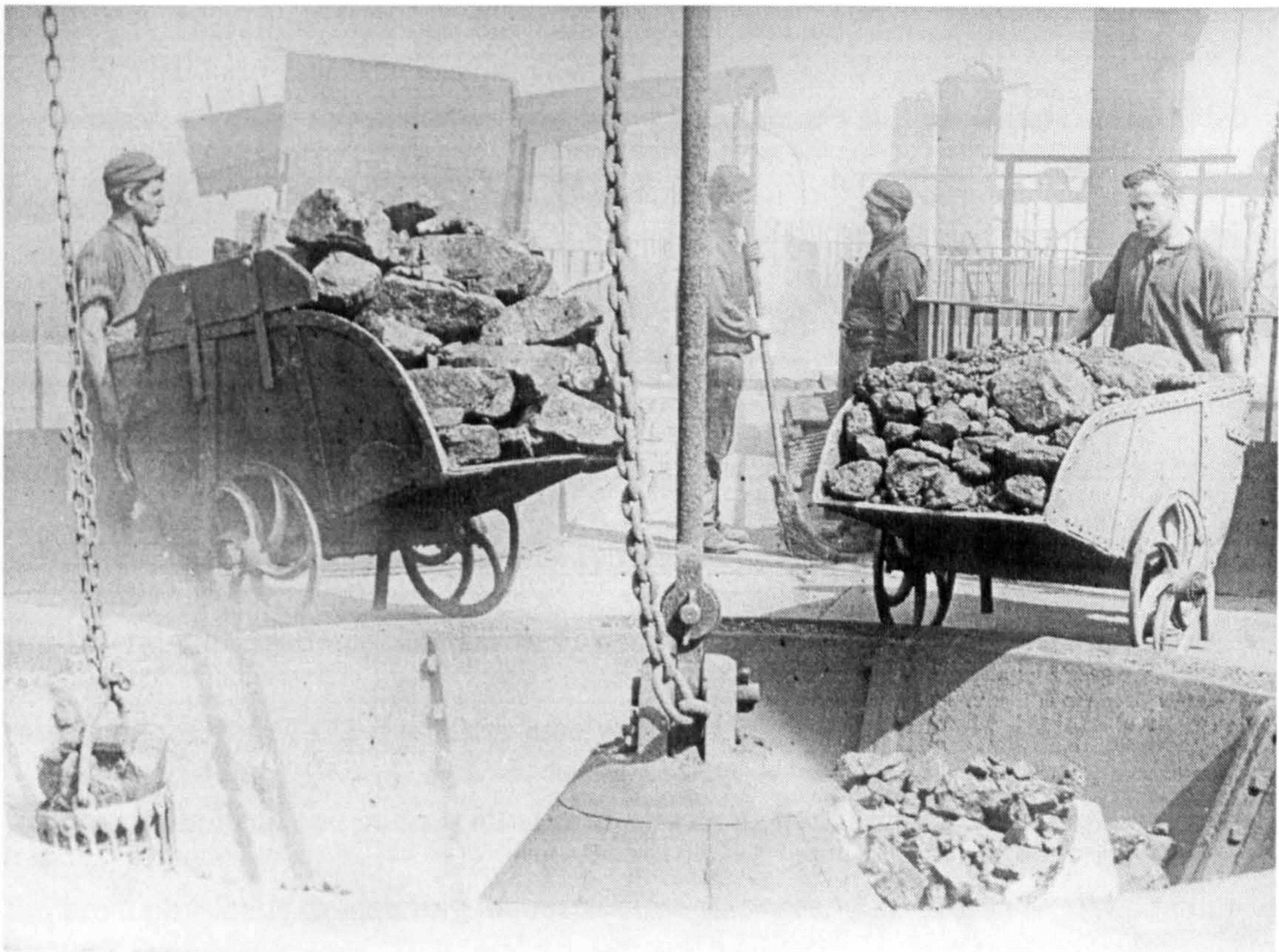


Figure 10. Charging the furnace top, Coltness c1890. These men are working about 70 feet above the ground. When the cone (foreground) was lowered, the charge fell into the furnace. This action allowed noxious gasses to escape that often caused dizziness when inhaled, increasing the hazards associated with furnace-filling.

McIvor notes the intensification of work during this period. Burgeoning blast-furnace capacity, which necessitated greater labour for fillers, substantiates this.⁵⁹ Further, Reid argues that unskilled rather than skilled workmen were most at risk from new technology, whilst Littler states greater worker skill equated to greater job security.⁶⁰ Indeed, by 1897, furnace-filling was mechanised at some American works, but most British ironworks retained hand-charging throughout the 19th

⁵⁹ McIvor, *Work*, pp.66-75.

⁶⁰ Reid, 'Employers', p.47. Gospel, *Markets*, p.24.

hammermen.¹⁶⁷

Hammermen's autonomy was further weakened by technological changes. The development of engines powerful enough to drive reversing mills removed the necessity of hammering.¹⁶⁸ Although Merry & Cunninghame retained steam hammers at Glengarnock in 1885, GI&S Co.'s steelworks introduced a cogging mill operated by millmen for slabbing ingots in March 1884. A cogging mill also replaced Clydebridge's hammers in 1887. By 1892 Cronin noted, 'hammering...has been displaced by cogging, which is cheaper to the employers, and they are able in that way to work with a smaller number of men.'¹⁶⁹ In 1895, 'at Dalzell they had ninety men thrown out of employment through the introduction of a cogging mill. The work would now be done by half a dozen men.'¹⁷⁰ In 1896 a labour delegate to SMSTCAB complained, 'the introduction of [cogging] machinery reduces the selling price of plates. When this Board was formed plates were all hammered.'¹⁷¹ The hammermen's experience supports Knox's assertion that labour was de-skilled from 1880-1900 and increasingly subordinated to capital.¹⁷² Indeed, Knox argues that the employers' rationale behind much technological change was to reduce production costs whilst, 'it also created opportunities to break down skilled labour's independence in the workplace'.¹⁷³ Although cogging mills displaced hammermen, millmen's importance was simultaneously expanded. Therefore, the impact of new

¹⁶⁷ *Engineering*, 18 Sept.1885.

¹⁶⁸ Carr & Wright, *History*, pp.59-60.

¹⁶⁹ RC, Labour, 1892, Vol.36,(16,071), p.375.

¹⁷⁰ NLA, SMSTCAB minutes, 18 Feb.1895, p.48

¹⁷¹ SMSTCAB minutes, 10 March 1896, p.78.

¹⁷² Knox, *Industrial*, pp.145-155.

¹⁷³ Knox, 'Political', p.142.

technology in steelworks was disjointed. Indeed, technological innovation simultaneously displaced and empowered different sections of steelworkers.

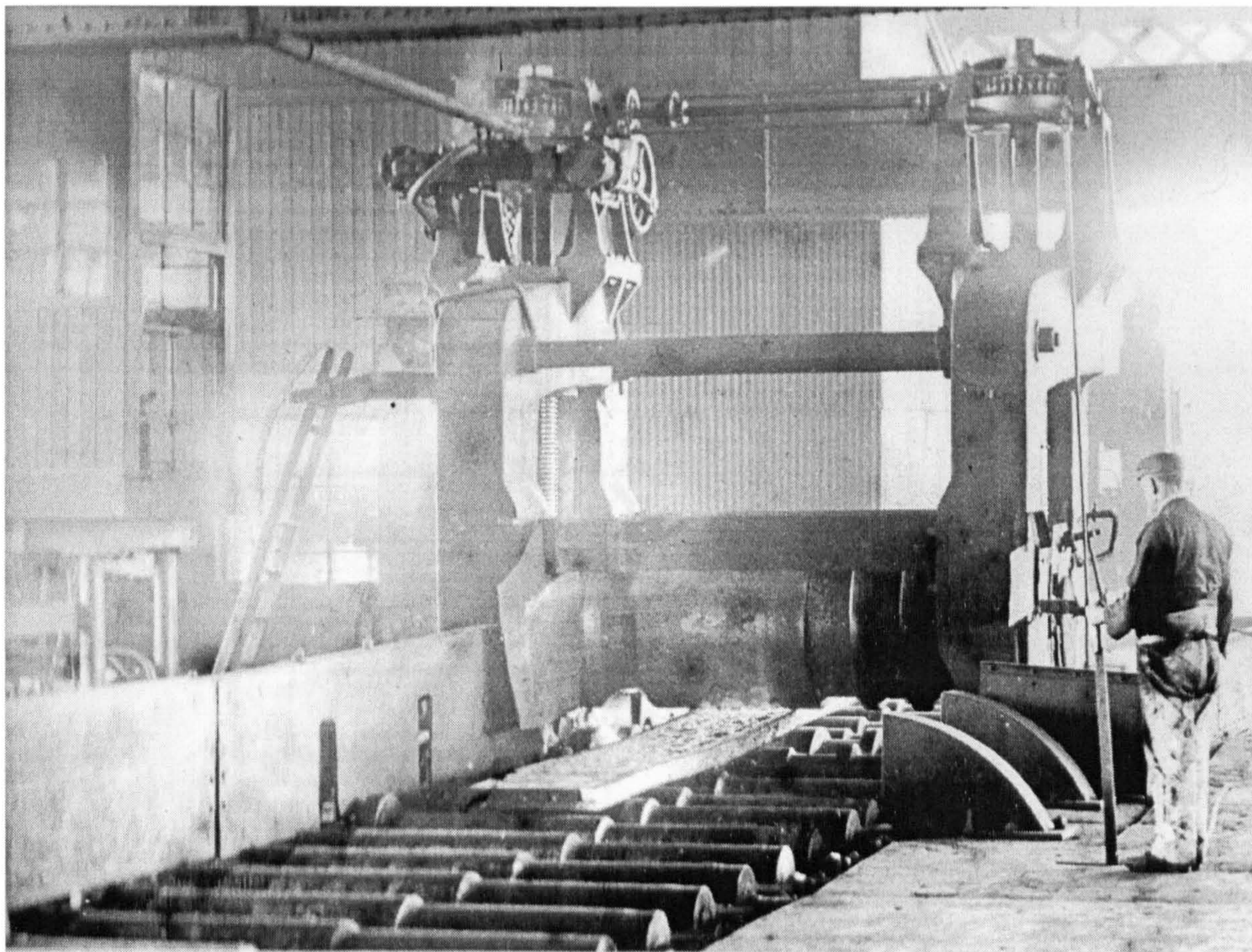


Figure 16. Mechanised cogging mill, Mossend steelworks c1895. A solitary millman carries out the work formerly achieved by hammermen.

Heaters

‘Heaters’ operated re-heating furnaces in the mill that raised the ingots’ temperature prior to rolling. Forehand heaters ensured furnaces operated at the correct temperature, whilst underhands charged the furnace and withdrew the steel. In 1892, forehand heaters each controlled two or three furnaces, receiving about £5-6 per week. Forehand heaters were subcontractors who employed assistants until 1892,

when they became directly employed.¹⁷⁴

Table 10. Heating furnacemen's wages, 1892.¹⁷⁵

Occupation	Average weekly wage
heater	£5
assistant-heater	£3
tongsman	£2
bellman	35s.
paddleman	30s.
bogieman	29s.
side-bogieman	28s.
brickman	25s.
bandy	20s.
winder-out at crane	18s.
door boy	12s.

Heaters were divided into sub-groups and received wide-ranging wage rates according to their grading, depicted in table ten. The task of heating was sub-divided into eleven specialised jobs, whilst the reward for labour varied from 12s. to £5 each week. Wages also varied according to plate size. In 1903, Dalzell's heaters' received 3¼d. per ton, assistant-heaters received 1¼d. and chargers, or 'brickers', were paid ¾d. for ordinary plates, but each group received 4¾d., 2¼d. and 1d. respectively for larger plates.¹⁷⁶

¹⁷⁴ RC Labour, 1892, Vol.36,(16,169-16,178), p.380.

¹⁷⁵ *Ibid*, (appendix XXXI), p.594.

Rollers

Steel rollers possessed analogous skills to rollers in malleable ironworks. In 1884, GI&S Co., transported steel ingots to Motherwell malleable ironworks for rolling, until mills were constructed at Wishaw steelworks, actively demonstrating the compatibility of both plant and labour for rolling both materials. Forehand rollers were originally subcontractors, but by 1892 subcontracting ceased at unionised works, although forehands still directed six to eight underhands.¹⁷⁷ However, when U-shaped channels were rolled in cogging mills, 'two assistant tongsmen were paid by the men themselves'.¹⁷⁸

Wages in rolling mills varied widely. Cronin stated, 'we have different rates; we have rates for the plate mills, guide mills, bar mills, shears, guillotines, 18-inch mills, and all that sort of thing.'¹⁷⁹ The divergent wages received by different grades of labour in various rolling mills appear in table eleven.

¹⁷⁶ NLA, SMSTCAB minutes, 3 July 1903, p.238.

¹⁷⁷ RC, Labour, 1892, Vol.36,(16,147-16,149), p.379.

¹⁷⁸ SMSTCAB minutes, 8 Dec.1903, p.249.

¹⁷⁹ RC, Labour, 1892, Vol.36,(16,135), p.379.

Table 11. Rollers' Wages, 1892.¹⁸⁰

Plate-mills	aver. weekly wage	Large Bar-mills	aver. weekly wage	Small Bar-mills	aver. weekly wage
roller	£7	roller	£4	roller	£3 10s.
breaker-down	50s.	tongsmen	£2 10s.	roller's helper	35s.
1 st chipper-in	35s.	hookers	30s.	heater	£3
2 nd chipper-in	32s.	heaters	£3	heater's helper	£2
bogieman	30s.	soaking pitman	30s.	labourer	18s.
back-of-rolls chipper-in	30s.	hot barkmen	25s.		
back-of-rolls bogieman and stamper	30s.	cold barkmen	20s.		
1 st screwer	30s.	labourers	18s.		
sweeper	15s.				

Although plate-mill rollers generally received tonnage rates, millmen at Parkhead who worked armoured-plate received day rates plus a bonus. Beardmores refused millmen's demand for tonnage rates like other steelworks arguing, 'facilities for a large turnout are so much greater, that really no comparison of rates could be made.'¹⁸¹ Alternatively, cogging millmen generally received shift rates; in 1898 it was stated that conversion to tonnage rates would increase their wages by 75%.¹⁸² Established customs also affected wages. Ingots that required reheating before

¹⁸⁰ *Ibid*,(Appendix XXXI), p.594.

¹⁸¹ SMSTCAB minutes, 30 May 1895, p.64.

¹⁸² *Ibid*, 7 Apr.1898, p.114.

rolling were paid for at, 'rate-and-a-half'.¹⁸³ Further, Lanarkshire's millmen were paid for scrap, but this did not occur in northern England.¹⁸⁴ Significantly, extras were paid for different products. At Blochairn in 1890, each of the thirteen grades of workmen were paid extras at varying rates for four different sizes of steel plates; rollers received 3¾d. extra for plates measuring over 8½ft. to 9ft., up to 1/1d. for plates over 10ft. to 10½ft., but the 'extra man' only received 1d. and 4d. for corresponding sizes.¹⁸⁵ Therefore, numerous categories of labour were employed in different types of mill and received wages governed by divergent factors, further reinforcing the singularity of employment. Mechanisation further complicated wage calculations and threatened unskilled labour in the rolling mills. In 1892, Cronin testified, 'in our trade machinery is gradually displacing manual labour...when we used to have sixteen men employed on one particular job, today a boy and a bit of a machine can do it.'¹⁸⁶ This supports Reid's perceptions as the threat from mechanical displacement was greatest for unskilled labour, although this varied, even within individual firms. FW Paul, the manager at SCS's Blochairn works stated, in one mill:

The methods were the old ones where any increased output was directly in proportion to the amount of physical labour expended....but in the case of the mill in question the labour was infinitesimal compared with the other mill, while there was an absurd disproportion in the wages paid.¹⁸⁷

¹⁸³ *Ibid*, 26 June 1891, p.8.

¹⁸⁴ *Ibid*, 7 Nov. 1892, p.14.

¹⁸⁵ *Ibid*, 30 Jan.1891, p.4.

¹⁸⁶ RC, Labour, 1892, Vol.36,(15,977), p.371.

¹⁸⁷ SMSTCAB minutes, 30 May 1895, p.65.

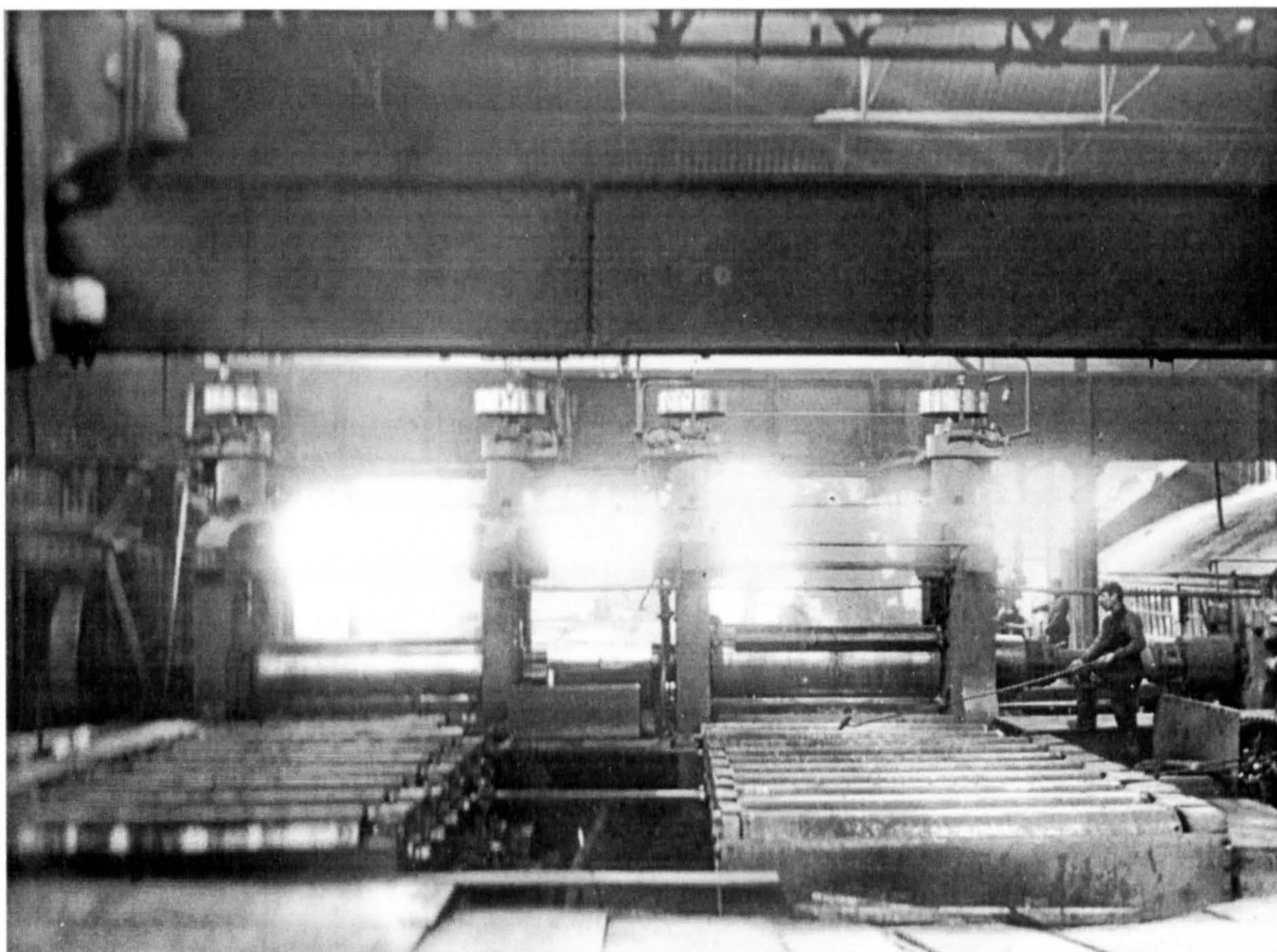


Figure 17. No.2 Plate-mill, Dalzell, c1890. The scale of mechanisation of steel rolling mills is apparent: a millman (right) waits for plates to emerge from the rolls.

However, organised labour vigorously defended their prerogatives until 1900; ‘the men held that whatever might be the ruling of this Board they would not accept it, that they would not allow their wages to be touched, and that if the ruling of this Board was against them they would drop their tools rather than work at the reduced rate.’¹⁸⁸ Whilst such threats were unusual from 1870-1900, they developed swiftly after 1900. Gale states that increasing mechanisation ensured that accuracy became

¹⁸⁸ *Ibid*, p.66.

less dependent upon skill.¹⁸⁹ In 1900, Dalzell introduced new engines that accelerated rolling and reduced manual labour. Although capacity increased, fewer workmen were required, supporting the theory of work intensification. However, tonnage rates produced greater resultant income. This prompted employers to demand a reassessment of wages, asserting that increased output was achieved by, 'the superior efficiency of the plant, and is in no way due to the increased exertion on the part of the men.'¹⁹⁰ Colville's attempted to reduce wages in 1902, claiming, 'the earnings of the man have gone up, although the exertions for doing the work have gone down.'¹⁹¹ Alternatively, rollers claimed greater wages were, 'only commensurate to the increased strain, physical and mental, which the use of the improved machinery entails upon them.'¹⁹² Cronin stated:

I do not see why Mr. Colville should be allowed to revolutionise the whole trade...These men worked in the plate mills from the time they were youths; they were skilled mechanics of the trade, and they were not prepared to concede anything to Mr. Colville or anybody else without a fight.¹⁹³

Ultimately an arbiter reduced rollers' wages by 12.5%, whilst the 'back-of-the-rolls man', the 'chipper-in' and the 'breaker-down' were reduced by 7.5% and the 'winching-away man', the 'sweeper', and 'screwer', by 5%.¹⁹⁴ The arbiter concluded although the new methods involved greater labour, most work fell on

¹⁸⁹ Gale, *Iron & Steel*, illustration 83, and p.14

¹⁹⁰ *The Engineer*, 15 Aug.1902.

¹⁹¹ SMSTCAB minutes, 24 Jan.1902, p.207.

¹⁹² *The Engineer*, 15 Aug.1902.

¹⁹³ SMSTCAB minutes, 24 Jan.1902, p.208.

unskilled workmen, 'outside the mills', further endorsing Reid's view that mechanisation affected unskilled labour more than skilled.

Rollers' hours also varied considerably. Millmen generally worked a daily twelve-hour shift, from Monday to Saturday afternoon.¹⁹⁵ However, on Saturdays Parkhead's millmen stopped at noon, Newton's at 1pm, Dalzell's between 1pm-1.30pm and Blochairn's at 2.30pm. Rollers demanded a standardised finishing time of 1pm in 1895.¹⁹⁶ However, this was resisted by employers, particularly within cogging mills where rollers worked until the final, 'slabs and ingots lying in furnaces', had been, 'drawn and rolled.'¹⁹⁷ SMSTCAB introduced a voluntary stopping time; lighter mills stopped at 1.30pm and cogging mills at 2.30pm, although the limit was, 'not so strictly enforced'.¹⁹⁸ However, delays occurred, particularly if smelters were tardy in tapping their furnaces. The steel was then cast into ingots; 'ingots must be dealt with at once, or they cooled and could not be dealt with on Monday, unless at considerably greater expense.'¹⁹⁹ Consequently, smelters who tapped late forced cogging millmen to work until 6pm. However, Clydebridge and Mossend remained non-unionised and out-with SMSTCAB and worked longer hours, including Saturday night, Sunday and Sunday night in May 1895.²⁰⁰ Therefore, even within an individual labour section, hours, wages and responsibilities varied considerably, further reinforcing the heterogeneity of labour.

¹⁹⁴ *The Engineer*, 15 Aug.1902.

¹⁹⁵ RC, Labour, 1892, Vol.36,(15,968), p.371.

¹⁹⁶ SMSTCAB minutes, 18 Feb.1895, pp.49-50.

¹⁹⁷ *Ibid*, 18 Mar.1895, p.57.

¹⁹⁸ *Ibid*, 18 Apr.1895, p.58.

¹⁹⁹ *Ibid*, 30 May 1895, p.63.

²⁰⁰ *Ibid*.

Shearers

Shearers operated the plate-shears, which cut plates to required specifications. Shearers were split into squads and received tonnage rates. Shearing squads were subdivided by task and wage rate; 'forkers' manoeuvred the sheets, 'shearsmen' operated the shears, whilst 'markers' and 'assistant markers' measured and chalked the metal for cutting. In 1892, average weekly wages were listed; shearers received approximately £4 each, forkers £2, bogiemen 25s. and labourers 18s.²⁰¹ In 1899, thirteen men were employed as, 'shearers' bogiemen', at Blochairn.²⁰² Bogiemen were employed by subcontractors and paid day wages in 1901.

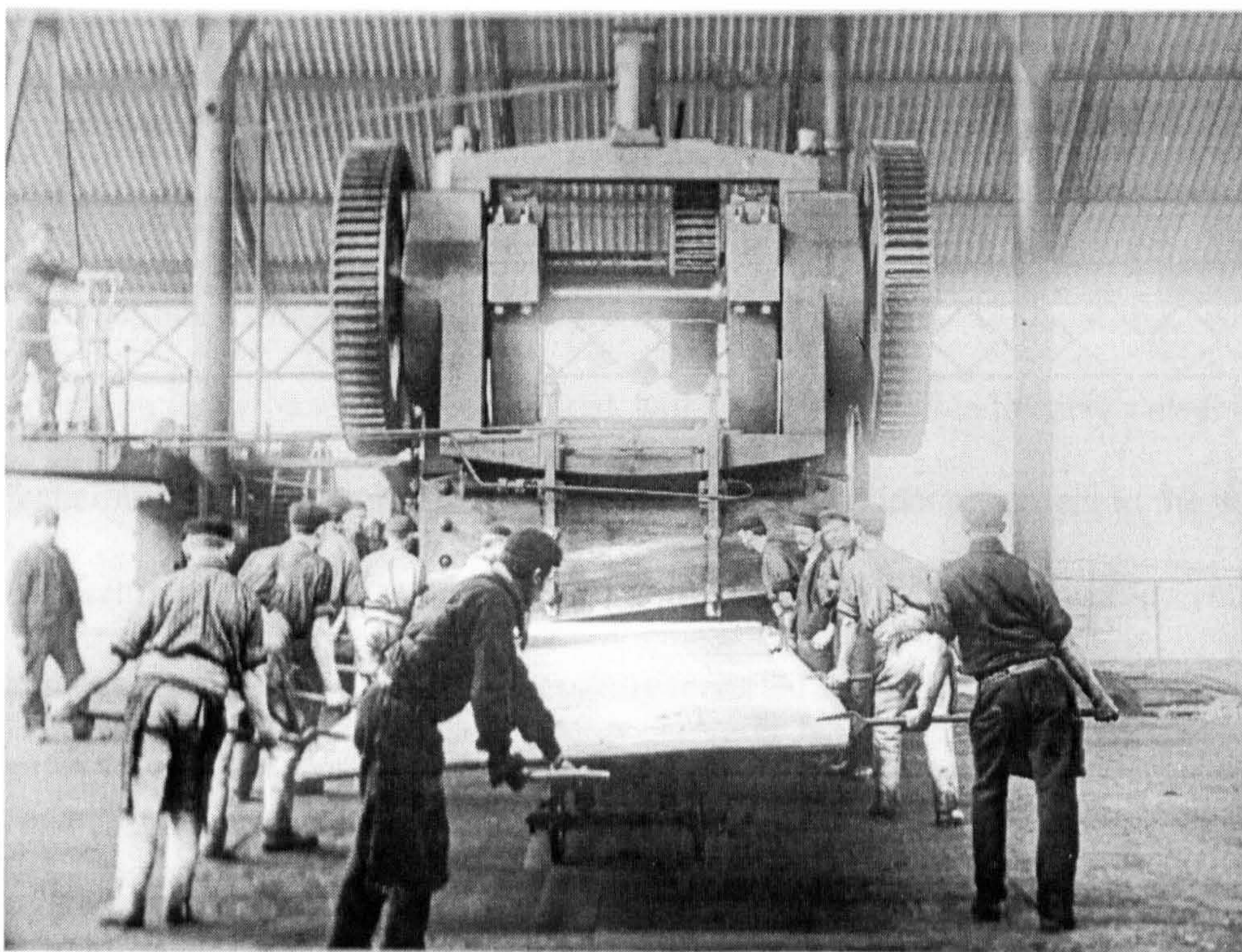


Figure 18. Plate-shears, Mossend, c1890. Even within steelworks various tasks remained labour intensive, such as the manipulation of steel with levers or forks and a bogie.

²⁰¹ RC, Labour, 1892, Vol.36,(appendix XXXI), p.594.

The divergence between shearers was reflected by sub-sections of shearmen taking independent industrial action. In 1898, an unofficial strike at Wishaw following the dismissal of three forkers affected seventy hands and stopped the entire plate-mill when stock accumulated, although the ringleaders were ultimately replaced.²⁰³

Therefore, although forkers possessed limited skill, their strategic position facilitated influence, endorsing Clegg's perceptions.

Levermen

Levermen were specialised labourers who were employed by hammermen and shearers and were responsible for transporting steel sheets, blooms etc. Levermen had minimal skills and, as Reid notes, were threatened by new technology. Indeed, at Glengarnock in 1898, new soaking pits incorporated mechanical handling; 'when in operation fewer hands will be required, and it will be possible to carry a steel ingot from one end of the works to the other without manual labour, except in the working of machinery.'²⁰⁴ Prior to unionisation, little collective action amongst levermen was apparent; in 1885, Colville's successfully recruited levermen and hammermen from Blochairn to replace strikers, forcing Dalzell's levermen back to work.²⁰⁵

Ancillary Labour

Enginemen were responsible for the steam engines that powered the reversing mills etc. Enginemen, cranemen and boilermen were numerically few and separate from

²⁰² *Ibid*, 20 Oct.1899, p.157.

²⁰³ *Wishaw Press*, 30 Apr., 7 May 1898.

²⁰⁴ *Engineering*, 4 Nov.1898.

steelworkers. However, they banded together, forming their own union. In July 1897, the enginemen, cranemen and boilermen at Dalzell, threatened to strike for better working conditions, time-and-a-half wages for overtime working and double time for Sunday labour, but the dispute terminated when the employers accepted arbitration.

Steelworks employed numerous workmen as general labourers. McKinlay correctly argues that skill was widespread in steelworks. However, McKinlay's argument that labourers required, 'the development of high levels of tacit skills', personalised shovels or wheelbarrows hindered task rotation whilst, 'even shovelling becomes an art form when tremendous weights have to be lifted', exaggerates labourers' autonomy.²⁰⁶ Labouring did provide opportunities to meet and observe skilled operatives, possibly leading to skilled employment. Patrick McGeown, who ultimately became a forehand smelter, started work as a labourer. However, distinctions were made between general labourers and specialised labourers. Indeed, unskilled sections of labour were as fragmentary as skilled steelworkers. For example, loading-bankmen were casual labourers who pulled steel angles along the bank, loaded them into the rail bank and onto railway wagons. Bankmen had minimal skill or autonomy; a bankman noted, 'we have to take the work as it comes, and when a slack time comes then we are dismissed.'²⁰⁷ Loading-bankmen also worked steel bars, sixty-five to seventy feet long, which were pulled with hooks or pushed with sticks into the stock-bank. At Hallside fifty to sixty bankmen were split

²⁰⁵ *Motherwell Times*, 26 Sept.1885.

²⁰⁶ McKinlay, 'Philosophers', p.89.

²⁰⁷ SMSTCAB minutes, 18 Mar.1898, p.108.

into two sections under a foreman. In 1898, Hallside's loading-bankmen claimed increased wages arising from work intensification and to achieve parity with other steelworks. However, the sections claimed different wages; one section claimed an increase from 3/11d. to 4/6d. per shift, whilst the other claimed 4/4½d. to five shillings. William Cuthill, Hallside's manager, noted further divisions:

Straighteners and ropemen appear to claim higher wages, independent of the general claim. Straighteners are bankmen who occasionally do straightening work at wages certainly no less than those paid by our competitors...Ropemen are bankmen who hitch on the ropes to a winch for drawing forward the bars; they are not constantly at this work, and are paid the same as bankmen.²⁰⁸

Following an investigation, the claim was denied and Hallside's rail-bankmen withdrew from SMSTCAB. However, Hallside's loading-bankmen simultaneously applied to join SMSTCAB. This evidence supports Bagwell who notes sectional interests resulting from, 'an infinite variety', of job specialism existed amongst unskilled casual workers, inhibiting common approaches to employers.²⁰⁹

Foremen

Like other elements of labour, foremen were not homogenous, and experienced differences in status, skills and wages. The labourer's foremen had little technical knowledge and few skills excepting basic organisation; 'there were thirty of us

²⁰⁸ *Ibid*, p.105.

²⁰⁹ Philip Bagwell, 'Transport', in Wrigley, *Industrial*, pp.230-252.

awaiting Sanny Broon....he wore the blue gutty collar of a foreman. It was his badge of office, the one thing most that separated him from the swine; otherwise he was as nondescript as the rest of us.'²¹⁰ Alternatively, Duncan MacNeill was a skilled and experienced worker who became the supervisor of skilled workmen. Burgess highlights foremen's ambiguous identity; MacNeill personifies this and was referred to both as foreman and manager.²¹¹ This evidence also supports Gospel's observations that lower level managers and foremen were usually promoted from the shop-floor.²¹²

Like malleable ironworkers, steel millmen's relationship to foremen or under-managers was often more acrimonious than with steelmasters. In 1892, Cronin testified:

While we can deal amicably with employers we cannot deal so well with the under-managers...most of our disputes are petty disputes which have been caused, as a rule, by the action of the under-managers. In some places they dislike to have union men working.²¹³

However, by 1895 relations had improved; SMSTCAB's labour representative and a foreman settled a dispute, 'without any notice being given to the manager or employers' representative'.²¹⁴ Indeed, by the mid-1890s the burgeoning power of

²¹⁰ McGeown, *Heat*, p70.

²¹¹ NAS, STE29, SCS Cash Book 1872-1900.

²¹² Gospel, *Markets*, p.18.

²¹³ RC, Labour, 1892, Vol.36,(15,978), p.371.

²¹⁴ SMSTCAB minutes, 25 Jan.1895, p.46.

trade unions and their incorporation within formal collective bargaining systems improved labour's relationship with steelworks foremen in the rolling mills.

Trade unions also affected labour's relationship with furnace-foremen. At the furnaces, 'sample-passers' were recruited from first-hand smelters and were responsible for testing furnace output. Inferior quality steel was rejected causing financial loss to smelters. Therefore, sample-passers held considerable power and were paid accordingly; £5 per week basic wage, plus ½d. per ton, paid on the highest producing furnace in the sample-passer's melting-shop in 1897.²¹⁵ The extent to which sample-passers sympathised with either capital or labour varied, but some gravitated towards the smelters and their union. John McCarthy, a sample-passer at Lanarkshire steelworks, was one of the BSSAA's founding members and although he, 'did not take, since he became sample-passer, the active part he had previously done in the work of the society, he was still deeply interested in its progress.'²¹⁶ This detracts from Garside and Gospel's perception of foremen as agents of capital, but supports Reid's assertion that foremen were, 'almost universally recruited from among the skilled workers, and they frequently remained as members of their original trade unions'.²¹⁷ Steelmasters employed social functions to court foremen. In 1884; 'the foremen, clerks, and stock-takers at Dalzell Iron and Steelworks held their first social meeting in Dalziel Arms Hall.'²¹⁸ However, organised labour employed identical tactics. The BSSAA's Wishaw branch held a social evening for members at which, 'Mr. Matthewman, melting shop manager, occupied the chair, supported by

²¹⁵ MRC, modes of working, Wishaw, 1897.

²¹⁶ BSSAA report, Jan.1899, p.8.

²¹⁷ Reid, 'Employers', p.44.

the various foremen in connection with the department.’²¹⁹

Various factors divided steelworkers including tasks, skill levels, responsibility, wages, hours of work and bargaining power. Even within individual groups, numerous sub-categories of steelworkers existed with divergent status, skills and wage rates, which occasionally took independent industrial action that afflicted other sub-categories within the group as well as external sections of steelworkers.

Therefore, sectionalism and multi-layered, internal divisions permeated both skilled and unskilled groups of steelworkers, emphasising labour’s disparity. McKinlay argues, ‘craft knowledge was carefully guarded by the steelworkers who controlled every aspect of production.’²²⁰ Although some steelworkers did exercise considerable autonomy, McKinlay can be criticised for exaggerating steelworkers’ homogeneity. Indeed, steelworkers were characterised by even greater heterogeneity than malleable ironworkers or pig ironworkers.

Despite the lower incidence of subcontracting by 1900, labour remained fragmented in Lanarkshire’s steelworks, partly reflecting the sophistication of the production process and the continuation of progressive seniority systems that pervaded the industry. The seniority system fostered an elitist attitude that mitigated labour militancy, but simultaneously enervated capital. Indeed, Docherty states manning was determined by, ‘seniority not management’.²²¹ McIvor’s views on work intensification are partially endorsed, although steelworkers receiving tonnage rates

²¹⁸ *Motherwell Times*, 22 Mar.1884.

²¹⁹ BSSAA report, Dec.1898, p.291.

²²⁰ McKinlay, ‘Philosophers’, p.90.

generally benefited from mechanisation until 1902. Although hammermen were displaced by new technology, no evidence of steelworkers' homogenisation is apparent, despite Knox and Price's perceptions. This evidence supports Reid's assertion that skilled labour generally retained autonomy, whilst employers' were, 'fundamentally not prepared to undertake that direct involvement in the production process without which they could not hope for real control.'²²² Indeed, skilled steelworkers retained their independent discretionary authority, whilst unskilled labour was characterised by disjointed approaches to capital that lacked coherent strategy.

Finally, analysis of the malleable iron and steel industries confirms More's assertion that within, 'iron and steel manufacture...skill was widely spread among the operatives', as well as McGuffie's observation, 'the open-hearth process relied on a relatively skilled and highly experienced regulation of skill based on the psycho-physical apparatus of labour.'²²³ However, More is contradicted by evidence from Lanarkshire's pig ironworks, where skill was largely monopolised by furnace-keepers, further illustrating labour's disjuncture between industries. Melling notes the prevalence of subcontracting and piecework are indicative of labour autonomy; 'the systems of subcontracting and piecework were most prevalent...where the existence of job control excluded the possibilities of intensive management supervision.'²²⁴ Such systems were most apparent in the malleable iron and steel industries revealing greater levels of labour autonomy than in pig ironworks.

²²¹ Docherty, *Steelworkers*, p.41.

²²² Reid, 'Employers', p.36.

²²³ More, *Skill*, p.121. McGuffie, *Metal*, pp.xxxi-xxxii.

2. Wages

Wage levels are indicative of bargaining power. Knox states, 'the authority of the capitalist was established through the wages system'.²²⁵ Further, Kirk argues British employers were more concerned with, 'cheapening and intensifying skilled labour', than introducing new technology.²²⁶ Although wages fluctuated with market conditions, generally high wages are indicative of labour's autonomy and strength. Conversely, capital's ability to restrict wages reflects managerial hegemony over labour. Indeed, Melling argues piece rates constituted one of the few forms of productivity control that masters could directly influence.²²⁷ Given the myriad of specialised jobs, products, wage rates and extras prevalent throughout Lanarkshire's iron and steel industries, inter-industry comparisons are difficult to assess. However, in 1887 the Board of Trade published average weekly figures for wages in 1883, facilitating comparative analysis. Table twelve depicts steelworkers' wages in the Glasgow area.

²²⁴ Melling, 'Non-commissioned', p.191.

²²⁵ Knox, *Industrial*, p.107.

²²⁶ Kirk, *Change*, p.165.

²²⁷ Melling, 'Non-Commissioned', p.192.

Table 12. Steelworkers' wages, Glasgow and neighbourhood, 1883.²²⁸

Occupation	Weekly wage (men)	Weekly wage (boys)	Weekly Hours
Rolling & furnacing	75s.*		
Smelters	38/6d.		63
Hammermen (steam)	36-42s.	10/6d.	60
Bricklayers	36s.		54
Moulders	35/9d.	7-11s.	54
Pattern-makers	33s.	7/6d.	54
Locomotive cranemen	32/6d.		54
Joiners	30s.		54
Bar Rolling 18inch	30s.*	9s.*	60 (men only)
Boilermen	29-31s.	9s.	54
Fitters	29s.	11-14s.	60
Blacksmiths	29s.		54
Turners	28/6d.	11-14s.	54
Bar Rolling 14inch	27s.*	12s.*	60 (men only)
Dressers	26/9d.		54
Gas-Producermen	25/3d.		60
Stock-takers & weighers	25s.		60
Testing & Inspecting	24/6d.		60
Engine Drivers, Mill Dept.	24-28s.		
Boilermen, Mill Dept.	24-26s.		60
Rolling & furnacing assistants	21-24s.*		
Blacksmiths strikers	19s.		54
Labourers	18-20s.		54

(*denotes piece-work)

Consideration of wage rates reveals the wealthiest steelworkers in 1883 were rollers, acquiring 75s. per week, almost double the wages of hammermen, 36-42s. and smelters, 38/6d. Whilst the figure for bricklayers seems considerable, steelworks'

²²⁸ Board of Trade, Returns of Wages 1887, Vol.88, p.161.

bricklayers specialised in re-lining furnaces with firebricks. Significantly, such considerable wages were achieved without trade union representation. Indeed, Knox notes, 'with skill at a premium and piece rate payment growing in popularity workers could bargain on the basis of individual worth rather than by collective strength.'²²⁹

Cronin testified that the contracting system prevailed in steel mills until c1887.

Cronin reckoned some subcontractors earned £40-50 per week, (probably those controlling entire mills rather than individual first-hand rollers), whilst after the system's termination, the average millman's wage increased by 30-40%.²³⁰ Despite the more equitable division of wealth, in 1892 wages still varied widely from 17s. per week for labourers to £10-12 a week for rollers.²³¹

Whilst no figures were published for Lanarkshire's malleable ironworkers, Cleveland's wages, which governed Lanarkshire's rates, were supplied and are reproduced in table thirteen.

²²⁹ Knox, *Industrial*, p.115.

²³⁰ RC, Labour, 1892, Vol.36,(15,982-15,984), p.372.

²³¹ *Ibid*, (16,251,16,286), pp.383, 385.

Table 13. Malleable Ironworkers' Wages, Forge Department, 1883.²³²

Occupation	Weekly wages (men)	Weekly wages (boys)	Weekly hours
Shinglers	45s.		60
Rollers	37/6d.-40s.		60
Forge managers	37s.		65
Puddlers	35s.		60
Roll-turners	30s.		65
Bar-drawers	27/6d.		60
Stock-takers	25s.		60
Metal-breakers and wheelers	24s.		65
Weighers	20s.		60
Ash-wheelers	20/6d.		66
Coal unloaders	20s.		66
Helpers/underhands	19s.		60
Labourers	18s.		67½
Hammer-drivers		17s.	65
Bogie Boys		14/9d.	60

The principal production areas, rolling, shingling and puddling were amongst the highest paid. Although shinglers obtained more than forge-rollers, both grades received greater wages and worked fewer hours than forge managers. Indeed, Reid argues piece rates could result in, 'ridiculously high' wages that, 'undermined the

²³² Returns of Wages 1887, Vol.88, p.155-156.

status hierarchy'.²³³ These figures corroborate Trainor's assertion that skilled ironworkers were amongst the wealthiest sections of the working-class.²³⁴ Trainor states, 'in 1880 the poorest-paid type of skilled forehand ironworker, the puddler, received nearly twice the wages of labourers, and the better off rollers and furnacemen took home twice as much again.'²³⁵ Indeed, forge-rollers earned much less than bar-mill rollers who received 55s. per week.²³⁶ This evidence supports Savage and Miles who argue that before 1900 skilled workmen earned wages that compared favourably to the middle classes.²³⁷ Scottish blast-furnacemen's wages were not provided, but daily rates for Cleveland's pig ironworkers were listed. Although there was no direct linkage, Cleveland was Lanarkshire's keenest competitor so significant regional wage variations are unlikely. Based on Lanarkshire's average week of 65 hours, the following wages can be ascertained; furnace-keepers, 43/10½d., assistant-keepers 21/8d., furnace-fillers 33/7d., assistant-fillers 22/2½d. and labourers' 19/6d.²³⁸ Furnace-keepers' wages compared favourably to steelworkers and malleable ironworkers, but furnace-fillers, the next highest paid pig ironworker, earned significantly less. Although, labourers in each industry earned approximately the same, 18-20s., in 1883 wages were generally highest in steelworks, followed by malleable ironworks and finally pig ironworks, corroborating Carr and Wright's depiction of blast-furnacemen as the 'Cinderellas' of the iron industry.²³⁹ Indeed, in 1887, Milnwood's manager stated, 'our rates are...very

²³³ Reid, 'Employers', p.44.

²³⁴ Trainor, *Black*, p.50.

²³⁵ *Ibid*, p.51

²³⁶ Wages, 1887, Vol.88, p.156.

²³⁷ Savage & Miles, *Remaking*, p.28.

²³⁸ *Ibid*, pp.155-156.

²³⁹ Carr & Wright, *Iron & Steel*, p.146.

much beyond what is paid at blast-furnaces and other work.'²⁴⁰ However, each industry compared favourably with Lanarkshire's pits; in 1880, overmen received the greatest, 32s. per week, hewers, the most numerous section, earned 25/3d., whilst banksmen, screenmen and bank labourers were only paid 17/6d.²⁴¹

Zeitlin notes, 'positive inducements such as high wages and privileged status merely enhance workers' independence and bargaining power'.²⁴² Further, Knox maintains piece-rates, 'meant ceding control of the labour process to the workers'.²⁴³ McKinlay also correlates wages and power stating, 'the skilled steelworker shared in the profits of the industry as a reward for assuming a critical managerial role in the workplace.'²⁴⁴ Indeed, steel and malleable iron rollers were the most independent and powerful sections of labour in 1883. Further, wages were generally paid weekly in steelworks, fortnightly in malleable ironworks and monthly in pig ironworks. Longer pay runs encouraged indebtedness. Therefore, the quantity and frequency of payment generally gave steelworkers most financial autonomy, followed by malleable ironworkers and pig ironworkers, which corresponded to generally higher skill levels and bargaining power in steel and malleable ironworks. Finally, Knox argues piece rates promoted, 'ideas of individuality', as, 'the effort/wage bargain was...determined by an individual's industry and skill, rather than the organised collective power of the workers.'²⁴⁵ Indeed, tonnage rates' preponderance and the rampant individualism of Lanarkshire's malleable iron and steel industries had repercussions for trade union

²⁴⁰ GCA, Milnwood minutes, 12 May 1887.

²⁴¹ Wages, 1887, Vol.88, p.145.

²⁴² Zeitlin, 'Shop', pp.1-45.

²⁴³ Knox, 'Political', p.143.

²⁴⁴ McKinlay, 'Philosophers', p.91.

development.

3. Trade Unions

Zeitlin maintains that social factors and economic processes, 'cannot be understood without reference to the operation of formal institutions'.²⁴⁶ Trade unions were the formal institutions that most significantly affected Lanarkshire's iron and steelworkers. Foster, Fraser and Knox argue that trade unionism was generally weaker in Scotland than England.²⁴⁷ However, organised labour's influence expanded significantly from 1870-1900. Brown observes the positive effects of government legislation, including the Trade Union Act (1871), which protected funds and absolved unionists from prosecution for conspiracy, and the Employers and Workmen Act (1875), which ended workers' criminal liability for breach of employment contracts.²⁴⁸ Melling notes the, 'more astute employers', appreciated the increasing power of organised labour in the 1890s and, 'channelled their negotiations for increased output via recognised union bargaining, delegating responsibility for maintaining output in some degree, to the official representatives of workmen.'²⁴⁹ Trade unions incorporated the greatest co-operation between workmen and constituted the most potent form of worker-power. Whilst unions operated as collective bodies, the extent to which unions overcame their membership's sectional perceptions is debatable. Hunt argues from 1880-1914 trade unions' class or political

²⁴⁵ Knox, *Industrial*, p.112.

²⁴⁶ Zeitlin, 'From', pp.159-184.

²⁴⁷ J. Foster, 'Class', in Cooke, Donnachie, McSween and Whatley, (1998), p.220. Fraser, *Trade*, p.17. Knox, *Industrial*, p.156.

²⁴⁸ Kenneth Brown, 'Trade Unions and the Law' in Wrigley, *Industrial*, pp.116-134.

role promoted a revival of class conflict.²⁵⁰ Similarly, Anderson notes shifting attitudes within trades unions, ‘from mid-Victorian “quietism” to late Victorian and Edwardian “militancy”.’²⁵¹ Alternatively, Hinton argues, ‘sectional division and conflict remained endemic’, within unions.²⁵² Fraser argues, from 1850-1880, trade unions could sharpen working-class divisions, particularly between the skilled and unskilled.²⁵³ Further, Wrigley observes, ‘within trade unionism there were wide divisions between craft and craft, sometimes as much as between skilled and unskilled.’²⁵⁴ This thesis shall argue, like the workmen they represented, trade unions in Lanarkshire’s iron and steel industries were typically sectional organisations from 1870-1900.

Phelps Brown notes the correlation between skilled workmen and union formation.²⁵⁵ Similarly, Dickson argues it was the, ‘privileged stratum’ that formed viable trade unions.²⁵⁶ Indeed, within Lanarkshire’s iron and steel industries the first group to organise were malleable ironworkers, who possessed greater average skill levels than blast-furnacemen and whose industry was established prior to steel. The first malleable ironworkers’ trade union, the National Association of Ironworkers, (NAI), was formed in Darlington in 1862, with John Kane acting as secretary until 1876. In 1867, Kane testified the union had a Motherwell branch containing forehand

²⁴⁹ Melling, ‘Industrialists’, p.72.

²⁵⁰ EH Hunt, *British Labour History 1815-1914*, (1981), cited by Gregory Anderson, ‘Some Aspects of the Labour Market in Britain c.1870-1914’, in Wrigley, *Industrial*, pp.1-19.

²⁵¹ Anderson, ‘Labour’, pp.1-19.

²⁵² Hinton, ‘Mass’, pp.20-46.

²⁵³ Fraser, *Unions*, p.210.

²⁵⁴ Wrigley, *Industrial*, p.xiv.

²⁵⁵ Phelps Brown, *Origins*, p.19.

²⁵⁶ Dickson, *Capitalists*, p.224.

puddlers, shinglers and millmen, as well as underhands, 'in some cases'.²⁵⁷ However, Elbaum describes it as a, 'contractors' union', which few underhands joined.²⁵⁸ Docherty argues although underhands held equality, the forehands', 'experience...rather than any other factor...led to their domination of the union.'²⁵⁹ The NAI became the Amalgamated Malleable Ironworkers Union in 1868, with branches in Scotland in 1872.²⁶⁰ In 1887, the union was incorporated within the Associated Iron and Steel Workers of Great Britain, (AI&SWGB), originally formed by Staffordshire's ironworkers in 1863. Trainor notes the union's sectionalism; 'distinctions of interest and status among workmen, magnified by the subcontracting system, discouraged the broadening of unionisation beyond skilled workers.'²⁶¹ Carr and Wright argue the union was dominated by puddlers whilst blast-furnacemen were discouraged by high subscriptions and their interests were neglected.²⁶² The AI&SWGB also represented some English steel millmen, but not smelters, and did not recruit in Scotland, whilst other unions represented non-ironworkers.²⁶³ Docherty states, 'Scottish ironworkers...proved the least responsive to trade union organisation'.²⁶⁴ Similarly, Pugh notes, 'for some years...the Scottish district, combined with Workington, was represented at Conferences of the Ironworkers' union...but the union never appears to have taken root in Scotland'.²⁶⁵ However, Excelsior's ironworkers formed an association, whilst Shieldmuir, Pather, Brandon,

²⁵⁷ RC, Trade Unions, 1867-1868, Vol.39, (8205,8320,8322,8474), pp.7-15.

²⁵⁸ Elbaum, 'Labor', p.81.

²⁵⁹ Docherty, *Steelworkers*, p.33.

²⁶⁰ Pugh, *Men*, p.57.

²⁶¹ Trainor, *Black*, p.140.

²⁶² Carr & Wright, *Iron & Steel*, p.136.

²⁶³ RC, Labour, 1892, Vol.36, p.343.

²⁶⁴ Docherty, *Steelworkers*, p.35.

²⁶⁵ Pugh, *Men*, p.212.

Milnwood, Clydesdale and Motherwell ironworks each sent delegates to the conference that formed the AI&SWGB in 1887.²⁶⁶ Further, Edward Trow, the AI&SWGB's secretary, urged ironworkers' meeting in Wishaw to organise in December 1889.²⁶⁷ However, Scottish AI&SWGB members transferred allegiance to the steel millmen's union following meetings in February and April 1892.²⁶⁸ Indeed, in March 1892 William Aucott, the AI&SWGB's president, stated the union possessed 9,500 members from manufactured iron and steelworks in various English districts, but had no Scottish membership.²⁶⁹

However, in 1886 the British Steel Smelters' Amalgamated Association, (BSSAA), was created in Glasgow, with John Hodge as secretary, despite Scottish masters showing, 'the bitterest hostility towards any attempts at combination by the workers.'²⁷⁰ The union ultimately represented smelters in the Siemens steel industries of Scotland, England and Wales, later incorporating other trades including gas-producers, who worked alongside smelters. More argues all-grades unions like the BSSAA promoted, 'cohesiveness among all grades...the Smelters policy...contrasted sharply with that of the "aristocratic" Ironworkers, which was a union of piece-masters'.²⁷¹ (See chapter four.) However, steel millmen refused to join the BSSAA, forming their own separate union, the Associated Society of Millmen in Scotland, (ASMS), in February 1887. Initially Hodge acted as ASMS secretary, hoping the unions would amalgamate, but the BSSAA's executive rejected the

²⁶⁶ *Wishaw Press*, 12 Mar.1887.

²⁶⁷ *Ibid*, 14 Dec.1889.

²⁶⁸ *Ibid*, 28 Feb.1892, 18 Apr.1892.

²⁶⁹ RC, Labour, 1892, Vol.36, p.309.

²⁷⁰ Carr & Wright, *Iron & Steel*, pp.139-140.

proposal, 'because the millmen outnumbered the smelters and were rollers of iron and steel.'²⁷² Consequently, John Cronin became ASMS secretary in April 1888. This schism institutionalised labour sectionalism within Lanarkshire's steel industry, reinforcing Wrigley and Hinton's argument.

In 1892, the ASMS had 2,000 members, mainly located in Scotland and some areas of northern England, out of a total of 5,000-6,000 potential members.²⁷³ Therefore, most millmen remained autonomous of organised labour, supporting Knox's point, 'independence was one of the main characteristics', of the culture of skilled workers.²⁷⁴ Further, sections of the union's rank-and-file behaved independently. Cronin testified when sections of the rank-and-file acted against union policy they were removed; 'certain portions of our men have come out on strike against the wishes of our society and against the wishes of the employers. In these cases I have replaced those men without giving the employer the least trouble.'²⁷⁵ Cronin maintained unionists were more responsible and disciplined than non-unionists and testified from a total membership of 3,500 in 1890, 1,500 left the ASMS due to discontent with moderate union policies. Indeed, steelworkers' autonomy was expressed not only in terms of independence from capital, but also independence from organised labour. The resignation of almost 43% of the membership, illustrates the millmen's latent individualism and the tenuous authority exerted by the ASMS. Burgess, Price and Van Gore argue union hierarchies became divorced from their

²⁷¹ More, *Skill*, p.233.

²⁷² Carr & Wright, *Iron & Steel*, p.140.

²⁷³ RC, Labour, 1892, Vol.36, pp.365, 367.

²⁷⁴ Knox, *Industrial*, p.108.

²⁷⁵ RC, Labour, 1892, Vol.36,(15,985), p.372.

rank-and-file, frequently acting in concert with employers against their membership.²⁷⁶ Indeed, Cronin stated:

Those very men would have come out on strike, and have stopped the work at a moment's notice, had it not been for the Union men. I...advised the Union men to work on, and I went to the manager and told him that it was the non-Union men who were making all the noise.²⁷⁷

Melling also notes the detachment between moderate union hierarchies and rank-and-file militants whose, 'responses to the initiatives of management were often in sharp contrast with those of the permanent officials.'²⁷⁸ Similarly, Docherty maintains seniority systems mitigated militancy and, 'discourages a sense of commonality of interest between lower and senior grades from which trade union strength is fostered.'²⁷⁹ After some ironworks' millmen joined the ASMS in the late 1890s, militant demands in Lanarkshire's malleable ironworks were diluted, 'on the pleadings of Mr. Cronin, the general secretary'.²⁸⁰

The development of SMTSCAB afforded the ASMS recognition from member firms.

However, only seven out of ten steelworks acknowledged the union in 1892.²⁸¹

Moderation aided recognition; in 1897, a dispute at Glengarnock occurred, 'but

²⁷⁶ Burgess, *Challenge*, p.52. Price, *Labour*, pp142-143. Van Gore, 'Rank-and-file', pp.47-73

²⁷⁷ *Ibid*, (16,102), p.377.

²⁷⁸ Melling, 'Industrialists', p.74.

²⁷⁹ Docherty, *Steelworkers*, pp.23-24,40-41.

²⁸⁰ *Engineering*, 22 Apr.1898.

²⁸¹ RC, *Labour*, 1892, Vol.36,(15,989), p.372.

through the intervention of Mr. Cronin...things have been put to rights.'²⁸² This indicates the ASMS's pacifying role and its ability to curb rank-and-file recklessness, supporting Phelps Brown's perceptions.²⁸³ In November 1897, *Engineering* reported:

A great deal of satisfaction has been expressed at a large and wealthy firm like the Glengarnock Iron and Steel Company recognising the agent of the Millmen's Union, and conducting the negotiations with the workmen through him, the recent difficulty being arranged without the barbarous necessity of a strike or a lock-out; and it is hoped that the firm will continue the same policy with all their workers, and so set an example which neighbouring firms may see it to their interest to follow.²⁸⁴

Although, certain sections of rollers including the tyremen, (see chapter two), remained ineligible for membership in 1898, the ASMS changed its name to the United Millmen of Scotland, which largely reflected its regional boundaries, and then to the Amalgamated Society of Steel and Iron Workers, (ASS&IW), c1899.²⁸⁵ Pugh states this occurred after, 'a large number of [malleable] ironworkers had joined the union', during the 1890s whilst in, '1900 the blast-furnacemen's section was organised.'²⁸⁶ Indeed, in July 1899, *Engineering* noted, 'the Scotch Steel and Iron Workers...have lodged a claim for an advance of 10 per cent on wages for the blast-

²⁸² *Engineering*, 3 Sept.1897.

²⁸³ Phelps Brown, *Origins*, p.19.

²⁸⁴ *Engineering*, 19 Nov.1897.

²⁸⁵ SMSTCAB minutes, 28 Oct.1898, p.137. Pugh, *Men*, p.226.

²⁸⁶ Pugh, *Men*, pp.226-227.

furnacemen'.²⁸⁷ A week later, 'the men employed in the finished iron and steelworks...made an application for an advance through their Amalgamated Society'.²⁸⁸ Consequently, by July 1899 the ASS&IW became the first union in Lanarkshire to represent sections of the workforce in each industry.

Despite its name, the National Association of Blast-Furnacemen, (NABF), was comprised of autonomous associated districts. Foster argues trade unionism around Glasgow developed later than England and was relatively weak.²⁸⁹ Foster is supported by consideration of the NABF, if not the BSSAA. Indeed, the critical impetus for the creation of a Blast-furnacemen's Society originated in England, where the NABF was formed in 1886 around the nucleus of Cleveland's blast-furnacemen, who organised in 1878. The NABF spread to Lanarkshire in 1890 and by 1892 had 8,000 members nationally.²⁹⁰ In 1892, the NABF's Scottish district contained 1,000 members from a total of 1,500 blast-furnacemen. However, the union only recruited, 'direct furnace men...there are a certain number of men, such as enginemen, boilermen, locomotive men, etc., that are not included.'²⁹¹ Therefore, the NABF was another sectional organisation that omitted numerous workmen. Scottish blast-furnacemen remained autonomous until 1894, when they were incorporated within the National Federation of Blast-Furnacemen.²⁹² It remains unclear why Lanarkshire's blast-furnacemen increasingly joined the ASS&IW instead of

²⁸⁷ *Engineering*, 7 July 1899.

²⁸⁸ *Ibid*, 14 July 1899.

²⁸⁹ Foster, *Labour History Review*, 55:1 (1990), pp.64-68.

²⁹⁰ RC, Labour, 1892, Vol.36, pp.256, 259.

²⁹¹ *Ibid*, p.276.

²⁹² Annual Abstract of Labour Statistics, 7th Edition 1899-1900, Report of the Chief Labour Correspondent of the Board of Trade on Trade Unions in 1899, p.20.

remaining with the NABF. However, as blast-furnacemen's wages were governed by regional selling prices, possibly the Scottish ASS&IW represented blast-furnacemen's interests better than the national NABF. Further, the NABF's failed strike in 1890, (see chapter five), may have persuaded blast-furnacemen to join the ASS&IW.

Like their membership, trade unions enjoyed varying levels of power. McIvor argues to successfully confront capital, 'the growth of membership and the accumulation of funds were of critical importance.'²⁹³ In 1899, Scotland's iron and steelworkers were represented by the BSSAA with 9,946 members and the ASS&IW with 8,428 members, although both unions had some members in other districts. This compared favourably with the AI&SWGB's total of 7,000 English millmen and the NABF's 9,212 blast-furnacemen, located throughout Britain.²⁹⁴ However, the unions' real power lay in their ability to conduct prolonged stoppages, which required financial as well as numerical might. In 1899, the Board of Trade declared the BSSAA's funds totalled £22,029, compared with the ASS&IW's £9,573 and the AI&SWGB's £7,154, with no details presented for the NABF. Financial power emanated from the greater contributions of individual members; contributions averaged £1 8/10³/₄d. per BSSAA member, but only 15/1¹/₄d. for the ASS&IW and 9/8¹/₄d. for the AI&SWGB. Consequently, despite the views of Foster, Fraser, Knox, Docherty and Pugh, in national terms the predominantly Scottish BSSAA and ASS&IW were conspicuous entities, possessing greater resources and more members than equivalent English

²⁹³ McIvor, *Work*, p.217.

²⁹⁴ Abstract of Labour Statistics, 1899, p.20.

unions. However, in Lanarkshire the BSSAA remained the predominant labour organisation within the iron and steel industries.

Each union was a sectionalist organisation, omitting labour not directly engaged in metal manufacture, such as enginemen, boilermen and cranemen who had separate union representation and labourers who were not represented. However, the extent and nature of sectionalism varied between unions. Whilst the NABF represented all blast-furnacemen, the NAI was primarily a forehand's union that few underhands joined. Although the NAI represented each phase of the malleable ironwork's productive process, including puddlers, shinglers and rollers, the puddlers' numerical preponderance ensured their views dominated, which encouraged some millmen to join the ASMS and later the ASS&IW. Alternatively, the steel industry's union representation was bound by productive demarcations; the BSSAA primarily represented smelters and the ASMS represented millmen. Therefore, the most skilled workmen tended to have the most sectional, but also the most powerful, organisations. The NABF contained the most collectivised membership during the period. Indeed, blast-furnacemen's unskilled status forced them to embrace collectivisation as individuals or sections possessed meagre bargaining power. The formation of the ASS&IW in 1899, which included members from all three industries, could be perceived as evidence of the more homogenised nature of the working-class by 1900. However, it should be recalled that large sections of labour remained out-with the ASS&IW. Finally, the ASS&IW's membership was mainly Scottish, with tighter geographical boundaries than the BSSAA. Consequently, although trade unions incorporated the zenith of co-operation within labour,

Lanarkshire's unions were sectional organisations with varying levels of power, further endorsing Hinton. This also affected labour's relationship with capital in each industry.

4. The Power of Labour

In addition to trade unions' collective power, labour's capacity to influence capital was bolstered by favourable economic conditions. McIvor correlates labour and product market developments to offensive and defensive phases of industrial relations.²⁹⁵ Melling states:

Under certain favourable conditions and in distinct trades, industrialists were more inclined to concede a measure of autonomy to the workforce than in a harsher trading climate. Thus the 'frontier of control' established between capitalist management and labour varied between industries and shifted according to peculiar market forces.²⁹⁶

James Cronin notes labour's expanded influence during prosperous periods, 'a favourable labour market was something of a pre-condition for launching a wave of militancy.'²⁹⁷ Zeitlin argues skill levels bolstered labour's autonomy, particularly where the discretionary content of work was high.²⁹⁸ Finally, Melling states that incentive systems and the assimilation of some 'loyal foremen' represented the limit

²⁹⁵ McIvor, *Organised*, p.21.

²⁹⁶ Melling, 'Industrialists', p62.

²⁹⁷ Cronin, 'Strikes', pp.74-98.

of managerial power, particularly when dealing with 'skill intensive' methods of production.²⁹⁹ Consequently, strike action by skilled labour during periods of high demand was most likely to succeed.

Pig Ironworkers' Power

Low average skill levels curtailed blast-furnacemen's capacity for industrial action.

Knox states, 'the workshop rather than the union was the focal point of collective bargaining in the mid-Victorian period.'³⁰⁰ However, this situation persisted for

blast-furnacemen until the NABF's formation in 1890. There were examples of collective action; Carvel notes the Coltness blast-furnacemen struck for over four months in autumn 1886, 'in sympathy', with a strike in another ironworks.³⁰¹

However, until 1890, industrial action was usually limited to individual pig ironworks and often reflected a desire for wage parity with labour in neighbouring ironworks, further endorsing labour's disparity. In 1875, blast-furnacemen at Clyde successfully struck to achieve wage parity with Coltness. In November 1886, Glengarnock's blast-furnacemen struck, claiming Merry & Cunninghame's wage rates were below other ironworks. Successful strikes required high demand and wage disputes were even regarded as indicative of improving demand. In 1897 tonnage rates at Shotts increased by 10%; observers commented, 'this advance of wages is regarded as a good indication of the improvement now in progress in the iron

²⁹⁸ Zeitlin, 'Shop', pp.1-45.

²⁹⁹ Melling, 'Industrialists', p.78.

³⁰⁰ Knox, *Industrial*, p.82.

³⁰¹ Carvel, *Coltness*, p.53.

trade.³⁰² Militancy generally increased as demand expanded; ‘fears are being expressed that the workmen will cry out for a share of the increase of prices’.³⁰³ Indeed, the dispute’s timing was often crucial for success; ‘a large order recently came to hand that required to be pushed on urgently and the demands of the workmen were conceded.’³⁰⁴ Knox states piece rates encouraged, ‘self-discipline among workers, as the harder they worked the more they earned.’³⁰⁵ However, pig ironmasters struggled to impose discipline during boom periods when earnings increased. Reid perceives absenteeism as a manifestation of worker autonomy and inadequate managerial control.³⁰⁶ This is supported by examination of Lanarkshire’s pig ironworks during prosperous periods. Following a strike at Carnbroe in 1872, *Engineering* noted, ‘the almost daily occurrences of agitations amongst the men, reduce the output from the furnaces very seriously.’³⁰⁷ Ironmasters made, ‘continued complaints of the irregular manner in which the blast-furnacemen...are working throughout the district, thereby interfering considerably with the output of pig iron’.³⁰⁸ Similarly, in 1900, masters complained, ‘the blast-furnacemen are working badly’.³⁰⁹ This substantiates Melling, McIvor and Cronin’s argument concerning the salience of favourable economic conditions during successful actions.

McKinlay attributes the relatively good industrial relations within iron and steel

³⁰² *Engineering*, 14 Jan.1897.

³⁰³ *Ibid*, 4 May 1877.

³⁰⁴ *Ibid*, 7 May 1875.

³⁰⁵ Knox, *Industrial*, p.112.

³⁰⁶ Reid, ‘Employers’, p.45.

³⁰⁷ *Engineering*, 30 Aug.1872.

³⁰⁸ *Ibid*, 9 Aug.1872.

³⁰⁹ *Ibid*, 29 June 1900.

industries after 1900 to sliding-scales tying wages to prices.³¹⁰ However, prior to 1900, sliding-scales were imposed without consultation, which were resented by labour particularly when prices and wages fell. Unsuccessful strikes to resist wage cuts occurred during an economic depression in 1876. Similarly, in 1878 prices fell to the lowest level since 1852. Nonetheless, four furnaces at Calder were damped, ‘on account of the men showing an indisposition to accept the inevitable in regard to wages.’³¹¹ Resentment was particularly acute when speculation lowered prices. John Cronin stated:

It is well to say that wages ought to be regulated by prices, but, as we have wives and families to keep, wages should have some influence in regulating prices, and we cannot dream of allowing our standard of living to become reduced because some man rigs the market...the loss ought to be shared equally on both sides...we should not be made the sole sufferers.³¹²

Indeed, this evidence generally supports Benson’s perception of the, ‘shibboleth’, that wages should follow prices was destructive to smooth industrial relations.³¹³ However, economic depressions affected blast-furnacemen unequally, as masters retained experienced labour; ‘all the furnaces at Eglington Ironworks are out of blast except one, and it is kept going by the “gaffers”’.³¹⁴ Such tactics also promoted disunity between blast-furnacemen and foremen.

³¹⁰ McKinlay, *Philosophers*, pp.90-91.

³¹¹ *Engineering*, 11 Oct.1878.

³¹² GUBA, Proceedings at Conference, 17 Oct.1899, p.7.

³¹³ Benson, ‘Coalmining’, pp.187-208.

³¹⁴ *Engineering*, 17 Sept.1869.

Given the lack of co-ordinated action between blast-furnacemen, unsurprisingly there was little attempt at co-operation with labour in related industries. Although blast-furnacemen and miners shared common employers, Campbell and Trainor note the social disparity between these groups.³¹⁵ There was some interchange between industries; James Gavin, the workmen's secretary on the pig iron Board, was a former coalminer.³¹⁶ Nonetheless, miners' industrial action, although targeted at capital, frequently afflicted blast-furnacemen to a greater extent. In 1872 and 1893 blast-furnaces were blown-out and blast-furnacemen laid off due to insufficient fuel during miners' strikes.³¹⁷ During the large miners' strike in 1894, soup kitchens were erected for, 'the families of ironworkers, who through no fault of their own were thrown idle, without any direct means of support.'³¹⁸ Indeed, the *Wishaw Press* noted, 'iron and steelworkers have no intention of helping the miners'.³¹⁹ *Engineering*, estimated that £271,486 was lost during the miners' strike; 'a great part of this was, of course, lost to the blast-furnacemen in wages. The ironmasters, to a great extent, were able to fall back upon public and private stocks.'³²⁰ This type of action promoted bitterness, possibly contributing towards the failure to form a joint trade union for ironworkers and miners in 1864.³²¹ Finally, the miners' actions depleted blast-furnacemen's scarce financial reserves, reducing their capacity for independent, prolonged disputes with capital.

³¹⁵ Trainor, *Black*, p.50. Campbell, *Lanarkshire*, p.155.

³¹⁶ GUBA, Proceedings at Conference, 29 May 1905.

³¹⁷ *Engineering*, 27 Dec.1872, 25 Aug.1893.

³¹⁸ *Wishaw Press*, 1 Sept.1894.

³¹⁹ *Ibid*, 8 Sept.1894.

³²⁰ *Engineering*, 11 Jan.1895.

³²¹ Campbell, *Lanarkshire*, p.154.

However, the NABF's development facilitated more widespread, collectivised industrial conflict between pig ironmasters and blast-furnacemen. In 1899, 'Scotch blast-furnacemen, to the number of about 3,000 men, decided to demand an advance of 15 per cent., in wages, and, if not conceded before the end of the week, to hand in their notices.'³²² Whilst the NABF bolstered blast-furnacemen's capacity to oppose capital, contemporary observers deemed favourable economic factors more pertinent; 'those concessions indicate the full activity in the iron trade...Stoppage of work is more dreaded just now than advance of wages.'³²³ Nonetheless, the combination of favourable economic conditions and collective action, together with pig ironmasters' weakened managerial hegemony by the late 1890s, resulted in blast-furnacemen achieving further gains. Collectivisation could even extend beyond blast-furnacemen and include non-ironworkers, despite managerial attempts to maintain sectionalist splits. In 1899, following a strike at Coltness, 'the general manager offered to concede 10% to the furnacemen and to deal with the other workers individually. To this concession the committee gave the final answer of the employees that unless the settlement was a collective, no one section would accept terms.'³²⁴ Consequently, the firm conceded defeat. Similarly, blast-furnacemen at Coltness joined with chemical workers in the ammonia works to jointly demand a 15% wage increase.³²⁵ Therefore, during then 1890s blast-furnacemen increasingly adopted collectivist action, which lends support to Knox and Kirk's premise of a developing class-consciousness. By 1900, the balance of power between pig ironmasters and blast-furnacemen had

³²² *Engineering*, 12 May 1899.

³²³ *Ibid.*

³²⁴ *Wishaw Press*, 4 Feb.1899.

shifted markedly, reflected by ironmasters recognising the NABF and negotiating wage levels within an Arbitration Board. The factors that led up to the creation of a Conciliation and Arbitration Board for the pig iron industry will be analysed in chapter five.

Malleable Ironworkers' Power

Various factors provided malleable ironworkers with greater autonomy than blast-furnacemen. Malleable ironworkers earned higher wages, possessed greater skills and were opposed by weaker masters. Like pig ironworkers, labour's bargaining power was reinforced by high demand. In 1879, the malleable, 'trade is in such a prosperous condition that in at least three different establishments the wages of shinglers, millmen etc., have been advanced five per cent., while an advance of 6d. per ton has been granted to the puddlers, in one case without a request from the men.'³²⁶ Further, in 1889, 'the good trade...has led to advance upon advance'.³²⁷ Once more, economic factors influenced wage demands. Indeed, in 1870, 'the very fact that an advance of 1s. per ton can be given just now to the iron puddlers is almost of itself sufficient to lead one to conclude that the malleable iron trade is in a very satisfactory state.'³²⁸ Conversely, during a depression in 1874 wage cuts of 10% were accepted without demur, 'owing to the general dull condition of the trade.'³²⁹

The malleable ironworks contained significant proportions of skilled workmen,

³²⁵ *Ibid*, 3 June 1899.

³²⁶ *Engineering*, 28 Nov.1879.

³²⁷ *Wishaw Press*, 16 Nov.1889.

³²⁸ *Engineering*, 2 Nov.1870.

³²⁹ *Ibid*, 11 Sept.1874, 9 Oct.1874.

which magnified labour's capacity to resist capital. In 1884, 600 ironworkers successfully resisted wage cuts at Clydesdale, 'the masters having made a concession.'³³⁰ Restrictive practices also bolstered workmen's autonomy. More states, 'process work which involved genuine and considerable skill and which was learnt by progression through a series of grades is best illustrated by the iron and steel industry.'³³¹ Managerial authority was curtailed by the system of progression, which restricted capital's choice of employees. Although there were few formal rules, progression was an accepted custom. In 1900, Cronin stated:

There was an honourable understanding made by precedent in every work, that so long as a man behaved himself and was competent, he should not be kept in the same position but should get an opportunity of bettering himself...Every man had an ambition to better himself and the employers generally gave the underhand a chance when he was capable of filling the forehand's place.³³²

This supports Bagwell's assertion, 'many men were more concerned with conditions of employment in their particular grade and with the prospects of promotion within the grade hierarchy...than they were about joining forces with men in other grades to advance the welfare of the whole.'³³³ However, progression's importance to labour resulted in communal resistance to the system's subversion by employers. In 1900, an assistant-shingler at Drumpellier was passed over for promotion in favour of a

³³⁰ *Wishaw Press*, 19 Apr.1884.

³³¹ More, *Skill*, p.119.

³³² SMITCAB minutes, 9 Feb.1900, pp.240-241.

forehand imported by the master. The assistant-shingler was supported by Drumpellier's puddlers who, 'had taken up the man's case', and contested, 'the man had been unfairly dealt with.'³³⁴ Higher skill levels facilitated greater worker mobility, employed during regional trade depressions or to achieve more remunerative wages; in 1876, millmen emigrated from Motherwell to America, although Cleveland or Staffordshire were more typical destinations.³³⁵ There was a reciprocal influx when the situation reversed; in 1880, 'the rolling mills are running full time, and several experienced hands in the finishing departments had to be taken from England.'³³⁶ Worker mobility diluted ironmasters' capacity to threaten evictions or arbitrarily reduce wages during regional stoppages and provided knowledge of wage rates and conditions throughout Britain.

Since 1871, both capital and labour in Lanarkshire's malleable ironworks were theoretically constrained by their agreement to accept the decisions of Cleveland's Arbitration Board, based on a sliding-scale tying wages to prices. When labour at Dalzell and GIC's Motherwell ironworks struck to resist wage cuts in 1874; 'the facts were at once communicated to the North of England Arbitration Board, under the control of which the men are to a certain extent bound to act.'³³⁷ However, labour's acceptance of Cleveland's jurisdiction varied, depending on whether settlements were favourable or not. In January 1881, 'ironworkers in Coatbridge, Motherwell, Holytown and surrounding districts', accepted a wage cut following a decision by,

³³³ Philip Bagwell, 'Transport', in Wrigley, *Industrial*, pp.230-252.

³³⁴ SMITCAB minutes, 9 Feb.1900, p.244.

³³⁵ *Engineering*, 4 Feb.1876.

³³⁶ *Ibid*, 12 Nov.1880.

³³⁷ *Ibid*, 10 Apr.1874.

'David Dale, arbiter to northern England's Board.'³³⁸ However, by August, Lanarkshire's malleable ironworkers threatened strike action if wage cuts imposed in Cleveland were adopted.³³⁹ In October 1883, ironworkers in Holytown and Motherwell struck against wage cuts recommended by Cleveland. Ironworkers refused to sanction wage reductions when they believed Scottish prices were higher than England's. This occurred in 1886, when Lanarkshire's ironworkers were, 'still fully employed and many of them are indignant at the idea of suffering a reduction in such circumstances'.³⁴⁰ Although wages eventually followed prices, under the Board's quarterly accounting system, occasionally wages were cut in periods of rising prices, or *vice versa*. In 1890, the wages of millmen, hammermen and puddlers increased by 2.5% despite falling prices.³⁴¹ Whilst employers accepted the system and generally followed Cleveland's guidelines, the sliding-scale's inherent contradictions provoked labour militancy. Further, as strikes reduced supplies, if demand remained constant then prices generally increased, which in turn augmented wages. In 1881, even threatened strike action increased prices.³⁴² Consequently, actual or threatened strikes could bolster wage levels, increasing the attractiveness of industrial action. Therefore, despite McKinlay's assertion, adherence to sliding-scales could increase militancy and conflict.

Whilst malleable ironworkers were generally more militant than blast-furnacemen, malleable ironworks had divergent levels of militancy. Table fourteen depicts

³³⁸ *Engineering*, 28 Jan.1881.

³³⁹ *Ibid*, 19 Aug.1881.

³⁴⁰ *Motherwell Times*, 20 Oct.1886.

³⁴¹ *Engineering*, 30 May 1890.

³⁴² *Ibid*, 14 Oct.1891.

SMITCAB's payments to workmen's representatives for wages lost attending to disputes. Although wages varied, whilst Gartcosh and Milnwood did not join SMITCAB until 1899 and Victoria in 1900, this information suggests certain works were more volatile than others. Six works had no disputes and thirteen representatives received under £5. However, Motherwell's representative received £11 10s., Globe's delegate received £15 15s. and Clydesdale's received £20 15s. Whilst this might indicate Clydesdale had the worst industrial relations, Mr. Mincher, Clydesdale's delegate, was also SMITCAB's Vice-President. Consequently, Mincher dealt with disputes throughout Lanarkshire, resulting in large payments.

Table 14. SMITCAB's Labour Representatives, Dispute Money, 1897-1900.³⁴³

Works	1897	1898	1899	1900	Total
Clydesdale	£6 10s.	£5	£5 10s.	£3 10s.	£20 15s.
Globe	£1 15s	£5 2/6d.	£3 12/6d.	£5 5s.	£15 15s.
Motherwell	£2	£4	£4 10s.	£1	£11 10s.
Etna		£3	£1	£1 10s.	£5 10s.
Stenton	£1 13s.	£2 10s.	10s.		£4 13s.
Coatbridge		£2 10s.	£1	£1	£4 10s.
Drumpellier	11s.	£1 5s.		£1 5s.	£3 1s.
Clifton			£1 5s.	£1 10s.	£2 15s.
Waverley	£1		10s.	£1	£2 10s.
Dalzell		£1 10s.		10s.	£2
Coats	10s.	10s.	10s.	10s.	£2
North British		10s.	£1		£1 10s.
Phoenix				£1	£1
Crown		£1			£1
Woodside		£1			£1
Pather		10s.		10s.	£1
Milnwood			5s.	10s.	15s.
Dundyvan					
Gartcosh					
Muirkirk					
Rochsolloch					
Tinplate					
Victoria					

Nonetheless, it seems reasonable to assume Globe and Motherwell ironworks had significantly worse industrial relations than Dundyvan, Muirkirk, Rochsolloch and Tinsplate. Divergent militancy levels indicate the disputes' singularity, supporting Knox's point that before 1880 the main unit of working-class defence was primarily, 'the immediate work group rather than the union branch'.³⁴⁴ Nonetheless, this individualism continued in Lanarkshire's malleable industry until 1900, twenty years later than Knox estimates.

However, militancy was frequently directed against other labour sections rather than capital. Given sub-contracting's preponderance, the potential for clashes between underhands and forehands remained high. In 1900, Waverley's underhand forge-rollers complained to SMITCAB about their treatment by forehands. The underhands claimed that following wage increases in 1899 and January 1900, the wages of the first underhand increased by 4d. and the other underhands by 3d., instead of the 6d. and 5d. they claimed entitlement to.³⁴⁵ The forehands disputed the figures and claimed to pay the, 'rate of the country'.³⁴⁶ Forehands were reluctant to increase their wage bill as they had lost income due to idle puddling furnaces. Therefore, puddlers' indiscipline and the contracting system provoked the forge-rollers' internal dispute and hampered production, further refuting Littler's argument regarding subcontracting's advantages for capital.

Littler argues skill was a pronounced feature in internal subcontracting, which

³⁴³ SMITCAB minutes, 20 Jan.1898, 23 Jan.1899, 26 Jan.1900, 25 Jan.1901.

³⁴⁴ Knox, *Industrial*, p.115.

³⁴⁵ *Ibid*, 23 Mar.1900, p.265.

significantly influenced labour relationships, as the more skilled, senior workmen exercised great power over underhands.³⁴⁷ Skilled malleable ironworkers were usually subcontractors. The power to hire, fire and pay underhands turned forehand puddlers, shinglers and rollers into mini-capitalists and could exacerbate sectionalist divisions. Trainor notes in Staffordshire's malleable ironworks, 'managers could be especially few and powerless', as significant authority lay with skilled subcontracting ironworkers.³⁴⁸ Indeed, forehands often exerted greater control of work processes than ironmasters. (See chapter four.) Littler argues the iron industry was, 'permeated with forms of co-domination.'³⁴⁹ Whilst Lanarkshire's malleable industry contained sectionalist tensions between forehands and underhands, co-domination exaggerates the forehands' power and complicity with capital. The competitive pressures upon forehands to attract suitable underhands have been highlighted. Indeed, the provision of 'pocket money' suggests forehands were unable to dominate underhands. (See also chapter four.) Further, rather than collaborating in underhands' domination, some masters protected underhands from unscrupulous forehands: Neil Robson, Milnwood's manager declared, 'I have never found in any work, that I had the management of, that abuses did not creep in unless I checked every pay myself.'³⁵⁰

However, subcontracting restricted the development of a collectivist ethos within labour. Knox states subcontracting spread, 'antagonisms...over a range of authority

³⁴⁶ *Ibid.*

³⁴⁷ Littler, *Development*, pp.65-68.

³⁴⁸ Trainor, *Black*, p.139.

³⁴⁹ Littler, *Development*, p.78.

³⁵⁰ GCA, Milnwood minutes 12 May 1887.

figures...rather than focussed on an individual.'³⁵¹ Similarly, Trainor argues unionisation was hampered by, 'the large number of small work units, the plethora of skill levels and trades, and the split between subcontractors and underhands imposed practical problems and blurred antagonism between employers and employed.'³⁵² Subcontracting promoted sectionalist conflict within labour, particularly when wages fell. In 1900, Mr. J. Gallagher, Woodside's labour delegate to SMITCAB claimed, 'in case of reductions one third came from the underhands', whilst two-thirds came from forehands, but inevitably arguments arose over who bore the brunt of the loss.³⁵³ Further, forehand rollers' request to abolish subcontracting was opposed by ironmasters, who argued if forehands did not employ their assistants they would be unable to exert authority over them. James Hamilton, Crown's ironmaster declared, 'while the mere matter of payment might be no great objection, there was the matter of control to be considered. The forehand rollers would not have the same control over their assistants, if they did not pay them themselves.'³⁵⁴ James Kerr, Etna's ironmaster, was a former puddler and roller. Kerr maintained he, 'had always felt that he had best control over his underhands when he paid them himself.'³⁵⁵ This supports Littler's view that internal sub-contracting was an important mode of authority on the shop floor.³⁵⁶ However, by arguing control required payment, masters tacitly admitted their own lack of authority over underhands. Finally, forehands rather than foremen seemed the most authoritative figures. Indeed, the forehand, 'rollers wanted rid of the chaps...but not the control of the men. The

³⁵¹ Knox, *Industrial*, p.113.

³⁵² Trainor, *Black*, p.152.

³⁵³ GUBA, SMITCAB minutes, 23 Mar.1900. p.267.

³⁵⁴ *Ibid*, 9 Feb.1900, p.259.

³⁵⁵ *Ibid*, p.260.

foremen in the works would take on the men and the employers would pay them and still the rollers would have the control of them.’³⁵⁷ Therefore, despite foremen’s alliance with capital, subcontractors retained extensive influence within malleable ironworks throughout the period.

Location within the production process also facilitated influence. As puddlers operated at the beginning of the process, their actions influenced other labour sections. In 1894, a puddlers’ dispute at GIC’s Motherwell ironworks resulted in 300 men being ‘thrown idle’.³⁵⁸ During an economic boom in 1900, puddlers’ indiscipline and irregular working habits restricted the forge rollers’ supply of iron and consequently their income. The rollers were unable to obtain compensation from puddlers; therefore, they demanded greater tonnage rates from capital. However, ironmasters could:

Distinctly say that grievance was with their fellow workmen. If the forge roller was to be paid extra, the extra should be paid by those who were causing the grievance, viz, the puddlers...The employers would not agree to increase the [tonnage] rate, because one section of the men chose to lie off.³⁵⁹

The employers also stressed their own injury resulting from puddlers’ actions and emphasised their inability to control puddlers. Milnwood’s master argued if puddlers were absent one day and, ‘lost the opportunity of making 30 cwt., of iron that was a

³⁵⁶ Littler, *Development*, p.65.

³⁵⁷ GUBA, SMITCAB minutes, 23 Mar.1900, p.260.

³⁵⁸ *Wishaw Press*, 1 Dec.1894.

dead loss to the employer of 10/- on oncost alone...the employer was losing enough already', consequently, 'it had always been the rule that when the employer suffered from a course over which he had no control, the men should take a share of the loss.'³⁶⁰ Malleable ironworks were noticeable for the triangular nature of industrial disputes involving different segments of labour and capital, which also promoted sectional feuds within labour. This evidence endorses Clegg's perception that strategic position in the production process significantly influenced labour's bargaining power with capital. However, strategic position also facilitated puddler's influence over other labour sections who depended on regular supplies of hot iron.

Knox states before 1880, 'much of the industrial conflict, whether conducted by the organised or the unorganised, was sectional...class interests were subordinated to the concerns of the locality and the immediate workgroup.'³⁶¹ However, sectionalist conflict persisted in malleable ironworks until after 1900. Indeed, the mills remained a distinct and separate area from the forge, acting as a demarcation between puddlers and shinglers with millmen. Indeed, Trainor states that in Staffordshire, 'the millmen refused to organise with the puddlers.'³⁶² Given that skilled labour and working practices were imported from Staffordshire, it is unsurprising that Lanarkshire's workplace sectionalism was equally pronounced. Labour sectionalism resulted in a refusal to aid other ironworkers until forced to do so; despite puddlers' striking from May 1873 at Excelsior, millmen continued working until November, when

³⁵⁹ GUBA, SMITCAB minutes, 23 Mar.1900, p.259.

³⁶⁰ *Ibid*, p.261.

³⁶¹ Knox, *Industrial*, p.119.

³⁶² Trainor, *Black*, p.50.

alternative sources of iron terminated.³⁶³ Although, puddlers and millmen were incorporated within the same union in Lanarkshire, union officials struggled to overcome sectionalist perceptions amongst the rank-and-file. Indeed, many of the disputes encountered by SMITCAB, developed amongst workmen rather than between capital and labour. In 1901, SMITCAB's annual report stated:

During the latter half of the year no complaints have been before the Board, this being to a great extent due to the fact that Councillor Cronin and the operatives' representatives at the various works have been able to adjust any disputes which have arisen.³⁶⁴

This reflects the conciliatory role of labour representatives in defusing disputes and indicates many disputes occurred between workmen, as employers' representatives were not required. This is inconsistent with Moorhouse's argument, 'it is a mistake to imply, as Reid does, that sectional strikes are always aimed at other workers.'³⁶⁵ Similarly, Trainor claims most disputes in Staffordshire's ironworks were between capital and skilled labour.³⁶⁶ However, table fifteen illustrates eighteen formal disputes, 50% of which were brought by workmen against masters. The remaining 50% were brought against a section of the workforce, either by the masters in 27.8% of cases, or by fellow workmen in 22.2% of the total. Whilst the sample is limited in extent and duration, it indicates that workmen were often the aggressors, a significant proportion of labour's complaints were sectional, whilst the development of a

³⁶³ *Wishaw Press*, 24 May, 15 Nov.1873.

³⁶⁴ SMITCAB minutes, 25 Jan.1901, p.378.

³⁶⁵ Moorhouse, 'History', p.489.

collective labour movement is not apparent from 1897-1900 in Lanarkshire's malleable ironworks.

Table 15. Disputes before SMITCAB's Standing Committee, 1897-1900.³⁶⁷

Dispute	1897	1898	1899	1900	Total, (%)
Men v. Master	2	2	2	3	9 (50%)
Men. v. Men	2		1	1	4 (22.2%)
Master v. Men		2	1	2	5 (27.8%)
Total					18 (100%)

This evidence supports Reid's views concerning sectionalist divisions permeating labour.³⁶⁸ Many trade unionists wished to terminate sub-contracting to bolster labour unity. In 1875, a national conference of delegates, 'chiefly from the steel and malleable ironworkers', resolved that, 'the system of sub-contracting is a grievance; and that every effort shall be made to bring about personal engagements between the men and their employers.'³⁶⁹ Unionists probably hoped that removing a prominent source of friction within labour would generate a more homogenous workforce, stifling sectionalist conflict and bolstering union influence. However, the failure to destroy subcontracting by 1900 was symptomatic of the ASS&IW's inability to circumvent sectionalist perceptions amongst the rank-and-file.

Labour's persistent independence was reflected by capital's inability to impose discipline, particularly during prosperous periods. In 1889, *Engineering* noted, 'the

³⁶⁶ Trainor, *Black*, pp.139-140.

³⁶⁷ SMITCAB minutes, 20 Jan.1898, 16 Jan.1899, 26 Jan.1900, 25 Jan.1901.

³⁶⁸ Reid, *Social*, pp.50-51.

³⁶⁹ *Engineering*, 26 Mar.1875.

men are not working nearly so regularly now that wages are better'.³⁷⁰ The imposition of discipline required the active co-operation of trade unionists and labour delegates on SMITCAB. Labour delegates attempted to reduce absenteeism resulting from alcohol abuse; Mincher stated, 'he had told men they did not know how to live. Each delegate would do all in his power - if possible would treble his efforts, to make a man a sober man.'³⁷¹ Labour's inability to control the rank-and-file was also apparent in wage negotiations, particularly if labour agreed wage settlements lower than anticipated. Cronin stated, 'they have to meet...hundreds of men who do not understand how the award has been arrived at, what has been done here or the arguments which have been used on both sides. These men rather violently, I admit, make it very unpleasant for our delegates.'³⁷² This provides further evidence supporting Price and Van Gore, but contradicts Littler's perceptions, as it was organised labour rather than individual subcontractors who primarily colluded with capital. Therefore, whilst malleable ironworkers possessed greater autonomy than blast-furnacemen, this independence also precluded the development of collective resistance to capital. Indeed, organised labour consistently struggled to impose union authority or contain malleable ironworkers' deep-rooted, sectionalist tendencies.

Steelworkers' Power

Like malleable ironworkers, skilled and experienced steelworkers' enjoyed an authoritative position within the workplace, which diluted managerial hegemony.

³⁷⁰ *Engineering*, 20 Sept.1889.

³⁷¹ GUBA, SMITCAB minutes, 16 June 1899, p.235.

This was apparent before unionisation occurred; in 1884 Dalzell's smelters successfully reinstated sacked colleagues after a four-week strike.³⁷³ Dalzell's hammermen successfully opposed wage cuts after ten weeks' struggle in 1886 and non-unionised smelters at Mossend achieved wage increases of 20-30% in 1888.³⁷⁴ Steelworkers also enjoyed greater power during periods of economic prosperity, further reinforcing the linkage between workplace power and economic factors. In 1898, *The Engineer* noted:

The movement among the steelworkers for an advance in wages. The trade is, of course, extremely busy, and it is said that the men will take every advantage of this fact to push their claims. At the same time it is thought a policy of conciliation will be pursued by the employers. A rupture at the present time would be most unfortunate, and no doubt every effort will be used to avoid such a thing.³⁷⁵

Full employment and high wages financed autonomous action and bolstered bargaining power. During a boom in 1896, steelmasters desired shorter holidays, 'but it is very difficult to get [steelworkers] to do with less than a week, if they have had a fair spell of work and fair wages.'³⁷⁶ Further, in 1896, steelworkers were, 'boldly affirming', their right to increased wages following price rises.³⁷⁷ Similarly, in 1898 *Engineering* noted, 'the trade is unprecedentedly busy throughout Scotland,

³⁷² *Ibid*, 15 Sept.1898, p.182.

³⁷³ *Wishaw Press*, 2 Feb.1884.

³⁷⁴ *Ibid*, 21 Apr.1888. *Motherwell Times*, 13 Feb.1886.

³⁷⁵ *The Engineer*, 11 Nov.1898.

³⁷⁶ *Engineering*, 27 July 1896.

and there is a well-grounded desire to avert any dispute leading to a stoppage of work at present time.³⁷⁸ High demand during the late 1890s significantly increased steelworkers' wages. In October 1899, *Engineering* reported, 'the workers are quite overjoyed at their fate, for they are getting, it is said, 35 per cent more wages than they were last January.'³⁷⁹ Indeed, capital preferred wage rises to strikes; 'one day's idleness would swallow up the entire five per cent [increase] for the whole month.'³⁸⁰ This exemplifies steelworkers' power to enforce wage claims during economic prosperity, despite the industry's pronounced sectionalism.

Various factors affected steelworkers' autonomy. Although steel ingots could be stored and reheated, ship-plates could not be held in stock due to their particular specifications.³⁸¹ This provided millmen with greater potential influence than smelters. However, from 1870-1900, the BSSAA possessed greater financial power than the ASMS. Further, millmen were more adversely affected by mechanisation, which created excess labour that threatened labour cohesion. Cronin stated:

This surplus labour is a direct menace to us, because they are...always ready to do what we call in our trade black-legging if required by the employers...If the employers want certain alterations made in their works...they have the surplus labour at their command to take the places of the men who possibly would

³⁷⁷ *Engineering*, 2 Oct.1896.

³⁷⁸ *Ibid*, 4 Nov.1898.

³⁷⁹ *Ibid*, 6 Oct.1899.

³⁸⁰ *Ibid*, 1 Dec.1899.

³⁸¹ RC, Labour, 1892, Vol.36,(16,365-16,366), p.388.

object to have their interests infringed.³⁸²

Consequently, millmen were defeated in a nineteen-week strike at Clydebridge, which endeavoured to abolish the contract system and establish union recognition.³⁸³

Indeed, certain subcontractors remained at work and trained sufficient replacement labour to break the strike.³⁸⁴ The 'de-skilling' process described by Knox, which diluted their autonomy by 1900, afflicted some rollers. However, in 1898 bar-millmen remained influential, partly as a result of their strong strategic position.

When bar-millmen at Hallside refused to accept a wage cut, William Clark the employers' secretary on SMSTCAB noted, 'rather than these men should stop work and disorganise the whole place, the Steel Company decided that they would give the advance.'³⁸⁵

The fragmentary character of labour disputes, particularly before steelworkers' unionisation in 1886 and 1887, is conveyed by a strike at Dalzell in 1884. Originally various sections of steelworkers jointly opposed a proposed wage cut. However, the *Motherwell Times* noted, 'the masters found no difficulty in securing the services of those who work in the lower branches of the trade. The difficulty lay with the contractors and others of the higher paid classes of workmen.'³⁸⁶ This reinforces steelmasters' trouble in replacing skilled labour and emphasises subcontractors' militancy, further refuting Littler. The hammermen eventually agreed to restart work,

³⁸² *Ibid*, (15,977), p.371.

³⁸³ *Ibid*, (15,998), p.373.

³⁸⁴ *Ibid*, (16,027), p.374.

³⁸⁵ NLA, SMSTCAB minutes, 30 Sept.1898, p.134.

³⁸⁶ *Motherwell Times*, 26 Jan.1884.

and were joined by the bar millmen. The firm then offered to promote assistant rollers, heaters and shearers to forehand, if they would resume work, although most refused. The smelters were most determined to continue striking and Colville's advertised for replacement smelters in England to replace senior hands. Hammer-drivers, who had restarted work, then walked out again after learning of their new wage rate, forcing other hammermen to stop work again. The *Motherwell Times* concluded, 'no sooner have the masters come to terms with one section than a hitch occurs with another.'³⁸⁷ Sectionalism persisted even after the strike terminated. The *Motherwell Times* noted, 'we are requested to state by a deputation of the smelters, that they had no connection whatever with a subscription which was canvassed largely throughout the town in aid of a section of the steel-workers (hammermen) while on strike.'³⁸⁸ Whilst steelworkers' individualism is evident, the capacity of each section to strike independently is also revealed. Even in 1897, the plethora of divergent labour sections still presented employers with an array of wage demands; *The Engineer* reported, 'at Glengarnock the steelworkers made a demand for 15 per cent., and the engineers for 20 per cent. on their wages. The locomotive men asked for an increase of 15 per cent...the demands of the other workmen cannot be complied with.'³⁸⁹

The millmen's influence was illustrated by their employers' decision to concede an arbitration board in 1890, seven years before similar concessions in malleable ironworks and ten years before the pig ironworks. Labour's influence within

³⁸⁷ *Ibid.*

³⁸⁸ *Ibid.*, 2 Feb.1884.

³⁸⁹ *The Engineer*, 27 Aug.1897.

SMSTCAB was highlighted in December 1900; steelmasters requested, rather than demanded, wage reductions, 'to minimise the loss they were sustaining', from foreign competition.³⁹⁰ David Colville observed, 'it was for the employees, who represented the half of that great commercial industry to say whether or not it was to be crushed out altogether'.³⁹¹ The advent of unionism could magnify collective action. In 1898, 'trouble is threatened with the Scottish steel-makers in connection with the advance of wages lately agreed upon by the masters. Unless the advance is granted immediately there is a fear of some 10,000 hands coming out on strike.'³⁹² The advance was granted to both millmen and smelters. Further, in 1898, pressing orders for ship-plates resulted in several masters attempting to impose Sunday labour, prompting collective protest by, 'a big demonstration of smelters and millmen'.³⁹³ The workmen's action was successful and the firms' abandoned Sunday labour. Despite such successful demonstrations of steelworkers' combined power, co-operative ventures between smelters and millmen were abnormal. Indeed, the establishment of a co-operative relationship between the BSSAA and the ASMS was fraught with difficulty. (See chapters four and five.) Such tensions were further manifestations of the sectionalist character of labour, particularly apparent in Lanarkshire's steel industry, but also evident throughout Lanarkshire's ironworks.

Conclusion

Labour's autonomy and influence varied widely within Lanarkshire's iron and steel

³⁹⁰ SMSTCAB minutes, 6 Dec.1900, p.175.

³⁹¹ *Ibid*, p.176.

³⁹² *Engineering*, 11 Nov.1898.

industries, as well as within individual works. This reflected various factors including diverse skill levels within each section or sub-group, strategic positioning within the labour process, wage levels and trade union representation. Average skill levels were lowest in pig ironworks; although furnace-keepers had considerable discretionary authority, other blast-furnacemen including furnace-fillers and pig-lifters had minimal independence from managerial control. Alternatively, malleable ironworks and steelworks contained more substantial and analogous skill levels, providing significant hegemony and control of the production process to various groups of workmen, which corroborates Reid's perceptions of continued labour autonomy resulting from the preservation of skill and discretionary authority.

Examination of wage levels re-emphasises the diversification of labour and confirms the greater bargaining power exercised by certain malleable iron and steelworkers.

Within each industry there were no common pay structures or conditions of employment, whilst the fractured nature of work organisation meant common bonds within labour were circumscribed. There is some limited evidence of technological displacement and workplace re-structuring in sections of the steel industry, but virtually none in the malleable and pig ironworks. Consequently, mechanisation had marginal effects and there is no substantial evidence of an increasingly homogenised workforce during the period as Price and Knox suggest. Further, although Littler's argument that subcontracting declined from 1875-1900 is substantiated by examination of the steel and pig ironworks, it is refuted by Lanarkshire's malleable ironworks, where subcontracting remained conspicuous until after 1900.

³⁹³ *Engineering*, 22 Apr.1898.

Although trade unions occasionally opposed subcontracting, workplace sectionalism was enshrined by organised labour in each industry; union membership separated blast-furnacemen from ancillary labour, distanced forehand from underhand malleable ironworker and was particularly divisive in steelworks, where productive demarcations usually determined union membership and could foster antagonistic inter-union relations between the BSSAA and the ASMS. (See chapters four and five.) Consequently, negotiations with steelmasters were carried out along sectionalist lines and there was limited positive interaction between trade unions throughout the period. Distinctions between trade unions incorporated diverse recruitment methods and disparate levels of authority over the rank-and-file. Within each industry significant levels of labour remained out-with union control, either by refusing to join labour organisations or by reluctance to recognise union authority. Indeed, independence from managerial authority was often mirrored by autonomy from organised labour, which could struggle to recruit members or exert discipline. Finally, trade union power varied, largely as a result of the quantity and subscription levels of members, which produced differences in financial vigour and the ability to confront capital.

The relationship between capital and labour in the malleable iron and steel industries displayed greater equality than in the pig iron industry. The ability of each group to assert their claim for better wages or conditions was determined by the amount of bargaining power and influence they enjoyed. Variable factors including strategic positioning, skill levels, union representation and the prevalent economic conditions

all influenced the level of autonomy and influence that labour possessed. However, it seems apparent that a greatest degree of power possessed by labour can be generally ascribed to the malleable iron and steelworkers, rather than blast-furnacemen. This was magnified by the typically weaker nature of capital within malleable iron and steelworks, illustrated in chapters one and two.

Whilst the workmen's capacity to exert influence upon capital and other sections of labour was a pronounced factor in the malleable iron and steel industries, this power frequently resulted in disputes between workmen. Examination of Lanarkshire's iron and steel industries reveals the continuation of widespread sectionalism and workplace fragmentation from 1870-1900, which undermines the arguments of Cronin, Kirk, Knox, Price and Burgess. Indeed, for many malleable iron and steelworkers the continued struggle for improved wages and conditions was fought against other workmen, rather than capital. Subcontractors employed significant numbers of workmen, whilst forehands battled against other sections of labour. Consequently, many disputes stemmed from labour's sectional perceptions and undisciplined behaviour. Indeed, individualism persisted in Lanarkshire's iron and steelworks for at least twenty years longer than most of the historiography allows. Whilst the BSSAA has been cited as exemplifying the inclusive, all-grades unionism that marked the rise of collective action against capital, the puddlers retained a reputation for militancy and sectional independence within the malleable workforce. Consequently, chapter four will provide comparative analysis of smelters and puddlers, which will clarify the dynamics within individual labour sections and illustrate the relationship of such sections both to capital and other labour groups.

Chapter 4.

Case Study - Puddlers and Smelters.

Chapter three highlights issues of individuality and the variety of experience amongst labour. Comparing two particular groups will facilitate greater understanding of common features and unique characteristics, whilst examination of puddlers and smelters will also highlight parallels between furnacemen in malleable iron and steelworks. Melling's study of the engineering and shipbuilding trades from 1880-1914 examines the employees' resistance to new technology and states, 'most of these struggles revolved around the question of control in the work process'.¹

Analysis of particular labour groups will further illustrate the extent of skilled workers' autonomy and hegemony from 1870-1900. This issue has produced different conclusions from historians. McGuffie claims, 'the role and influence of the craftsman came to be at best negligible or, at worst completely subordinated to the capitalist regulation of skill.'² Burgess argues, 'even skilled men had to cope with speed-up, greater managerial supervision and skilled labour substitution.'³

Knox and Price maintain that technological displacement radicalised skilled workers and encouraged their support of socialism.⁴ Alternatively, Reid and Zeitlin argue British industry retained substantial quantities of skilled labour with considerable technical knowledge and manual ability, which retained workplace autonomy and

¹ Melling, *Non-Commissioned*, p.199.

² McGuffie, *Metal*, p.xii.

³ Burgess, *Challenge*, p.60.

⁴ Price, 'New', p.147. Knox, *Industrial*, p.129.

experienced minimum managerial interference.⁵ This case study will clarify the validity of these and other hypotheses.

1. The Furnaces

1.1 Puddling

Puddling constituted a significant occupation in Lanarkshire in 1870.⁶ Britain's production of wrought iron fell during the period, reflecting its displacement by mild steel; in the 1870s there were approximately 8,000 puddling furnaces in Britain, 7,000 in 1880, 4,000 in 1890 and 1,500 in 1900.⁷ However, Lanarkshire's industry remained vigorous until 1914. This enhanced longevity reflected local difficulties in steel production and continued demand for malleable iron. Puddling furnaces were smaller and more numerous than blast-furnaces. During the 1880s annual output varied from 575-675 tons per furnace.⁸ The furnace consisted of a rectangular fireplace divided from the hearth by a low wall, employing air from a chimney draught. A working door was opened to insert the charge and remove malleable iron. Larger furnaces had two doors allowing two sets of puddlers to work simultaneously, but these were unusual in Lanarkshire. The technology involved changed little from 1870-1900; Kerr noted, 'the furnace itself is not much altered - only a little larger.'⁹ Puddling furnaces required more continuous attention than blast-furnaces, which raised labour's importance in achieving successful output. Employers recognised

⁵ Reid, 'Social', p.31. Zeitlin, 'From', pp.170-174

⁶ Neil Ballantyne, 'The Lanarkshire Puddlers, Work and Wages in the Malleable Iron Industry, 1870-1900', *Scottish Labour History*, Vol.36, 2001, pp.6-20.

⁷ Burnham & Hoskins, *Iron*, p.161.

⁸ *Ibid*, p.162.

⁹ Kerr, 'Manufacture', pp.206-209.

puddlers' salience and continually sought to alleviate their dependence by the development of mechanisation. During the 1870s, Danks rotary mechanical puddling process was patented and followed by other variations. In 1872, Thomas Ellis conducted trials of the, 'Dormoy Puddling Furnace', in Coatbridge. The experiment left representatives of the Iron and Steel Institute unimpressed; 'one of the visitors present pithily put it...“it was like puddling a furnace and fighting a bulldog at the same time!”’¹⁰

Other attempts at mechanisation proved fruitless. From 1875-1885 almost £4,660,000 was squandered on mechanised puddling.¹¹ Although productivity and fuel efficiency improved, the essential process remained unaltered.¹² Some English masters blamed puddler opposition for the failure of Danks' furnace, but mechanical difficulties were the primary obstacle.¹³ JS. Jeans, the British Iron Trade Association's secretary, noted, 'it will probably not be denied that the skill, experience, and inventiveness of practical men have seldom been so barren of useful results. The ordinary puddling process has outlived all attempts to improve it out of existence.'¹⁴ This supports Riden, Burnham and Hoskins who affirm the impracticality of substituting capital for, 'skill and experience'.¹⁵ In 1899 President Beard, of the Iron and Steel Institute affirmed, 'the quality of the product depends upon the skill of the puddler.'¹⁶

¹⁰ *Engineering*, 9 Aug.1872.

¹¹ Burnham & Hoskins, *Iron*, p.162.

¹² Kerr, 'Manufacture', pp.206-209.

¹³ M. Le Guillou, 'Developments in the South Staffordshire Iron and Steel Industry', 1850-1913', Keele University PhD thesis, 1972.

¹⁴ Carr & Wright, *History*, p.57.

¹⁵ Riden, 'Iron', p.78. Burnham & Hoskins, *Iron*, p.34.

1.2 Smelting

Lanarkshire's steel industry generally employed Siemens or acid open-hearth furnaces, operated by teams of smelters or 'melters'. The gas-fueled furnace consisted of a, 'huge oblong structure', with an arched brick roof, cast iron walls lined with brick and a fifty-foot chimney.¹⁷ A large flame, reversed by valves, swept back and forth over the hearth and through several interior chambers lined with firebricks.



Figure 19. Charging side of 50-ton Siemens furnaces at Clydesdale, c1905.

Capacity burgeoned from twelve tons in 1873, to over forty tons in 1900. In 1897, Newton contained thirty-five to forty-ton furnaces, although the actual weight charged varied from thirty to thirty-five tons, providing an average weekly output of

¹⁶ WSI&SI, journal, No.1.Vol.3, Oct.1899, p.12.

¹⁷ Walter McFarlane, *The Principles and Practice of Iron and Steel Manufacture*, (London, 1916), pp.103-108.

255 tons.¹⁸ Whilst Lanarkshire's steelworks embraced mechanisation, this primarily related to the rolling mills and occasionally the manipulation, rather than the creation, of steel. Mechanised charging was introduced in America in 1896 and other British regions by 1899, but Lanarkshire remained reliant upon hand-charging in 1900.¹⁹ Colvilles considered mechanised charging in 1898, but simply employed more workmen, until finally introducing a Wellman appliance in 1903.²⁰

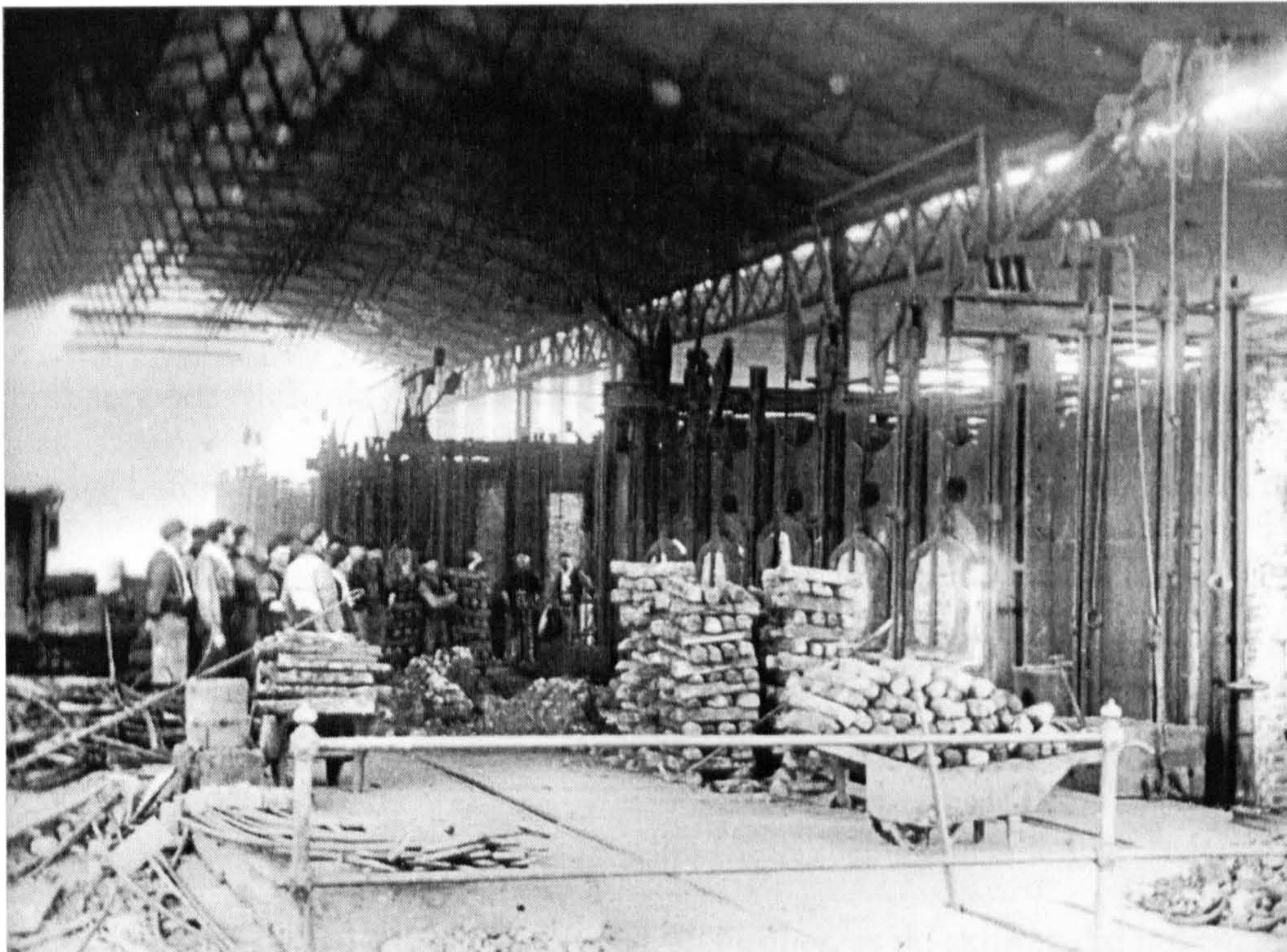


Figure 20. Pig iron stacked for hand-charging, Dalzell, c1895. Charging solid pig iron into the Siemens furnace reinforced the separation between steelworks and pig ironworks.

GI&SCo. and Glengarnock had employed Bessemer converters mechanically fed with molten pig iron, but their adoption of hand-charged, open-hearth furnaces actually reduced their reliance on mechanisation. GI&SCo. commenced experiments charging open-hearth furnaces with molten pig in 1898, but in 1900 such practice

¹⁸ MRC, MSS36.N8, Questionnaire, Newton BSSAA, 10 Nov.1897.

¹⁹ *Engineering*, 28 Apr.1899.

remained, 'out of the question'.²¹ Although hand-charging entailed greater labour, increased capacity did not alter smelters' discretionary authority. Therefore, mechanisation was neither resisted nor feared, particularly as increased tonnage raised wages. John Hodge, the BSSAA's secretary, stated:

We have never rebelled or placed any obstacle in the way of any automatic appliances being utilised...my policy having been to advise the men not to work against the machine, but to make the greatest possible use of it, provided we got a fair share of the plunder.²²

This supports McKinlay's assertion, 'Scotland was relatively untouched by technical change before 1914; its steelworks remained markedly smaller and with much more limited mechanical handling aids than their English or German competitors.'²³

Puddlers remained invulnerable to de-skilling throughout the period, refuting MacRaild and Martin who argue during the 1890s, 'technical changes...reduced the protection that skilled work had enjoyed.'²⁴ Further, as de-skilling did not occur, there was no resultant homogenisation of labour as Knox and Price suggest.

Alternatively, this evidence supports Reid's assertion that the inadequacy of available technology was a significant factor in the maintenance of skilled labour's supremacy over capital.²⁵ Similarly, mechanisation did not markedly affect

²⁰ MRC, MSS36.M.38/6, meeting, Hodge and David Colville, 6 Oct.1898. Payne, *Colvilles*, p.108.

²¹ Payne, *Colvilles*, pp.110-111. Burn, *Steelmaking*, p.203.

²² Hodge, *Workman's*, pp.90-91.

²³ McKinlay, 'Philosophers', p.87.

²⁴ MacRaild & Martin, *Labour*, p.160.

²⁵ Reid, 'Employers', pp.40-41.

Lanarkshire's smelters; indeed the abandonment of Bessemer reduced mechanisation around the furnace, but raised the requirement for labourers. This could be perceived as evidence of the work 'intensification' cited by McIvor.²⁶ However, enlargement of labouring squads also bolstered the authority of the smelters who directed labourers. Finally, McGuffie notes, 'the role of machinery in these trades at this time, was auxiliary to the labour process, rather than its animator...what was more important was the division of labour.'²⁷ To examine the validity of such arguments it is necessary to examine the actual working processes involved.

2. Working the Furnace

Puddling teams usually consisted of two men who performed every furnace operation including charging, fettling, balling, tapping and transporting iron to the hammer. The charge of pig iron was inserted and the temperature increased, melting the iron after about twenty minutes. The temperature was reduced and iron oxides added. Then the contents were manually stirred with a 'paddle' or 'rabble' to separate the slag, which was tapped off. The temperature was increased until the mixture began to 'boil', causing the pure iron to crystallise, or 'come to nature'. The mass had to be stirred continuously to prevent the iron agglomerating, whilst the rabble was removed about every eight minutes to prevent it melting and cooled in a 'water bosh'. Finally, the iron was formed into balls by pressing against the furnace sides or by a rolling motion, 'the iron being gathered up around a small nucleus like a snow-

²⁶ McIvor, *Work*, p.66-75.

²⁷ McGuffie, *Metal*, p.17.

ball.’²⁸ This was the most strenuous and important period of the production process.

In 1869, Bremner noted:

As the metal agglutinates, it becomes very difficult to move. The puddler has to exert himself to the utmost; he dare not relax his efforts for a single minute, else all the previous labour would be worse than lost...When the metal has attained a certain degree of consistency, the puddler divides it into five or six heaps. He then works each heap into a ‘ball’ or ‘bloom’. The door of the hearth is opened, and one after the other the balls are drawn out with a large pair of tongs.²⁹

Each ball weighed from 100-150 pounds. Puddlers repeated this operation at least three times per shift.³⁰ However, the number of ‘heats’ varied. In 1901, James Kerr, Etna’s master and a former puddler, claimed to have regularly worked seven heats per shift, but Duncan Hall, a puddler at Crown, described Kerr’s claim as, ‘excessive’.³¹ Bauerman noted, ‘in Scotland...only from four to five heats of four cwt. are made’, in twelve hours.³² Fuel quality affected the quantity of heats; pig iron containing more impurities, especially sulphur or phosphorous, took longer to puddle.³³ Good quality pig iron was increasingly scarce by 1900 as, ‘it paid the blast-furnaces better to make hematite [for steel furnaces] than to make forge-iron.’³⁴ Finally, Percy noted, ‘puddlers vary considerably in skill’, resulting in a possible

²⁸ Bauerman, *Treatise*, p.325.

²⁹ Bremner, *Industries*, p.52.

³⁰ GUBA, SMITCAB minutes, 25 Aug.1898, p.160.

³¹ *Ibid*, 4 June 1901, p.412.

³² Bauerman, *Treatise*, pp.330-331.

³³ *Ibid*, p.327.

³⁴ GUBA, SMITCAB minutes, 26 Jan.1900, p.233.

variance in output of ten cwt. per fortnight.³⁵

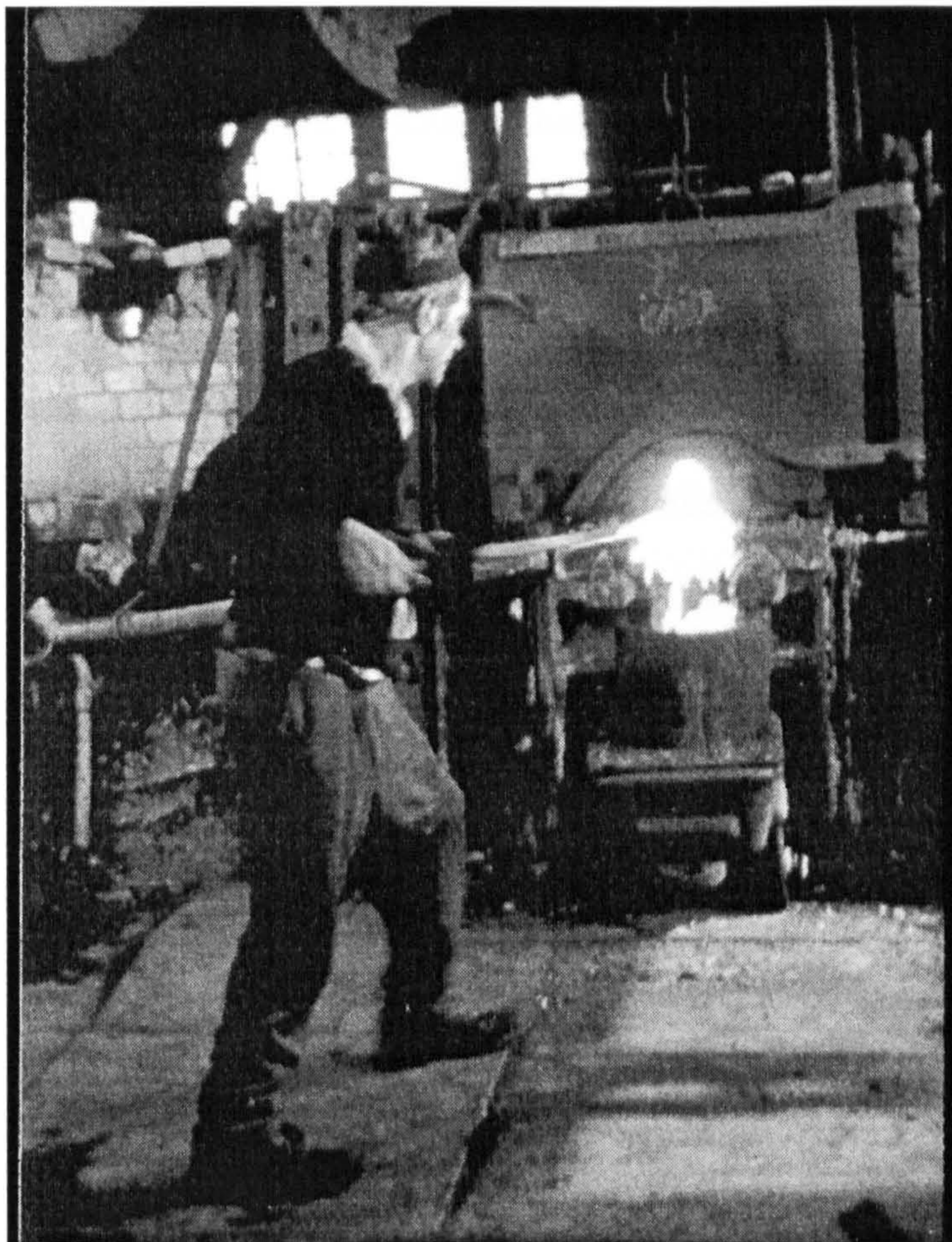


Figure 21. Puddler working, c1950. This laborious process retained Victorian productive techniques.

Steel furnaces required larger teams, usually three men in the early 1880s. First-hands were the most experienced and skilled, they controlled furnace operation and directed the underhands. Occasionally only two smelters were employed; in 1888, Clydesdale's smelters struck demanding, 'the placing of a third-man at each furnace, as in other works'.³⁶ The smelters collectively employed a, 'charge-wheeler', to

³⁵ John Percy, *Metallurgy: the Art of Extracting Metals from their Ores, and Adopting them to Various Purposes of Manufacture*, (London, 1864), p.656.

³⁶ *Engineering*, 23 Mar.1888.

transport raw materials and provide additional labour when required.³⁷ Smelters were responsible for all furnace operations including charging, fettling, tapping and periodic maintenance including bottoming, although once tapped, responsibility passed to the teamers.

Jeremiah Head analysed the operation of forty-ton furnaces in 1897; each heat took over fifteen hours, including time for fettling and charging, with around nine heats occurring during a working week of 141 hours, producing a potential total of 360 tons of steel ingots, although actual production was around three-quarters capacity. For each heat, forty-eight tons of charge was required to produce forty tons of steel. Charging took about three and half-hours, with another hour for fettling. This task was carried out by three smelters and a charge-wheeler, each charging about 3.4 tons per hour, or about twelve tons in total during each charging shift, which usually occurred four or five times per week.³⁸ McGeown described hand-charging, c1914:

Melters shoveled in piles of light steel scrap and followed that up with pig iron, with which they lined the bath. Each man...slid a stick of iron from a neat stack...In turn they placed each stick on a long flat-ended iron rod known as a 'peel'. Immediately the man holding the peel moved it swiftly inside the furnace....the next job would be shoveling lime and iron ore into the bath. The operation was lengthy and exhausting....The last part would see the heaviest steel scrap being maneuvered in....It would take four or five

³⁷ *Ibid*, 14 May 1897.

³⁸ *Ibid*, 28 Apr.1899.

hours before the charge melted...and was ready for the refining stage.³⁹

Oxidation occurred during the 'boil' by charging with iron ore. When the charge was sufficiently decarburised, a metal rod was hammered into the taphole, which was blocked with anthracite, allowing the molten steel to flow down a 'launder' into the ladle, whilst molten slag was diverted into a tub.⁴⁰

Melling argues from the 1880s rationalised management techniques established control by supervision and the, 'sharp distinction of planning and execution, thereby removing individual or group initiatives.'⁴¹ However, in both industries, forehands displayed considerable autonomy. The lack of reliable instrumentation revealing chemical reactions or furnace temperature made skill and experience indispensable. Forehands physically observed furnace contents to determine the timing of operations like tapping and the quantities added during fettling. A mistake could ruin the entire contents and smelters were not paid for lost charges.⁴² McGeown described a first-hand smelter:

He had an awareness of creation...He had controlled the huge flame which played over the metal, saw that it did its work...Hour after hour he had tended it, watched for every change in the liquid, increased the slag contents with more lime, or thinned it out with iron ore. His junior melters were every bit as interested as he was. It was their money that was filling that ladle, and

³⁹ McGeown, *Heat*, pp.79-80.

⁴⁰ McFarlane, *Principles*, pp.115-118.

⁴¹ Melling, 'Non-commissioned', p.19.

⁴² MRC, SSIMT minutes, 28 Aug.1899, p.209.

their sweat too that put it there.⁴³

This supports More, who argues each forehand had, ‘complete control and responsibility during operations, “making up” to the desired specifications on his own initiative and controlling the entire working of the furnace.’⁴⁴ In 1897, Head stated:

It is evident that to fulfill these requirements great physical and constitutional strength is necessary in all the men, besides technical skill, which however is exercised mainly by the first-hand. They must therefore be picked men, and must be paid accordingly.⁴⁵

Despite McGuffie and Melling’s claims, both planning and execution remained the forehand smelters’ and puddlers’ prerogative. Consequently, forehands retained substantial autonomy and reaped significant resultant bargaining power.

In both industries, individual furnacemen had distinct roles, with the most experienced possessing greatest responsibility. Thomas Mincher, Clydesdale’s labour delegate and SMITCAB’s Vice-President declared, ‘when a young man began puddling as underhand, he had to learn his trade and the forehand required to do half his work.’⁴⁶ Forehand puddlers controlled operations; underhands assisted by charging and carrying the iron to the hammer. Bremner declared, ‘each furnace

⁴³ McGeown, *Heat*, p.10.

⁴⁴ More, *Skill*, p.120.

⁴⁵ *Engineering*, 14 May 1897.

⁴⁶ GUBA, SMITCAB minutes, 16 Dec.1897, p.51.

requires two men to work it. One of these is the puddler, who has all the responsibility, and the other his assistant, who performs the portions of the work in which only slight skill is required.⁴⁷ In 1890, Bauerman stated:

The work of the puddling furnace is divided between the puddler and his underhand: the latter attends to the firing, and also does part of the stirring or rabbling; the last and heaviest portion of the work, together with the forming the balls, being usually done by the former.⁴⁸

Consequently, larger charges increased forehand's labour whilst, 'the underhand had no additional work beyond taking the extra weight to the hammer.'⁴⁹ Forehands also accepted greater responsibility when Best Iron was worked, reflecting the additional cost of materials and greater financial loss if operations failed. Robert Gallagher, Tinsplate's master noted, 'when Best Iron was being made the underhand had less work to do than when making Common Iron.'⁵⁰ Alternatively, the underhands' labour was greatest during the first heat, when furnace temperature had to be raised to optimum levels. Consequently, ironworks including Globe paid underhands an additional 6d. for the first heat.⁵¹

In England, puddlers' responsibility ceased when iron left the furnace, but in Lanarkshire puddlers carried out 'turning up'. In the 1870s, 'the common practice was to drag the puddled balls along the plates to the hammer, the forehand or

⁴⁷ Bremner, *Industries*, p.51.

⁴⁸ Bauerman, *Metallurgy*, p.334.

⁴⁹ GUBA, SMITCAB minutes, 23 Dec.1897, p.60.

⁵⁰ *Ibid.*

underhand swinging it on the anvil, when it got one blow, and was then turned up and got a second blow.’⁵² This assured shinglers that the iron possessed sufficient quality and would not disintegrate when first struck, but reduced puddler’s ‘furnace time’, thereby lowering income or lengthening the shift. This caused friction between puddlers; Hodge, a former puddler, stated, ‘I often had to fight for my turn at the hammer.’⁵³ By the 1890s shinglers performed turning up, but puddlers retained responsibility and paid shinglers to accomplish the task. The issue remained a long-standing grievance; in 1897 puddlers complained, ‘there was a strong feeling in the district that “turning up” as part of the work of the puddler should be abolished.’⁵⁴ The puddlers demanded that SMITCAB arbitrate on the issue, but matters remained unresolved until after 1900.⁵⁵

Each smelter had different responsibilities. In 1900, the BSSAA finally negotiated standardised procedures with employers for various tasks. First, second and third-hands were employed for flowing and fettling. During bottoming, the second-hand brought the furnace to the required temperature; first and third-hands then constructed the bottom, with third-hands performed menial duties, such as wheeling sand. The second-hand joined them on the last shift before charging. Second-hands also assumed furnace-watching duties.⁵⁶ Increasing capacity necessitated larger teams. In 1897, three smelters charged twenty-five-ton furnaces at Flemington, whilst Newton, containing thirty-five or forty-ton furnaces, employed fourth-hands.⁵⁷

⁵¹ *Ibid*, p.63.

⁵² Kerr, ‘Manufacture’, p.206.

⁵³ Hodge, *Workman’s*, p.28.

⁵⁴ GUBA, SMITCAB minutes, 8 July 1897, p22.

⁵⁵ *Ibid*, p.23.

⁵⁶ MRC, SSIMT minutes, 1 Oct.1900, p.238.

⁵⁷ MRC, MSS36.N8 and MSS36.M10a, correspondence, Newton and Flemington BSSAA to Hodge,

At Wishaw in 1902, four men worked the thirty-two ton furnaces, whilst five worked the forty-five to fifty-ton furnaces.⁵⁸ Colvilles discussed the introduction of a fifty-ton furnace with Hodge and stated that charging machinery would only be installed if the furnace was not, 'manned adequately'.⁵⁹ This necessitated additional helpers, the cost of whom was divided between the furnace team in proportion to earnings.

However, Colville doubled flowing rates, agreed to pay second-hands five shillings for bottoming and guaranteed additional labour for charging scrap. Clegg argues by entering into productivity agreements, labour secured greater income in return for conceding alterations to working practices.⁶⁰ Indeed, as greater tonnage equated to increased wages and 'differentials' were maintained, the BSSAA recommended acceptance.⁶¹

A strict hierarchy of experience and authority governed responsibilities.

Advancement in both industries was achieved through progression. This was determined by accepted custom for puddlers. However, smelters introduced formalised rules stipulating third-hands could not become second-hands without a minimum of one year's experience, or first-hands until another three years were accumulated.⁶² Most steelworkers, including McGeown, also spent indeterminate periods charge-wheeling prior to reaching third-hand and labouring before becoming charge-wheeler. Promotion only occurred when vacancies arose, senior hands held precedence and delays were unavoidable, although puddling experience occasionally

10 Nov.1897.

⁵⁸ MRC, MSS36.W30.3, letter, Wishaw BSSAA to Hodge, 28 Mar. 1902.

⁵⁹ MRC, meeting, Hodge and Colville, 6 Oct. 1898.

⁶⁰ Clegg, *system*, p.8.

⁶¹ MRC, meeting, Hodge and Colville, 6 Oct. 1898.

⁶² NAS, FS7/110, Constitution and Rules of the BSSAA, 1898, p.31.

facilitated direct entry at third-hand smelter.⁶³ Consequently, More estimates that progression to forehand, 'often took ten years or longer.'⁶⁴ Similarly, McKinlay states 'the pinnacle of this extremely slow process, which typically took decades to complete, was the first-hand melter.'⁶⁵ Standardised rules encouraged collectivism amongst smelters and simultaneously limited labour supplies. Indeed, More notes, 'the institution of seniority rules...prevented the employer from gaining unilateral control of the labour supply.'⁶⁶

Analysis of puddling and smelting lends qualified support to McIvor. Although the puddling process remained unaltered, deteriorating fuel quality increased the required labour. Greater work intensification is apparent amongst smelters, but this was not perceived as injurious due to associated financial rewards. No evidence of de-skilling is apparent for either group, whilst the autonomy displayed by first-hands did not diminish, contradicting McGuffie and Melling. Although McIvor perceives work intensification as part of employers' gradual empowerment, any associated loss of worker control was marginal in Lanarkshire's iron and steel industries.⁶⁷ Indeed, burgeoning capacity magnified the first-hand smelters' responsibilities and importance over the period. Further, as Reid notes, 'workers' retention of skill and discretion...undermines all the processes by which it has normally been assumed that the development of capitalism increases the power of the capitalist.'⁶⁸

⁶³ Hodge, *Workman's*, p.27.

⁶⁴ More, *Skill*, p.120.

⁶⁵ McKinlay, 'Philosophers', p.88.

⁶⁶ More, *Skill*, p107.

⁶⁷ McIvor, *Work*, p.76.

⁶⁸ Reid, 'Employers', p.35.

3. Hours of Labour

Hours of labour are often indicative of labour power. For example, Hunt notes reductions in hours usually occurred, 'in brief periods of strong union bargaining power when money wages were high'.⁶⁹ Puddling and open-hearth furnaces operated continuously, but unlike blast-furnaces, were closed down from Saturday afternoon to Sunday evening, although steelworks retained a skeleton staff in furnace-watching and maintenance duties. In 1892, Edward Trow noted, theoretically, the puddler's shift was twelve hours. However, puddlers actually worked until six heats were completed, which could take from eleven to fifteen hours.⁷⁰ By 1872, Cleveland adopted rules limiting the puddlers' shift to eleven hours, but other districts retained the six-heats rule.⁷¹ Smelters displayed greater autonomy over hours than puddlers, possibly reflecting the BSSAA's influence. Hodge testified although shifts lasted twelve hours per day for six days, day-shift smelters actually worked ten hours, from 7am-5pm, with a fourteen-hour night-shift as conditions were cooler; 'that is an arrangement made by the men themselves for their own convenience'.⁷² Similarly, on Saturdays work terminated at noon or 1pm, producing an average working week of sixty-seven hours in 1892.⁷³

Many smelters advocated the adoption of the eight-hour day to resist work intensification. In 1889, a letter signed, 'common sense', was published by the BSSAA:

We average over seventy hours per week...larger furnaces have been erected,

⁶⁹ Anderson, 'Labour', pp.1-19.

⁷⁰ RC, Labour, 1892, Vol.36, (15,428), p.344.

⁷¹ *Ibid*, (15,439), p.345.

⁷² *Ibid*, (16,434), p.392.

entailing more strain on the men...We are continually taunted about the large amount of money we get, but the extraordinary amount of work is not considered, nor the excessive number of hours.⁷⁴

Whilst this evidence supports McIvor, many smelters opposed any curtailment of hours due to the associated wage reductions. Divisions amongst smelters are evidenced by correspondence opposing the scheme, emphasising the reduced tonnage during economic depressions, which would be divided between three shifts instead of two. One correspondent stated for 1887's rates, furnaces producing 140 tons per week and split into three shifts would pay forehands £2 2/9d. per week, second-hands £1 7/3d., third-hands £1 1/5d., pitmen £1 7/3d. and charge-wheelers sixteen shillings. The correspondent declared, 'the above wages [are] totally inadequate for the support of the wear and tear of men working at steel smelting.'⁷⁵

In 1894 the BSSAA's conference endorsed the eight-hour system. However, the membership remained polarised and the issue was abandoned in 1895. Therefore, the rank-and-file remained more conservative than the union hierarchy, which contrasts with Price's perception.⁷⁶ Certain rules restricting hours were enforced. In 1890 the Executive Council introduced a ruling that members working three successive shifts would be fined a sum equaling one shift, although two shifts were sanctioned, 'in an emergency'.⁷⁷ Further, Newton's smelters proposed that no

⁷³ *Ibid*, (16,435), p.392.

⁷⁴ MRC, MSS36.BS2-6, BSSAA Report, Aug.1889, p.30.

⁷⁵ *Ibid*, Sept.1889, p.36.

⁷⁶ Price, *Labour*, pp.142-144.

⁷⁷ MRC, BSSAA Report, May 1890, p.122.

furnace tapped after 9am on Saturday should be charged again that day.⁷⁸ Masters challenged such moves, even after previous agreements were implemented; in 1890 Dalzell's smelters were ordered to charge furnaces on Saturdays, 'the firm evidently forgetting their own arrangement.'⁷⁹ By 1897 many works, including Wishaw, abandoned Saturday charging. This was confirmed in 1900; 'we leave charging at midnight [Friday] and it lies with the men to make an early finish on Saturday.'⁸⁰

The BSSAA also sought to curtail Sunday labour, which Hodge described as, 'a moral, social and physical evil'.⁸¹ By employing moralistic arguments concerning the spiritual welfare of their families, Hodge hoped to overcome smelters' aversion to reduced wages. Indeed, since its inception, the BSSAA's stated objectives included, 'the elevation of the moral and social conditions of its members.'⁸²

Generally, Scottish smelters restarted work at 6pm or 8pm on Sunday, although Dalzell did not re-commence until midnight.⁸³ Nonetheless, the BSSAA pressed for complete abolition. Sunday night working was temporarily abolished at Blochairn in 1889. In 1896, a BSSAA poll, asking if members would strike to abolish charging before midnight on Sunday, resulted in 1,493 affirmative votes with 160 against.⁸⁴ However, English smelters seemed more anxious than their Scottish counterparts to reduce hours. Smelters in northeast England opposed Saturday charging, which many Scots supported. Further, English works including West Hartlepool and

⁷⁸ *Ibid*, Oct.1889, p.46. June 1890, p.135.

⁷⁹ *Ibid*, Oct.1890, p.192.

⁸⁰ MRC, MSS36.W30.4, Henderson to Hodge 25 May 1900.

⁸¹ MRC, BSSAA Report, Aug.1889, p.30.

⁸² NAS, FS7/110, BSSAA constitution and rules, p3.

⁸³ RC, Labour, 1892, Vol.36, (16,441), p.393.

⁸⁴ MRC, SSIMT minutes, 23 Nov.1896.

Barrow introduced the three-shift system before Scotland.⁸⁵

Despite the conservatism of Lanarkshire's smelters, by 1900 the BSSAA standardised weekend labour; no furnace likely to tap after 3pm on Saturday was to be charged, furnaces tapping before noon on Saturday had lie-charges inserted and on Sunday the night-shift commenced at 6pm.⁸⁶ Whilst there was little agitation amongst puddlers to restrict hours, the smelters were more animated, reflecting the greater strain produced by increased capacity and the BSSAA's desire to collectivise conditions of employment. Therefore, whilst work intensification was an important issue for smelters, there is less evidence supporting McIvor's premise amongst puddlers, despite the arduous labour required.

4. Wages

Dickson argues high wages and, 'the bargaining strength to play the capitalist rules of the game to their advantage', reflected skilled workmen's power.⁸⁷ Analysis of wage rates should clarify puddlers and smelters' influence over capital.

4.1 Puddlers' Wages

Forehand puddlers received tonnage rates, from which they paid their underhands shift rates.⁸⁸ Although there was no formal mechanism in Scotland to ascertain wages, since 1870, rulings by Cleveland's arbitration board were applied in Scotland. (See chapter 5.) The Board negotiated sliding-scales that linked wages to prices. In

⁸⁵ *Ibid*, 16 Feb.1897, p.163. 9 Jan.1900, p.216.

⁸⁶ *Ibid*, 1 Oct.1900, p.238.

⁸⁷ Dickson, *Scottish*, p.223.

⁸⁸ GUBA, SMITCAB minutes, 16 Dec.1897, pp.49, 51.

1879 it was reported, ‘the sliding scales bear a rough approximation to the “old rule of the puddler”, which defined the relation of wages to prices as “shillings to pounds and a shilling over”.’⁸⁹ This originated in Staffordshire and was called the, ‘Thornycroft standard’. The scale, developed since 1848, pronounced that variances in price of £1 per ton altered puddling rates by a shilling per ton.⁹⁰ The relationship of wages to prices caused frequent variations, illustrated in table sixteen.

Table 16. Puddling Wage Rates, 1898.⁹¹

Range of net prices at ironworks		Based on puddling rate	Premium	Net Rate per ton
Over	£4 12/6d.	£4 15s. at 1s. per £ = 4/9d. +	2/6d.	7/3d.
to	£4 17/6d.			
Over	£4 17/6d.	£5 at 1s. per £ = 5s. +	2/6d.	7/6d.
to	£5 2/6d.			
Over	£5 2/6d.	£5 5d. at 1s. per £ = 5/3d. +	2/6d.	7/9d.
to	£5 7/6d.			
Over	£5 7/6d.	£5 10s. at 1s. per £ = 5/6d. +	2/6d.	8s.
to	£5 12/6d.			
Over	£5 12/6d.	£5 15d. at 1s. per £ = 5/9d. +	2/6d.	8/d.
to	£5 17/6d.			
Over	£5 17/6d.	£6 at 1s. per £ = 6s. +	2/6d.	8/6d.
to	£6 2/6d.			
Over	£6 2/6d.	£6 5s. at 1s. per £ = 6/3d. +	2/6d.	8/9d.
to	£6 7/6d.			
Over	£6 7/6d.	£6 10s. at 1s. per £ = 6/6d. +	2/6d.	9s.
to	£6 12/6d.			

Although SMITCAB adopted this table in 1898, it was modelled on Cleveland’s

⁸⁹ *Engineering*, 21 Mar.1879.

⁹⁰ Carr & Wright, *British*, p.64.

arrangement from 1871-1897. Van Gore argues wage rates obtained under conciliation board's procedures favoured capital, particularly when, 'wage levels were solely determined by the selling price of the finished product...Rank-and-file discontent was particularly acute where the use of the sliding-scale effectively meant an *automatic* adjustment of wages to prices.'⁹² Indeed, during economic decline wages plummeted; from 1874-1876, malleable ironworkers' wages fell by around 50% from the boom years of the early 1870s.⁹³ However, the men occasionally refused to accept such cuts and struck in defiance of accepted practice.⁹⁴ Van Gore takes insufficient account of labour's rewards during prosperous periods; in 1883, puddlers' wages averaged thirty-five shillings per week, only two shillings less than the forge-manager's wage.⁹⁵ Further, the wages of Lanarkshire's iron and steelworkers were always tied to prices and typically it was labour that pressed for automatic sliding-scales. (See chapter five.) Indeed, various factors influencing output; furnace size and type, the puddler's ability and the quality of materials, also affected wages. Forehands at Waverley claimed their furnaces achieved a maximum of 35 cwt. per shift and a minimum of 33 cwt. from July to December 1897.⁹⁶ However, underhands disputed these figures claiming an output of 37 cwt. or even two tons.⁹⁷ As Waverley's forehands and underhands were engaged in a wage dispute, both sides may have exaggerated their claims. However, impartial figures were supplied by SMITCAB, which concluded that output per shift averaged 1 ton

⁹¹ GUBA, SMITCAB minutes, 9 June 1898, p154.

⁹² Van Gore, 'Rank-and-File Dissent', in Wrigley, *Industrial*, pp.47-73.

⁹³ *Engineering*, 28 Jan.1876.

⁹⁴ *Ibid.*, 26 Oct.1883.

⁹⁵ Board of Trade, Returns of Wages, 1887, Vol.88, pp.155-156.

⁹⁶ GUBA, SMITCAB minutes, 16 Dec.1897, p.47.

⁹⁷ *Ibid.*

14 cwts. for common and 1 ton 15 cwts. 3 qrs. 11lbs. for best iron.⁹⁸

Since the late 1860s, underhands' shift rates were usually one-third of the forehands' tonnage rate; 'advances and reductions meant one penny per shift to the underhand for every three pence per ton to the puddler.'⁹⁹ However, wage rates were idiosyncratic and incorporated numerous discrepancies. In 1897, SMITCAB conducted a survey of underhands' wage rates paid over two fortnightly cycles. The statistics, depicting in table seventeen, reveal various factors concerning wage levels and methods of working.

Table 17. Underhand Puddlers' Wage Rates, December 1897.¹⁰⁰

Ironworks	Wage Rate	Weight per shift	Wage rate	Weight per shift
	(Common iron)	(Tons, Cwt., Qrs., Lbs.)	(Best iron)	(Tons, Cwt., Qrs., Lbs.)
Clifton	3/4d.	1, 11, 3, 2.		
Clydesdale	3/7d.	1, 10, 1, 11.		
Coatbridge	3/6d.	1, 10, 3, 23.	3/6d.	
Coats	3/6d.	1, 12, -, -. .	3/6d.	1, 15, -, -. .
Crown	3/4d.	1, 10, 1, 13.	3/6d.	1, 10, 1, 13.
Dalzell	3/5d.			
Drumpellier	3/6d.	1, 9, 1, -. .		
Dundyvan	3/7d.	1, 11, 2, -. .	3/7d.	1, 12, -, -. .
Etna	3/7d.	1, 12, -, 14.		
Globe	3/5d.	1, 12, 1, -. .	3/11d.	2, 2, -, -. .
Motherwell	3/4d.	1, 10, -, -. .	3/8d.	1, 11, -, -. .
Muirkirk	3s.	1, 4, 1, 6.		
North British	3/10d.	1, 7, -, -. .	3/10d.	1, 13, 2, -. .
Pather				
Phoenix	3/10d.	1, 10, -, -. .		
Rochsolloch	3/11d.	1, 10, 3, -. .	3/11d.	1, 10, 3, -. .
Stenton	3/7d.	1, 11, -, 25.	4/2d.	1, 19, -, 23.
Tinplate	3/4d.	1, 10, -, -. .		
Waverley	3/5d.	1, 13, 2, 15.	3/5d.	1, 15, 1, 27.
Woodside	3/6d.	1, 11, 3, 22.		

⁹⁸ *Ibid.*

⁹⁹ *Ibid.*, 16 Dec.1897, p.50.

¹⁰⁰ *Ibid.*

Ten works manufactured both 'best' and 'common' iron during the period, of which six paid the same rate regardless of materials. The figure for North British included 5d. for 'turning up', reducing the basic rate to 3/5d. However, four ironworks paid higher rates for best iron, varying from an additional 4d. at Motherwell to 6d. at Globe, although larger weights were worked in these cases. Underhands at Crown and Stenton received an additional 2d. and 7d. respectively, although the same weight of best and common iron was worked, but Stenton's figure included, 'soak'. Half the surveyed works did not employ best iron; it was occasionally worked at Dalzell and Tinplate, but never at Etna or Clifton. In such circumstances, '6d. extra [was] allowed to men at castings in furnaces', at Dalzell, whilst at Tinplate, 'anything extra for working best iron [was] arranged between the forehand and underhand.'¹⁰¹ The singularity of puddlers' wage rates was deeply entrenched; when a master suggested a universal rate for best and common iron, William Shaw, the workmen's representative for Stenton declared the proposal, 'would cause a revolution among the underhands of the West of Scotland!'¹⁰² Such resistance was indicative of underhand puddlers' heterogeneity and divisions with forehands.

4.2 Smelters' Wages

Steelworkers were among Lanarkshire's highest paid workmen with smelters' ranked second highest in steelworks.¹⁰³ In 1897, Head stated smelters were paid open-hearth tonnage rates of 1/10½d. per ton, or an average of £4 4/4½d. per man per week for a forty ton furnace.¹⁰⁴ However, average figures conceal discrepancies in the amount

¹⁰¹ *Ibid*, 23 Dec.1897, p.57.

¹⁰² *Ibid*, p.62.

¹⁰³ Board of Trade Returns of wages, 1887, Vol.88, p.161.

¹⁰⁴ *Engineering*, 14 May 1897.

and methods of payments. Forehand smelters received tonnage rates. Generally, in 1899 there was no extra payment for special steels, although some works including Beardmores paid extra for armour plate.¹⁰⁵ Furnaces did not always tap during each shift. Consequently, the total weekly tonnage was divided between the two forehands working the same furnace.¹⁰⁶ Although there was no automatic sliding-scale until 1905, smelters' wages were inexorably linked to the price of steel plates. Although English works supplied the Tyne and Tees, only Clydeside's price determined smelters' wages.¹⁰⁷ From 1890, the BSSAA regularly met the SSIMT to discuss wage alterations, calculated on an informal, 'wages basis'. (See chapter one.) Consequently, forehand smelters were paid the basic tonnage rate, plus or minus a percentage that fluctuated with prices.

In 1881, second and third-hands received a fixed rate of 5/9d. and 4/6d. per shift.¹⁰⁸

The forehand or the melting-shop subcontractor employed the underhands.

However, by the 1890s many underhands received tonnage rates from the firm. In 1897, GI&S Co. paid forehands 7d. per ton, second-hands 4½d. and third-hands 3½d., all less 25%.¹⁰⁹ In 1900, forehands received 5s., second-hands 4s. and third-hands 3/6d., plus 25%.¹¹⁰ Tonnage rates reflected status, with third-hands earning half of first-hand's wages.¹¹¹ The furnace team, each of whom contributed in proportion to their wages, paid fourth-hands collectively but from 1899, agitation commenced for

¹⁰⁵ MRC, SSIMT minutes, 9 Feb., p.190, 1 Mar.1899, p.192.

¹⁰⁶ *Ibid*, 14 Sept.1894, p.68.

¹⁰⁷ *Ibid*, 28 Oct.1895, p108.

¹⁰⁸ *Engineering*, 24 June 1881.

¹⁰⁹ MRC, MSS36.W30.4, letter, Wishaw BSSAA to Hodge, 25 May 1900.

¹¹⁰ MRC, MSS36.W30.1, Wishaw's tonnage rates, 2 Dec.1897.

¹¹¹ MRC, meeting, Hodge and Colville, 6 Oct.1898.

fourth-hands direct employment.¹¹² Tasks including ‘fettling’, ‘bottoming’ and ‘watching’ were paid independently of tonnage rates and these rates varied between steelworks.¹¹³ The BSSAA continually sought to establish standardised rates for these tasks; in 1894, ‘presently hardly two works pay alike, and we are continually troubled with firms declaring another one pays either less than them or nothing at all.’¹¹⁴ In 1897, Wishaw’s bottoming rate was eight shillings for first-hands and 4/9d. for third-hands.¹¹⁵ In 1902, there were two shifts of furnace-watchers, 7am-1pm and 1pm-6pm, with two watchers in each shift, ‘the second-hands watch on Sundays and are paid 5s., plus 25%.’¹¹⁶

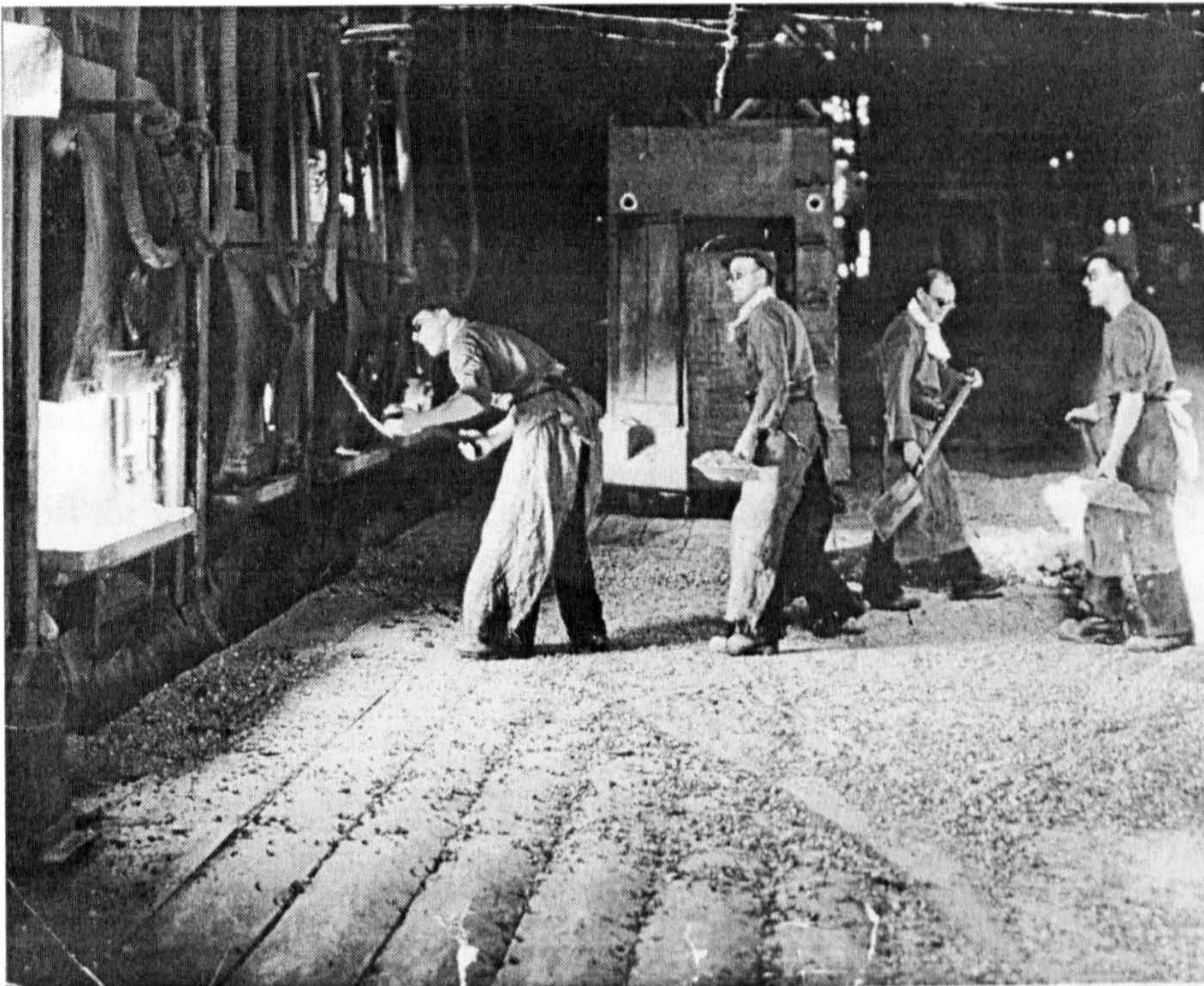


Figure 22. Fettling at the Lanarkshire steelworks, c1930. Smelting entailed various tasks around the furnace including fettling and bottoming. By the 20th century smelters generally wore protective glasses, but physical labour in torrid conditions remained.

¹¹² MRC, BSSAA Report, Jan.1899, p.18.

¹¹³ MRC, SSIMT minutes, 29 May 1900, p.234.

¹¹⁴ *Ibid*, 30 Apr.1894, p.44.

¹¹⁵ MRC, letter, Wishaw BSSAA to Hodge, 25 May 1900.

The BSSAA encouraged the adoption of universal, equitable tonnage rates to diminish internal sectionalist tensions.¹¹⁷ In 1894, the BSSAA's President, commented upon the:

Very high remuneration, which some members received, while others of them were much underpaid...in the event of a strike, sympathy would not be given to them if the public knew what large amounts some of them received, and the employers would not be slow to make the fact known. He advocated a living wage all round.¹¹⁸

In 1900, the BSSAA finally achieved standardised rates for flowing, bottoming, fettling and making tapholes. These were 7/6d., 5s. and 4s. per shift for first, second and third-hands respectively. Second-hands were paid five shillings per six-hour shift for watching four furnaces, with an addition shilling paid when five furnaces were watched.¹¹⁹

By 1900, the BSSAA terminated many inconsistencies in smelters' hours, wages and conditions. However, high wages distinguished smelters and elevated living standards or consumption; 'my father...was a first-hand melter...his wages were good but so was his thirst, and he didn't save much. My mother...got him the best fillet steak...They called it, "melter's steak"...for only the better paid steel furnacemen

¹¹⁶ *Ibid.*

¹¹⁷ RC, Labour, 1892, Vol.36,(16,482), p.394.

¹¹⁸ *Engineering*, 3 Aug.1894.

¹¹⁹ MRC, SSIMT minutes, 1 Oct.1900, p.238.

could afford it.¹²⁰ Smelters could also afford better housing than other elements within Lanarkshire's working-classes. From thirteen households listed in Holytown's rental rolls, a smelter, James Grant, together with a baker, paid £12 in rent from 1899-1900, £4 higher than two households and over double the rent of the nine remaining households.¹²¹ Collectively, smelters wielded considerable economic influence in local communities. This was demonstrated in 1881 at Hallside; 'shopkeepers and others in Cambuslang are already beginning to feel the effects of the strike, as the working classes there are mainly employed in the steelworks.'¹²²

Another strike in 1884:

Crippled trade very greatly...The ramifications of the strike have spread far and wide, not only in the coal and iron trades, but in many other industries. It is computed that the loss sustained in wages alone by the men employed in the three works, will not be much short of £20,000.¹²³

The correlation with prices produced wage volatility for forehand puddlers, forehand smelters and latterly underhand smelters. However, the continuation of shift wages maintained discrepancies between underhand and forehand puddlers. Reid argues employers' inability to produce an, 'unmediated system of supervision', resulted in the use of incentive payments as a means of control, although this proved, 'ultimately no solution'.¹²⁴ Whilst there were no incentive payments as such, both puddlers and smelters were ardently interested in maximising output. However, as a means of

¹²⁰ McGeown, *Heat*, p.40.

¹²¹ NLA, LI2002/14, Rental Roll, Holytown, 1899-1900.

¹²² *Engineering*, 27 May 1881.

¹²³ *Ibid*, 1 Feb.1884.

control, the wage system adopted in malleable iron and steelworks was ineffective and often injurious to employers, given the incessant wrangling and frequent disputes that directly resulted. This theme shall be expanded in section six.

5. The Body at Work

Conditions of labour and the working environment had profound effects upon the health of individuals. Such effects also presented opportunities for enhancing control and authority. Melling notes, 'the administration of welfare represented a whole new departure in the style of labour control open to management.'¹²⁵ Similarly, Garside and Gospel argue extended welfare provision represented a new method of employer control.¹²⁶ Indeed, had employers wished to partake, numerous welfare opportunities were available, as both trades entailed heavy labour in torrid conditions, producing various health problems. Puddling furnaces achieved temperatures exceeding 1300°C, with puddlers stirring the contents with an eight-foot rabble. In 1869, Bremner wrote, 'the work of the puddlers is probably the severest kind of labour voluntarily undertaken by men.'¹²⁷ In 1875, *Engineering* described puddling as, 'the exertion of manual labour of the most severe kind.'¹²⁸ Arduous labour took an accumulative physical toll that restricted careers; Elliot Fraser who worked for GIC from 1868-1872, then commenced employment at Dalzell, aged twenty-four, personified this. However, 'after a number of years service as a puddler, Mr. Fraser was incapacitated for such strenuous work by sciatica', becoming a general

¹²⁴ Reid, 'Employers', p.44.

¹²⁵ Melling, 'Non-commissioned', p.198.

¹²⁶ Garside & Gospel, 'Employers', pp.99-115.

¹²⁷ Bremner, *Industries*, p.51.

¹²⁸ *Engineering*, 21 May 1875.

labourer.¹²⁹ Few men over forty-five years worked as puddlers and everyone yielded under certain conditions; in July 1870, the unusually hot weather resulted in puddlers becoming, 'over-wrought', and furnaces were only operated at night.¹³⁰ Percy concluded:

Puddling is probably the severest kind of labour in the world...The majority die between the ages of forty-five and fifty years...pneumonia, or inflammation of the lungs, is the most frequent cause of their death. This is what might have been anticipated, from the fact of their exposure to great alterations of temperature under the condition of physical exhaustion.¹³¹

Smelters operated in a similar environment and pneumonia was also a prominent cause of death amongst smelters from 1892-1900, depicted in table eighteen. Lower grades carried out the harshest labour, particularly during charging and McGeown stressed the importance of achieving advancement before middle age:

Though my father was fit and well, he was forty-five now...he had reached the height of his ambitions, but he found the going still hard. His shirts were just as wet with sweat as ever they were...my mother...knew the danger signals too well, the eyes far back in the head, the voice hoarse, almost inaudible, from his strength-sapped lungs.¹³²

¹²⁹ *Colvilles Magazine*, Jan.1920, p.4.

¹³⁰ *Engineering*, 29 July, 5 Aug.1870.

¹³¹ Percy, *Metallurgy*, p.656.

¹³² McGeown, *Heat*, p.41.

Intense physical labour around furnaces reaching temperatures around 1,800°C were followed by periods of relative inactivity amidst Lanarkshire's cold and damp night air. Exposure to sharply fluctuating temperatures made furnacemen susceptible to chills and chest infections, which might result in death from pneumonia, (15%) and nephritis, (6%) a kidney disease often caused by throat infections. Significant numbers also died from phthisis/tuberculosis, (22%). When the deaths of almost a hundred smelters between 1892 and 1900 are collated, over half could be attributable to working conditions, although external causes, such as housing, diet, etc., can not be excluded. Other causes of death included alcoholism and heart failure, which might relate to employment conditions or lifestyle. Although, 9% of Scottish smelters died in workplace accidents, 25% of smelter deaths were definitely non-work related and included diabetes and drowning.

Table 18. Smelter Deaths, 1892-1900.

Cause of death	No. (Scot)	% (Scot)	No. (Eng & Wales)	% (Eng & Wales)	Total No.	% of total
Accident	3	9.37%	5	7.57%	8	8.16%
Phthisis/TB	7	21.87%	16	24.24%	23	23.47%
Pneumonia	2	6.25%	13	19.69%	15	15.31%
Influenza	4	12.5%	1	1.51%	5	5.1%
Peritonitis	2	6.25%	2	3.03%	4	4.1%
Nephritis	1	3.12%	5	7.57%	6	6.12%
Other	5	15.62%	7	10.6	12	12.24%
Non-work related	8	25%	17	25.75%	25	25.51%
Total	32	99.98%	66	99.96%	98	100.01%

Whatever, the cause of death, the BSSAA paid a deceased member's family £40

funeral benefit.

Some puddlers enjoyed similar benefits by membership of Friendly Societies.

Mossend Ironworks Friendly Society was created in 1859 and all ironworkers were eligible, although benefits for illness and bereavement were linked to contributions, ranging from 9d. to 1/6d. per month.¹³³ Consequently, forehand puddlers could afford higher contributions and enjoyed greater benefits than underhands. Although fatalities were unusual, Hodge argued Scotland should adopt the English procedure of coroner's inquests for fatal accidents. Further, Hodge observed, 'there are a great number of what we might describe as small accidents - men losing a toe, or a finger or getting burnt.'¹³⁴ Hodge maintained general sanitation was poor, lighting often atrocious, some steelworks provided no protection from the sun or inclement weather and there were few guardrails to prevent men falling into pits or ladles containing molten metal. Visits from factory inspectors were rare and, 'if they do visit...they have always got their eyes shut.'¹³⁵

Although some works supplied doctors to attend medical emergencies, a significant part, if not all their fees were paid by labour rather than capital. In 1890, Dalzell's doctor applied to the workmen to raise medical charges from 2d. to 3d. per week resulting from, 'the greatly improved wages of the workmen since the fixing of the 2d., the fact that the rate in most works was 3d., frequent and untimely calls', etc.¹³⁶

After discussion, smelters voted acceptance but, 'the millmen were the cause of

¹³³ NAS, FS4/1025, Rules of Mossend Ironworks Friendly Society, 1859, p.3.

¹³⁴ RC, Labour, 1892, Vol.36,(16,444), p.393.

¹³⁵ *Ibid*, (16,446).

¹³⁶ MRC, BSSAA Report, Oct.1890, p.191.

defeating the Doctor's claim'.¹³⁷ This embarrassed the BSSAA who condemned the millmen; 'we fail to understand how any man continually fighting to better his position could refuse to grant the Doctor's request.'¹³⁸ Clegg, Fox and Thompson regard the system of benefits as, 'a crucial element in control of working conditions', and note, 'benefits were also a disciplinary weapon.'¹³⁹ The BSSAA paid various benefits including, strike, lockout, victim, discharge, suspension, funeral, idle, and furnace repair benefit, although the latter was abolished in 1891.¹⁴⁰ The union even constructed housing in Scotland and England, on a limited scale, for some members.¹⁴¹ Although capital provided communal welfarist amenities such as churches, Savage and Miles note, 'more direct involvement in workers' lives was minimal...they seldom gave pensions or sick pay'.¹⁴² Indeed, the BSSAA rather than capital extended more practical, personal welfare measures and exerted most resultant disciplinary power over individual workers, circumventing the steelmasters' paternalist provision and securing smelters' loyalty. However, welfare was limited; infirmity induced by enduring labour rather than accident was inapplicable. In 1898, Blochairn's doctor noted James Cunningham was, 'in a weak state of health, suffering from blood spitting and other incipient lung trouble...he has strongly advised him to leave his present employment.'¹⁴³ Nonetheless, Cunningham remained ineligible for benefit.

Both smelters and puddlers were notorious for alcohol abuse, often perceived by

¹³⁷ *Ibid*, Oct.1890, p.191.

¹³⁸ *Ibid*.

¹³⁹ Clegg, Fox &Thompson, *History*, pp.6-7.

¹⁴⁰ *Ibid*, June 1891, p.367.

¹⁴¹ Hodge, *Workman's*, pp.91-93.

¹⁴² Savage &Miles, *Remaking*, p.43.

¹⁴³ MRC, BSSAA Report, Mar.1898, p.73.

labour leaders as a debilitating, demoralising influence. BSSAA rules barred their general secretary from owning or having interests in a public house, members drunk at meetings were fined and those sacked for, 'insobriety', were ineligible for benefit.¹⁴⁴ Further, smelters using, 'language of a vulgar or filthy nature, cursing or swearing', were expelled from meetings and could be fined.¹⁴⁵ Similar rules on swearing applied to Mossend's puddlers. Those, 'found intoxicated, quarrelling or gambling or entering a public house for such a purpose', were also ineligible for sickness benefit, as were members with illnesses induced by, 'indecent, immoral or criminal acts.'¹⁴⁶ Therefore, labour organisations echoed certain masters' attempts to moralise the workforce, noted in chapters one and two.

Joyce states, 'the paternalism that mattered most widely...was a church here, a school or canteen there, and always the stream of social life that characterised all factories.'¹⁴⁷ Surely what mattered most to workmen was security – that is how to sustain their families in times of unemployment, accident or illness? Relief was provided by the union or friendly society, which secured the economic and physical necessities of life during periods of hardship. Whilst smelters enjoyed more widespread benefits than puddlers, the welfare provision of workmen's societies bolstered independence and undermined employer control, which detracts from the arguments of Melling, Garside and Gospel.

¹⁴⁴ NAS, FS7/110, BSSAA constitution, pp.15-25.

¹⁴⁵ *Ibid*, p.28.

¹⁴⁶ NAS, Rules, Mossend Ironworks Friendly Society, pp.6-7.

¹⁴⁷ Joyce, *Work*, p.145.

6. Relationships between Furnacemen

The relationship between furnacemen had various implications regarding levels of independence and authority. McGuffie argues labour's autonomy emanated partly from skill levels, but also the collective, 'power of organisation.'¹⁴⁸ Alternatively, Melling highlights the importance of supervisory classes of labour as a means of enforcing the, 'frontier of control'.¹⁴⁹ Indeed, Littler highlights collusion, arguing subcontractors actively subjugated fellow workers.¹⁵⁰ As forehand puddlers were subcontractors, wage rates caused friction and disputes with underhands. In 1897, Waverley's underhands claimed wage increases from 3/5d. to 3/10d. per shift and requested SMITCAB provide arbitration.¹⁵¹ Although forehands were responsible for paying underhands, when seemingly intractable disputes arose, masters occasionally intervened to ensure a hastened return to work. This occurred at Clydesdale in 1897, when forehands and the ironmaster each conceded 1d. to meet the underhands' claim.¹⁵² This co-operation between master and forehands appears to support Melling's interpretation of masters courting the foreman class of workmen. Conversely, the employer's willingness to concede funds might reflect the significant disruption throughout the ironworks caused by puddlers' internal disputes.

Various historians comment on subcontractors' hegemony. Littler claims, 'the gaffer enjoyed virtually unlimited power over the underhands.'¹⁵³ Similarly, McGuffie states, 'in Europe...it is very unlikely that the contractor would see himself, or be

¹⁴⁸ McGuffie, *Metal*, pp.35-36.

¹⁴⁹ Melling, 'Non-commissioned', p.191.

¹⁵⁰ Littler, *Development*, p.78.

¹⁵¹ GUBA, SMITCAB minutes, 16 Dec.1897, p.35.

¹⁵² *Ibid.*

¹⁵³ Littler, *Development*, p.68.

seen, as anything other than a driver of workers'.¹⁵⁴ Finally, Hinton declares, 'rollers and puddlers in iron and steel...continued to lord it over their less skilled helpers.'¹⁵⁵ However, the forehands' relationship with underhands was not as asymmetric as Littler, Hinton or McGuffie claim. In 1867, Kane confirmed puddlers' reliance upon underhands; 'they cannot work without their underhand.'¹⁵⁶ Various factors mitigated subservience and boosted underhands' bargaining power. In addition to basic pay, underhand puddlers received an extra bonus or 'allowance' from forehands. A forehand at Waverley stated, 'when he was engaging an underhand he told him that 3/5d. was his wage but that he would pay him 3d. extra out of his own pocket. All the forehands at the furnace made that extra allowance'.¹⁵⁷ At Rochsolloch, forehands paid underhands the extra via the company office, with the result that by 1897 it, 'stood as a rate.'¹⁵⁸ R. Marr, Motherwell's labour delegate declared the, 'giving of extra allowances by the forehands to the underhands was universal. Some gave more than others and these allowances formed no part of the wage.'¹⁵⁹ These were not the actions of a, 'driver', of labour, but the manifestation of competition between forehands to obtain superior underhands. The resulting disruption adversely affected masters. Indeed, Littler's perception of 'co-domination' is at variance with testimony from George Garrett, Rochsolloch's ironmaster, who declared he was, 'troubled by forehands enticing underhands from other forehands by the payment of pocket money.'¹⁶⁰

¹⁵⁴ McGuffie, *Metal*, p.71.

¹⁵⁵ Hinton, 'Mass', pp.20-46.

¹⁵⁶ RC, Unions, 1868-1869, Vol.31,(8496).

¹⁵⁷ GUBA, SMITCAB minutes, 16 Dec.1897, p.49.

¹⁵⁸ *Ibid.*

¹⁵⁹ *Ibid.*

¹⁶⁰ *Ibid.*

For forehands, increased costs were outweighed by the benefits of securing a capable worker, who increased furnace efficiency and output, thereby increasing the forehand's income. Competition was exacerbated when forehands were impaired by some physical difficulty. Sick or elderly forehands maintained their income and extended careers by paying extra to receive the services of an able underhand. Indeed, 'if the forehand was weakly and got a robust underhand he would naturally make him an allowance.'¹⁶¹ Similarly, underhands at Rochsolloch were paid 5d. extra by, 'old puddlers, who had been there over twenty years and who were willing to give the extra money to get good underhands.'¹⁶² Finally, as conditions varied, allowances might attract underhands to unpopular ironworks. However, underhands were not restricted to financial gain and profited from the elder workman's experience, thereby learning the trade and hastening promotion to forehand. Whilst furnace-keepers and smelters controlled larger groups of workmen, the relatively small puddling teams facilitated closer personal relationships. Therefore, despite Littler and McGuffie's assertions, the relationship between forehand and underhand was multi-dimensional and often exhibited the characteristics of a partnership, as well as the more direct economic relationship between master and man.

During the infancy of Lanarkshire's steel industry, many smelters were employed by subcontractors, although Colville's consistently maintained direct employment.¹⁶³

Payments received by Chassett & Thomas, smelting contractors at Newton are given in table nineteen. This subcontractor was paid from £287 to £403 per week between

¹⁶¹ *Ibid*, p.51.

¹⁶² *Ibid*, 26 Nov.1897, p.42.

¹⁶³ Hodge, *Workman's*, p.40.

July and October 1881.¹⁶⁴ Significantly, in addition to fining and firing, subcontractors such as Chassett & Thomas were responsible for workmen's rent, thereby holding the power of eviction.

Table 19. Weekly Payment, Chassett & Thomas, Smelting Contractors, 1881.¹⁶⁵

Type of steel	Quantity (Tons, Cwt., Qrs., Lbs.)	Rate per Ton	Payment
Common steels, type A-H	475 tons 1 cwt. 2 qrs. 21lbs.	4/8d.	£112 2d.
Common steels, type J-U	546 tons 1 cwt.	4/6d.	£122 19/9d.
Special steels, type A-H	168 tons 5 cwt. 3 qrs. 14 lbs.	4/10d.	£159 1d.
Special steels, type J-U	489 tons 1 cwt. 21 lbs.	4/10d.	£394
Less workmen's rents			£5 7/5d.
Net Payment			£388 12/5d.

These figures are for the week ending 17 Sept. 1881.

Therefore, co-domination with capital was theoretically feasible for melting-shop contractors, but in reality sub-contracting encompassed a source of friction that often hindered operations. In 1881, striking smelters at Blochairn were, 'willing to continue working direct to the company, but not through the medium of a contractor, as has been proposed by the company.'¹⁶⁶ Pugh claims the BSSAA's formation broke the contracting system in 1886, when Hodge persuaded SCS to directly employ smelters.¹⁶⁷ The old contracting rate was split between the smelters in agreed proportions.¹⁶⁸ By 1892, direct employment was standard; Hodge testified there were few melting-shop contractors, except in Sheffield, where contractors' power was

¹⁶⁴ NAS, SCS Salary Book, 1880-1881.

¹⁶⁵ NAS, SCS Salary Book, 1880-1881.

¹⁶⁶ *Engineering*, 10 June 1881.

¹⁶⁷ Pugh, *Men*, p.156.

¹⁶⁸ Elbaum, 'Making', pp.71-107.

circumscribed, 'he is more of a manager with a bonus than a contractor.'¹⁶⁹ Further, the extent of the melting-shop subcontractor's hegemony is questionable. Forehand smelters were difficult to replace and were favourably treated. Following an unsuccessful strike at Hallside in 1881, the underhand smelters' wages were reduced, but forehands were exempted, despite their prominent role.¹⁷⁰ This reflected forehands' power and represented an attempt at maintaining good relations and encouraging sectionalism. Although forehands effectively 'sold out' the underhands, this suited their immediate interests, just as previously it accommodated them to combine with underhands against capital. Therefore, although forehands carried out united action with capital against junior workmen, this does not vindicate Littler. Rather, it supports Burgess who states, 'in Britain supervisors have not been effectively assimilated either as a faction of capital or as part of the collective control exercised by labour.'¹⁷¹

Prior to the BSSAA's formation there was limited united action amongst Lanarkshire's smelters. During a strike at Newton in 1881, smelters at Blochairn also struck. Although both works were owned by SCS, Blochairn's smelters probably sought advantage from the disruption at Newton to address separate grievances. Indeed, Blochairn's smelters resumed work although Newton's strikers remained out. Consequently, loyalty remained restricted to immediate workmates, rather than colleagues at neighbouring works owned by the same company, supporting Knox's depiction of the pre-1880 period. Further, in December 1883, a dispute originated from wage cuts at Newton and Blochairn, which spread to

¹⁶⁹ RC, Labour, 1892, Vol.36,(16,424-16,425), p.392.

¹⁷⁰ *Engineering*, 24 June 1881.

Parkhead, Dalzell and Mossend. Although Mossend's steelworkers capitulated swiftly, the SCS finally threatened to sack strikers and import English blacklegs unless the men resumed work. The threat was effective and the strikers struggled to maintain cohesion; 'the various sections of the workmen seemed all to be acting separately, and eventually those of them who were in the most needy condition saw that discretion was the better part of valour.'¹⁷² After a strike of three months duration, *Engineering*, predicted many steelworkers, 'even to the extent of the melters', would concede defeat, nonetheless smelters, 'vowed that rather than accept the reduced terms they were willing to walk about the streets for three months'.¹⁷³ However, a month later smelters voted to resume work provided assurances regarding victimisation were received. The strike illustrates the smelters' unity, organisation and loyalty to their group leaders, but also highlights the wider sectionalism and disunity within steelworks.

Another dispute in Motherwell provided the catalyst for the formation of the first solely steelworkers' trade union; the Steel Smelters' Amalgamated Association, (which later became the BSSAA), was formed in Glasgow in January 1886, with John Hodge becoming General Secretary. Pugh states there was no natural precedent for the union, as Scotland's malleable ironworkers were, 'the least responsive...to the idea of combination', but Colville's attempt to reduce wages and dispense with third-hands, provoked smelters into forming the union.¹⁷⁴ By 1892, the BSSAA incorporated 5,140 members in Scotland, Northeast England, the Midlands,

¹⁷¹ Burgess, *Authority*, p.212.

¹⁷² *Engineering*, 25 Jan.1884.

¹⁷³ *Ibid*, 1 Feb.1884.

¹⁷⁴ Pugh, *Men*, p.85.

Lancashire, Staffordshire and South Wales.¹⁷⁵ Whilst the puddlers' union also incorporated millmen and shinglers, the BSSAA encouraged sectional identity and unanimity amongst smelters. Solidarity was bolstered by rules including the naming and shaming of men tardy with subscriptions. A published blacklist of smelters in arrears, prevented them obtaining employment at other unionised works.¹⁷⁶ This was reinforced by the adoption of clearance cards, signed by BSSAA officials on departure and arrival, but refused to members over twelve shillings in arrears.¹⁷⁷ Bonds were reinforced by social interaction; smelters at a social evening in Coatbridge declared; 'the supper was good, the singing likewise, and the dancing splendid.'¹⁷⁸ Further, in 1889 his melting-shop colleagues presented Donald McKechnie with a, 'purse of sovereigns'.¹⁷⁹

A row or 'bank' of eight furnaces was collectively known as a, 'melting-shop'. Each melting-shop was controlled by an experienced forehand promoted to, 'sample-passer'; John Wilson acquired eleven years' experience as a smelter before becoming sample-passer.¹⁸⁰ Sample-passers assessed the steel's quality and generally acted as foremen, occasionally becoming under-managers. Although the manager was nominally in charge, he lacked the experience and skills of sample-passers who advised on technical matters and disciplined recalcitrant workmen. Consequently, the sample-passer constituted the *de facto* authority in melting-shops and exerted the greatest influence on smelters. Whilst Reid asserts foremen were still recruited from

¹⁷⁵ RC, Labour, 1892, Vol.36,(16,367-16,373), p.839.

¹⁷⁶ MRC, BSSAA Report, Oct.1890, p.190.

¹⁷⁷ *Ibid*, July 1890, p.142.

¹⁷⁸ *Ibid*, Nov.1890, p.206.

¹⁷⁹ *Ibid*, Sept.1889, p.36.

¹⁸⁰ *Colville's Magazine*, Dec.1921, p.226.

skilled workmen, McGuffie claims that sample-passers' influence was superseded by technology by 1900, citing McGeown as evidence.¹⁸¹ However, McGuffie misquotes McGeown, omitting the crucial word, 'nowadays'. In 1967 McGeown actually wrote, 'nowadays the sample-passer...looks to the laboratory to confirm his practical knowledge...but where I worked they were all former first-hand melters of vast experience.'¹⁸² As McGeown started work in 1914, his statement confirms, rather than undermines, the sample-passers' influence throughout the period.

The BSSAA protected smelters from abusive sample-passers, supporting Garside and Gospel's assertion that foremen's hegemony was capped by effective trade union organisation.¹⁸³ In 1889, John Thompson, sample-passer at Blochairn, threatened to, 'punch the guts in', of one smelter and called him an, 'Irish bastard'.¹⁸⁴ In response, smelters threatened to strike unless Thompson was reprimanded, forcing the manager's intervention to chastise Thompson. Similarly, in 1891, A. McDougall, sample-passer at Newton, 'having forgot the lesson taught to him a couple of years ago has had again to be muzzled.'¹⁸⁵ Finally, smelters leaving work due to, 'unjustifiable abuse or ill-treatment from an employer or foreman', were entitled to strike benefit.¹⁸⁶ BSSAA rules barred sample-passers from working furnaces or teeming charges unless they joined the union and prevented sample-passers appropriating another smelter's furnace whilst theirs was being repaired.¹⁸⁷ E. Lougher provided corresponding evidence of the BSSAA's impact in Wales in 1892.

¹⁸¹ McGuffie, *Metal*, p.xxiii.

¹⁸² McGeown, *Heat*, p.11.

¹⁸³ Garside & Gospel, 'Employers', pp.99-115.

¹⁸⁴ MRC, BSSAA Report, Sept.1889, p.36.

¹⁸⁵ *Ibid*, Oct. 1891, p.448.

¹⁸⁶ NAS, FS7/110, BSSAA constitution, 1898, p.25.

¹⁸⁷ *Ibid*, p.31.

Lougher stated the BSSAA prevented, 'under-gaffers and under-managers from bullying the men', whilst sample-passers were prohibited from imposing fines for alleged negligence without appeal.¹⁸⁸

By publicising such cases, the BSSAA projected membership's benefits and highlighted its power over traditionally authoritative figures. Sample-passers were simultaneously chastised and cajoled into the union; 'Mr. Thompson...may realise that he is better off pulling with, than against the men'.¹⁸⁹ Whilst Melling notes masters' attempts to assimilate foremen, the BSSAA adopted similar policies, endorsing the appointment of trade unionists and opposing unsuitable candidates. In 1898, the Dalzell branch refused, 'to allow a member named Goss to be put on as foreman because of his bad behaviour as a member, and his bad tongue when he had been acting as foreman'.¹⁹⁰ Social interaction also tightened bonds; in 1890 John Thompson, the formerly abusive sample-passer at Blochairn, commented on the, 'good feeling which existed amongst the men and the foremen', during a social evening.¹⁹¹ This evidence reinforces Reid's assertion that masters only enjoyed partial success in detaching foremen from labour and demonstrates labour, as well as capital, influenced foremen, thus substantiating Burgess.

McIvor's states, 'for a great many employees it was fellow workers and subcontractors who were seen to be the exploiters, rather than the masters'.¹⁹²

Indeed, from its inception the BSSAA's primary concerns were the perceived abuses

¹⁸⁸ RC, Labour, 1892, Vol.36,(16,601), p.399.

¹⁸⁹ MRC, BSSAA Report, Sept.1889, p.36.

¹⁹⁰ *Ibid*, Oct.1898, p.264.

¹⁹¹ *Ibid*, Mar.1890, p.100.

of foremen or contractors, rather than masters. McGuffie asks, 'why skilled workers, if they allegedly had a large degree of control over the labour process, were so concerned about the position of contractors....The answer is to be found in the underlying *employer-inspired* rationality of the entire system.'¹⁹³ Smelters had an alternative explanation; in 1892 R. Anson testified, 'these contractors....take the bulk of the money'.¹⁹⁴ Financial motivation also precipitated the BSSAA's assault on a practice known as the, 'gaffer's furnace'. Although SCS and Beardmores directly employed sample-passers, at other steelworks it was customary for sample-passers to receive the forehand's pay from the melting-shop's highest producing furnace, with each smelter from this furnace being displaced one grade in wages.¹⁹⁵ In 1889, smelters at Dalzell and Parkhead struck to demand the custom's termination and time wages for all foremen. This was instigated by the BSSAA, which had taken account of the state of trade, reinforcing Melling, McIvor and Cronin's emphasis on economic conditions. The *Motherwell Times* reported:

The smelters were fully prepared for entering on strike against the foremen. There is at present a press for the delivery of specifications, and the employers could not afford a strike for such a trifling matter...they agreed...to give in to the men's demands, which only concern one man's wages at every eighth furnace.¹⁹⁶

Most firms, including GI&SCo. in 1895, reasoned the issue was not worth

¹⁹² McIvor, *Work*, p.83.

¹⁹³ McGuffie, *Metal*, p.69.

¹⁹⁴ RC, Labour, 1892, Vol.36,(16,701), p.404.

¹⁹⁵ *Motherwell Times*, 4 May 1889.

confrontation with the BSSAA and abolished the practice, which improved relations with smelters without financial loss. However, capital's capitulation and the chastisement of foremen by firms in response to complaints, indicated steelmasters' reluctance to support the sample-passers. By failing to uphold sample-passers' authority, the likelihood of reciprocal support was diminished. Pugh states, 'sample-passers and foremen found that they had interests to protect no less than the men they supervised...Consequently there developed sample-passers, and foremen's branches of the union.'¹⁹⁷ Therefore, despite McGuffie, Littler and Melling's assertions, labour rather than capital, often held the greatest influence over foremen, which further weakened capital's workplace control in Lanarkshire's steelworks.

7. Relationship with other Workmen.

In addition to their underhands, forehand puddlers paid pig-wheelers for bringing raw materials to the furnace. At Phoenix in 1900, the recommended rate was 7d. per ton, 'to cover all emptying of pig iron and metal, breaking, wheeling and stocking puddling furnaces'.¹⁹⁸ Puddlers also paid 3d. per ton to shinglers for turning up.¹⁹⁹ Therefore, forehand puddlers either employed or contributed to various workmen's wages, which increased their influence within the forge.

However, puddlers and smelters derived greatest influence from their strategic position at the beginning of the production process, reinforcing Clegg's perceptions.

¹⁹⁶ *Ibid.*

¹⁹⁷ Pugh, *Men*, p.98.

¹⁹⁸ GUBA, SMITCAB minutes, 5 May 1900, p.318.

¹⁹⁹ *Ibid*, 28 May, 8 July 1897, pp.6, 23.

Furnace output usually determined the quantities worked by subsequent groups. Consequently, restricted output by puddlers adversely affected the wages of various workmen; fewer heats, 'was a loss to the heater, shearer and roller.'²⁰⁰ Disruptions to supply were particularly costly to other subcontractors, including forehand rollers, who received tonnage rates, but paid their underhands shift rates regardless of output. This provided a considerable advantage to puddlers that was exploited when sectional disputes arose. Following an unsuccessful strike in 1871, when puddlers supported millmen in a failed dispute with capital, puddlers targeted millmen as retribution; 'the puddlers seem determined....to keep down the stocks of puddled iron, so that in the event of any dispute taking place, the millmen, who are still blamed for the present low rate of wages, will have to "knock off" for want of iron.'²⁰¹ Consequently, puddlers' assertion that, 'they knew their fellow workmen depended on the work going on. They very often might overlook the employers, but they did not overlook their fellow workmen', should perhaps be regarded skeptically.²⁰²

Smelters' disputes also caused disruption throughout the steelworks, regardless of whether other labour sections supported them or not. This was apparent during a five-week dispute at Newton in 1881, when smelters struck for a 10% wage increase. Although initially unsupported, the termination of output forced millmen to stop work as supplies diminished. *Engineering* noted:

The works at Hallside are almost at a standstill. At first the number of men

²⁰⁰ *Ibid*, 25 Aug.1898, p.172.

²⁰¹ *Engineering*, 19 May 1871.

who actually struck was not more than 400, but their stopping immediately threw upwards of 700 more out of work; and if the dispute lasts over this week the whole of the workmen, numbering about 1,400, are expected...to be out.²⁰³

Such disputes engendered bitterness towards those deemed responsible, especially as strikers and non-strikers suffered equally; 'many of the hands who did not strike, but were thrown out of work by their fellow-workmen, have also had their wages reduced.'²⁰⁴

Whilst positional advantages gave furnace operatives considerable power over other sections of labour as well as capital, ironmasters imposed various restrictions to prevent puddlers' domination. Melling argues workplace controls increased capital's hegemony.²⁰⁵ Indeed, many masters insisted on paying only for 'finished iron'. The exact point at which this occurred and puddlers' responsibility ceased varied between ironworks. At Etna, the puddlers' responsibility terminated once, 'the iron came out through the tap hole.'²⁰⁶ However, at Crown puddlers were responsible until the iron was passed to the shingler.²⁰⁷ Further, Gartcosh's master stated, 'it was the custom in all the works not to pay for any iron unless it passed through the rolls.'²⁰⁸ In other works payment occurred after the edges were trimmed from finished plates, thereby reducing the tonnage; 'it was not customary to pay for iron until it had passed the

²⁰² GUBA, SMITCAB minutes, 26 Jan.1900, p.233.

²⁰³ *Engineering*, 27 May 1881.

²⁰⁴ *Ibid*, 24 June 1881.

²⁰⁵ Melling, 'Non-commissioned', pp.183-221.

²⁰⁶ GUBA, SMITCAB minutes, 4 June 1901, p.413.

²⁰⁷ *Ibid*.

²⁰⁸ *Ibid*, p.412.

scales. The roller, the furnaceman and the shearer were all concerned, and if the iron was spoiled through a mistake of any of them then they all suffered.'²⁰⁹ This type of system limited puddlers' unilateral action and enforced collective responsibility amongst ironworkers, which varied in extent. Consequently, puddlers' hegemony fluctuated between ironworks, depending upon established custom.

Puddlers could suffer financially if disruptions occurred later in the manufacturing process; when a hammer was inoperable, puddlers were forced to retain iron within the furnace or withdraw the iron, which cooled. Puddlers were expected to reheat 'drawn' iron to the required temperature for shingling before they received payment.²¹⁰ Whichever course puddlers followed, their output and income were reduced.²¹¹ Although some employers occasionally allowed puddlers to scrap their iron without any penalty, puddlers who acted without the foreman's permission could be fined. Puddlers who, 'flung their heats out', at Etna were fined eighteen shillings.²¹² This system promoted inter-dependence between puddlers and shinglers, possibly generating greater co-operation amongst forge workers. Etna's ironmaster noted, 'the shingler held an important situation...the puddlers would be the first to complain if the iron was spoiled, although they might excuse a young man until he got experience.'²¹³ Smelters were also vulnerable to stoppages in the mill that curtailed output; in 1890 a breakdown of the guillotine shears in Blochairn's cogging mill resulted in only four furnaces remaining operational, the remainder were damped until the shears were repaired.

²⁰⁹ *Ibid*, p.414.

²¹⁰ *Ibid*, p.405.

²¹¹ *Ibid*, pp.408, 412.

²¹² *Ibid*.

Employers actively sought to maintain customs that restricted their financial liability and encouraged sectional divisions. James Hamilton argued, 'the puddler must take some risk of a breakage of machinery. If they were to take and alter customs which had been in operation so long they did not know where they would end.'²¹⁴ In 1901, the spare hammer-driver at Crown damaged the hammer; puddlers had to withdraw their iron and complained when they were not paid. Hamilton argued this was standard practice and blamed the hammer-driver complaining, 'the employers were asked to take all the risks and the operatives none...One of the operatives had been at fault and they wanted the employer to pay.'²¹⁵ Alternatively, workmen maintained Hamilton was responsible for works' machinery. This type of triangular argument over ultimate responsibility was repeated incessantly and often stemmed from masters' attempts to weaken the workforce by exacerbating sectionalism.

Melling can be criticised for under-emphasising labour's workplace controls. Workmen facilitated communal solidarity by various restrictive practices that negated the effectiveness of managerial authority. Forehand smelters employed the system of, 'working round', which stipulated if a furnace was idle for over two weeks the available work was shared.²¹⁶ The masters perceived working-round as an infringement of managerial prerogative; the manager, 'was advised to inform the men that this was a matter of works discipline and organisation, and that the

²¹³ *Ibid*, 9 Feb.1900, p.241.

²¹⁴ *Ibid*, 4 June 1901, p.408.

²¹⁵ *Ibid*, p.410.

²¹⁶ MRC, BSSAA Report, June 1891, p.381.

management cannot be allowed to pass into the hands of the men.'²¹⁷ However, the BSSAA wished to extend the system, which remained contentious throughout the period.²¹⁸ In 1895, Newton's smelters refused a managerial request to commence their shift two hours early, as this would require one less furnace and fewer smelters to produce the same output. This earned them the BSSAA's, 'congratulations'.²¹⁹ Similarly, puddlers refused to work other puddlers' furnaces, until compelled by SMITCAB in 1898.²²⁰ Another custom dictated that if a shift finished prematurely, the same shift would re-start work, rather than the next shift commencing. Such customs protected puddlers from victimisation and encouraged collective identity and solidarity, but entailed widespread disruption. Nonetheless, they were upheld despite the opposition of the ironmasters, trade union leaders and labour delegates to SMITCAB. Puddlers' wildcat action and restrictive practices particularly angered the millmen's leaders. In 1900, John Cronin declared, 'this old custom, that the shift which knocked off must be the first to start work was absurd. It had cost them a week's work at Drumpellier recently. They ought to put their foot on these old customs.'²²¹ However, in 1902, Crown's night-shift puddlers terminated work protesting about fuel quality and the day-shift demonstrated solidarity by refusing to start work. The master complained that even Crown's SMITCAB delegate refused to work; 'the present representative at the Crown Ironworks was one of their oldest workmen, and as decent a man as they had, and he was one of the day shift men who refused to work. When asked the reason, he said he didn't want to be a blackleg.'²²²

²¹⁷ MRC, SSIMT minutes, 19 Oct.1900, p.252.

²¹⁸ *Ibid*, 30 Apr.1901, p.301.

²¹⁹ MRC, BSSAA Report, Mar.1895, p.282.

²²⁰ GUBA, SMITCAB minutes, 9 June 1898, p.169.

²²¹ *Ibid*, 9 Feb.1900, p.257.

²²² *Ibid*, 6 June 1902, p.124.

Therefore, for this individual, solidarity with fellow puddlers was more important than loyalty to the union, the ironmaster or SMITCAB. Such stubborn assertions of independence in the face of various forms of authority further contradicts McGuffie's hypothesis and Knox's assertion that loyalty to the union superceded the workplace group after 1880.

Zeitlin argues, 'for the vast majority of skilled workers, formal organisation and central union co-ordination were also essential to maintain a measure of job control.'²²³ However, the NAI and later the ASS&IW both incorporated puddlers, shinglers and millmen, but was usually restricted to forehands.²²⁴ Consequently, sectionalist divisions weakened malleable ironworkers' unions. Alternatively, incorporation within the BSSAA diluted sectionalist tensions amongst smelters. The BSSAA achieved greater unity between first-hands and underhands by the introduction of rated contributions. Although sample-passers were also members, Littler asserts the BSSAA became the, 'union of the underhands'.²²⁵ More perceives the policies of 'all-grades' unions as a deliberate attempt to end sectionalism, stating, the BSSAA's policies, 'contrasted sharply', with the, 'aristocratic ironworkers', union.²²⁶ Similarly, Clegg, Fox and Thompson declare that few underhands joined the NAI and, 'though the underhands might join the union at half rates, they could expect no protection against the contractors.'²²⁷ Indeed, 'underhands... were admitted to the union only on subordinate terms.'²²⁸ Further, Burgess argues the

²²³ Zeitlin, 'From', pp.159-184.

²²⁴ Elbaum, 'Making', pp71-107.

²²⁵ Littler, *Labour*, p.77.

²²⁶ More, *Skill*, p.233.

²²⁷ Clegg, Fox & Thompson, *History*, pp.22-23.

²²⁸ *Ibid*, p.204.

formation of all-grades unions, 'encouraged a more militant if not "revolutionary" conception of trade unionism...cutting across established occupational and even industrial divisions.'²²⁹ However, the BSSAA's influence over some smelters remained elusive. This was illustrated by the Clydebridge millmen's strike in 1889, which demanded the reinstatement of thirteen sacked trade unionists from the ASMS.²³⁰ The issue transcended sectionalist differences and the BSSAA Executive voted £50 for the strikers noting, 'it is expected that the men in the smelting department...will join issue with the millmen'.²³¹ Although the leadership perceived the common cause, sectionalist perceptions on the ground were stronger and smelters at Clydebridge continued working. John Cronin, the ASMS secretary, appealed to the BSSAA:

It would be to the advantage of the [smelters'] Association to induce these men to come out on and join the [millmen's] society...he contended that it was in the interests of the whole of them to see that the men were not handicapped by employers who defied the society.²³²

After Cronin was imprisoned, Alexander Haddow, ASMS President, appealed to the BSSAA to ensure the Clydebridge smelters' support. Haddow declared, 'at Clydebridge they were fighting the principle of Trade Unionism - It was not a question of wages - they did not want money - but they could not get the melters out

²²⁹ Burgess, *Challenge*, p.53.

²³⁰ MRC, BSSAA Report, Sept.1889, p.38.

²³¹ *Ibid*, Sept.1889, p.39.

²³² *Ibid*, Feb.1890, p.80.

and force the firm to make a settlement.'²³³ Five months later, the BSSAA Executive Council still endeavored unsuccessfully to, 'use every means to get the melters at Clydebridge to make common cause with the millmen.'²³⁴ The Clydebridge strike illustrates the limitations of the BSSAA's power and soured inter-union relations with the ASMS, supporting Reid's point that labour could fragment into distinct and sometimes antagonistic sections.²³⁵

Hostility between the two principal Scottish steel unions exacerbated as each sought to expand its membership. Although initially restricted to smelters, the BSSAA perceived the advantages of greater inclusion. Pitmen were admitted by 1890 and in 1891 the Executive endorsed the recruitment of ladlemen.²³⁶ However, the offer or refusal of membership incorporated a source of sectionalist friction. Although 700 new members were recruited in November 1889, the Blochairn branch proposed, 'that no charge-wheelers be admitted into the Society, in consequence of the disturbance they make in claiming their turn [working the furnace].'²³⁷ Although Hodge was initially involved in organising the millmen, the BSSAA's membership rejected amalgamation, resulting in the formation of the ASMS under Cronin in 1887.²³⁸ Both unions enrolled gas-producermen. In 1892, Hodge estimated the BSSAA's membership at 3,200 skilled and 1,900 unskilled members, including gas-producermen, but observed some gas-producermen departed as, 'they thought that their interests were not looked after in the same way as the interests of the skilled

²³³ *Ibid.*

²³⁴ *Ibid.*

²³⁵ Reid, *Social*, pp.50-51.

²³⁶ BSSAA report, June 1891, p.384.

²³⁷ *Ibid*, Nov.1889, p.70.

²³⁸ Hodge, *Workman's*, pp.66-67.

men.’²³⁹ This casts doubt on Littler’s assertion regarding underhands’ influence within the BSSAA. In 1898, Hodge complained to Cronin when the ASMS recruited more producemen. Cronin retorted, ‘if any of our men or branches....left us tomorrow, we should have the greatest pleasure in knowing that they had joined your Association.’²⁴⁰ Other sections also remained aloof; in 1900 the Wishaw branch noted, ‘neither cranemen or charge-wheelers are in our union.’²⁴¹

This fragmentation into separate societies qualifies Burgess and More’s assertions regarding unanimity. Indeed, there is evidence supporting McGuffie’s statement that the working-class became more diversified, heterogeneous and disunited.²⁴²

Millmen’s refusal to join the BSSAA and the ASMS’s creation formalised divisions between the groups and encouraged antagonism. The BSSAA criticised the ASMS, particularly when smelters experienced hardship; ‘owing to the unbending attitude taken up by a section of the Millmen and Gas Producemen, the SCS will...close down’.²⁴³ However, the BSSAA’s leadership remained appreciative of the potential benefits accruing from bilateral policy. In January 1891, the BSSAA reminded smelters:

On previous occasions we have had diversity of opinion with regard to reductions and advances in wages, each society pursuing its own course.

This was not to the advantage of either. Our wage rates being controlled by

²³⁹ RC, Labour, 1892, Vol.36,(16,379), p.389.

²⁴⁰ MRC, BSSAA report, Mar.1898, p.71.

²⁴¹ MRC, correspondence, Henderson to Hodge, 25 May 1900.

²⁴² McGuffie, *Metal*, p.ix.

²⁴³ MRC, BSSAA Report, May 1890, p.121.

the same factor it is absolutely essential that our action should be similar.²⁴⁴

However, in June 1891, the ASMS sought to create a national union of millmen by a proposed amalgamation with the National Union of Iron and Steel Workers, (NUISW), a millmen's union in England. Despite their own national credentials, the BSSAA indignantly perceived the proposal as a harmful reinforcement of sectionalist divisions; 'the above mentioned societies embrace principally the millmen, that is the workmen who get ingots from us...we were not approached. I believe we would have everything to lose and nothing to gain from such a scheme.'²⁴⁵

Although, the proposal failed, relations between the BSSAA and the ASMS deteriorated as a result. During 1892, the ASMS attempted to deflect wage reductions onto smelters. The SCS's millmen argued as they had, 'accepted three special reductions, while the smelters had got none, they would give no concession.'²⁴⁶ Similarly, Colville's millmen announced they would only accept wage cuts, 'provided the smelters got it too.'²⁴⁷ Hodge retorted:

This was not the first time an illegitimate use had been made of the Smelters' position in arguing against reductions by the millmen...He had complained to Mr. Cronin about these illegitimate arguments as a direct incentive to the employers to reduce the Smelters, and likewise a dangerous argument, for, in self-protection, he would turn their own arguments and weapons against

²⁴⁴ *Ibid*, Jan.1891, p.236.

²⁴⁵ *Ibid*, June 1891, p.363.

²⁴⁶ *Ibid*, Apr.1892, p.555.

²⁴⁷ *Ibid*, p.557.

themselves.²⁴⁸

Consequently, rather than diminishing fratricidal conflict within Lanarkshire's steelworks, the creation of the BSSAA and the ASMS institutionalised labour sectionalism. This endorses Reid's point that the unions of skilled workmen could be divisive and generate antagonism.²⁴⁹ Indeed, as late as 1909 a dispute with an English millmen's union resulted in the BSSAA withdrawing from the TUC for six years.²⁵⁰ This evidence contradicts Kirk, who states, 'organised labour perceived itself to be possessed of a...holistic view of society, which overshadowed mere self-interest and sectionalism.'²⁵¹ However, in 1894, the hierarchies of the BSSAA and ASMS encouraged amalgamation to transcend sectionalist weaknesses.²⁵² Cronin urged the BSSAA's Conference to support amalgamation:

Small sectionalist societies were not fit to cope with large syndicates of capital...with the millmen you must be stronger to resist and weaker standing alone. The past policy of the employers has been - reduce smelters first, then millmen...We must have such a cutthroat policy established.²⁵³

Despite this, the smelters' membership again voted against amalgamation. Although, the BSSAA also pressed, unsuccessfully, for amalgamation with the NUISW and sought support from the ASMS and NABF over the issue of check-weighing, the

²⁴⁸ *Ibid.*

²⁴⁹ Reid, *Social*, pp.50-51.

²⁵⁰ Pugh, *Men*, pp.157-161.

²⁵¹ Kirk, *Change*, p.152.

²⁵² MRC, BSSAA Report, Jan.1894, p.110.

²⁵³ *Ibid*, July 1894, p.191.

BSSAA's rank-and-file retained sectionalist attitudes and steelworkers' union representation remained disjointed until the creation of the Iron and Steel Trades Confederation, (ISTC) in 1917. Such prolonged disunity also affected labour's relationship with capital.

8. Relationship with Capital

Whilst large-scale disputes with employers will be analysed in chapter five, most of puddlers' and smelters' strikes were on a limited scale. Disputes occurred for various reasons, but labour's chances of success were elevated when demand was high. Capital's vulnerability emanated from the malleable iron and steelmasters relatively meagre financial reserves and stock levels. Puddlers appreciated the importance of stock levels:

The stock of puddled iron...is almost nil at most of the works, and the men employed at establishments where the truck system and monthly pays are in operation seem to be aware of the brisk state of trade...they are about to seize the present opportunity of relieving themselves of those social evils.²⁵⁴

Engineering's prediction proved accurate and successful puddlers' strike originated at Mossend and spread throughout Lanarkshire over monthly pays in 1870.

Conversely, Clydesdale's smelters were unlikely to succeed in 1888, 'as supplies of ingots sufficient to keep the works going have been obtained from the Clydebridge

²⁵⁴ *Engineering*, 15-22 Apr.1870.

Steelworks'.²⁵⁵ This further illustrates labour diversity, the problems accruing from non-unionised works and the sectional divisions within Clydesdale, as millmen continued working despite the smelters' strike.

The puddlers' bargaining power and independence were magnified by mobility that enabled them to transfer their skills wherever remuneration was greatest, forcing masters to compete for their services:

Some of the Scotch ironmasters are experiencing great difficulty in getting a sufficient number of puddlers...an agent of a Scotch firm has been in the Cleveland district endeavouring to secure a number of workmen of that class. Much better wages are offered...than are paid in the North of England.²⁵⁶

This endorses Reid's point; skilled workers enjoyed excessive movement between works, which was stimulated by the employers' willingness to offer bonuses to attract skilled labour.²⁵⁷ Similarly, during the 1880s experienced smelters were at a premium, 'men were promoted according to seniority...promotion was very rapid, because the experienced were continuously migrating to the new works which were constantly springing up.'²⁵⁸ Reid also links mobility with union power; 'very strong trade unions developed partly as a result of the real skills and functional importance of the craftsmen and partly as a result of the high levels of labour mobility in such a fluctuating industry, which required generous union welfare and unemployment

²⁵⁵ *Ibid*, 20 Apr.1888.

²⁵⁶ *Ibid*, 12 Dec.1879.

²⁵⁷ Reid, 'Employers', p.45.

²⁵⁸ Hodge, *Workman's*, pp.74-75.

benefits.’²⁵⁹ Whilst welfare policies have been noted, the capability of puddlers and smelters to successfully conduct stoppages must be examined.

Puddlers’ ability to conduct prolonged stoppages was most forcibly illustrated by the strike in 1870, (see chapter five). However, disputes were usually of short duration and limited to a single issue at a solitary ironworks, reinforcing the lack of collectivism amongst labour. When Drumpellier’s ironmaster reduced furnace charges, which decreased output and lowered wages, puddlers struck for five weeks.²⁶⁰ Fuel quality also provoked conflict for similar reasons. In 1878, puddlers at Clydesdale struck for 6d. per ton extra for firing dross coal.²⁶¹ Although fuel supply was the master’s responsibility, poorer quality raw materials required more strenuous labour and produced inferior iron, which diminished wages and hurt pride; the puddler, ‘lost both financially and in his person.’²⁶² Disputes at solitary works continued throughout the period reinforcing the singularity of industrial action, despite Knox’s assertion that disputes broadened from c1880. In 1894, fuel quality ignited a successful puddlers’ strike in Motherwell; ‘the men alleged that the fuel supplied to them was of such inferior quality that, whilst entailing a great amount of extra labour, it did not permit them to do justice either to themselves or their masters.’²⁶³ In 1894 and 1896 puddlers at Motherwell and Stenton struck over the inferior quality of pig iron supplied.²⁶⁴ The problem became exacerbated as local mineral supplies were exhausted. In 1898, ‘hardly a day passed without...complaints

²⁵⁹ Reid, ‘Employers’, p.46.

²⁶⁰ *Engineering*, 31 June 1868.

²⁶¹ *Ibid*, 30 Aug.1878.

²⁶² GUBA, SMITCAB minutes, 9 June 1898, p.155.

²⁶³ *Motherwell Times*, 7 Apr.1894.

²⁶⁴ *Wishaw Press*, 1 Dec. 1894, 4 Apr.1896.

about bad dross.’²⁶⁵ In 1900, ‘the men said the work of puddling was so laborious that it was impossible for any man to work six heats for six days. Neither the fuel nor the iron ore, were the same as former.’²⁶⁶ Therefore, although deteriorating fuel quality intensified work, there was no corresponding increase in managerial control, rather there was an intensification of industrial disputes that masters often lost. Finally, the individual work-group or workplace remained the focal point of militancy, illustrating the disputes’ singularity rather than the development of wider, collective labour action.

Masters placed greater culpability upon puddlers’ notorious fondness for alcohol, which also reduced productivity.²⁶⁷ Arduous labour in torrid conditions produced dehydration that encouraged frequent drinking binges often commencing immediately wages were received. This problem was particularly acute during prosperous periods, which produced high wages and encouraged absenteeism. Reid argues, ‘the most obvious symptoms of this double failure to impose either an effective system of supervision or an effective method of incentive payment was chronic absenteeism’.²⁶⁸ Whilst conceding the problem existed, workmen argued, ‘it was not only drunkenness, but also the fact that the work was getting too heavy.’²⁶⁹ Malleable ironmasters were consistently unable to enforce discipline on puddlers and reiterated complaints as late as 1907; ‘there was a good deal of drinking with the night-shift men, and as the night wore on and the drink got exhausted the men got

²⁶⁵ GUBA, SMITCAB minutes, 9 June 1898, p.139.

²⁶⁶ *Ibid*, 26 Jan.1900, p.232.

²⁶⁷ *Ibid*.

²⁶⁸ Reid, ‘Employers’, p.45.

²⁶⁹ GUBA, SMITCAB minutes, 26 Jan. 1900, p.232.

exhausted too.²⁷⁰

Before the BSSAA's formation, forehand smelters and steelmasters relationship was frequently acrimonious. In 1881, *Engineering* observed, 'the foremen smelters, who are at the bottom of the dispute, and whose places cannot be easily filled unless by bringing men from English works, declare their determination to stand out for six months'.²⁷¹ Whilst such statements contained obvious bravado, the fact masters' seriously contemplated such threats, indicates the forehands' militancy and financial ability to withstand protracted disputes. Like the malleable ironworkers, smelters' militancy varied between works, again indicating labour's singularity. Following a wage reduction by the SSMA in 1885, Mossend's smelters accepted without dissent, but a strike resulted at Newton, Parkhead and Dalzell. Similarly, in 1886, Mossend accepted a further reduction whilst Newton struck.²⁷² This might suggest Mossend's smelters were the least militant in their dealings with management. However, Mossend's smelters faced masters implacably opposed to organised labour and bolstered by greater financial might than most steelmasters, as a result of Neilson's pig iron and mining operations. After 1886, the smelters' relationship with individual steelmasters varied. Whilst Riley at SCS was respected, the Neilsons were castigated. Hodge described Clydebridge as, 'one of the most troublesome firms we have had to deal with...The management don't seem to possess either courtesy or common-sense.'²⁷³ Even within particular works, the increasingly diversified administrative strata caused divergent attitudes towards management; at

²⁷⁰ *Ibid*, 28 Nov.1907, p.407.

²⁷¹ *Engineering*, 27 May 1881.

²⁷² *Ibid*, 8 Jan.1886.

²⁷³ MRC, BSSAA Report, Jan.1890, p.70.

Flemington, 'the men here possess a very high opinion of the managing director. They have reason to hold a contrary opinion with respect to his subordinates.'²⁷⁴ Similarly, in 1894 at Newton, the melting-shop and works' managers refused payment for steel lost when a ladle's carriage-axle snapped. However, the workmen successfully appealed to Riley and received payment. This provides further evidence of steelworkers' more positive relationship with steelmasters than junior management.

McKinlay's notes forehand smelters' autonomy from capital; 'the senior smelter was not...a managerial appointment but answerable to the workgroup.'²⁷⁵ By magnifying unity, the BSSAA increased smelters' influence over capital. Indeed, in 1886 its ability to defeat capital was stressed by the infant union to encourage recruitment:

We appeal to everyone engaged in the trade to join our ranks at once. By doing so you strengthen us and help yourselves. Realise that an attempt was made by the Motherwell Masters to reduce our wages, which by UNION was defeated.²⁷⁶

The BSSAA encouraged unity whilst strike and lockout benefit could prolong and intensify disputes with recalcitrant employers. Union welfarism, incorporating idle benefit, bolstered unity and diluted masters' traditional hegemony during economic depressions; it prevented unemployed blacklegs, 'clamouring at the works gate'.²⁷⁷

²⁷⁴ *Ibid*, Sept.1892, p.664.

²⁷⁵ McKinlay, 'Philosophers', p.88.

²⁷⁶ MRC, MSS36.BS1, BSSAA, Financial Statement, 1886-1887, p.1.

²⁷⁷ MRC, BSSAA Report, June 1891, p.365.

The union's success at Dalzell in 1886 was followed by another dispute at Clydesdale in 1888 over the issue of non-union labour.²⁷⁸ The strike lasted over three months reflecting the BSSAA's financial robustness; forehands striking for over fifteen weeks were paid £12 15s. with £7 10s. per week for second-hands.²⁷⁹



Figure 23. John Hodge, General Secretary, BSSAA. Hodge was a committed Liberal, ultimately becoming an MP and cabinet member.

These struggles persuaded employers to recognise the BSSAA and negotiate with its officials. The employers' confidence was bolstered by Hodge's adherence to moderation. The BSSAA advocated negotiation rather than confrontation, although strike action was countenanced when necessary. Hodge wrote:

²⁷⁸ *Engineering*, 23 Mar.1888.

I do not believe we gain anything by sudden stoppages...let us avoid all stoppages if possible, for such a course is alike injurious to capital and labour...Let us realise that to be ready for war is the best and greatest assurance of peace, that being well appointed and well-equipped places us in a more equal footing with capital.²⁸⁰

Negotiations between the BSSAA and steelmasters encompassed greater cordiality than in the pig iron industry. Fraser argues the unions' moderation represented an attempt to gain acceptance and middle-class support.²⁸¹ This was endorsed by the BSSAA; 'our main object as an organisation, is to get fair remuneration for our labour, without acting injuriously to the interests of our employers.'²⁸² Blochairn's branch chairman, claimed the BSSAA's achievements were, 'greatly due to the moderate language in which our requests were couched...If we show willingness to look at any question that may arise from our employers' point of view, we will be as successful in the future as in the past.'²⁸³ Indeed, the BSSAA and employers eclipsed each other in accentuating their reasonableness, although cordiality masked determined self-interest with neither side fooled by magnanimous rhetoric. Whilst demanding a wage increase, 'the delegates were requested by the men to point out how ungrudgingly they had submitted to reductions, and hoped that the Employers would act in the same spirit.'²⁸⁴ Whilst refusing a wage increase the, 'employers

²⁷⁹ MRC, MSS36.BS1, BSSAA, Financial Statement, half-year ending 30 June 1888.

²⁸⁰ MRC, BSSAA report, Feb.1890, pp.79-80.

²⁸¹ Fraser, *Unions*, pp.58-60.

²⁸² MRC, BSSAA, Financial Statement, 1886-1887, p.1.

²⁸³ MRC, BSSAA Report, Mar.1890, p.100.

²⁸⁴ *Ibid*, Mar.1896, p.130.

assured the Delegates that when they could afford to grant an advance it was a pleasure to them to do so.²⁸⁵

More aggressive self-interest was also apparent. In 1894, Hodge wrote to the SSIMT, 'if the employers...again meet us with refusal we must of necessity return to the old system of quarrelling and haggling with individual firms.'²⁸⁶ The BSSAA took advantage of the masters' disunity, occasionally targeting individual employers as, 'test cases'.²⁸⁷ Conversely, the BSSAA also urged greater unity amongst employers, contending, 'the fall in prices arose entirely from the excessive competition...the remedy for falling prices was Combination amongst the Employers'.²⁸⁸ Equitable power levels promoted acceptance and negotiation. Hodge stated, 'my experience is that a strong trade union and a strong employer's association is about the best preventative of strikes, because both parties respect one another.'²⁸⁹

Clegg, Fox and Thompson maintain the growth of collective bargaining endorsed the centralisation of union authority, despite initial resistance from local officials and elements of the rank-and-file.²⁹⁰ Similarly, McIvor argues collective bargaining agreements empowered trade union officials, who frequently 'policed' the workplace.²⁹¹ This argument is endorsed by consideration of the BSSAA, which exercised considerable restraint upon militants and forced the acceptance of

²⁸⁵ MRC, SSIMT minutes, 28 Oct.1895, p.115.

²⁸⁶ *Ibid*, 30 Apr.1894, p.45.

²⁸⁷ *Ibid*, 15 Feb.1895, p.30.

²⁸⁸ *Ibid*, 4 Mar.1895, p89.

²⁸⁹ RC, Labour, 1892, Vol.36,(16,452), p.393.

²⁹⁰ Clegg, Fox &Thompson, *History*, pp.168-170.

²⁹¹ McIvor, *Work*, pp.89-91.

unpopular decisions; 'Mr. Hodge assured the employers that each delegate would do his duty in recommending the men to accept the reduction in wages.'²⁹² Instilling discipline was troublesome amongst individuals used to autonomy in a physically rigorous environment. Hodge conceded, 'getting a reputation as a fighting man...proved, in organising the union, to be a great asset.'²⁹³ Hodge reiterated, 'our delegates having made an arrangement with the employers it must be fulfilled, because we must keep faith. If we did not...there would be no use in going to see them any further.'²⁹⁴ Therefore, when members acted against union policy, 'the executive took up a very strong attitude'.²⁹⁵ Although branches had the right to declare strikes independently, the executive controlled finances and would not support maverick action.²⁹⁶ Indeed, when producemen struck without authorisation, the executive withheld strike pay and urged smelters to assist the firm by remaining at work.²⁹⁷

Fraser and Price question the membership's endorsement of moderate union policies and Melling observes greater militancy amongst particular unions' rank-and-file.²⁹⁸ Attitudinal discrepancies between the BSSAA's leadership and membership surfaced repeatedly. In 1894, the BSSAA admitted, 'some men blame their office-bearers and are always grumbling and growling. Office-bearers can do nothing unless they have the sympathy and assistance of the members.'²⁹⁹ In 1891, the Caledonian Railway Company evicted various families in Motherwell. The striking railwaymen were

²⁹² MRC, SSIMT minutes, 4 Mar.1895, p.94.

²⁹³ Hodge, *Workman's*, p.28.

²⁹⁴ RC, Labour, 1892, Vol.36,(16,488), p.395.

²⁹⁵ *Ibid*,(16,487).

²⁹⁶ *Ibid*,(16,489).

²⁹⁷ *Ibid*,(16,503).

²⁹⁸ Fraser, *Unions*, pp.63-65. Melling, 'Industrialists', p.131.

swiftly joined by, 'a band of smelters, puddlers and others...[who] offered their services as pickets.'³⁰⁰ This might illustrate the continued militancy of the rank-and-file in 1891. The BSSAA hierarchy preferred symbolic support with Mr. Ballantyne, the Railwaymen's representative, occupying the chair at Flemington BSSAA's annual supper.³⁰¹ However, neither puddlers nor smelters attempted to aid blast-furnacemen in their six-month strike that raged at precisely the same period.

Further, both capital and labour periodically called for the creation of an automatic sliding-scale, to mitigate the interminable haggling over wages. However, the lack of unanimity amongst both steelmasters and the BSSAA hampered its creation. In 1893, the Lanarkshire Steel Company opposed the scale, which the BSSAA Executive regarded as an, 'excellent method of regulating wages with a view to avoid disputes.'³⁰² Despite the Lanarkshire's opposition, the other steelmasters commenced negotiations. It was agreed the average price of ship and boiler-plates from January to March 1893 would form a basis or standard price, whilst wages over the same period would form a wages basis, from which a price change of 2/6d. per ton would automatically incur a change of 1.5% in wages. Ascertainments would be made every three months; the scale was terminable by three months notice, but would otherwise govern wages for at least two years, with expenses equally divided.³⁰³ Although the BSSAA promised to ratify the agreement within a month, the leadership was unable to convince the membership of the scale's advantages.³⁰⁴

²⁹⁹ MRC, BSSAA Report, Oct.1894, p.247.

³⁰⁰ *Motherwell Times*, 3 Jan.1891.

³⁰¹ MRC, BSSAA Report, Mar.1892, p.537.

³⁰² MRC, SSIMT minutes, 19 May 1893, pp.2-3.

³⁰³ *Ibid*, pp.9-10.

³⁰⁴ *Ibid*, 23 June 1893, p.15.

Consensus was only achieved by the inclusion of a demand for a permanent advance of 10% in basic wages, or a 2.5% increase provided that rate became a guaranteed minimum wage, irrespective of price fluctuations.³⁰⁵ Despite the BSSAA's claim to espouse the principles of conciliation, the workmen believed their collective strength merited concessions and, 'contended that the advantages which the Employers would derive...as regards stability and freedom from friction with the men...was worth more to the employers than the 10% asked for.'³⁰⁶ The employers considered this virtual blackmail; 'its acceptance would be tantamount to buying the scale,' and argued labour gained as much or more than they did.³⁰⁷ The smelters' demand also reflected sectional jealousies; millmen received a 10% increase in 1890 when their scale was established. Steelmasters argued the millmen's increase reflected market conditions in 1890, but was unjustifiable under prevailing circumstances in 1893 and offered 5%.³⁰⁸ The BSSAA's Executive believed they could induce acceptance of this compromise, but the membership voted against the scheme.

Indeed, many smelters rejected the fundamental concept of bonding wages to prices, which formed the very foundation of the BSSAA's negotiations. The BSSAA received letters arguing excessive competition would reduce wages and employers should not possess the, 'right to sell his workmen's labour to satisfy his own caprice.'³⁰⁹ Correspondents argued that a powerful union compelling masters' submission was a more effective means of securing good wages, whilst sliding-scales would emasculate their union; 'the adoption of a sliding-scale would kill our

³⁰⁵ *Ibid.*

³⁰⁶ *Ibid.*

³⁰⁷ *Ibid*, p.16.

³⁰⁸ *Ibid*, p.19.

Society...we would ultimately be powerless as a factor in the regulating of our wages or conditions of our employment.’³¹⁰ Finally, many smelters distrusted compulsory arbitration stating arbiters were, ‘almost always one who by birth, association, training and education is alien to the ideas, feelings and aspirations of workmen.’³¹¹ Such perceptions highlight individual smelters’ rejection of schemes restricting independent freedom of action and further supports Price and Fraser’s discernment of attitudinal discrepancies between union hierarchies and members.

Consequently, whilst millmen created an Arbitration Board with employers in 1890, no such authority restricted smelters during the period. However, this did not hamper wage negotiations as regular meetings between the BSSAA and SSIMT provided a forum for reviewing wage rates. Any increase in millmen’s wages under their sliding-scale, was followed by the BSSAA pressing for similar concessions; anything less, ‘would not fail to produce intense dissatisfaction amongst the melters’.³¹² The masters were acutely aware of the trouble that could erupt if they were perceived to favour millmen. In 1898, David Colville stated, ‘I am of the opinion that having regard to the 5% advance conceded by the Employers in our district to the Millmen, it is useless contending against giving the same to the Melters.’³¹³ Indeed, Scottish steelmasters urged their English counterparts to ensure smelters’ increases coincided with the millmen’s otherwise it, ‘would have a disturbing tendency.’³¹⁴

³⁰⁹ MRC, BSSAA report, Jan.1891, p.240.

³¹⁰ *Ibid*, Apr.1891, p.303.

³¹¹ *Ibid*.

³¹² MRC, SSIMT minutes, 27 Mar. 1896, p.134.

³¹³ *Ibid*, 4 Nov.1898, p.182.

³¹⁴ *Ibid*, pp.184-185.

Alternatively, from 1897 puddlers' were represented upon SMITCAB, which became a medium for confrontations with employers, other sections of labour and their officials. Although shinglers and rollers were also represented, puddlers' numerical ascendancy provided the largest representation among labour delegates, which puddlers employed to raise long-standing disputes with ironmasters. Indeed, other workmen expressed irritation with the puddlers' domination of SMITCAB's labour representation; 'the whole arguments used, were as if this Board consisted of nothing but puddlers.'³¹⁵ This was unsurprising given SMITCAB's *raison d'être*; James Kerr observed, 'it was not to benefit the rollers...that this Board was set up. It was a Puddlers' Wages Board. But when the men said they would like other ironworkers taken in, the employers did not object.'³¹⁶ This request probably emanated from the ironworkers' union, which represented all the forehands. Indeed, the millmen provided SMITCAB's most dominant labour figure, John Cronin of the ASS&IW. Therefore, sectionalist perceptions remained active within formalised collective bargaining structures.

This evidence might substantiate Price's arguments concerning the rank-and-file's separation from union hierarchies. Price argues trade union structures and collective bargaining procedures were major constraints on workplace militancy.³¹⁷

Discrepancies between a moderate labour hierarchy and militant membership were evident in SMITCAB. In 1898 James McGuckian, Coats labour delegate, emphasised puddlers' fractious independence; 'the men were often irritated and

³¹⁵ GUBA, SMITCAB minutes, 14 June 1901, p.424.

³¹⁶ *Ibid*, 20 Nov. 1903, p.192.

would not take advice.’³¹⁸ In 1900, Clydesdale’s puddlers struck in breach of SMITCAB’s rules. Cronin was, ‘ashamed to meet Mr. Cunninghame [the ironmaster] when he knew that the men had taken the law into their own hands and had struck. In this case the rules of the Board and their own Society had been broken. The operatives’ delegates must take steps to stop this kind of thing.’³¹⁹

Underhand puddlers also challenged SMITCAB’s authority. In 1897, underhands at Waverley walked out demanding wage concessions from forehands, although they later returned and gave formal notice. This contravened SMITCAB’s rules that required all parties to continue work while disputes were investigated. Further, the underhands refused to appear before SMITCAB and were only induced to come, ‘after considerable difficulty’.³²⁰ However, they declined to recognise SMITCAB’s jurisdiction, remaining, ‘in clear defiance of the rules.’³²¹ Cronin warned, ‘if these men succeeded in getting their way they would have the whole underhands at all the works causing trouble.’³²² The challenge to SMITCAB’s authority threatened its survival and united employers’ and labour delegates in condemnation. President Riley, appealed to the underhands to conform declaring, ‘both employers and operatives had been at great trouble to get this Board established and they were...not disposed to allow its rules to be broken.’³²³ Riley threatened to black-list the underhands; if they, ‘insisted on their notices and left work, they would do so forever so far as this district was concerned. Both masters and men would be against them

³¹⁷ Price, *Labour*, pp.142-144.

³¹⁸ GUBA, SMITCAB minutes, 9 June 1898, p.139.

³¹⁹ *Ibid*, 1 June 1900, p.320.

³²⁰ *Ibid*, 26 Nov.1897, p.40.

³²¹ *Ibid*.

³²² *Ibid*, p.41.

³²³ *Ibid*, p.42.

and their places would be permanently filled up.’³²⁴ Cronin added, ‘if the underhands rebelled they would be fighting not only the employers but the operatives as well, and they had no chance when they had to fight the employers, the union and the Board.’³²⁵ This provides further evidence supporting Price and Fraser, but is inconsistent with Littler’s view of co-domination, which was inflicted by labour representatives’, rather than subcontractors’, collaboration with capital.

The combined pressure compelled the underhands to follow SMITCAB’s procedures. The underhands’ actions may have stemmed more from ignorance of the dispute mechanism than a deliberate attempt to sabotage SMITCAB. Indeed, members of SMITCAB’s Standing Committee were also uncertain, ‘if the Board had any right to interfere between the underhands and the forehands.’³²⁶ Nonetheless, the motivation behind the challenge was essentially irrelevant. What mattered was SMITCAB’s ability to exert its authority in the face of opposition and to enforce its will upon the underhands. The case also underscores several of Van Gore’s points regarding rank-and-file dissent. Firstly, the underhands primary complaint lay with the forehands, rather than the union hierarchy. This reflects Van Gore’s assertion regarding the ambiguity of the term, ‘rank-and-file’, as there were often, ‘several rank-and-files, each subject to internal division’.³²⁷ Further, Van Gore states it is misleading to, ‘view dissent in terms of horizontal dichotomy between a homogenous mass of workers and an isolated stratum of national officials’, indeed,

³²⁴ *Ibid*, p.43.

³²⁵ *Ibid*, p.44.

³²⁶ *Ibid*, p.40.

³²⁷ Van Gore, ‘Rank-and-file’, pp.47-73.

such dissent was also the product of, 'stratification within the rank-and-file itself'.³²⁸

Therefore, such disputes were possibly symptomatic of wider labour fragmentation.

Representatives employed as shinglers or millmen were particularly aware of the disruption caused by puddlers. Following a puddlers' stoppage at North British, Cronin stated, 'it was always a serious matter when works were brought to a stand. They were sometimes a little ashamed of their own people.'³²⁹ Similarly, other workmen employed SMITCAB to curtail puddlers' influence. In 1899, the shinglers, forge rollers, heaters and millmen submitted a complaint, concerning their lost income resulting from puddlers' irregular working.³³⁰ The puddlers' general indiscipline seriously threatened stability, resulting in masters and workmen's representatives jointly attempting to impose discipline. During 1899:

Serious inconveniences and loss has been caused not only to the employers, but also to shinglers, forge-rollers, heaters and millmen, by puddlers lying off. With a view to remedy this evil, the Board...resolved that the practice of cashing during the week be abolished at all works, and that a system of clearance lines be established.³³¹

Consequently, from 1899 puddlers had to give notice and present a line signed by employers before receiving outstanding wages or commencing employment at another ironworks. McIvor argues discharge notes performed various functions; they

³²⁸ *Ibid.*

³²⁹ GUBA, SMITCAB minutes, 26 Jan.1900, p.211.

³³⁰ *Ibid*, p.212.

³³¹ *Ibid*, p.211.

were evidence of worker's competence, aided industrial discipline and strengthened managerial authority, as well as preventing strikers obtaining employment elsewhere and thereby prolonging disputes.³³² The procedure echoed the system of, 'discharge note', Reid observes in the shipbuilding industry, which ultimately proved ineffective due to worker opposition and the masters' demand for labour.³³³ The system proved equally ineffectual within the malleable iron industry for similar reasons and by January 1900 the Board conceded the failure of, 'the resolution abolishing cashing.'³³⁴ The inability of such combined efforts to discipline puddlers, accentuates capital's inability to impose effective controls even after SMITCAB's creation, further refuting McGuffie's arguments and supporting Reid.

The most protracted negotiation between employers and workmen's representatives occurred over puddlers' basic wage. SMITCAB's establishment necessitated the creation of a formula for calculating wages in Lanarkshire, correlating Cleveland's system with Scottish practices. Riley summarised the objective:

One of the best methods of composing difficulties with regard to wages or...of preventing them arising, was the establishment of some automatic system independent of the opinions of either side...a sliding scale automatically worked out by which the rate of wages paid shall be based upon the net realised price.³³⁵

³³² McIvor, *Organised*, p.103.

³³³ Reid, 'Employers', pp.45-46.

³³⁴ GUBA, SMITCAB minutes, 26 Jan.1900, p.211.

³³⁵ *Ibid.*

The attainment of this goal proved extremely difficult, particularly as each Scottish ironworks had unique systems of premiums, bonuses, prize money and customs like the, 'Monday extra'.³³⁶ Further complications arose from conflicting perceptions of Cleveland's practices and in equating fuel quality, hours of labour and duties of English puddlers with their Scottish counterparts. Arguments continued from May 1897, until June 1898, when compromise-formulae for bi-monthly audits were finally agreed, from which puddlers' wages were ascertained.

Table 20. Effect of Bi-monthly Audits on Wages, 1899.³³⁷

Period covered by audit.	Ascertained Price (Per ton)	Result on Wages	Puddling rate.	Period applied
Nov.-Dec. 1898	£5 12/7.65d.	Advance, 3d. per ton & 2.5%.	8/3d. per ton.	Feb-March 1899
Jan.-Feb. 1899	£5 16/ 0.91d.	No change.	8/3d. per ton	Apr.-May 1899
Mar.-Apr 1899	£5 18/6.40d.	Advance, 3d. per ton & 2.5%.	8/6d. per ton.	June-July 1899
May-June 1899	£6 3/11.60d.	Advance, 3d. per ton & 2.5%	8/9d. per ton.	Aug.-Sept. 1899
July-Aug. 1899	£6 9/9.91d.	Advance, 6d. per ton & 2.5%	9s. per ton.	Oct.-Nov. 1899
Sept.-Oct. 1899	£6 17/7.56d.	Advance, 6d. per ton & 5%.	9/6d. per ton.	Dec.1899-Jan. 1900

Note - percentages relate to shift rates.

Audits provided the net price of malleable iron sold over a two-month period, from which wages were adjusted for the succeeding two months. This is shown in table twenty. Although this basis continued until 1901, employers continually sought to

³³⁶ *Ibid*, p.232.

³³⁷ *Ibid*, p.211.

re-negotiate the premium, which they agreed as a temporary concession. The masters were unable to dictate an agreement and attempted to link the premium with 'turning up', arguing if they acceded to the puddlers' demands, 'it would be necessary to make a corresponding reduction in the wages of the millmen and the shinglers.'³³⁸ By embroiling shinglers and millmen, the employers obfuscated and probably hoped to alleviate the pressure by provoking a sectional dispute between workmen. Consequently, the issue remained contentious and be-devilled puddlers' relations with masters and other workmen into the 20th century. Whilst attitudinal discrepancies were apparent within the BSSAA, rank-and-file dissent was greater within the malleable iron industry. This emanated from the union's inclusion of millmen, shinglers and puddlers endorsing Van Gore's point that rank-and-file dissent reflected, 'antagonisms rooted in the heterogeneity of the workforce, rather than a simple horizontal divide between leaders and men.'³³⁹

9. Conclusion

Reid perceives general equality between piece-workers' and masters' control of the production process in the shipbuilding industry.³⁴⁰ This is also perceptible in Lanarkshire's steel and malleable iron industries. Despite McGuffie's assertions, both puddlers and smelters retained considerable levels of autonomy. This resulted from labour's strengths and capital's failure to impose adequate systems of control. This occurred for various reasons. Firstly, both groups were largely unaffected by mechanisation throughout the period. Smelters were affected by increased capacity,

³³⁸ *Ibid*, 24 Aug.1898, p.31.

³³⁹ Van Gore, 'Rank-and-file', pp.47-73.

reflected by attempts to limit the hours of labour, partially substantiating McIvor's views on work intensification. However, puddlers remained unaffected by these issues, whilst smelters enjoyed associated benefits. Secondly, capital's failure to impose welfare policies allowed labour organisations such as the BSSAA to reap the resultant hegemony and loyalty. Thirdly, although masters imposed some workplace controls upon labour, Melling largely ignores corresponding controls established by workmen and labour's influence over foremen. Finally, supervisors had ambivalent loyalties, whilst smelters' overcame subcontractors' authority, which also remained less pervasive upon puddlers than either McGuffie or Littler maintain. Continual indiscipline and absenteeism, particularly amongst puddlers indicated this. Indeed, workplace autonomy and high wages provided forehand puddlers and smelters the vigour to play and succeed at Dickson's, 'capitalist game'.

However, both groups were constrained by divisions. This reinforces Reid's views on sectionalism and confirms the heterogeneous nature of employment previously discussed. Whilst puddlers were among the most potentially powerful groups within malleable ironworks, their hegemony was restricted by disunity, which refracted much of their energy inwards. Puddlers established practices that bolstered immunity from victimisation and occasionally supported other sections of labour. However, these initiatives were usually temporary, random and lacking in overall direction or coherent strategy. The relationship between forehands and underhands represented a more egalitarian distribution of power than was experienced by blast-furnacemen, but iniquitous wage rates persisted and divisions were magnified by union membership. Alternatively, the BSSAA's creation was a catalyst promoting

³⁴⁰ Reid, 'Employers', p.48.

collectivism amongst smelters, reflected by the ultimate attainment of a common system of wages and standardised procedures in the final years of the 19th century. The BSSAA's communal strength ensured parity with employers' organisations at the negotiating table. This was partially facilitated by moderate policies, endorsing Fraser's perceptions, although as Fraser, Price, Melling and Van Gore observe, discrepancies between the views of union hierarchies and the rank-and-file remained. Forging a stronger communal identity amongst smelters also produced institutionalised sectionalism, reflected by inter-union tensions within the steel industry. Whilst there were limitations upon its influence, the BSSAA united and empowered smelters, whilst simultaneously imposing greater discipline and control upon labour.

However, the ironworkers' union was unable to mitigate the puddlers' fractious unpredictability, which bolstered their reputation as the most volatile and militant section of the malleable iron workforce. Puddlers confronted the ironmasters, their union, their elected representatives and each other. Although SMITCAB provided a forum for the protracted examination of vexatious issues, these negotiations were carried out in contained circumstances. Therefore, SMITCAB's evolution represented both a gradual curtailment of puddlers' anarchic power and an opportunity for diminishing fratricidal strife and establishing a platform for united labour action against capital. Ironically, in order to facilitate greater unity between the disparate labour sections in the long term, trade union officials allied themselves with capital against puddlers. Indeed, it was normally union officials and labour delegates, rather than capital that battled to impose discipline upon puddlers and

smelters, revealing labour's inherent singularity and latent independence. Further, this indicates capital's fragility as well as the continued autonomy and hegemony of skilled labour, corroborating Reid's argument, but contradicting McGuffie. Indeed, the malleable iron and steelmasters inability to effectively control labour from 1870-1900, necessitated greater collaboration with organised labour to minimise the harmful effects of unrestrained strife. The means employed to achieve this end shall be analysed in chapter five.

Chapter 5.

Industrial Relations.

In any analysis of the power relationship between capital and labour, industrial relations are of critical significance. Although numerous, limited strikes have been discussed in previous chapters, Lanarkshire's iron and steel industries each witnessed widespread disputes and the creation of institutionalised collective bargaining from 1870-1900. Therefore, in section one this chapter shall examine extensive, long-term strikes in each industry, whilst in section two, mechanisms established to mitigate disputes will be analysed. Large-scale strikes incorporate both the nadir of capital's relationship with labour and the zenith of factional co-operation, indicative of the extent of collectivism within the workplace. James Cronin perceives strikes as positive expressions of working-class power, defining them as:

The means of communication and resources of political and economic leverage most readily available to industrial workers...signs not of weakness but of collective resources, not of resignation but of an often hopeful and heightened sense of self-worth, raised within the context of institutionalised social inferiority.¹

Cronin identifies waves of strike activity including the early 1870s and 1889-1890.²

Two strikes under consideration fall within these periods and their analysis places

¹ James Cronin, *Industrial Conflict in Modern Britain*, (London, 1979), p.9.

² Cronin, 'Strikes', pp.74-98.

Lanarkshire's industrial relations within the national context. Labour solidarity was embodied by adherence to trade unionism. Kirk argues from 1870-1920 trade unionism became more class-conscious and less predominantly sectional, moderate and narrow in perspective.³ McIvor argues employers also became more class-conscious, reflected by the more powerful employer organisations of this time. However, coercion and conflict were increasingly replaced by collective bargaining mechanisms.⁴ Zeitlin maintains 'institutional forces' such as trade unions and employers' organisations dominated industrial relations.⁵ This thesis has already established the fragility of institutional forces within Lanarkshire's iron and steel industries and the difficulty institutions experienced in exerting authority and usurping individualism before 1900. Whilst it is undeniable that collectivism influenced industrial relations, this thesis will illustrate that capital and especially labour, were significantly characterised by individualism and sectionalism throughout the period, directly resulting from the levels of power and autonomy each faction enjoyed.

1. Power Struggle.

1.1 The Puddlers' Strike, 1870.

James Cronin notes Britain's, 'first major strike wave', occurred in the prosperous period 1871-1873, which also witnessed, 'the decisive acceptance of the strike weapon by Britain's working population.'⁶ Cronin argues, 'strikes became the

³ Kirk, *Change*, p.160.

⁴ McIvor, *Organised*, p275. See also Johnston, *Clydeside*, p.2.

⁵ Zeitlin, 'From', pp.159-184.

⁶ Cronin, *Industrial*, p.47.

dominant form of workers' collective activity', during the 1870s representing an escalation of conflict between capital and labour, characterised by the greater inclusion of less skilled workmen and increased militancy. Cronin claims most strikes in the early 1870s were short-term and generally successful, resulting from structural changes in the economy or society that enhanced workmen's power. These included burgeoning demand for semi-skilled workmen, greater stability and homogeneity in working-class communities, combined with favourable economic conditions.⁷ Examination of the puddlers' strike will test Cronin's thesis. Whilst puddlers' relationship with capital has been discussed in chapter four, the strike encompassed wider scope, greater longevity and collectivism than previously discussed, whilst the dispute's legacy influenced industrial relations in the malleable iron industry throughout the period. Therefore, the strike is significant and worthy of greater analysis.

In December 1869, GIC's forehand puddlers in Motherwell ironworks demanded a wage increase based upon rising prices and the desire to establish conformity with English wages. GIC rejected both premises, observing that English puddlers' wages were cut in 1868, but Scottish wages remained constant, whilst their costs had escalated following the pig ironmasters' price increases.⁸ The puddlers' sought advantage from the favourable economic climate, provided notice of action unless wages increased and ultimately struck. However, support was not unanimous; five or six forehands continued working and others migrated to England rather than support the strike, indicating the instability of working-class communities in

⁷ Cronin, 'Strikes', pp.74-98.

⁸ *Airdrie Advertiser*, 15 Jan.1870.

Lanarkshire and contradicting Cronin's point. Further, the initial dispute was strictly sectional; 'entirely confined to the puddlers employed at that work alone, even the workmen employed by the same firm at other places not having joined the strike.'⁹

Contemporary observers doubted puddlers' capacity for success, given their, 'want of a union'.¹⁰ This contradicts John Kane's assertion that Motherwell contained an NAI branch.¹¹ However, it is indicative of divisions amongst puddlers, as underhands frequently did not join the NAI. Reports that Calderbank's puddlers joined the strike also proved false; the failure to re-commence work on New Year's Day was symptomatic of alcoholic indulgence rather than solidarity. Monklands' puddlers expressed greater moderation in their demands, particularly as Coatbridge masters had maintained wages during recent trade depressions, re-iterating the dispute's singularity.¹² Therefore, although Cronin is correct to stress the trade cycle's significance, the strike did not exemplify working-class collectivism or even sectional solidarity.

Nonetheless, GIC's puddlers remained on strike for six weeks. Financial support emanated from sympathetic puddlers at other works or the NAI's Motherwell branch, which was empowered to declare strikes independently. The quantity and unequal distribution of strike pay further illustrates discordance amongst puddlers.

The amount subscribed was not so large as was expected, which seems to

⁹ *Ibid.*

¹⁰ *Engineering*, 31 Dec.1869.

¹¹ RC, Unions, 1867-68, Vol.39, (8205).

¹² *Airdrie Advertiser*, 8 Jan.1870.

have given dissatisfaction to fore and under-hand puddlers. A number of the latter...offered to commence work; and those qualified have commenced as level-hands.¹³

Therefore, underhands were less militant and grasped the opportunity for advancement at forehands' expense. Individual forehands also commenced negotiations to re-start work, although most remained firm. Alternatively, GIC received external aid from SMITA, their employers' association, which declared GIC had acted reasonably and, 'unanimously resolved to give the GIC material support', suggesting capital possessed greater unity than labour.¹⁴

The protracted struggle at Motherwell provided marked contrast to an extensive dispute in northern England, resolved by arbitration, with the result that, 'the masters have very much gratified their men'.¹⁵ This provides further evidence refuting Johnston's views on employer authoritarianism, whilst the contrasting attitude of Cleveland's masters, reported locally during the strike, heightened the Lanarkshire puddlers' sense of injustice.¹⁶ However, rising prices prompted GIC to concede sixpence per ton, with another wage increase shortly thereafter re-establishing parity with northern England. Notably, this action was only countenanced following SMITA's assurance to match the award.¹⁷ Although the malleable industry was entering a boom period and GIC could not afford idle workmen whilst rivals captured orders, increased wages reduced competitiveness. Consequently, SMITA's

¹³ *Ibid*, 15 Jan.1870.

¹⁴ *Ibid*, 22 Jan.1870.

¹⁵ *Ibid*, 5 Feb.1870.

¹⁶ *Ibid*, 8 Jan.1870.

co-operation was a necessary prerequisite for acceding to the advance.

Unfortunately, SMITA proved dilatory in implementing the rise. Consequently, in February 1870, puddlers at various works issued demands for wages equal to Motherwell's. Whilst a general action was rare, Scottish puddlers desired pecuniary parity with Yorkshire, where wages had advanced to achieve parity with Staffordshire. Therefore, a common grievance and economic awareness combined to produce burgeoning sectional identity and greater regional solidarity. The action implies organisation amongst puddlers, possibly supplied by the NAI, whose national membership expanded from 476 in 1869 to over 35,000 in 1874.¹⁸ These factors forced SMITA to grant the increase in March 1870; 'the other firms found that they could not resist; and as discretion is the better part of valour they decided to yield rather than risk a strike.'¹⁹

However, the masters' concession was merely a tactical retreat. The initial strike at Motherwell was followed by demands from Mossend then Blochairn, causing masters to suspect collusion. Consequently, masters stockpiled iron and when Blochairn's puddlers demanded a sixpence per ton increase, SMITA threatened an aggressive collective response unless puddlers agreed to reduce wages by 10%: 'the men having resolved on the practice of attacking the works in detail, the masters determined to anticipate them by shutting up all the works in the country and keeping them shut until the dispute at Blochairn is settled.'²⁰ McIvor affirms such stratagems

¹⁷ *Engineering*, 11 Feb.1870.

¹⁸ Cronin, 'Strikes', pp.74-98.

¹⁹ *Engineering*, 4 Mar.1870.

²⁰ *Airdrie Advertiser*, 14 May 1870.

were frequently employed by capital and labour, noting how multi-firm or regional lockouts neutralised the effectiveness of the single firm or 'rolling strike' by unions.²¹ Although McIvor describes employer tactics from the first half of the 19th century, in Lanarkshire these manoeuvres were practised until the early 1890s. In addition to GIC, Mossend and Blochairn, 'at Coatbridge all the works except one are notified.'²² Ironically masters' collective aggression stimulated greater communal resistance, transforming the strike into a regional dispute; a meeting in Coatbridge attended by deputations from Mossend, Motherwell and Glasgow expressed support for Blochairn's puddlers and reiterated their desire for independent arbitration, which masters declined.

Examination of capital's actions provides partial support for McIvor. Although McIvor states employers undertook lockouts only where product markets were favourable and were unlikely to do so when demand was buoyant, the action occurred during periods of high product demand.²³ McIvor argues masters adopted lock-outs for various reasons; if unions were weak and no formal mechanism existed for settling disputes, lock-outs were swiftly adopted, but when committed to more incorporative labour-relations strategies, lock-outs were employed, 'when all other strikebreaking methods had failed, and sometimes when...individual employers were wavering during strikes.'²⁴ These conditions are evident in Lanarkshire; weak unions, non-existent conciliation procedures and deficient employer unanimity were all present. Indeed, some malleable ironmasters, including North British ironworks

²¹ McIvor, *Organised*, p.40.

²² *Engineering*, 20 May 1870.

²³ McIvor, *Organised*, p.114.

²⁴ *Ibid*, p.111.

and Shieldmuir Iron Company, advocated separatist policies and reaped resultant dividends:

North British Works are remarkable for their immunity from strikes or lockouts. In times like the present some understanding is always come to between the masters and men, and the mills roll on...Shieldmuir...are not members of the Ironmasters' Association and hence it is their custom to make terms with their men independent of the trade rules or rates...they made advances in the puddling rates before other employers...[and] consequently obtained first-class workmen at a busy season.²⁵

However, most masters supported the lockout, resulting in over a thousand ironworkers becoming unemployed. This exacerbated the conflict by bolstering militancy; 'the men have become more indignant than they were at first', whilst the lockout adversely affected other sections of ironworkers.²⁶ This transformed the dispute from a sectional struggle into a general malleable ironworkers' strike. Unemployed shinglers and millmen echoed and expanded the call for increased wages, demanding 5% compared with puddlers' 2.5%. This could be interpreted as employer coercion producing greater working-class solidarity. However, millmen only joined the dispute when stocks became exhausted, otherwise sectionalist tendencies remained paramount; 'the millmen are still at work upon the puddled iron which, in some works, is said to be sufficient for four to six weeks.'²⁷

²⁵ *Engineering*, 20 May 1870.

²⁶ *Ibid.*

Workmen were buoyed by high product demand, which increased confidence of the masters' capitulation. They also repeatedly suggested arbitration to terminate the dispute. This conciliatory stance, together with the perception that masters orchestrated the stoppage, prompted observers and brokers on the Glasgow Exchange to endorse arbitration.

It is urged on behalf of the employers that they are paying a higher puddling rate than is paid in England, and the men affirm the contrary. Surely the truth or falsehood of this averment can easily be settled by some unprejudicial and disinterested person...called to arbitrate on the question?²⁸

Local newspapers criticised both sides' petulance, bemoaning lost business opportunities; 'can anything more clearly show the unsatisfactory nature of the relations that subsist between employer and employed?...Mutual jealousies, recriminations, sly hits and mean catches and traps for one another, give small promise of the golden age.'²⁹

By June, 400 puddling furnaces were idle, further depleting stocks. Financially robust firms including GIC attempted to purchase stocks from Cleveland, but this supply was threatened by English puddlers, who demonstrated greater solidarity with Lanarkshire's puddlers than Lanarkshire's millmen; 'puddlers in the North of England, will refuse to make puddled bar to be sent into Scotland.'³⁰ Of course, if

²⁷ *Ibid*, 3 June 1870.

²⁸ *Ibid*.

²⁹ *Airdrie Advertiser*, 14 May 1870.

³⁰ *Engineering*, 17 June 1870.

Lanarkshire's millmen ceased work, this support would have been irrelevant. Exhausted stocks and impending unemployment, rather than working-class solidarity, finally forced the remaining millmen to strike. However, the masters still refused to consider arbitration. The continued deadlock provoked fears for the survival of Lanarkshire's malleable iron industry; 'the bitterness of feeling between the two contending parties became so great that considerable fear was entertained lest the manufactured iron trade should permanently be lost to Scotland.'³¹

The intervention of John Kane, secretary to the NAI and northern England's Arbitration Board, produced hope of a break-through. Under Kane's guidance, 'the workmen made a most liberal offer to the employers'.³² Kane reiterated labour's desire for arbitration and guaranteed all ironworkers would be bound by arbitration, implying the NAI could enforce acceptance if required. Kane perceived a higher goal and stressed acceptance would establish, 'a Board of Arbitration and Conciliation for the prevention and settlement of future disputes'.³³ Indeed, examination of Kane's proposal reveals many procedures established by Cleveland's Board. Workmen would submit a signed, written complaint to each master, but would continue working during negotiations. In return, masters would terminate the lockout and reinstate their men. A representative meeting between masters and men, consisting of one workman and one employer from each ironworks, would investigate and by conciliatory means settle the dispute. Finally, undecided questions would be submitted to an independent referee whose ruling was binding. Moderation effectively acquired moral ascendancy for labour and, 'practically

³¹ *Ibid*, 2 Dec.1870.

³² *Ibid*, 24 June 1870.

shamed the masters into such a frame of mind that they felt morally bound to treat with the men'.³⁴ The masters' acceptance terminated the dispute although production remained disrupted due to labour shortages, particularly amongst forehand puddlers, many of whom had not returned from England.

Before the hearing commenced, ironworkers endeavoured to generate public support by adopting moderate demands. Moderation was designed to achieve greater ends, 'workmen anxiously wish the employers to consent to assist in forming a permanent Board of Arbitration...I think if they would only consent the men would not be strongly disposed to push their demands'.³⁵ After considerable delay, the hearing proceeded with both sides adopting a collective stance; Kane represented the ironworkers and William Burns, solicitor, represented SMITA. In December 1870, a decision was finally announced; workmen were awarded a backdated wage increase of sixpence per ton, although the doubling rate was reduced by sixpence and each party bore their own costs. The award acknowledged discrepancies in working practices between Scotland and Cleveland. Turning up and doubling in Lanarkshire considerably added to puddlers' work, reflected by 6d. per ton extra. The employers' argument that Staffordshire, rather than Cleveland, should be taken as the ruling labour market was rejected, as Lanarkshire's masters had followed wage alterations in northern England since 1865. The workmen's assertion that labour was harder, as Lanarkshire's iron produced lower yields, was also dismissed. However, the arbiter concluded there were regional discrepancies, variations between works in each district and even between furnaces within individual ironworks. Therefore, the

³³ *Ibid.*

³⁴ *Ibid.*, 8 July 1870.

ruling reflected and enshrined the inherent singularity of working conditions within Lanarkshire's malleable iron industry.

The strike reveals much about the participants' authority and independence.

Although normally confined to individual works, in 1870, Lanarkshire's puddlers acted as a significant, collective, regional force, pressing their views on other ironworkers and ironmasters. Despite receiving English support, the desire for inter-regional conformity was illusory. Demands for parity were only expressed when favourable results were probable. Further, the strike was instigated by forehands, which forced underhands' participation. Noticeably, underhands with sufficient ability took advantage of the situation, recommencing work as 'level-hands' and abandoning forehands. The strike also highlighted antipathy between puddlers and millmen, who refused to collaborate until compelled by economic pragmatism rather than communal solidarity or class-consciousness, undermining Cronin's perceptions. The entrenched sectionalism of malleable ironworkers reflected their aggressively independent spirit and simultaneously empowered ironmasters, prolonging the dispute and reducing the likelihood of victory. Despite Kane's intercession, the NAI's inability to overcome its membership's sectional perceptions, reduced its long-term strength and mitigated its effectiveness as a medium for negotiation with ironmasters from 1870-1900. Although Cleveland's puddlers were sympathetic, Lanarkshire's millmen remained hostile. Consequently, there was little sense of collective identity amongst Lanarkshire's malleable ironworkers. Indeed, workmen's sectionalism remained profoundly vocational rather than regional.

³⁵ *Ibid.*

The ironmasters were unable to cope individually with a determined group of skilled workmen. This forced them to abandon traditionally individualistic policies and seek collective support, reinforcing McIvor's point regarding the burgeoning sense of class-consciousness amongst employers. However, this re-action was essentially defensive and, like their workmen, capital's inherent individualism was apparent and resulted in various firms ignoring collective policy and the difficulty implementing a general wage increase. Unity was also weakened by economic realities. Every firm was dependent upon continuous supplies of puddled iron, but only larger firms like GIC had sufficient resources to purchase alternative stocks, essential to prevent millmen joining the dispute. Therefore, financially vigorous ironmasters could maintain sectionalism amongst their workforce more effectively than others.

The puddlers' strike confirms numerous factors identified in previous chapters.

Firstly, the importance of market conditions noted by Melling, McIvor and Cronin is substantiated. Secondly, although the dispute afflicted numerous ironworks, labour's inherent sectionalism is evidenced by divisions between forehand and underhand puddlers, as well as between puddlers and millmen. Labour's heterogeneity is also apparent in disparate militancy levels and the singularity of conditions at different works. Capital was also marked by disunity and distrust reflected by ironmasters ignoring the collective stance and SMITA's difficulty in policy implementation.

Kane's intercession and comparison with Cleveland's disputes procedure conveys the relative hostility of Lanarkshire's industrial relations, further refuting Johnston's arguments. Finally, the inability of both capital and labour to inflict a crushing blow

was indicative of the equitable balance of power prevalent in the industry. This was ultimately recognised by the decision to accede to arbitration before the industry self-destructed. In settling the dispute the arbiter concluded, 'by earnestly counselling both parties to consider whether the north of England system of a Court of Arbitration...might not work to the advantage of both, and super cede the unreasoning and cruel warfare of strike and lock-out.'³⁶ The effect of such appeals shall be considered in 2.2.

1.2 The Blast-furnacemen's strike, 1890-1891.

Lanarkshire's blast-furnacemen took twenty years longer to establish trade unionism than malleable ironworkers, resulting from lower skill levels, divisions between workmen and more dictatorial attitudes amongst powerful masters. Even Johnston regards pig ironmasters as among the most authoritarian in Clydeside.³⁷ However, by 1890 a combination of favourable internal and external factors promoted trade unionism amongst blast-furnacemen. Indeed, once organised, blast-furnacemen adopted collectivist principles more extensively than malleable ironworkers whose union encompassed more acute sectional divisions. From the 1870s, furnace-keepers were directly employed, becoming subject to similar wage alterations as furnace-fillers and pig-lifters.³⁸ This transition reduced sectionalist divisions and encouraged combined action against the common employer, reflected by the creation of an all-grades trade union, the NABF, in Middlesborough in 1886 that spread to Lanarkshire

³⁶ *Engineering*, 2 Dec.1870.

³⁷ Johnston, *Clydeside*, p.174.

³⁸ NLA, 1992/225, Clyde ironwork's pay, 1879-1900.

in 1890.³⁹ The NABF's expansion followed national trends of escalating unionisation among unskilled sectors, known as the 'New Unionism'. Unionism was encouraged by falling unemployment, rising iron prices and the success of unions like the Dockers in 1889.⁴⁰

James Cronin hails the strike wave of 1889-1890 as the, 'beginning of a whole new phase of labour history.'⁴¹ Burgess claims New Unionism signified the development of, 'positively aggressive if not explicitly socialist policies.'⁴² MacRaild and Martin argue that industrial disputes in the late 1880s and early 1890s contained, 'an element of socialist ideology [and] for a time expressions of class-consciousness also became more acute.'⁴³ Certainly, Scottish blast-furnacemen harboured resentment towards employers substantially more authoritarian than southern counterparts. Blast-furnacemen previously unaware of their inferior position were swiftly enlightened by the NABF, whose Lanarkshire branch demanded redress almost immediately after its formation. In August 1890, the NABF demanded, 'time-and-half', payments for Sunday labour and a reduction to twelve working hours, eliminating the extra hour worked during the shift change-over.⁴⁴ These measures mirrored English custom and were intended to produce generic working practices with Cleveland, although the union perceived wages as the key issue.⁴⁵ Blast-furnacemen's financial autonomy was bolstered by recent wage increases; from April 1889 to January 1890, shift wages at Clyde rose from 4/6d. per day to 6/3d. for

³⁹ RC, Labour, 1892, Vol.36, pp.259, p.280.

⁴⁰ Philip Bagwell, 'Transport', in Wrigley, *Industrial*, pp.230-252.

⁴¹ Cronin, *Industrial*, p.50.

⁴² Burgess, *Challenge*, p.65.

⁴³ MacRaild & Martin, *Labour*, pp.158-159.

⁴⁴ *Coatbridge Express*, 17 Sept.1890.

furnace-keepers, 3/4d. to 5/1d. for assistant-keepers, and 3/9d. to 5/6d. for furnace-fillers.⁴⁶ However, Lanarkshire's NABF had meagre financial reserves and external support was essential for prolonged action; 'the men...have been promised every assistance in enforcing their claims by the furnacemen of the north-east and north-west of England.'⁴⁷

Despite the generic demand, deputations from each ironworks approached their employer separately, conforming to recognised custom. Indeed, ironmasters' refusal to recognise the NABF resulted in no collective means of negotiation. This reflected their individualistic ethos and the continuation of the anti-union policy apparent since the 1830s. Indeed, masters at Calder, Gartsherrie, Summerlee and Langloan terminated workmen's engagements in October 1890. The threat was judged sufficiently serious to warrant a special meeting of the SIA, which rejected the NABF's demands, prompting furnacemen at Shotts and Coltness to give notice.

The blast-furnacemen's dispute occurred simultaneously with a miners' strike.

Although there was no collusion, the miners' action may have enthused furnacemen's militancy and influenced the dispute's timing; pig ironmasters, who owned numerous collieries might be caught in the crossfire of industrial action.

However, the miners' action reinforced ironmasters' intransigence as their wage rise was financed by higher coal prices. This augmented fuel costs, whilst ironmasters owning collieries faced demands to match the coalmasters' award. Heightened costs restricted flexibility, reflected by ironmasters damping, then blowing-out furnaces,

⁴⁵ RC, Labour, 1892, Vol.36, p.258.

⁴⁶ NLA, Clyde ironwork's pay, 1879-1900.

which risked structural damage and entailed significant expense to re-start. These costs were significantly greater for blast-furnaces than either puddling or steel furnaces. Therefore, the pig ironmasters' intransigence reflected productive techniques, which impeded concessionary measures and reinforced obstructionism.

The *London Chronicle* noted:

A man who blows out his furnaces is in the position of Caesar when he crossed the Rubicon...Scarcely one of those that survive the damping-down process can be re-lit without an expenditure of money which even millionaires like the Bairds and Dixons cannot contemplate without a shudder...the leading ironmasters have made careful calculation as to the resources, actual and potential of the workmen, and they estimate these will be exhausted in three months.⁴⁸

Economic circumstances stifled demand and weakened labour's bargaining power. Unseasonable weather terminated exports to Russia and the Baltic in September, the McKinley Bill hampered American trade and the malleable iron and steelmasters obtained alternative suppliers, whilst steelworkers' industrial action curtailed consumption. Connal's store, plus ironmasters' stocks, could sustain demand indefinitely; in 1890, 700,000 tons of pig iron was stored in Scotland, with only 25,000 tons consumed weekly. Market analysts calculated that stock reductions of 190,000 tons were required before any furnace would be re-lit.⁴⁹

⁴⁷ *Engineering*, 22 Aug.1890.

⁴⁸ *London Chronicle*, quoted in *Coatbridge Express*, 8 Oct.1890.

The strike's severity was exacerbated by hidden agendas on both sides. Masters complained of labour's indiscipline and refusal to work regularly when prices and wages were high. Masters claimed blast-furnacemen frequently worked three or four day weeks, preferring to lie-off for the remainder, 'thus causing inconvenience, and forcing the masters to keep on a large body of spare men'.⁵⁰ Therefore, masters hoped victory would enforce discipline. The masters' intransigence was founded upon an ideological opposition to trade unionism and the collective bargaining enshrined in union recognition. The masters, 'really want to get rid of the intolerable yoke of the National Association of Blast-furnacemen, which they consider interfering somewhat autocratically with Scotch affairs.'⁵¹ Ironmasters claimed their position had, 'become so intolerable that they are prepared to make any sacrifice to secure control of their own business.'⁵² Consequently, masters perceived managerial hegemony as the primary issue. Certain ironmasters were incredulous that Lanarkshire's blast-furnacemen dared oppose them, perceiving the strike as a regional conspiracy:

The furnacemen's union emanates from a district that has long been notoriously antagonistic to them in trade. They seem to be firmly of the belief that the Blast-furnacemen's Association, which has its origin and headquarters in the North of England, is subsidised to some extent by the ironmasters there, and, as one Coatbridge ironmaster pertinently observed, "it is very different dealing with a union of your own men besides a union that is

⁴⁹ *Coatbridge Express*, 8 Oct.1890.

⁵⁰ *Ibid.*

⁵¹ *Engineering*, 10 Oct.1890.

⁵² *Coatbridge Express*, 8 Oct.1890.

gerrymandered by your opponents in trade.”⁵³

Alternatively, the NABF perceived the masters’ position as old-fashioned, dictatorial capitalism. William Snow, the NABF’s general secretary, testified:

I think it was not so much a question of objecting to pay the money, or their inability to pay the money, as it was that they would not submit to meeting the men, they would not submit to arbitration or a joint committee, they would submit to nothing at all. They were the power and would not be interfered with.⁵⁴

This was underlined by eviction notices at Shotts and Glengarnock, whilst seventy-two out of seventy-eight Scottish blast-furnaces were damped, 3,500 ironworkers were idle and only Carron and Wishaw ironworks remained unaffected by October 1890.⁵⁵ The NABF’s objectives were not restricted to workplace gain, but directly sought to dilute the Lanarkshire ironmasters’ power. Union statements stressed the collective national benefits to English blast-furnacemen accruing from regional victory:

For years the masters in Scotland have, through paying bad wages and their men working long hours, kept the price of iron down not only in Scotland but in the Cleveland district, and your wages have been kept unnecessarily low

⁵³ *Ibid*, 18 Feb.1891.

⁵⁴ RC, Labour,1892,Vol.36, p.261.

on that account. The ironmasters of Scotland now see that our union there means a death-blow to their power to rule the prices of iron and wages, and through their large stocks, gamble with men's labour for their own selfish ends. This now depends on how far you are willing to go to support the Scottish workmen.⁵⁶

The NABF asked members to support 1,200 strikers with a weekly levy of 1/6d.⁵⁷ Charles Vickers articulated the NABF's collectivist ethos; Vickers called for the establishment of, 'a Mutual Conciliation Board', where disputed points could, 'be settled quietly and amicably.'⁵⁸

The masters' refusal to recognise or meet the NABF posed fundamental problems and alternative means of discourse were employed. Vickers testified:

We never had an opportunity of approaching the ironmasters at all. During our struggle we made overtures through the public press, and in fact the Glasgow Trade Council appointed a small committee...to act as mediators...but they failed in being able to approach the masters on behalf of the men.⁵⁹

The NABF's newspaper usage reflected the growing importance of public opinion. Once more, unionists endeavoured to appear moderate and responsible throughout

⁵⁵ *Coatbridge Express*, 1 Oct.1890.

⁵⁶ *Ibid*, 8 Oct.1890.

⁵⁷ *Engineering*, 10 Oct.1890.

⁵⁸ *Coatbridge Express*, 19 Nov.1890.

the dispute; blast-furnacemen not completing their notice were condemned by unionists. This reinforces Fraser's perception of trade unionism and Price's views on the relative militancy of union officials and the rank-and-file.⁶⁰ Other blast-furnacemen rigidly obeyed the rules and sought to impose them on masters. Calder's workmen raised a legal action against the firm stating they were dismissed without proper notice, whilst the firm responded with a counter-suit for breach of contract. Similarly, furnacemen at Clyde took Dunlop & Co. to court and workmen at Langloan prosecuted Addie & Sons to recover wages held in lieu of rent.⁶¹ Adoption of the legal system indicates labour's increasing sophistication. There is also evidence of discordance between the NABF's Middlesborough headquarters and its Lanarkshire membership over the issue of Sunday labour. Local blast-furnacemen supported arbitration, whilst Middlesborough demanded the eight-hour day.⁶² This further emphasises Price's argument concerning disparate levels of militancy, although it was the union hierarchy and not the rank-and-file that acted most militantly.

The masters had a history of independent action and hoped to mitigate disunity. Although McIvor notes the use of financial penalties to maintain solidarity, 'declined considerably', by the 1880s and 1890s, the SIA resolved to ensure homogeneity by threatening £500 fines upon their own member companies.⁶³ 'Ironmasters are bound down by a heavy penalty to act together...no single firm can make any arrangement

⁵⁹ RC, *Labour*, 1892, Vol.36, p.280.

⁶⁰ Fraser, *Unions*, p.60. Price, *Labour*, pp.144-149.

⁶¹ *Coatbridge Express*, 22 Oct.1890.

⁶² *Engineering*, 10 Oct.1890.

⁶³ McIvor, *Organised*, p.107.

apart from the others.’⁶⁴ This indicates the artificial character of ironmasters’ uniformity and the tendency for oppressive policies, even towards each other. However, threats had limited effectiveness particularly as GIC and Carron ironworks were not association members; both retained freedom of action and continued manufacturing iron.⁶⁵ GIC’s blast-furnacemen were unionists, ‘with scarcely an exception’, but remained working and contributing to strike funds, as GIC abolished Sunday labour until the dispute’s conclusion.⁶⁶ This policy mirrored the individualistic malleable firms in 1870. Indeed, GIC primarily produced malleable iron, possibly encouraging a different corporate culture to pig ironmasters.

The strike revealed the growing disparity between industrialists and local society, which increasingly endorsed trade unionism. Mr. Cunninghame-Graham, Liberal MP for north-west Lanark, addressed and supported the strikers at several meetings, which were also attended by female supporters of the blast-furnacemen.⁶⁷ The issue of Sabbath-working facilitated cross-denominational support from the Free Church, the Congregational Church and the Roman Catholic Church, whose representatives shared platforms with unionists. Indeed, the NABF actively courted ecclesiastical support. Vickers stated:

They sought the rest of the Sabbath day for the spiritual blessing they required...or if it is absolutely necessary that the work must be done on that day, they asked for a price from their employers for the lost or damned soul

⁶⁴ *Engineering*, 3 & 10 Oct. 1890.

⁶⁵ *Ibid*, 10 Oct. 1890.

⁶⁶ *Wishaw Press*, 11 Oct. 1890.

⁶⁷ *Coatbridge Express*, 15 Oct. 1890.

they might have in the hereafter.⁶⁸

Although Provost Alexander was an ironmaster, Coatbridge Town Council retained neutrality and offered mediation if requested; unlikely given the masters' refusal to sanction arbitration. Finally, some ironmasters observed greater social responsibility than others; Houldsworth erected street lighting in Newmains to, 'lessen the gloom', caused by extinguished furnaces.⁶⁹ Alternatively, Coatbridge's masters left fellow citizens in, 'an unusual darkness', causing inconvenience and mitigating support.⁷⁰

Unlike puddlers, blast-furnacemen received succour from the labour movement. English blast-furnacemen's enthusiasm became paramount during the protracted strike. In mid-October the NABF's first payment provided 10s. per week with a further 1/6d. per dependent child, with £8,000 donated by Christmas. By January 1891, the AI&SWGB provided further financial support, contributing £177 10s., whilst the National Labourers Union donated £20. Cleveland's miners provided £1,000, although Lanarkshire's miners, who worked for the same firms, provided no recorded contribution.⁷¹ Despite lacking Scottish branches, the Amalgamated Society of Enginemen, Cranemen, Boilermen and Firemen, collected £37 6/2d., from branches in northern England.⁷² Dockers refused to unload cargoes of Spanish iron ore or pig iron imported by Dixons, following blast-furnacemen's appeals.⁷³ The NABF linked their dispute with the railwaymen's strike. Indeed, James Neilson,

⁶⁸ *Ibid*, 11 Feb.1891.

⁶⁹ *Wishaw Press*, 4 Oct.1890.

⁷⁰ *Coatbridge Express*, 8 Oct.1890.

⁷¹ *Engineering*, 28 Aug., 23 Jan.1891.

⁷² MRC, MSS36.N18, Amalgamated Society of Enginemen, Cranemen, Boilermen and Firemen, First Annual Report, (Middlesborough, 1891), 16 Oct.1890, p.11.

Summerlee's ironmaster, was also the Caledonian Railway's director. Vickers addressed railwaymen's meetings, arguing, 'it was not the railway companies alone and the largest corporations in Scotland that they were fighting, but also the fact that these companies...had all the coalmasters and iron kings at their back.'⁷⁴ This appeal to class solidarity suggests that NABF's hierarchy rather than the rank-and-file, held the greatest perception of class, contradicting Price. Indeed, other notable unionists, including John Cronin and JM Jack, secretary of the Moulders' Association, supported the blast-furnacemen. These endorsements possibly granted blast-furnacemen heightened perceptions of class than experienced by malleable ironworkers.

However, Scottish steel smelters were reluctant to aid Lanarkshire's blast-furnacemen. The BSSAA's first contribution of £100, was supplied by its Stockton branch, stimulating the Executive to announce:

The fight of the workmen against the tyrannous action of the Scotch ironmasters in refusing to grant the very moderate demands of the workmen...combined with the refusal of the employers to arbitrate upon it, entitles those men to the sympathy and material support of the trade unionists of this country.⁷⁵

It was logical for the BSSAA to support the NABF, as certain masters, like Neilson, employed both classes of workmen, but refused to recognise either union. However,

⁷³ MRC, BSSAA Report, Nov.1890, p.193.

⁷⁴ *Coatbridge Express*, 14 Jan.1891.

the delay in implementing even nebulous assistance reflected the sectionalist attitude of many smelters, who were unwilling to aid striking steelworkers at Clydebridge in 1890 and even more reluctant to support blast-furnacemen. The BSSAA's Executive lamely stated, 'we would have issued this appeal sooner, only we were never asked for assistance.'⁷⁶ The membership's lukewarm response to appeals for financial contributions is equally illuminating.

Further divisions within the working-class were personified by replacement labour, which appeared by February 1891. Blacklegs at Gartsherrie, Govan and some Ayrshire works prepared furnaces for lighting, whilst approximately one hundred foreigners, described as 'Poles', but actually Lithuanians, arrived in Coatbridge to take employment at ironworks.⁷⁷ The new-comers occupied unskilled posts and were widely regarded as 'cheap labour'.⁷⁸ Although eight furnaces were re-started, unskilled blacklegs were insufficient to break the strike without experienced blast-furnacemen's support. In February 1891, the *Economist* noted employers' overtures to, 'old hands', to return with a 20% wage cut, which were, 'unanimously rejected'.⁷⁹ Without the furnace-keepers' support the masters' efforts were frustrated, whilst the deteriorating economic situation dissuaded them from accepting workmen's terms.

The *Coatbridge Express* noted:

The position of the masters...continues extremely delicate. In self-preservation they must do something, yet trade is so bad that even current

⁷⁵ MRC, BSSAA Report, Nov.1890, p.204.

⁷⁶ *Ibid.*

⁷⁷ *Engineering*, 23 Jan., 13, 20 Feb.1891.

⁷⁸ *Coatbridge Express*, 4 Feb.1891.

prices cannot be commanded, and to pay wages equal to those current four months ago means positive ruin. Yet the men seem powerful enough to impose such conditions.⁸⁰

The masters' desperation encouraged increasingly imperious measures. The Coltness Company threatened to evict strikers, but merely retained wages in lieu of rent, whilst Addie & Sons evicted ten furnacemen in 1890.⁸¹ However, numerous eviction notices appeared in February 1891; 'about 200 families have to be evicted, and disturbances are anticipated when the evictions take place...It is hoped that violence will not be resorted to now, even under the distressing circumstances which have to be faced by the men.'⁸² Bairds and Dixons served eviction notices at Gartsherrie, Kilwinning, Lugar and Govan, although this was not common policy as individual firms continued separate negotiations with blast-furnacemen.⁸³ The Shotts management approached their workmen who agreed to a wage reduction, but would not renounce union membership.⁸⁴ However, most blast-furnacemen remained united:

Those who remain connected with the union have been holding meetings, which have been attended and addressed by the Scotch and English [NABF] agents, clergymen, etc. The union men are apparently remaining true to their resolutions...they are even picketing the 'nobs', in the hope that they may be

⁷⁹ *The Economist*, quoted in the *Coatbridge Express*, 11 Feb.1891.

⁸⁰ *Coatbridge Express*, 11 Feb.1891.

⁸¹ *Wishaw Press*, 11 Oct.1890. *Airdrie Advertiser*, 12 Nov.1890.

⁸² *Engineering*, 6 Mar.1891.

⁸³ *Coatbridge Express*, 4 Feb.1891.

⁸⁴ *Ibid*, 11 Feb.1891.

induced to join the ranks of the Furnacemen's Union.⁸⁵

However, by March 1891, declining demand and widespread evictions undermined blast-furnacemen's resolve and the strike petered out after six months' struggle.

Engineering reported, 'the iron trade is not in that condition, at present, in which the men can hope to succeed, and they had therefore better face the inevitable and make the best of a bad job, even to the extent of acknowledging a defeat.'⁸⁶ The NABF's financial support weakened and terminated in April, official cognisance that most blast-furnacemen had resumed work. Nonetheless, Langloan's blast-furnacemen refused to accept the wage cut, remaining on strike for another week, although English blast-furnacemen had restarted the ironworks.

Despite the NABF's financial commitment, low demand and large stocks, together with intimidation of strikers through evictions and imported labour, proved insurmountable barriers to blast-furnacemen. Strikers were further hampered by high coal prices, which dissuaded many ironmasters from re-lighting furnaces.⁸⁷ Snow recalled:

After 23 weeks' struggle, in which the whole of the furnaces of Scotland stood, except six, at a cost to our Association of £12,500, practically speaking we were compelled for want of funds to give up, and the same miserable state of things remains in Scotland today, as I think, ought to be a standing

⁸⁵ *Engineering*, 13 Feb.1891.

⁸⁶ *Ibid*, 6 Mar.1891.

⁸⁷ *Coatbridge Express*, 31 Dec.1890.

disgrace to men who call themselves Christians.⁸⁸

The strike had various repercussions. Firstly, ironmasters' disapprobation with market speculators was reinvigorated. The iron ring's immediate response to prospective strike action increased prices. Indeed, prices plummeted when the possibility of peaceful settlements arose in September 1890. Masters expected widespread stoppages to magnify prices, thereby providing succour via stock sales. However, speculation actually caused declining prices. *Engineering* concluded:

So long as iron warrants can be manipulated...then so long will producers be subject to the insidious influences that now rule...and fluctuations that militate so greatly against the steady course of sound business. These truths, however, have only been borne home by the untoward course that events have followed since the strike began.⁸⁹

Consequently, ironmasters reduced quantities held at Connal's during the 1890s, preferring to maintain workplace stocks or sell directly to consumers.

The prolonged dispute, together with the railwaymen's strike, focussed public attention upon labour issues. The evictions of striking railwaymen in Motherwell and blast-furnacemen in Coatbridge, turned Liberal opinion in Lanarkshire firmly against domineering masters. *Engineering*, noted the, 'distinctive gain in the general tone of public criticism...The [masters'] attitude towards labour has helped to

⁸⁸ RC, Labour, 1892, Vol.36, p.269.

⁸⁹ *Engineering*, 2 Jan.1891.

promote a kindlier feeling towards the principles of conciliation and arbitration in labour disputes.’⁹⁰ Snow agreed future recurrences could be avoided by the establishment of, ‘some tribunal that would compel them [masters] to accept the decision of an arbiter’.⁹¹ The NABF stated the proposed board would not require formal powers as, ‘the force of public opinion would be so strong that they would accept the decision.’⁹² The Lanarkshire ironmasters’ negative response contrasted vividly with English industrial relations. Snow stated in Cumberland and Lancashire contentious issues were decided after, ‘friendly negotiations took place’.⁹³ Similarly, Thomas Carlton, secretary of Cleveland & Durham’s NABF testified to their good relationship with employers, ‘matters are always settled amicably’, whilst not only were unions recognised, ‘the employers encourage the unionists’.⁹⁴ Harsh treatment of workmen also provoked greater sympathy for organised labour within the establishment. Gladstone stated in 1890 that generally where strikes and lock-outs had occurred, the workmen had, ‘been in the right’.⁹⁵

In addition to depleted funds, Lanarkshire’s blast-furnacemen faced an influx of foreign blacklegs. Indeed, the industry’s generally lower skill levels made it amenable to replacement labour. Vickers stated there were 200, ‘Poles’, employed; ‘they have originally been brought over by the employers in case of dispute...one firm...is actually doing a trade in importing foreign labour.’⁹⁶ Unsurprisingly unionists exhibited considerable resentment of Lithuanians, exacerbated by

⁹⁰ *Ibid.*

⁹¹ RC, Labour, 1892, Vol.36, p.261.

⁹² *Ibid.*

⁹³ *Ibid*, p.262.

⁹⁴ *Ibid*, pp.270-271.

⁹⁵ Wrigley, ‘Government’, pp.134-158.

xenophobia. Vickers declared their recruitment, 'has a very detrimental effect, both in connexion with the work and wages, and in the unity of the men. These foreigners are paid a lower rate of wages - of course they cannot get through the same amount of labour as a Briton'.⁹⁷ This evidence detracts from Lunn's conclusion that trade unionists in Lanarkshire did not condone antipathy towards Lithuanian immigrants from 1880-1914.⁹⁸ Indeed, the strike's failure promoted sectional divisions based upon ethnicity in the early 1890s.

Despite McIvor's conviction that large-scale disputes promoted arbitration mechanisms, ironmasters and blast-furnacemen asserted that greater power was required to achieve dominance. The dispute's failure reinforced managerial authority, reflected by the 20% wage reduction and the introduction of tyrannical works' rules. Langloan's rules incorporated discharge for disorderly conduct, eviction from company housing twenty-four hours after expulsion and prevented the collection of union subscriptions. Workmen in contravention were, 'liable to instant dismissal by the manager or the foreman in charge...and shall forfeit all wages due to him at the time, besides being liable civilly and criminally for the consequence of such contravention.'⁹⁹ Similarly, rules at Coltness prevented claims for damages arising from eviction and stated:

By entering into the employment of the said company, he shall be held to have consented not only to this provision, whether these rules are subscribed

⁹⁶ RC, Labour, 1892, Vol. 36, p. 288.

⁹⁷ *Ibid.*

⁹⁸ Ken Lunn, 'Reactions and Responses: Lithuanian and Polish Immigrants in the Lanarkshire Coalfield, 1880-1914', *Journal of the Society for the Study of Labour History*, 13, (1979), p. 34.

or not, but also to the whole other regulations and provisions before and after expressed in these rules and regulations, any law or practice to the contrary notwithstanding.¹⁰⁰

Vickers testified blast-furnacemen were ignorant of the rules' existence until they were produced in court by employers. Vickers stated, 'since the strike terminated, they have forced the men to sign those rules and have pledged them, in some instances, not to belong to a Trade Union.'¹⁰¹ Dictatorial rules were intended to punish blast-furnacemen, enforce discipline and reassert managerial hegemony. This further supports Kirk and Van Gore who notes, 'where owners were confident in their ability to coerce their workforce, they did so'.¹⁰²

The blast-furnacemen's strike in 1890 was marked by greater communal solidarity than the puddlers' strike in 1870. Whilst puddlers could indulge in sectional disputes, blast-furnacemen's lower skill levels heightened the importance of collectivism and highlighted the importance of national unity and inter-union support. Blast-furnacemen's adoption of collectivist principles might endorse Knox, Kirk and Price's perception of an increasingly homogenised workforce from 1880, or could simply be an admission that without external aid, blast-furnacemen could not overcome the pig ironmasters' authority. Indeed, like the malleable ironworkers, blast-furnacemen adopted moderate policies to generate succour from the press, the clergy, politicians and the general public, further supporting Fraser's argument.

⁹⁹ RC, Labour, 1892, Vol.36, p.278

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid*, p.283.

¹⁰² Van Gore, 'Rank-and-file', pp.47-73.

Hinton argues New Unionism's success during 1889-1890, was a temporary phase, the permanent expansion of trade unionism occurred among, 'relatively secure and well paid, semi-skilled workers in...iron and steel'.¹⁰³ Indeed, Scottish blast-furnacemen consequently allied themselves with such workers within the ASS&IW. Alternatively, pig ironmasters retained their traditional, individualist principles by refusing to acknowledge the NABF and dealing independently with blast-furnacemen at each ironworks. Pig ironmasters imperiously ignored public opinion and employed coercive tactics including sackings, evictions, and the importation of replacement labour. Indeed, the imposition of tyrannical works' rules extended authoritarianism to new levels. Consequently, Johnston's argument regarding employer authoritarianism as well as McIvor and Melling's views on the evolution of subtler control methods are unconvincing when applied to Lanarkshire's pig iron industry during this period. Despite McIvor and Melling's claims, capital exhibited few signs of class unity during the dispute; pig ironmasters coerced each other with threatened fines and displayed considerable paranoia concerning Cleveland's ironmasters. Consequently, capital's individualistic authoritarianism is reinforced by the strike, whilst the influence of economic factors remains salient.

The ironmasters' victory marked a fulcrum in national trends, falling between labour's advance in 1889-1890 and the employers' counter-attack in 1892-93.¹⁰⁴

McIvor argues employers' organisations played a, 'pivotal role', in strikebreaking and union-busting.¹⁰⁵ Alternatively, Zeitlin states, 'employers' organisations in

¹⁰³ Hinton, 'Mass', pp.20-46.

¹⁰⁴ Cronin, 'Strikes', pp.74-98.

¹⁰⁵ McIvor, *Organised*, pp.5-6.

Britain typically lacked the internal coherence and capacity for sustained action'.¹⁰⁶

Whilst unanimity was limited, the evidence of the first two strikes supports McIvor and undermines Zeitlin's argument. However, Zeitlin concludes that although employers forged united fronts periodically, 'they were rarely willing to subordinate their individual autonomy to the demands of collective action on a long-term basis.'¹⁰⁷ This point seems particularly resonant within Lanarkshire during this period. However, even masters who remained staunchly individualistic could also mount a sustained offensive against labour. This will be demonstrated in 1.3.

1.3 The Mossend Strike, 1899-1901.

Garside and Gospel argue that during the 1890s, employers' attitudes hardened as a reaction to the increased threat from New Unionism. This was reflected by the growth and consolidation of employers' organisations and increased resentment of union tactics such as intimidation, boycotting and especially labour's challenge to the employment of non-unionists. Employers' increasingly exerted control by extended welfare provision, the use of Arbitration Boards and legal empowerment provided by the Taff Vale ruling in 1901.¹⁰⁸ Examination of the Mossend dispute will reveal the methods of one employer during a prolonged industrial conflict, which will substantiate or undermine the above hypothesis.

In 1899 the Neilson family was a long-established industrial dynasty. James Neilson who owned Summerlee pig ironworks, Mossend steelworks and eighteen collieries,

¹⁰⁶ Zeitlin, 'From', p.175.

¹⁰⁷ *Ibid.*

controlled the Summerlee and Mossend Iron & Steel Company, which had shares worth £600,000 in 1896.¹⁰⁹ Neilson, aged sixty-one in 1899, personified Lanarkshire's establishment; he was director of the Caledonian Railway Company, chairman of the Lanarkshire and Dumbartonshire railway, chairman of Bothwell Parish School Board, and Colonel of the Lanarkshire Yeomanry.¹¹⁰ Neilson is described as the, 'most vindictive anti-trade union employer in the Scottish iron and steel industry.'¹¹¹ His company, 'was the only firm of any standing which did not welcome the great unions of the trade.'¹¹²



Figure 24. Colonel James Neilson, 1900. Neilson remained among the most authoritarian industrialists in Lanarkshire.

Neilson denied he was anti-union, but the BSSAA stated:

¹⁰⁸ Garside & Gospel, 'Employers', pp.99-115.

¹⁰⁹ Thomson, 'Iron', pp.10-39.

¹¹⁰ *Glasgow Herald*, 7 Oct.1910.

¹¹¹ Hamilton, 'Neilson', p.56.

¹¹² *Bellshill Speaker*, 25 Nov.1899.

Efforts to organise men at Mossend have proved great failures because of the terrorism exercised by the various foremen...No matter what Mr. James Neilson's personal attitude may have been, his foremen must have thought they were acting in such a way as to please him.¹¹³

This endorses Garside and Gospel's point that foremen remained particularly powerful in firms without trade union agreements.¹¹⁴ In August 1899, the BSSAA challenged Neilson's policy by establishing a Mossend branch, resulting in the branch secretary and sixteen others, including all the branch officials, being sacked.¹¹⁵ Neilson's draconian action backfired when JT MacPherson, the BSSAA's organising secretary, urged all Mossend's remaining smelters to join the union and promised £1 per week idle benefit to sacked workmen. Within a fortnight numerous millmen, gas-producermen and charge-wheelers joined the BSSAA; out of 457 strikers, 400 were millmen.¹¹⁶ Therefore, Neilson's dictatorial action, together with the BSSAA's welfarism, diluted sectional differences. Although it cited wages, working practices and the reinstatement of sacked workmen, the BSSAA's primary objective was the modernisation or collectivisation of industrial relations via union recognition; 'the old Neilsons seem to think that they are going to always be in the old school and keep their men in darkness, but we mean to show them better'.¹¹⁷

Neilson quickly began a prolonged campaign to recruit replacement labour.

Labourers from Hawick and cranemen from Glasgow arrived in October 1899. The

¹¹³ MRC, BSSAA Report, Oct.1899, p.275.

¹¹⁴ Garside & Gospel, 'Employers', p.102.

¹¹⁵ MRC, BSSAA Report, Sept.1899, p.241.

¹¹⁶ *Ibid*, Aug.1900, p.318, May 1902, p.186.

firm concocted various tales to attract labour, claiming workmen were required to replace reservists serving in the Boer war. Neilson also adopted sectarian rhetoric; blacklegs were told, 'there were too many Catholics in the works, and they were trying to work them out', whilst a manager described the dispute as, 'a fenian strike.'¹¹⁸ Union officials refuted these claims and funded blacklegs' transport home. Irish replacements were intercepted and the BSSAA sent officials, 'to watch the Belfast boats', printing 500 posters, 'warning men to stay away from Mossend.'¹¹⁹ Blacklegs within the steelworks were also pressurised by unionists who remained working, specifically to undermine their resolve.

Following these failures Neilson recruited, 'the great union-smasher', Graeme Hunter of the National Free Labour Association, (NFLA).¹²⁰ The NFLA was formed in 1892 and consisted of 253,501 non-union workmen from various trades in 1899, supplying 279 employers with labour in 1898.¹²¹ The NFLA claimed to be, 'the instrument by which the law of industrial supply and demand is applied, and the right of perfect freedom asserted, in contradistinction to the erroneous teachings of trade unionists'.¹²² The NFLA's involvement provides further evidence of working-class divisions.¹²³ Zeitlin perceives it as the, 'institutionalisation of worker conservatism.'¹²⁴ Although Garside and Gospel argue employers' increasingly developed collective responses to labour problems, Neilson remained out-with

¹¹⁷ *Ibid*, Nov.1899, p.309.

¹¹⁸ *Bellshill Speaker*, 10 Mar., 25 Aug.1900.

¹¹⁹ MRC, BSSAA Report, Oct.1899, p.275.

¹²⁰ *Ibid*, p.298.

¹²¹ *The Engineer*, 15 Sept.1899.

¹²² *Ibid*.

¹²³ For further discussion of the NFLA see G. Alderman, 'The National Free Labour Association', *International Review of Social History*, 21 (1976), pp.309-336.

¹²⁴ Zeitlin, 'From', pp.159-184.

employers' organisations and the NFLA provided Neilson's only external aid.¹²⁵

Blacklegs lived within the steelworks or at heavily guarded lodging houses, dubbed 'Ladysmith' and 'Pretoria'. In 1900, Lithuanian, or 'Polish' blacklegs were employed, increasing ethnic tensions.¹²⁶ The *Bellshill Speaker* described them as, 'most barbarous people, we seem to have the very scum of their nation.'¹²⁷ Blacklegs maintained production, but output and quality fell. The BSSAA gleefully recounted breakages of plant and equipment, together with growing stocks of unrolled ingots; 3,000 tons in January and 13,000 tons by July 1900.¹²⁸ This also illustrates that millmen's support was essential to smelters; steel was produced, but could not be rolled to meet rising demand from August 1899 to mid-1900. However, from November 1900, demand fell and despite reduced income, depressed markets assuaged labour's bargaining power.

Although economic factors were significant, the strike highlighted political, social and ethnic considerations. Local men who continued working risked abuse from neighbours. Patrick McCann was convicted of assaulting Andrew Clugston, a blackleg who ventured out, but required police protection from a crowd of 200 people, some throwing stones.¹²⁹ Mass involvement reflected communal support. Indeed, 'a vast crowd', intercepted trains rumoured to contain blacklegs.¹³⁰ Local women featured prominently; Letitia McLean, Elizabeth McLean and Mary Jane

¹²⁵ Garside & Gospel, 'Employers', pp.99-115.

¹²⁶ *Motherwell Times*, 5 June 1903.

¹²⁷ *Bellshill Speaker*, 20 July 1900.

¹²⁸ MRC, BSSAA Reports, 1900, p.53, p.267.

¹²⁹ *Bellshill Speaker*, 4 Nov.1899.

¹³⁰ *Ibid*, 28 Oct.1899.

Dey, received thirty days' imprisonment for assaulting two blacklegs. The women, 'did wrongfully use violence towards and throw filth upon them, besides beating them with tin cans and basins on their heads and bodies.'¹³¹ The BSSAA valued female support; 'every man remains solid, and best of all, the women are on our side.'¹³² However, publicly the union again urged restraint.

Female involvement increased following the eviction of eighty families. The union's solicitor claimed Neilson targeted skilled employees who were, 'specially selected for punishment. Of course, they were the best men, the company hoping by this means to break the power of the Union.'¹³³ In response the Mossend Evicted Tenants' Fund was created by donations from local merchants and other iron and steelworks. The fund's examination reveals widespread inter-industry support, with those closest geographically generally providing greatest succour; Clydesdale steelworks provided the largest contribution, £78 18/4d., followed by Wishaw steelworks, £45 2/9d. and Milnwood, £29 16/4d.¹³⁴ The millmen's involvement facilitated greater assistance from malleable ironworkers than would be expected for sectional smelters' strikes. However, blast-furnacemen contributed little, reflecting greater disinterest and comparatively lower wages, as well as the BSSAA's failure to support them in 1890.¹³⁵ The BSSAA donated £2,000 and pledged another £2,000. Finances and morale were bolstered by social events with flute bands and processions supporting imprisoned, 'martyrs', who received £5 from union funds.

¹³¹ *Ibid*, 11 Nov.1899.

¹³² MRC, BSSAA Report, Oct.1899, p.283.

¹³³ *Bellshill Speaker*, 25 Nov.1899.

¹³⁴ MRC, BSSAA Report, Feb.1900, p.122.

McIvor contends employers 'were aided in their legal action by the biased, traditionally conservative, anti-labour attitudes of the bulk of the judiciary'.¹³⁶

Indeed, the union accused the legal establishment of bias; 'brother MacPherson has not capital alone to fight, he has also the law.'¹³⁷ These accusations seem credible

when police actions are assessed. Strikers were charged with, 'watching and besetting', blacklegs, or 'booing, yelling and shouting', and fined ten shillings.¹³⁸

The police employed the Conspiracy Acts of 1875 to prevent strikers gathering on public roads. MacPherson stated, 'police are on our neck closely...they tried to

impose conditions which would have made picketing impossible'.¹³⁹ Finally, the

BSSAA contrasted their disciplined pickets with Superintendent Anderson's

provocation; 'after a short time with the brandy bottle...he struck the pickets, kicked

them, used language of a filthy and dirty nature...and drove them off the street like

dogs.'¹⁴⁰ The local Sheriff blamed labour for the dispute and stated, 'it was time an

example was made of some of the disturbers of the peace at Mossend'.¹⁴¹ However,

the courts were noticeably lenient with blacklegs' disturbances. In November 1899,

a blackleg fired five shots at strikers allegedly abusing him, but as he had been a

policeman until October and the weapon contained blanks, he was admonished, the

judge declaring him, 'perfectly justified in doing what he did'.¹⁴² Official bias

probably reflected Neilson's position as chairman of the District Committee of

Lanarkshire County Council, the body governing Mossend's police.

¹³⁵ *Ibid.*

¹³⁶ McIvor, *Organised*, p.109.

¹³⁷ MRC, BSSAA Report, Oct.1899, p.298.

¹³⁸ *Bellshill Speaker*, 2, 16 Dec.1899.

¹³⁹ MRC, BSSAA Report, Sept.1899, p.283.

¹⁴⁰ *Ibid*, Jan. 1900, pp.50-51.

¹⁴¹ *Bellshill Speaker*, 12 May 1900.

¹⁴² *Ibid*, 25 Nov.1899.

Local people believed the legal system was prejudiced; various correspondents applauded the strikers' discipline and condemned, 'one law for master, and one for man'.¹⁴³ John Colville MP supported the strikers and arranged a meeting with the Chief Constable. Mossend's priest offered his services as a picket and escorted strikers to prevent their harassment and provocation by police. The union also courted middle-class approval, utilising the press to contrast strikers' respectability with blacklegs' low morality:

It is about time that the ratepayers arose in their might and demanded that the vermin that Graeme Hunter has introduced should be instantly removed from the place...the scene at Mossend, "cage", last Saturday night was a disgrace. Men were going about in a drunken, filthy state, and, no passer-by was free from insult.¹⁴⁴

The BSSAA described blacklegs as, 'weeds and wasters...they are only so-called men, and take all they get in drink'.¹⁴⁵ Alternatively, the BSSAA appealed, 'not as strikers but as ratepayers who expect to walk unchallenged on the road they have paid for making.'¹⁴⁶ MacPherson achieved the formation of a, 'Vigilance Committee', consisting of ten, 'local gentlemen', in September 1900, to examine police conduct, whilst public union meetings facilitated openness.¹⁴⁷ Fraser argues trade unions adopted policies containing, 'a very deliberate appeal to middle-class

¹⁴³ *Ibid*, 16 Dec.1899.

¹⁴⁴ *Ibid*, 10 Mar.1900.

¹⁴⁵ MRC, BSSAA Report, Oct.1899, p.309.

¹⁴⁶ *Bellshill Speaker*, 17 Feb.1900.

public opinion.’¹⁴⁸ Indeed, the BSSAA also appealed to middle-class social values including patriotism, self-improvement and masculine responsibilities. Their success would ensure, ‘a better chance for a comfortable home, and...children...better enabled to get the best of education...it will establish the manhood of the men at the works, and, above all, it will give to every man a Britisher’s right – viz., freedom of opinion and speech.’¹⁴⁹ The strike was paralleled to the Boer War; ‘not only in the Transvaal, but much nearer home are we called to fight for justice’.¹⁵⁰ Appeals were targeted at retailers; defeat would ensure wages were spent in the company store and canteen. Finally, worries over morality and immigration were aggravated:

The place would degenerate into a Pole colony – But even supposing that the scum that is at present in the works remain, what is going to be the moral tone of the place?...Let the tradesman assist the men to kill the “cage”...Let the ministers...pray for the success of the men. By praying for the success of the employer, they would not be in accord with the Spirit of Christ.¹⁵¹

The press was generally sympathetic to strikers, noting Neilson’s comparatively low wages provided unfair competitive advantage over other employers.¹⁵² *Engineering* condemned Neilson and hinted at Lanarkshire’s comparatively harsh industrial relations; ‘the employer openly tried to strike a blow at the men’s lawful union...The North of England Conciliation Board, or the Midlands Wages Board, would settle the

¹⁴⁷ *Ibid*, 8 Sept.1900.

¹⁴⁸ Fraser, *Unions*, p.60.

¹⁴⁹ *Bellshill Speaker*, 3 Mar.1900.

¹⁵⁰ *Ibid*, 25 Nov., 16 Dec.1899.

¹⁵¹ *Ibid*, 24 Nov.1900.

¹⁵² *Ibid*, 17 Mar.1900.

whole thing at a couple of hours sitting.’¹⁵³ The *Bellshill Speaker* acknowledged unionism unjustly interfered with managerial prerogatives, but maintained unionism resulted from, ‘the abuses which some masters ran in the exercise of their superior power.’¹⁵⁴ The BSSAA’s press usage contrasted with Neilson, whose intransigence produced unfavourable coverage following refusals to reply to published letters or meet Hodge. Finally, strikers again obtained sympathy from their repeated entreaties for arbitration to terminate the dispute.

Kirk argues unions became more class-conscious and less sectional during the period. Indeed, Wishaw Trades Council advocated that the Lanarkshire County Miners’ Union (LCMU), and ASS&IW be approached to bring out the colliers and blast-furnacemen employed by Neilson. The LCMU’s impending dispute with Neilson’s firm persuaded the BSSAA to formally approach other unions. In May 1900, Robert Smillie, LCMU president, John Cronin, ASS&IW Secretary, together with MacPherson, unsuccessfully called upon Neilson to meet them, then resolved to, ‘fetch out on strike...all the workmen employed by the firm.’¹⁵⁵

Despite this united front, the statement masked divisions. Cronin refused to ballot his membership, fearing blast-furnacemen would not support the issue, destroying the ASS&IW’s recently formed alliance between malleable and pig ironworkers.¹⁵⁶ Cronin’s position was further complicated by the looming conflict in Lanarkshire’s tube-works. Therefore, the combination of the ASS&IW’s weaker financial position,

¹⁵³ *Engineering*, 8 Dec.1899.

¹⁵⁴ *Bellshill Speaker*, 4 Nov.1899.

¹⁵⁵ *Ibid*, 26 May 1900.

¹⁵⁶ MRC, BSSAA Report, June 1900, p.239.

combined with blast-furnacemen's conservatism and reluctance to support the BSSAA, diluted militancy. This provoked severe criticism from the BSSAA, which argued millmen would gain more than smelters, condemned the ASS&IW's meagre financial assistance and attacked Cronin for undermining the, 'great principle', of union representation.¹⁵⁷ Hodge wrote:

I wonder how the Scotch millmen like the idea of playing second fiddle to blast-furnacemen? I always thought the idea of these combinations, such as blast-furnacemen and millmen, was for the protection and the helping of one another, yet the millmen, who founded the union and whose loyalty has brought it to what it is today have their interests sacrificed to blast-furnacemen, or faint-heartedness on the part of their officials?¹⁵⁸

The BSSAA argued the dispute superseded sectionalist differences, but Cronin recollected smelters' failure to support millmen over union representation during the Clydebridge strike in 1890.¹⁵⁹ This provoked greater vitriol from Hodge; 'Clydebridge! The strikers there remember John Cronin, and how he deserted them, and left them to die of starvation for all he cared.'¹⁶⁰ The strike also produced internecine clashes within the ASS&IW. Executive members including Haddow and John Hart criticised Cronin's position. Although nine ASS&IW branches supported a mass demonstration, the remainder refused. Indeed, ASS&IW officials attempted to force Mossend's millmen to leave the BSSAA and rejoin the ASS&IW,

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid*, pp.249-250.

¹⁵⁹ *Ibid*, Oct.1900, p.405.

¹⁶⁰ *Ibid*, Aug.1900, p.318.

‘notwithstanding the fact that we [the BSSAA] have been fighting their battle as well as our own’.¹⁶¹ Unions including the Society of Enginemen, Cranemen, Boilermen and Firemen, supported the strike and local miners participated in various demonstrations, numbering up to 6,000 people. Therefore, although some inter-union support was generated, steelworkers’ unions remained profoundly sectional, contradicting Kirk and Cronin, but endorsing Reid.

Price argues, ‘work and politics were inherently intertwined.’¹⁶² Indeed, the strike possessed political dimensions. The BSSAA’s Executive authorised the Parliamentary Labour Group’s creation in 1900 and attempted to politicise its membership during the strike, arguing police bias confirmed the necessity of representation on local political bodies. Although John Colville was a steelmaster, he was also Lanarkshire’s Liberal MP, thus sharing political sympathies with Hodge, rather than Neilson, a Conservative. Consequently, Colville interceded on the BSSAA’s behalf. There were also socialist sympathies and political divisions within the BSSAA, reflected by MacPherson’s invitation to address various ILP meetings and the creation of St. Rollox steelworks’ branch ILP, which, ‘severely heckled’, Hodge, who remained a committed Liberal.¹⁶³ The ILP also attempted to utilise the dispute. Keir Hardie advocated socialism at a Mossend strike meeting, urging steelworkers, ‘to exercise their power at the ballot box’.¹⁶⁴ Supporters were elected to Mossend’s School Board, but despite the BSSAA’s advocating workmen should, ‘not to be led to the polling booth by any foreman’, Hodge was unsuccessful during

¹⁶¹ *Ibid*, Oct.1900, p.401.

¹⁶² Price, *Labour*, p.137.

¹⁶³ BSSAA report, Jan.1900, p.40.

¹⁶⁴ *Bellshill Speaker*, 1 Sept.1900.

the general election.¹⁶⁵

In the face of continued pressure and the BSSAA's financial vigour, (funds remained at £8,000), Neilson conceded the, 'principles of trade unionism', in November 1900, after fifteen months of strike action.¹⁶⁶ However, Neilson later stipulated that workmen re-apply for their jobs individually, whilst the union held out for a mass return. Neilson's duplicity encouraged union reconciliation. MacPherson addressed the ASS&IW Executive supported by Smillie and Cronin who told blast-furnacemen that conflict was inevitable and emphasised their conditions were worse than steelworkers. Cronin pleaded for unanimity and stated Neilson's action, 'was a blow at Trade Unionism throughout the country.'¹⁶⁷ Consequently, the LCMU and the ASS&IW voted levies providing financial support. However, unanimity proved short-lived. Increasingly, the view developed that both unionists and Neilson were unnecessarily dogmatic at the workmen's expense. In February 1901, the *Bellshill Speaker* urged compromise and appealed that workmen, 'send a deputation of actual strikers', rather than trade unionists, to meet Neilson.¹⁶⁸ This compromise was apparently successful; the newspaper made no further reference to the strike, despite regular reports since August 1899. Consequently, the strike petered out, with neither Neilson nor the BSSAA achieving decisive victory.

McKinlay declares, 'the labour process, bargaining institutions, and craft exclusivism

¹⁶⁵ *Ibid*, 27 Oct.1900.

¹⁶⁶ *Ibid*, 17 Nov.1900.

¹⁶⁷ *Ibid*, 1 Dec.1900.

¹⁶⁸ *Ibid*, 9 Feb.1901.

were the material bases of craft quiescence rather than militancy in steel.’¹⁶⁹

However, the Mossend steelworkers’ strike was among the longest in Scottish labour history. Various historians describe the dispute as evidence of organised labour’s economic power; Thomson claims, ‘in consequence of a prolonged strike...these works were closed’.¹⁷⁰ Pugh notes Mossend cost the BSSAA £30,000 and states, ‘while the union regarded the result as a draw, since it did not establish recognition, it had taught a lesson to the Neilsons and others like-minded.’¹⁷¹ Similarly Carr and Wright declare, ‘the Steel Smelters’ reputation was enhanced by their tenacity in this struggle.’¹⁷² Certainly the union’s financial vigour was demonstrated by the strike’s duration and the welfarism that persuaded millmen to join the BSSAA. However, the BSSAA’s rank-and-file was less charitable; 264 members, mainly Mossend’s millmen, renounced membership in 1901.¹⁷³ Whilst precise explanations for the strike’s failure remain blurred, the dispute occurred simultaneously with the Taff Vale strike in August 1900. In August 1901, the BSSAA’s executive condemned the, ‘recent decision of the House of Lords on the question of trade union liability’.¹⁷⁴ Cognisance of the Lords impending decision coupled with weariness of the prolonged struggle and the looming dispute involving BSSAA members in South Wales, probably persuaded the BSSAA to terminate the dispute in 1901. Finally, the blast-furnacemen’s failure to support steelworkers proved crucial; Summerlee ironworks absorbed losses and sent essential supplies of pig iron to Mossend.

¹⁶⁹ McKinlay, ‘Philosophers’, p.92.

¹⁷⁰ Thomson, ‘Iron’, p.21.

¹⁷¹ Pugh, *Men*, pp.114-117.

¹⁷² Carr & Wright, *Iron & Steel*, p.142.

¹⁷³ MRC, BSSAA Report, Jan.1902, p.19.

¹⁷⁴ *The Engineer*, 30 Aug.1901.

The Mossend strike is significant for various reasons. Although wealthy pig ironmasters dominated blast-furnacemen for most of the period, whilst skilled malleable iron and steelworkers' experienced extensive success against comparatively weaker employers, Mossend marked the first occasion when a powerful, individual master and union directly clashed. However, there was nothing innovative in the tactics displayed, which were characterised by elements of the more primitive industrial relations generally accorded to earlier periods of the 19th century. Indeed, the Mossend dispute does not conform to the theories of Melling, Johnston, McIvor, Garside and Gospel, who claim employers were less coercive by 1900. Alternatively, this evidence supports Campbell's assertion that there was little evidence of 'maturation' to more peaceful forms of industrial disputes in the Lanarkshire area during the closing decades of the 19th century.¹⁷⁵ Garside and Gospel maintain the escalating cost of conflicts persuaded employers to adopt formalised collective bargaining procedures via employers' organisations.¹⁷⁶ However, this is contradicted by Mossend, which occurred ten years after collective bargaining had been introduced in Lanarkshire's steelworks. The union picketed and pressurised replacement labour, sometimes violently, and sought the support of the press and middle-classes, reinforcing Fraser, by contrasting strikers' respectability and patriotism with blacklegs' low morality. Both sides employed xenophobic or sectarian rhetoric, although Neilson's sectarianism was a tactical ploy as the firm recruited Catholic Lithuanians as blacklegs. The most novel feature of the dispute was the attempt at co-ordinated union action. However, the difficulties encountered reiterated the sectionalist tensions that existed within Lanarkshire's labour

¹⁷⁵ Campbell, *Scottish*, p.276.

¹⁷⁶ Garside & Gospel, 'Employers', pp.99-115.

movement. Indeed, Mossend soured relations between the BSSAA and the ASS&IW; in May 1902 the *Ironworkers' Journal* impugned MacPherson's conduct, whilst the BSSAA attacked the ASS&IW's failure to support them, noting, 'this journal, as on previous occasions, indulges in nasty innuendo's leveled at our society'.¹⁷⁷ Price argues intra-union tensions reveal the divergent priorities that work-process changes and operation of collective agreements stimulated within different sections of labour.¹⁷⁸ However, this inter-union dispute was not related to these factors, rather it was a continuation of the sectionalism that characterised the industry. Kirk argues hostile attitudes from employers, the judiciary and other organs of the state intensified popular grievances, class-consciousness and feelings of, 'outsider status', promoting radical challenges to the status quo, including socialism.¹⁷⁹ However, Mossend encompassed cross-community support for strike action that was not class specific, nor did any recognisable socialist sympathies develop. Indeed, the ILP's association with the dispute had negative repercussions. In September 1901, Smillie stood as ILP candidate in the election following Colville's death, supported by Keir Hardie and Hodge at a Lanarkshire rally. However, Hardie was abused for his role during the dispute, Hodge was shouted down and the lorry on which the labour leaders stood was dragged away by the crowd.¹⁸⁰ A Conservative MP was elected and the ILP remained a negligible force in Lanarkshire.¹⁸¹ Indeed, Hardie's intervention, which occurred over a year after the strike's commencement, could be perceived as political opportunism rather than genuine sympathy for steelworkers.

¹⁷⁷ MRC, BSSAA report, May 1901, p.186.

¹⁷⁸ Price, *Labour*, pp.147-148.

¹⁷⁹ Kirk, *Change*, p.155.

¹⁸⁰ *Bellshill Speaker*, 14 Sept.1901.

MacPherson stated, 'trade Unionism has gone a long way to kill individualism', amongst steelworkers.¹⁸² Indeed, the Mossend strike chronologically and ideologically bridged the 19th and 20th centuries. Although growing bonds within the labour movement were evident, 19th century sectionalism remained a prevailing under-current. Whilst labour leaders' rhetoric endorsed collective action, underlying inter-union hostility was exposed during stressful periods. Many employers also remained ideologically committed to individualism rather than combined action in labour relations. Neilson personified the entrepreneurial, authoritarian master prevalent in 19th century Lanarkshire, who continually rejected the collectivist ethos. James Cronin concludes, 'although on the surface the demands usually concerned...narrow, "economistic" issues. The real issue was power, which is, of course, the essence of the entire history of strikes.'¹⁸³ However, the struggle for power during these strikes often occurred within, as well as between, labour and capital. This is also apparent in the resultant power-sharing mechanisms that developed from 1870-1900.

Section 2. Power Sharing.

McIvor argues that widespread, costly disputes convinced both capital and labour of the desirability of creating containment mechanisms.¹⁸⁴ Whilst capital and labour perceived the mutual advantages of conciliation agreements, various historians

¹⁸¹ *Labour Leader*, 7 Apr.1905.

¹⁸² *Bellshill Speaker*, 24 Nov.1900.

¹⁸³ Cronin, 'Strikes', pp.74-98.

¹⁸⁴ McIvor, *Organised*, p.117.

including Wrigley, Van Gore, Clegg, Fox and Thompson, argue arbitration boards favoured employers.¹⁸⁵ Price notes that conciliation agreements dismantled artisans' craft control.¹⁸⁶ Garside and Gospel maintain boards were; 'a means of reasserting managerial prerogatives, constraining trade union activity, and bringing order and stability into their industries.'¹⁸⁷ They perceive arbitration boards as a manifestation of employer control; 'employers had long sought to assert their dominance and authority...either by opposing organised labour completely or by seeking purposefully to contain and channel its influence.'¹⁸⁸ Labour's acceptance of arbitration could result in unionists assuming disciplinary or production functions, rather than directly challenging existing relations.¹⁸⁹ McIvor, Johnston, Garside and Gospel argue employers' organisations frequently provided the main impetus towards the boards' creation.¹⁹⁰ Zeitlin perceives the evolution of, 'responsible autonomy', within conciliation agreements as a subtler addition to policies of, 'direct control', although gaps in managerial authority remained.¹⁹¹ Various historians perceive a breach within labour between compromising union hierarchies and their more militant membership. Exponents of the 'rank-and-filist' argument including Burgess, maintain conciliation procedures represented the climax of union accommodation with capital, exposing workers to unchallenged managerial hegemony.¹⁹² Price argues such systems raised questions of union authority and responsibility that were continually tested by militancy, creating tensions within

¹⁸⁵ Van Gore, 'Rank-and-File', pp.47-73, Wrigley, *Industrials*, p.xii, Clegg, Fox & Thompson, *Unions*, chapters 3&4.

¹⁸⁶ Price, *Masters*, pp.249-251.

¹⁸⁷ Garside & Gospel, 'Employers', pp.99-115.

¹⁸⁸ *Ibid.*

¹⁸⁹ *Ibid.*

¹⁹⁰ *Ibid.* McIvor, *Organised*, p.118. Johnston, *Clydeside*, p.200.

¹⁹¹ Zeitlin, 'Shop', pp.1-45.

¹⁹² Burgess, *Origins*, pp.288, 290.

trade unionism and undermining traditional social relations between capital and labour. Price perceives such conflict as part of the, 'wider politicisation of labour during these years'.¹⁹³ Similarly, Van Gore states tensions between the rank-and-file and union leaders, 'were primarily the exogenous outcome of progressive entanglement in compromising relations with employers'.¹⁹⁴

Many of these arguments assume capital's inability to control labour prior to the arbitration mechanism's creation. If labour's autonomy and independence was sacrificed by the boards' formation or their procedures were detrimental to labour, why did unions agree to their formation and persevere in their operation?

Alternatively, Wilkinson argues within the iron and steel industries' boards, tonnage rates and sliding-scales diluted managerial power by removing key decisions from individual employers and providing operatives with disproportionate advantage from new technology.¹⁹⁵ Indeed, Porter argues arbitration boards resulted from union power; 'the formation of the boards appears to have taken place when the unions had sufficient strength to convince the employers that...arbitration...[was] necessary, but insufficient power to make an openly militant policy more attractive for themselves.'¹⁹⁶ Finally, Melling perceives the boards as a continuation of industrial struggle by other means, including a tighter bargaining structure, 'extending the issue of control to complex negotiations between distinct areas of business or labour

¹⁹³ Price, *Labour*, pp142-143.

¹⁹⁴ Van Gore, 'Rank-and-file', pp.47-73.

¹⁹⁵ Wilkinson, 'Collective Bargaining in the Steel Industry in the 1920s' in Briggs & Saville, (eds.), *Essays 1918-1939*, pp.103-132.

¹⁹⁶ JH Porter, 'Wage Bargaining under Conciliation Agreements, 1860-1914', *Economic History Review*, 23, (1970), cited by Benson, 'Coalmining', pp.187-208.

representation.’¹⁹⁷ This thesis shall argue that arbitration boards were not detrimental and actually bolstered union power, whilst divisions within labour resulted more from inherent sectionalism enshrined within the boards, than differences between a militant rank-and-file and an accommodating union hierarchy.

2.1 The west of Scotland Manufactured Steel Trade Conciliation and Arbitration Board (SMSTCAB).

SMSTCAB was the first and lengthiest independent board governing Lanarkshire’s ferrous metals industries. Consequently, SMSTCAB’s examination should provide valuable insight into Lanarkshire’s arbitration mechanism. McIvor notes many arbitration boards were born from conflict; this is corroborated by consideration of SMSTCAB, which developed from a dispute involving both smelters and millmen in August 1890, following proposed wage cuts. The prospect of simultaneous industrial action by the steelworkers’ two most powerful sections, convinced capital of the advisability of arbitration to settle the dispute and prevent recurrences. Riley, master of the SCS, the industry’s most influential firm, suggested a meeting between masters and workmen’s representatives to discuss the formation of an arbitration board modelled on northern England’s.¹⁹⁸ Therefore, labour pressure was the catalyst inaugurating SMSTCAB’s creation, substantiating Porter’s argument. Initially, the BSSAA, the industry’s most powerful union, conducted labour’s negotiations. SMSTCAB adopted rules formed by Cleveland’s Board, with slight alterations.

¹⁹⁷ Melling, ‘Industrialists’, p.131.

¹⁹⁸ *Motherwell Times*, 9 Aug.1890.

Although Cleveland's Board was financed by equal contributions from employers and operatives, Hodge wanted this rule amended to read, 'the expenses of the Board shall be borne in equal portions by the Employers and the British Steel Smelters Amalgamated Association.'¹⁹⁹ This would effectively render the BSSAA the representative body of all steelworkers, rather than a powerful, but sectional, union. The adoption of such status would compel steelworkers desiring representation to become BSSAA members, thereby extending the BSSAA's hegemony exponentially. Hodge stated:

We considered that it was our society that had been carrying on the negotiations, and we could not speak for people who were outside the association, and unless the men who formed the board were our members we would have no control over them, and it was necessary that we should have control.²⁰⁰

Unsurprisingly, employers refused, stating they would not, 'coerce', men into the BSSAA.²⁰¹ To increase pressure on masters, Hodge balloted his membership, which resolved to hold out for the clause's inclusion. However, the masters remained firm resulting in the BSSAA renouncing the negotiations.

Alternatively, the masters forged an agreement with the ASMS, whose president and secretary, Alexander Haddow and John Cronin, agreed to the Board's formation.

This agreement reiterated the millmen's separation from smelters and reinforced the independence of the ASMS. Sheriff Spens was appointed arbiter, whilst Mr. Clarke

¹⁹⁹ MRC, BSSAA report, Aug.1890, p.163.

²⁰⁰ RC, Labour, 1892, Vol.36, p.391.

from the SCS and Cronin, (until January 1895), became the Board's joint secretaries. This arrangement provided capital's formal recognition of the ASMS and ensured SMSTCAB became a sectional organisation. Even within the mills, certain sections of labour such as cranemen, firemen, stock-takers, stampers, testers and enginemen were excluded.²⁰² David Colville stated, 'unskilled labour was not included', at SMSTCAB's inception.²⁰³ This included gasmen, skullmen and, 'the men who unload pig iron and coal', who were refused representation, despite membership of the same union as those represented on SMSTCAB.²⁰⁴ However, skilled trade unionists, including tyre millmen and forgemen, were also excluded, as their wages were not governed by the price of ship-plates.²⁰⁵ Further, there was no standardised category of representation at every works. Parkhead included charge-takers, inspectors and weighers, but Blochairn did not; Hallside included bar-bankmen, plate-floor labourers, sawmen and cogging-mill labourers, but Dalzell did not; finally, cogging millmen at Hallside were included, but the same class was excluded at works such as Dalzell.²⁰⁶ Fragmentary representation persisted despite labour's attempts to collectivise negotiations by incorporating as many classes of workmen as possible. Indeed, conflict could arise from wage increases not being universally enjoyed; in 1900 Cronin was still forced to, 'go from one works to another to get a similar advance for this and that section to prevent threatened strikes.'²⁰⁷ Therefore, despite superficially endorsing collectivist principles SMSTCAB's establishment formalised sectional divisions within Lanarkshire's steelworks.

²⁰¹ MRC, BSSAA Report, Aug.1890, p.163.

²⁰² NLA, SMSTCAB minutes, 21 Jan.1898, p.103, 14 Apr.1899, p.149, 20 Oct.1899, p.157.

²⁰³ *Ibid*, 12 Aug.1898, p.132.

²⁰⁴ *Ibid*, 19 Jan.1900, p.162.

²⁰⁵ *Ibid*, 20 Oct.1899, p.156.

²⁰⁶ *Ibid*, 30 Sept.1898, pp.135-136.

The Board's first meeting was held in September 1890, when Sheriff Spens ruled on the original dispute and congratulated participants on their course, 'the alternative of a strike being probably...disastrous to both sides.'²⁰⁸ The Board consisted of one representative for masters and operatives at each contributing works. Initially, four steelworks were included; Blochairn and Hallside, (owned by the SCS), Dalzell and Parkhead, whilst Wishaw and Clydesdale joined in 1899.²⁰⁹ The founding firms constituted the SSMA, with the exception of Mossend; Neilson virulently opposed any negotiation or power-sharing arrangement with labour. This supports McIvor's point that employers' organisations were influential in establishing industrial relations systems.²¹⁰ Workmen's wages were determined by the price of ship-plates sold by the SCS; changes of 10s. per ton facilitating wage alterations of 5%. When disputes arose, both works' representatives produced a signed statement detailing the circumstances, which was examined by SMSTCAB and supplemented by oral evidence. If the Board was unable to form a settlement, the arbiter provided a final, binding judgement.²¹¹ Riley was President and Haddow Vice-President, although after Riley's departure, a neutral President, Mr. Cameron Corbett MP, acted as chairman and arbiter from 1894. Finances were provided by equal subscriptions from member firms and workmen. In 1894, 1,000 workmen contributed 1d. weekly, then fortnightly from 1897.

McIvor states, 'the procedure was very largely established on the employers' terms

²⁰⁷ *Ibid*, 19 Jan.1900, p.162.

²⁰⁸ *Ibid*, 4 Nov.1890, p.2.

²⁰⁹ *Ibid*, pp.1,142.

²¹⁰ McIvor, *Organised*, p.277.

with the “state of trade” and wage rates paid by neighbouring competitors as the only criteria accepted by the employers in negotiating a wage change.’²¹² However, steelworkers’ wages were always linked to prices and tonnage rates placed many steelworkers amongst the wealthiest sections of the working-class. Consequently, capital did not accrue any new advantage from the wage mechanism. Indeed, Davidson argues union negotiators did not perceive the system as exploitative, preferring to, ‘bargain within the bounds of existing wage relatives and orthodox market criteria.’²¹³ Kirk states, from the mid-1890s, ‘the balance of power within the evolving system of institutionalised industrial relations rested far more with the employers than with the workers.’²¹⁴ However, this is contradicted by examination of SMSTCAB. From 1890-1900, the general rate of wages was altered on ten occasions. The most prosperous period for labour dated from May 1898 to November 1899 with a total rise of 25%, although net wage alterations from 1890-1900 remained zero.²¹⁵ Further, there is no evidence to substantiate Wrigley and Van Gore’s argument that arbitration boards reduced labour’s advantage in prosperous periods, but did not protect labour when prices fell.²¹⁶ In fact poorer paid steelworkers benefited from board membership during economic depressions; in 1892 when steelworkers’ wages were at the, ‘lowest level ever known’, SMSTCAB agreed 5% wage cuts for steelworkers earning 25s. per week or more, but only 2.5% for workmen earning 18-25s., despite the wages mechanism recommending a 5%

²¹¹ RC, Labour, 1892, Vol.36, p.368-370.

²¹² McIvor, *Organised*, p.123.

²¹³ Davidson, ‘Government Administration’, in Wrigley, *Industrial*, pp.159-183.

²¹⁴ Kirk, *Change*, p.163.

²¹⁵ NLA, SMSTCAB minutes, 18 Sept.1890-6 Dec.1900, pp.1-177.

²¹⁶ Wrigley, *Industrial*, p.xii. Davidson, ‘Government’, pp.159-183, Van Gore, ‘Rank-and-file’, pp.47-73.

cut.²¹⁷ This also occurred in 1891.²¹⁸ SMSTCAB also aided unemployed steelworkers during the 1894 miners' strike, although not compelled to do so. Steelworkers instructed John Cronin, 'to convey to the employers the thanks of all the men...The employers and foremen at all the works did everything they could to alleviate the distress. They subscribed handsomely, and the men would never forget their kindness.'²¹⁹

Significantly, automatic sliding-scales were not operated by SMSTCAB; rather price fluctuations were employed as evidence by masters and unionists to justify wage alterations, although there was, 'an unwritten law that the basis should be 5% for every 10s. up or down.'²²⁰ The principle of automatic sliding-scales was not agreed until October 1901 and not implemented until after 1905. In 1893, employers' desired a wage alteration of 1.5% for every price change of 2/6d. per ton. However, the matter was dropped, 'in view of the attitude of the employees', who vehemently opposed the proposal in a period of falling prices.²²¹ Finally, Porter, Wrigley and Van Gore, argue Board membership capped labour's ability to demand wage rises during prosperous periods.²²² However, comparison of the millmen's wage alterations with smelters, who remained outside the Board, reveals no significant discrepancies. Indeed, millmen's wages frequently advanced before smelters' rates, causing the BSSAA to hold SMSTCAB's awards as examples to be followed.²²³

²¹⁷ NLA, SMSTCAB minutes, 22 Dec.1892, p.16.

²¹⁸ *Ibid*, 13 Mar.1891, p.5.

²¹⁹ *Ibid*, 2 Nov.1894, p.42.

²²⁰ *Ibid*, 13 May 1898, p.120.

²²¹ *Ibid*, 11 Jan.1894, p.23.

²²² Porter, 'Wage', cited by Benson, 'Coalmining', pp.187-208, Van Gore, 'Rank-and-file', pp.47-73, Wrigley, *Industrial*, p.vii.

²²³ MRC, SSIMT minutes, 27 Mar.1896, p.134.

Price states, for labour's rank-and-file, 'the main focus of anger was the system of collective agreements.'²²⁴ There is evidence of conflict between workmen's representatives on SMSTCAB and the rank-and-file. Cronin admitted from 1890-1892, from a total of 3,500 members, 1,500 millmen deserted the ASMS, because of the union's passivity over wage cuts:

Since the institution of the Board...we have submitted to reductions without a strike amounting to 25%...the men have become so disgusted with the way we have allowed things to go on that a large number of them have ceased to be members of the union...Rightly or wrongly, they blame us for being rather soft...in allowing these things to take place without a strike.²²⁵

Similarly, in 1896, some shearmen withdrew from SMSTCAB, 'because they thought the Board did not press sufficiently for an advance of wages.'²²⁶ The workmen's delegates occasionally raised the spectre of rank-and-file militancy to extract concessions over wages.²²⁷ However, although a gulf existed following SMSTCAB's formation, the rank-and-file's anger diminished as the Board's benefits became apparent. Indeed, as delegates were elected annually, unpopular delegates could easily be removed. Nevertheless, delegates were continually re-elected; George Thomson acted as Blochairn's delegate from 1894-1899, Charles McPeak was Parkhead's delegate from 1894-1901 and JT. Brassington was Dalzell's delegate

²²⁴ Price, *Labour*, p.144.

²²⁵ RC, *Labour*, 1892, Vol.36,(16,006), p.373.

²²⁶ NLA, SMSTCAB minutes, 24 Jan.1896, p.76.

²²⁷ *Ibid*, 7 Feb.1899, p.149.

from 1897-1902. Indeed, between 1890-1900, 75% of delegates served for two or more years.²²⁸ Workmen were also empowered to terminate Board membership. In 1895, fifty men at Parkhead withdrew from SMSTCAB. Further, in 1893 steelworkers demanded a ballot on the Board's continuation during a period of falling wages.²²⁹ However, SMSTCAB's continuance suggests general acceptance of its benefits. Van Gore states, 'the more complete the incorporation of the trade union leaders, the less their ability to comprehend and control the rank-and-file.'²³⁰ However, steelworkers' delegates rarely acted without rank-and-file support, causing employers to complain the, 'business of the Board would come to a standstill if the representatives were simply to come there as messengers and without power to act'.²³¹ Finally, any splits within labour were mirrored by distrust amongst SMSTCAB's capitalists; 'there is a natural delicacy among employers to bring some cases before a Board of Employers in the same line of business'.²³²

Rather than losing contact with their membership and accommodating capitalism, unionists employed SMSTCAB to advance trade unionism. George Thomson, labour delegate for Blochairn stated, 'every man who is a subscriber to the Board should also be a member of the union.'²³³ Following a fact-finding visit to northern England's Board, the workmen's report was criticised by steelmasters:

The Report was made a medium of setting forth to the Operatives the virtues of

²²⁸ *Ibid*, 18 Sept.1890-18 Oct.1901, pp.1-205.

²²⁹ *Ibid*, 3 Aug.1893, p.21.

²³⁰ Van Gore, 'Rank-and-file', pp.47-73

²³¹ NLA, SMSTCAB minutes, 16 Feb.1894, p.24.

²³² *Ibid*, 2 Nov.1894, p.43.

²³³ *Ibid*, 29 Jan.1897, p.95.

Unionism and...advanced arguments in favour of Trades Unionism...[Riley] had no objections to Trades Unionism within certain bounds, but the Board was not the proper medium for its advocacy. The Operatives were getting an audience, which they could not get in any other way.²³⁴

Indeed, trade unionism became the vehicle through which masters communicated with steelworkers, undermining whatever remained of paternalistic relationships between masters and men. Riley conceded, 'until the operatives' representatives had an opportunity of expounding to the workers...he was afraid nothing could be done.'²³⁵ Therefore, rather than weakening organised labour, participation in SMSTCAB bolstered trade unionists' authority and leverage over both labour and capital.

Wrigley perceives arbitration boards as stabilising influences that removed the unpredictability of labour relations.²³⁶ However, serious disputes occurred during SMSTCAB's formative years:

Members of the Arbitration Board have recently been discharged, and the union officials allege that a list has been made up by the company of men who are on no account to be employed. An idea prevails among the men that this is an attempt on the part of the company to revert to the contract system, and this they

²³⁴ *Ibid*, 18 May 1894, p.35.

²³⁵ *Ibid*, p.36.

²³⁶ Wrigley, 'Government', pp.134-158.

are determined to resist.²³⁷

Further, in 1892, Cronin accused various masters of ignoring SMSTCAB's rules and abusing their position as chairman by refusing to bring disputes before the Board.²³⁸ Nevertheless, Wrigley's statement is generally corroborated by examination of SMSTCAB and the machinery employed defused contentious issues. In 1896, labour withdrew demands for increased wages, 'after some explanation had been made by representatives of the employers on the present position of the trade'.²³⁹ In 1897, the amicable settlement of disputes facilitated by SMSTCAB contrasted with industries including shipbuilding, which suffered prolonged disputes; 'it is gratifying to know that in the Scotch steel trade there have not been any discords in the relations existing between employers and employed.'²⁴⁰ Finally, in 1899 James Riley referred to the, 'early days when they did not get on so well together as in the later times.'²⁴¹

Whilst SMSTCAB undoubtedly reduced the quantity and severity of disputes between masters and millmen, the non-participation of smelters and other classes of workmen reinforced sectionalist divisions within the steel industry. Indeed, Mr. Johnston, labour delegate for Dalzell, was forced to resign after becoming a steam-crane driver, 'a department of work whose wages are not governed by this Board.'²⁴² Other workmen rejected collectivism and reiterated their commitment to sectionalist

²³⁷ *Engineering*, 14 Aug.1891.

²³⁸ RC, Labour, 1892, Vol.36,(16,058), p.375.

²³⁹ *Engineering*, 27 Nov.1896.

²⁴⁰ *Ibid*, 31 Dec.1897.

²⁴¹ NLA, SMSTCAB minutes, 28 July 1899, p.153.

²⁴² *Ibid*, 29 Jan.1897, p.95.

policies, including Blochairn's tyremen who abandoned SMSTCAB in 1899.²⁴³ Nor did the board terminate individualism amongst masters; when a relief fund for unemployed steelworkers was proposed during the 1894 miners' strike, employers objected, preferring to, 'operate through their own works rather than a general fund.'²⁴⁴ Consequently, whilst SMSTCAB made significant advances towards the collectivisation of industrial relations, sectionalism and individualism remained endemic and still permeated Lanarkshire's steelworks in 1900.

2.2 The Scottish Manufacturing Iron Trade Conciliation and Arbitration Board. (SMITCAB)

In northern England, the malleable iron industry was long associated with conciliation and arbitration. In 1869, John Kane wrote, 'reason and not force is the weapon man should use; if there is any sense in a man it will be brought out in the Arbitration Board.'²⁴⁵ Kane's moderation facilitated the creation of northern England's Arbitration Board for the manufactured iron and steel trades in 1869, whilst in 1872, South Staffordshire's Board was created.²⁴⁶ However, in Scotland the establishment of conciliation boards proved more cumbersome.

Calls for the formation of an arbitration board to deal with disputes in Lanarkshire's malleable ironworks date from 1870; 'the workmen are exceedingly anxious for the formation of such an organisation, and would most cheerfully welcome and rejoice in

²⁴³ *Ibid*, 20 Jan.1899, p.143.

²⁴⁴ *Ibid*, 20 July 1894, p.40.

²⁴⁵ E. Wigham, *Steel Review - the British Iron and Steel Federation Quarterly*, Vol.11, July 1958, p.17.

its formation.²⁴⁷ *Engineering* observed:

The [Board] which exists in the north of England has already been of immense pecuniary, moral, and social benefit; and there is no good reason why such an institution should not be equally successful in Scotland...If the difficulty lies only with the Scotch ironmaster we would urge the propriety of casting to the winds, anything in the shape of false pride. They need not hesitate to follow where their confreres in the north of England are disposed to lead.²⁴⁸

Although masters agreed to have Lanarkshire's wages regulated by Cleveland, they were unwilling to form an independent Scottish board. The masters' obduracy was reinforced by economic conditions during the Great Depression, which despite periodic fluctuations bolstered managerial hegemony. Indeed, Porter's analysis of the English manufactured iron trade concludes, 'when the employers and their Association were in the dominant position they had no time for suggestions of conciliation and arbitration.'²⁴⁹ However, from 1870, Lanarkshire's wages were formally governed by the deliberations of Cleveland's Board. William Whitwell, the Board's President, stated, 'we always have to take into consideration...the equitable effect of any decision upon other iron-working districts, say, Scotland or Staffordshire.'²⁵⁰

Despite Wrigley, Van Gore, Clegg, Fox and Thompson arguing boards' favoured

²⁴⁶ Burnham & Hoskins, *Iron & Steel*, p.239.

²⁴⁷ *Engineering*, 2 Dec.1870.

²⁴⁸ *Ibid.*

²⁴⁹ Porter, 'Iron', pp.253-265.

employers, unionists' believed a board equalised power levels.²⁵¹ Edward Trow testified Cleveland's Board acted as a check on managerial behaviour, whilst workmen gained the right to receive impartial rulings. Further, if individual employers refused to implement the Board's decisions, the remainder were pledged to press for compliance and compensated workmen for any resultant losses. Whilst McIvor observes that unionists enforced collective bargaining agreements, masters also 'policed' masters to enforce discipline amongst capital. Trow stated:

We have removed a large number of evils since the formation of the Board...which we had endured a good deal of suffering and spent large amounts of money in trying to remove by strikes...you will not find any parallel case where any system adopted has been of so much advantage to the workmen.²⁵²

Despite such assurances, the influence of Cleveland's Board did not terminate wage conflict in Scotland. Indeed, it could exacerbate disputes, resulting from the methodology employed to calculate wage alterations. Cleveland's Board determined a standard rate, percentages of which were either raised or lowered depending upon the selling price of finished iron. This was termed a change in 'general wages', mirrored by alterations in 'local wages' at ironworks in each district. However, local wages were also determined by unique working practices. Consequently, alterations to specifically Scottish factors produced wage demands in Lanarkshire that were unjustified by Cleveland's figures. By 1883, discontent had mounted. There was a:

²⁵⁰ RC, Labour, 1892, Vol.36, p.322.

²⁵¹ Van Gore, 'Rank-and-File', pp.47-73. Wrigley, *Industrial*, p.xii. Clegg, Fox & Thompson, *Unions*, chapters 3&4.

²⁵² RC, Labour, 1892, Vol.36, p.332.

Strong determination on the part of the ironworkers of Lanarkshire to do their best to get a Board of Arbitration and Conciliation established...as they do not wish to have their affairs any longer regulated by the North of England Arbitration Board, indeed, they think they would get better terms if the selling prices of Scotch finished iron alone were to regulate their wages.²⁵³

Conversely, these factors persuaded Lanarkshire's employers to resist workmen's overtures. Masters' were content with the existing system; David Colville stated for twenty years ironworkers' wages were regulated by Cleveland, 'with the result that there had been no strikes of any importance regarding wages'.²⁵⁴ However, during the 1890s, various factors reinvigorated demands for the creation of an independent Scottish board. Firstly, northern England's manufactured iron trade was in decline, with the quantity of puddling furnaces shrinking from 2,136 in 1874 to 604 in 1890.²⁵⁵ Scottish unionists believed this undermined Cleveland's determining influence on Scottish wages. Secondly, Scottish union branches remained dominated by puddlers. The changing composition of Cleveland's Board exacerbated puddlers' concerns; English puddlers were being replaced by smelters at various works including Consett, although Consett's millmen remained members of their Board, the smelters were not.²⁵⁶ Consequently, the English Board was increasingly dominated by millmen. Scottish puddlers feared workmen's representatives on the English Board might not support puddlers' wages claims or even impose agreements

²⁵³ *Engineering*, 2 Nov. 1883.

²⁵⁴ NLA, SMSTCAB minutes, 16 Feb.1894, p.26.

²⁵⁵ RC, Labour, 1892, Vol.36,(15,160), p.330.

²⁵⁶ *Ibid.*

favourable to millmen, but detrimental to puddlers. Therefore, sectional sentiment encouraged puddlers' vociferous demands for a Scottish board. Similar motivations encouraged millmen from seven Scottish malleable works to abandon puddlers by applying to join steel-working millmen within SMSTCAB in 1895.²⁵⁷ This would have extended a sectional arbitration board over Lanarkshire's malleable iron industry. However, steelmasters refused as SMSTCAB's constitution contained no provision for malleable ironworks.

Davidson maintains the trade revival from 1896 made militant unionists unwilling to discard the power to obtain wage advances by accepting the Conciliation Act.²⁵⁸ This is contradicted by ironworkers' demands for an arbitration board, which were given further impetus by favourable economic and political conditions. Resurgent demand mirrored labour's burgeoning power; 'here and there certain concessions are being made by the employers'.²⁵⁹ Increased prices meant the proposed board's wage mechanisms would favour workmen. *The Engineer*, reported although many Scottish works were still regulated by northern England, 'the men are just now refusing to be guided by the North of England prices, as they say the Scotch prices are higher.'²⁶⁰ This was reinforced by governmental pressure to avoid disputes, following the Conciliation Act of 1896.²⁶¹ Squeezed by dual pressures, masters found it increasingly difficult to ignore ironworkers' demands, whilst the decline of competition from Cleveland made acceptance more palatable. In October 1896, 'both employers and workmen...seem to be resolved on bringing such an institution

²⁵⁷ NLA, SMSTCAB minutes, 25 Jan.1895, p.46.

²⁵⁸ Davidson, 'Government', pp.159-183.

²⁵⁹ *The Engineer*, 21 Aug.1896.

²⁶⁰ *Ibid*, 2 Oct.1896.

into existence, one that shall be quite independent of the Conciliation and Arbitration Board...in the North of England.'²⁶² Whilst *Engineering* attributed an equal desire between masters and men, labour's ascendancy was reflected by the accompanying demand for a wage increase of 7.5%, 'preliminary to the formation of the Board'.²⁶³ This suggests labour again stimulated the Board's creation, contradicting McIvor, Garside and Gospel's observations.

Although some employers acknowledged the necessity of conceding increased wages, the claim proved awkward and delayed final acceptance until it was agreed the proposed board should adjudicate. However, ironmasters' reluctance to form a Scottish board had deeper roots. Masters feared that conceding formal authority and equality to workmen would fundamentally reduce their influence. Lanarkshire's masters were keenly aware of the results of power sharing in northern England and although willing to have wages dictated by Cleveland, the English Board had no authority over Lanarkshire's working practices. If ironworkers demanded changes to workplace practices and conditions, the result could be increased costs and reduced competitiveness. English ironmasters also acknowledged this fact and consequently supported Lanarkshire's workmen. In Birmingham and Wolverhampton:

Considerable interest was manifested on...the agitation in the West of Scotland for an advance of wages and for the formation of a wages board for Scotland, instead of continuing to have wages regulated by the English sliding scale. Iron and steelmasters here, who suffer severe competition from the West of Scotland

²⁶¹ Wrigley, 'Government', pp.135-158.

²⁶² *Engineering*, 16 Oct.1896.

works, would be only too pleased to see wages advanced over the border, as, of course, the effect would be to increase ironmasters' costs, and so perhaps lessen the present competition...to ironmasters in this district the demand of the men for a separate board seems entirely reasonable.²⁶⁴

Clegg, Fox and Thompson argue despite the shortcomings of collective bargaining, union leaders, 'saw in it the guarantee of union stability, one source of their own power, and the best means available for winning benefits for their members.'²⁶⁵

English ironworkers' union leaders, 'appreciated that the whole system of the boards fortified their powers over their members.'²⁶⁶ Although the lure of higher wages secured rank-and-file support, observers claimed the arguments of Scottish trade unionists for an autonomous Scottish board were motivated by self-interest. Whilst English labour leaders achieved considerable influence from participation in arbitration boards, their Scottish counterparts were marginalised by such negotiations. Therefore, the demand for a Scottish board by Scottish trade unionists incorporated desires for greater influence and authority over autonomous workmen.

The Engineer reported:

The arrangement under which Scottish wage levels were determined by the North of England, has for long been a great convenience in Scotland, and has undoubtedly obviated many a dispute. It is not one, however, that has commended itself to the union leaders; it made the men too independent of their

²⁶³ *Ibid*, 25 Dec.1896.

²⁶⁴ *The Engineer*, 2 Oct.1896.

²⁶⁵ Clegg, Fox &Thompson, *Unions*, pp.472-473.

²⁶⁶ *Ibid*, p.204.

services. And so it has come about that the agreement is being denounced as unjust, and an agitation is going forward among the Scotch ironworks to have it terminated.²⁶⁷

Scottish unionists alleged wages would have risen three-fold, but for the linkage to Cleveland, resulting in Lanarkshire's ironworkers giving notice of strike action to achieve, 'the formation of an independent arbitration or wages board'.²⁶⁸ Labour's demands for a board and accompanying wage increase were considered in October 1896, when masters conceded the principle of an independent board. In December, masters suggested the immediate formation of a Scottish board, provided the men abandoned their wage claim. *The Engineer* surmised:

Trade had lately expanded so much in comparison with that of the Cleveland district that the men refused to continue this practice. Since they adopted that attitude, the employers have been quite willing that a Scottish Conciliation Board should be established, and the main difficulty in the way hitherto has been that the men insisted upon wages being advanced preliminary to the appointment of such a board.²⁶⁹

Another conference in January 1897 attempted to break the stalemate. However, the sticking point remained the wages increase, which masters declared unjustifiable, until prices rose later that year. SMITCAB did not actually meet until December 1897, when twenty works owned by eighteen firms were represented, each providing

²⁶⁷ *The Engineer*, 2 Oct.1896.

²⁶⁸ *Ibid*, 9 Oct.1896.

an employer and operatives' delegate. Although the Steel Board had an independent President, James Riley of GI&S Co., the most powerful firm in the industry, headed SMITCAB whilst the Vice-President was selected from labour's representatives. Although any ironworker could stand for election as workmen's delegate, they were often trade union officials. Each side provided equal financial contributions, and elected joint secretaries, John Cronin for labour and Mr. Bishop for capital. Consequently, individuals prominent in SMSTCAB's creation in 1890 filled influential positions amongst both employers and workmen. The main operational difference resulted from the larger number of participants, leading to the creation of a Standing Committee, consisting of six representatives from each side, which regularly met to settle disputes unresolved at individual works, to establish wage rates and other matters affecting the industry. If the Committee failed to settle a dispute, it was taken before the full Board and ultimately to an arbiter. Each side was bound to accept the ruling of James Bell Bart, ex-Lord Provost of Glasgow, who acted as arbiter in 1897.²⁷⁰

At SMITCAB's inaugural meeting, President Riley commented on the, 'interminable and arduous struggle', to achieve formation; Riley hoped the new Board, 'would be the means of preventing disputes or settling any that may arise and generally that it would prove beneficial to Employers and Operatives alike by establishing and maintaining a closer band of union between them'.²⁷¹ This apparent goodwill reflected the democratic principles that governed the Board, effectively creating a power-sharing executive. However, the equality of representation was less apparent.

²⁶⁹ *Ibid*, 25 Dec.1896.

²⁷⁰ *Engineering*, 3 Dec.1897.

Firstly, Standing Committee members made most significant decisions and enjoyed proportionately greater power than other representatives. Secondly, although contributing workmen elected their works' delegate, limited sections of labour were represented. Puddlers dominated labour's delegates; SMITCAB was originally conceived as a sectional board for puddlers, but broadened to include other workmen. During 1897, only puddlers were elected, reflecting their numerical superiority, although by 1900 several shinglers were included. Other sections of labour remained ineligible for representation. In 1902, Thomas Dobson, Secretary of the Amalgamated Society of Enginemen, requested SMITCAB admit his members. However, the Board possessed, 'no provision for the inclusion of the classes of workmen represented by the society.'²⁷² Therefore, although encompassing significant strides towards collectivism, SMITCAB's labour representation remained sectional in character.

Price is supported by evidence of differing attitudes between delegates and their rank-and-file, disappointed by conciliatory policies. In 1898, Vice-President Mincher reported, 'I was accused last week of taking the part of the masters and robbing the men of their rights.'²⁷³ In 1900, Mincher declared, 'he could not understand how it was that he had been re-elected, as he had very often to fight his own men, and had to speak very plainly and firmly to them.'²⁷⁴ However, Mincher was re-elected annually throughout the period, reinforcing the point that the rank-and-file was not seriously divorced from delegates. Rank-and-file frustration largely

²⁷¹ GUBA, SMITCAB minutes, 4 Mar. 1897, p.2.

²⁷² *Ibid*, 21 Nov.1902, p.134.

²⁷³ *Ibid*, 15 Sept.1898, p.201.

²⁷⁴ *Ibid*, 26 Jan.1900, p.221.

stemmed from ignorance of SMITCAB's procedures. The delay of several months between price and wage increases exacerbated discontent. Consequently, Mincher requested more information from masters concerning production figures and selling prices:

To strengthen the hands of the delegates in dealing with the men...The present position of the delegates was very precarious and if the next audit did not show an advance he would not be on the Board. The men sneered at anything they had to say, and it was very difficult to deal with them.²⁷⁵

McIvor observes the emphasis on documentary evidence to justify wage claims favoured the employers' greater secretarial services.²⁷⁶ However, higher literacy levels and more efficient communications raised ironworkers' awareness of market fluctuations, scrutinised in daily newspapers and weekly trade journals, which reported national and regional price fluctuations for pig iron, malleable iron and steel. Further, masters hesitated to provide greater information for fear of weakening their position against competitors, signalling capital's internal divisions, rather than attempts to gain advantage over labour. James Hamilton, master of Crown ironworks stated, 'I don't think... the other side fully understand what they mean by asking such a question... It is not because I don't wish to show my figures to [labour's] side of the house, but it is because I don't wish to show them to this side of the house.'²⁷⁷ Indeed, SMITCAB overcame this problem by appointing independent accountants to audit the firms' books, whereas steelworkers took employers'

²⁷⁵ *Ibid*, 23 Nov.1905, p.134.

²⁷⁶ McIvor, *Organised*, p.123.

information on trust; Cronin stated, 'I would never dream of putting the Employers to the trouble of having an accountant going over the books. I know they tell us what is correct.'²⁷⁸

McIvor stresses labour delegates 'policed' the agreements. In fact both the union and employers combined to pacify militants and present a united front against maverick sections of labour, including underhand puddlers. This simultaneously reinforced workplace discipline and strengthened union authority. However, this service was conditional on employers pressurising independent workmen to join the union; 'men would be responsible to the employer if on the other hand the employers would compel all the men to be in the Society.'²⁷⁹ John Cronin reiterated this argument, asking:

Where the employers were to look for a remedy if the men were going to throw the works idle? If the employers would...compel the men to join the union and make the union responsible for any damage, they would arrive at a better state of feeling on both sides.²⁸⁰

Therefore, Cronin sought to employ SMITCAB to bolster union authority over autonomous sections of labour. John Gallagher, Woodside's labour delegate, belaboured their role defending employers from militants; 'some cases which the operatives brought forward were unjust cases and the representatives had to stand a

²⁷⁷ GUBA, SMITCAB minutes, 15 Sept.1898, p.196.

²⁷⁸ NLA, SMSTCAB minutes, 10 Mar.1896, p.81.

²⁷⁹ GUBA, SMITCAB minutes, 6 June 1902, p.122.

²⁸⁰ *Ibid*, 21 Nov.1902, p.128.

lot of abuse because they refused to bring them forward. They were the buffer between the employers and the employed.’²⁸¹ However, this ‘buffer’ could also be perceived as a barrier divorcing employers from their independent workmen and supplanting trade unionists in their place. Indeed, rather than serving the interests of capital, labour leaders perceived their disciplinary function as a reinforcement of union hegemony over independent elements, which in practice, simultaneously reinforced forehands’ sectional authority over their frequently non-unionised underhands. Consequently, like SMSTCAB in 1890, the creation of SMITCAB in 1897 bolstered union authority and facilitated greater adoption of collective bargaining, whilst simultaneously highlighting sectional divisions amongst both labour and capital.

2.3 The Board of Conciliation for the Regulation of Wages in the Pig Iron Trade of Scotland.

Whilst trade unionists in the malleable iron and steel industries had their authority reinforced by participation within Arbitration Boards, the NABF still struggled to obtain the recognition implicitly accorded by such Boards. Melling claims Lanarkshire’s masters were, ‘generally favourable to stable collective bargaining...in place of the constant friction over output and wages came the sliding-scale and conciliation machinery which employers in both coal and iron sectors came to support during the late nineteenth century.’²⁸² However, Lanarkshire’s pig ironmasters were among the last in Britain to accept the principles of conciliation and

²⁸¹ *Ibid*, 20 Nov.1903, p.185.

²⁸² Melling, ‘Industrialists’, p.74.

arbitration, despite the general adherence of English pig ironmasters, reinforcing Porter's point that dominant masters were unsympathetic towards arbitration.²⁸³

In 1892, John Dennington, secretary of Cleveland Ironmasters' Association, stated Cleveland possessed a joint committee composed of six employers and workmen's representatives, established in 1879 and formalised in 1882. The committee agreed a wages sliding-scale and was empowered, 'to consider matters (other than district questions) affecting individual firms and their workmen.'²⁸⁴ The NABF was recognised by employers and forced workmen to accept unpopular decisions; 'the Blast-Furnacemen's Association unites with the Employers' Association in endeavouring to bring the delinquents again into line.'²⁸⁵ Similarly, Cumberland possessed a joint committee and Patrick Walls, the NABF's agent, stated even contentious issues were settled amicably.²⁸⁶ English ironmasters declared co-operation with labour was essential in establishing successful sliding-scales; Hugh Bell, a Middlesbrough ironmaster, condemned the Lanarkshire coalmasters' sliding-scale, 'promulgated by the owners'.²⁸⁷ The Board was dependent on good-will and trust, as arbitration was not legally binding. Bell praised the NABF's disciplinary function; 'I have never yet known the men's associations fail to do their best...I have no fault to find.'²⁸⁸ Given the success of England's Boards and their negotiated sliding-scales, Cumberland's scale was even based on Glasgow's prices, there was no practical barrier to the creation of an equivalent board for Lanarkshire.

²⁸³ Porter, 'Iron', pp.253-265.

²⁸⁴ RC, Labour, 1892, Vol.36, p.289.

²⁸⁵ *Ibid*, p.291.

²⁸⁶ *Ibid*, p.286.

²⁸⁷ *Ibid*, p.292.

²⁸⁸ *Ibid*.

Consequently, the continued failure to create such a vehicle despite the expressed wishes of blast-furnacemen since 1890 was the result of ironmasters' intransigence. Indeed, Robert Baird admitted labour was, 'not consulted', when sliding-scales were created.²⁸⁹ Such attitudes contrasted vividly with views prevalent in England, further contradicting Johnston, but supporting Reid, Knox, Renfrew and McIvor's arguments regarding Clydeside employers' authoritarianism.²⁹⁰ However, Johnston concedes employers of unskilled labour were most hostile to collective bargaining, which is endorsed by examination of Lanarkshire's pig iron industry.²⁹¹

The pig ironmasters dominance was reinvigorated following the failed blast-furnacemen's strike in 1890. However, the unexpected duration and cost of the dispute fuelled concern over labour's perceived advance. By 1899, resurgent union strength combined with blast-furnacemen's alliance with malleable ironworkers in the ASS&IU, together with increased prices and the consequent improvement of blast-furnacemen's bargaining position, further pressurised masters. In July 1899, 'the Scotch Ironmasters' Association have had before them the application of the blast-furnacemen for an advance of 10 per cent. It is expected that this will be granted, or that some compromise will be agreed upon'.²⁹² Increasing foreign competition and Governmental exhortations to adopt conciliatory mechanisms also squeezed the pig ironmasters. Indeed, pig ironmasters' position was increasingly isolated as masters in related trades gradually adopted conciliation processes.

Coalmasters conceded an Arbitration Board in November 1899 and recognised the

²⁸⁹ *Ibid*, p.235.

²⁹⁰ McIvor, *Organised*, p.115.

²⁹¹ Johnston, *Clydeside*, p.205.

²⁹² *Engineering*, 14 July 1899.

LCMU.²⁹³ Having conceded the principle of arbitration to their miners, no further barriers prevented a similar concession to blast-furnacemen, particularly as rising prices bolstered labour's demands. Indeed, from January 1899 to May 1900 furnace-keepers shift wages rose from 5/6d. to 7/3d. and furnace-fillers wages from 4/10d. to 6/5d., during five separate wage increases.²⁹⁴ In October 1899, ironmasters, 'wisely decided to express the willingness of the employers to...discuss a scheme for the regulation of wages.'²⁹⁵

Although both sides were committed to establishing a board, the first meeting was acrimonious and revolved around traditional areas of conflict. The masters had met previously and established a joint position:

It was agreed to intimate to the men at the outset of the conference that the Employers were prepared to enter into a Conciliation Board on the distinct understanding that no man should be coerced or intimidated into joining the union, and that there should be no refusal to work with non-union men.²⁹⁶

AK McCosh of Bairds, the industry's most powerful firm, acted as chairman and presented the masters' views. McCosh stated ironmasters' readiness to form, 'something like a Conciliation Board', as long as pig ironmasters were guaranteed, 'freedom of employment'.²⁹⁷ John Cronin of the ASS&IW, a veteran of the two previous boards, led the workmen's delegates. Cronin reiterated arguments

²⁹³ Renfrew, 'Militant', p.154.

²⁹⁴ NLA, Clyde furnacemen's wages, 1879-1900.

²⁹⁵ *Engineering*, 6 Oct. 1899.

²⁹⁶ GCA, SIA minutes, 1899-1918, p.4.

frequently used in SMITCAB meetings, playing on managerial fears of rank-and-file militancy and presenting the union as a moderating force; 'a number of men have withdrawn from this association under the plea that we have not pressed the employers sufficiently, and that we have not been drastic enough...it is in your interest to deal with a compact body of men.'²⁹⁸ Cronin emphasised the mutual benefits accruing from collectivisation in other industries:

Employers...favour the inclusion of all their workmen in the Association, because by this means they are more amenable to discipline. In the last twenty-five years the disputes have oftener arisen from the non-union element, than from the unionists. Employers have recognised this, and therefore welcome the extension of the men's organisation.²⁹⁹

Therefore, unionists again attempted to employ arbitration boards as a means of extending trade union hegemony over independent workmen. During the following argument both sides claimed to defend blast-furnacemen's autonomy; the employers perceived themselves as blast-furnacemen's protectors from dictatorial unions, whilst the union perceived itself as safe-guarding blast-furnacemen from capitalist domination, stating masters were, 'out of touch for so great a number of years with the workmen'.³⁰⁰ Cronin declared their society never forced membership, unlike many Clydeside unions. However, employers claimed Cronin had sent correspondence to blast-furnacemen at several ironworks demanding collectivisation.

²⁹⁷ GUBA, Proceedings at Conference, p.3.

²⁹⁸ *Ibid*, p.9.

²⁹⁹ *Engineering*, 9 Nov.1900.

³⁰⁰ GUBA, Proceedings, p.8.

Mr. Angus, master of Muirkirk and Lugar ironworks, stated:

Threats were held out that unless some of our men joined the union the others would come out, and the works thrown idle...if a man does not choose to join the union, it is a matter for himself to judge. I do not ask the question if he is in the union or out of it, so long as he does his work...Some men have conscientious scruples against joining the union. You are putting the screw on them and that does not breathe conciliation...I think it is such very strong oppression...My men resent the dictation of the Trade Union, and it is entirely for the men themselves to judge.³⁰¹

This provoked an angry response from John Diamond, labour representative from Coltness ironworks:

Do you think that we have not the same rights as other bodies of workmen? Can you point to any man on the Clyde that would not do as we do today?...We advise with [a non-unionist], and use every means in our power to induce him to join us, but if he insists on not doing so, would I work alongside a cad like that? I would scorn the idea...Imagine one of the greatest syndicates with their money bags bribing here and there! - What is our experience? We are not workers for many years without knowing this.³⁰²

Incessant wrangling over union representation further undermines McIvor and

³⁰¹ *Ibid*, pp.9-10.

³⁰² *Ibid*, p.10.

Melling who maintain capital's relationship with labour evolved from c1880-1914. Despite the mutual aggression, the rules of the Board of Conciliation for the Regulation of Wages in the Pig Iron Trade of Scotland, were settled in February 1900 and contained marked similarities to SMITCAB's procedures. The Board's stated purpose was to regulate blast-furnacemen's wages, but did not govern any other class of workmen. It was jointly financed by contributions from blast-furnacemen and employers, contained equal numbers of employer and workmen's representatives, joint secretaries, an auditor and a neutral chairman to arbitrate on contentious matters.³⁰³ The SIA finally recognised the blast-furnacemen's union, whilst the union agreed it would not pressurise non-unionists.

The late creation of the Board was the result of various factors. Firstly, blast-furnacemen possessed less autonomy than malleable ironworkers or steelworkers, reflecting lower skill levels and later unionisation. Bagwell states:

An outstanding influence on industrial relations...was the unskilled or semi-skilled nature of much of the work. An important influence inhibiting the success of trade unionism, and hence the growth of collective bargaining, was the abundance of labour and the absence of control over its deployment.³⁰⁴

Indeed, the successful assembly of replacement labour by pig ironmasters undermined the NABF for most of the period. Secondly, pig ironmasters were comparatively more powerful than malleable iron or steelmasters. This facilitated

³⁰³ GCA, SIA minutes, 21 Feb.1900, pp.13-21.

³⁰⁴ Bagwell, 'Transport', pp.230-252..

individualistic, authoritarian policies until the conclusion of the period, when financial robustness was threatened by external factors, including foreign competition, to a greater extent than other industries. This combined with greater political pressure, economic conditions favouring blast-furnacemen and their union's resurgence to weaken capital's dominance, ultimately reflected by the creation of the Arbitration Board. Consequently, capital's inability to resist labour pressure was again the main catalyst promoting the board's creation. Indeed, pig ironmasters' reluctance and suspicion of the Board was evident. Capital remained distrustful of labour and wary of threatened managerial prerogative; 'the fact of a man being a delegate or an official of the union, is not to be made a cloak for any insubordination or any evil-doing...being an official is not to be a cloak for a man trying to manage the work.'³⁰⁵ Indeed, pig ironmasters ensured that the Board possessed restricted influence upon the industry. Unlike SMITCAB, the Board only held jurisdiction over blast-furnacemen's wages and could not impinge upon operational matters. In 1907, blast-furnacemen still pressed unsuccessfully to extend the Board's powers, 'to make it a Board in reality, the same as the Steel Board'.³⁰⁶ However, pig ironmasters declined and retained much of the authority conceded by malleable iron and steelmasters to their respective Boards. Finally, not every firm conformed to the collectivist approach; in 1905, Merry &Cunninghame was rebuked for failing to pay the board's subsidies since 1903, whilst the firm's blast-furnacemen stated they had not paid their fees fearing victimisation by the firm. The Board dispatched a representative to, 'endeavour to get Messrs. Merry &Cunninghame to keep in line

³⁰⁵ GUBA, Proceedings at Conference, 10 May 1901, p.13.

³⁰⁶ *Ibid*, 2 Oct.1907, p.8.

with the other ironmasters.³⁰⁷ This latent individualism confirms the limited evolution of pig ironmasters' collective ethos and blast-furnacemen's residual fear of capital's aggressive authoritarianism, which persisted into the 20th century. Although the Boards represented the gradual evolution of collectivism in Lanarkshire's iron and steel industries, in 1900 each Board retained significant elements of the individualism and sectionalism that characterised the industries since 1870.

3. Conclusion

Analysis of large-scale strikes and arbitration boards' establishment and operation, reveals much concerning authority and independence within each industry.

Consideration of the puddlers' strike reveals pronounced sectionalism within the malleable iron industry. Sectionalism is also evident during the Mossend dispute, which caused serious ruptures within organised labour, despite both millmen and smelters at Mossend jointly combating a single master. Whilst greater co-operation highlights strengthening bonds amongst labour, unity remained elusive and fragile.

Collectivism is most evident amongst blast-furnacemen, whose dispute in 1890 required significant external support. This also reflected the nature of union representation; the NABF included different types of blast-furnacemen, whereas the BSSAA largely remained a sectional society. Alternatively, in 1870 the NAI represented various types of forehands, but few underhands, whilst numerical preponderance favoured puddlers. The extent of collectivism or sectionalism within

³⁰⁷ GCA, SIA minutes, 25 July 1905, p.45.

each industry closely reflects the level of skills and influence that each group possessed. Blast-furnacemen adopted a collectivist ethos through necessity; alternatively puddlers, smelters and millmen generally possessed sufficient autonomy to assail or negotiate with employers independently.

Similar considerations also governed employers' response to threatened managerial hegemony. Whilst each industry displayed examples of collective action engendered by employers' organisations, but paralleled by individualistic sentiment, malleable iron and steelmasters generally required more support from employers' organisations than pig ironmasters, whose elevated financial reserves facilitated greater independence. This individualistic ethos was exemplified by Neilson's company, which despite confronting a steelworkers' union at Mossend, originated and continued as a pig iron manufacturer. Neilson also personified intolerance of organised labour. Indeed, Lanarkshire's masters displayed coercive attitudes much later in the century than comparative masters in northern England, further undermining Johnston. McIvor notes from the 1880s employers in northwest England shifted from, 'coercive, anti-unionist, industrial warfare policies towards a clearer, more equivocal commitment to union recognition, conciliation and arbitration.'³⁰⁸ However, this process took at least twenty years longer in Lanarkshire. Indeed, each strike featured calls from labour rather than capital, for independent arbitration or the formation of an arbitration board, to resolve the dispute.

³⁰⁸ McIvor, *Organised*, p.100-101.

Lanarkshire's employers moved sluggishly towards the formalisation of industrial relations. The Arbitration Boards' late establishment during the period detracts from Zeitlin's argument that, 'institutional forces rather than informal groups...played the crucial role in shaping relationships between workers and employers.'³⁰⁹ Various factors influenced the Boards' creation; labour pressure normally acted as the main catalyst, whilst each industry's leading firm was also influential in the Board's establishment and operation. Individuals also played prominent roles; Riley served on two boards for capital, whilst Cronin served on all three Boards for labour. However, despite Cronin's proposal in 1896 that SMSTCAB amalgamate with the proposed SMITCAB, employers rejected the idea.³¹⁰ Analysis of Lanarkshire's arbitration mechanisms refutes the conclusion that boards favoured capital or created splits within organised labour contradicting Wrigley, Van Gore, Clegg, Fox and Thompson. Although there is supporting evidence in each industry, Price overstates the gulf between union hierarchies and the rank-and-file. Indeed, trade unions' hegemony over autonomous sections of labour was significantly extended as a result of participation in Lanarkshire's Arbitration Boards, which represented the pinnacle of collectivisation during the period.

However, this should not obscure the significant sectional divisions inherent in each Board's structure. This was most apparent in SMSTCAB, which was formed by millmen and excluded smelters, who negotiated separately with the same employers. Similarly, SMITCAB originated as a puddlers' Board, but was later extended to include forehand shinglers and millmen, but noticeably fewer underhands.

³⁰⁹ Zeitlin, 'From', pp.159-184.

³¹⁰ NLA, SMSTCAB minutes, 30 Oct.1896, p.91.

Representation within the pig iron Board was restricted to blast-furnacemen. Consequently, representation was fragmentary and swathes of labour, especially the lesser skilled, were excluded from participation in each Board. Finally, within each Arbitration Board, existence of labour's, 'works representative', rather than trade union representative reflects the traditional primacy of individual ironworks or steelworks over wider collective bargaining, exemplified by the BSSAA and SSIMA. Whilst individualism was less amplified amongst capital, the co-operation evident during large-scale disputes and within the Arbitration Boards marked the zenith of employer collectivism during the period. However, the scope of operations remained limited, unanimity was persistently elusive and distrust between employers was evident. Indeed, numerous small-scale disputes at individual works were more typical from 1870-1900. The establishment of the Arbitration Boards marked the creation of power-sharing executives in each industry and significantly extended the collectivisation of industrial relations. However, in Lanarkshire in 1900, this process remained incomplete and many employers as well as workmen still clung to individualistic, sectional policies.

Conclusion.

Heterogeneity is main characteristic of capital and labour in Lanarkshire's iron and steel industries from 1870-1900. Capital was composed of a conglomeration of firms operating in separate markets, manufacturing distinct products using different techniques with divergent levels of mechanisation. Capital's diversity is revealed by comparison of influential pig ironmasters such as the Bairds with prominent steel manufacturers like SCS. Even within each industry firms varied in size, resources and influence over the marketplace, competitors, labour and other capitalists.

Typically, pig ironmasters exhibited the greatest financial vigour and dominance over labour, although such hegemony was increasingly curtailed during the 1890s as the dual pressures of economic fragility and opposition from organised labour intensified. However, pig ironmasters generally displayed more interventionist policies in local communities and greater commitment to paternalist methods in order to achieve workplace control and political influence. Their self-perception, genuine philanthropy and a pragmatic desire to mitigate the influence of trade unionism motivated Baird's interventionism. However, capital's social hegemony was circumvented by the burgeoning political influence of the middle and working classes, as well as challenges from labour organisations like the BSSAA that often administered more effective personal welfare provision than capital.

This curtailed the effectiveness of traditional paternalist authoritarianism, but did not terminate dictatorial attitudes amongst Lanarkshire's iron and steelmasters. Although

capital exhibited a common distaste for organised labour or other challenges to managerial prerogatives, capital's ability to dominate their workforce varied considerably. The disparity between the power of capital and labour was most pronounced in the pig iron industry, where the wealthiest and most influential capitalists' confronted labour with the lowest bargaining power. Indeed, pig ironmasters remained the most authoritarian and aggressive employers, reflecting labour's impotence to impose significant restraints. Alternatively, malleable ironmasters' and steelmasters' earlier adoption of moderation and negotiation was symptomatic of their relative weakness and the strength of their workforce. Consequently, the fragility of malleable iron and steelmasters' authority encouraged the adoption of policies intended to weaken labour by aggravating sectional differences, whilst simultaneously securing the co-operation of organised labour in order to control autonomous, volatile sections of the workforce.

Malleable iron and steelmasters generally exhibited greater preponderance to join employer organisations and negotiate with organised labour than Lanarkshire's pig ironmasters. However, there were few inter-industry initiatives between malleable iron and steel firms during the period and even less involving pig ironmasters. Indeed, pig ironmasters were distanced from malleable ironmasters and steelmasters by social origins, technical competence, entrepreneurial skills, wealth and economic power, whilst varying levels of opposition from organised labour further differentiated capital. Even within a solitary industry, capital exhibited little desire to create formal links with local competitors until compelled to do so by external competition, economic forces and labour opposition. Indeed, employers'

organisations, particularly within the steel industry, mirrored the divisions previously established and formalised by trade unions. Zeitlin argues individualism could seriously hamper common employer strategies. This was repeatedly demonstrated within employers' organisations including SSIMA and the SSPMA, which experienced prolonged difficulty in policy formulation and implementation. Whilst limited co-operation was achieved in the 1890s, the tendency of employers' organisations, such as the SSMA, to disintegrate under economic pressure and individual firms, including Clydebridge, to disengage from associations or even combat the communal policy, severely curtailed the effectiveness of such organisations. Indeed, the continued independence of masters such as Thomas Ellis and firms like GI&S Co. was often expressed in a refusal to participate in employers' associations or the renunciation of membership during periods of declining orders.

Employers' associations possessed limited authority, particularly over financially vigorous firms. Greater power levels facilitated the continuation of individualist attitudes and independent policy. Industrialists like James Neilson personify the individualist, authoritarian capitalism that characterised Lanarkshire's employers for much of the period. Whilst stressing a desire for a personal, reciprocal relationship with labour, Neilson's readiness to fire, evict and replace his workmen with outsiders indicates employers were more concerned with maintaining control than personal relationships. Although directed against steelworkers at Mossend in 1900, this attitude reflected Neilson's origins within the pig iron industry. Indeed, Lanarkshire's masters retained coercive policies later in the period than their English equivalents supporting Reid, Renfrew, Knox and McIvor's perception of

authoritarian Clydeside employers, but contradicting Johnston.

Capital's policies of intransigence or negotiation accumulated in direct proportion to the level of power exercised by their nemesis. Although Knox, Kirk, Cronin, Burgess and Price argue the working-class became increasingly homogenised during the period, labour in Lanarkshire's iron and steel industries was characterised by even greater fragmentation than capital. Ironworkers and steelworkers experienced disparity in virtually every aspect of work, including skills, tasks, responsibilities, conditions, wages and trade union representation. Whilst bargaining power was generally lowest in the pig iron industry, numerous malleable ironworkers and steelworkers enjoyed significant autonomy from managerial control as well as superior wages. However, malleable iron and steelworkers also experienced the most acute distinctions, habitually divided into numerous sub-groups within individual labour sections. Despite Littler's observation, subcontracting was evident in steelworks for much of the period and persisted in malleable ironworks until after 1900. Indeed, disputes between forehands and underhands, as well as between different labour sections were pronounced features. However, the relationship between subcontractors and their workmen was multi-dimensional and frequently more evenly balanced than McGuffie, Littler and Hinton contest.

Despite their divisions, skilled labour sections such as the smelters and puddlers retained discretionary authority, magnified by positional advantages to facilitate significant control over the labour process, further vindicating Reid and Zeitlin's arguments. Indeed, from 1870-1900, there is little persuasive evidence of the de-

skilling, mechanisation and consequent collectivisation of labour promoted by Burgess, Price and Knox. Further, common initiatives amongst unskilled, casual workers such as banksmen were also circumscribed. Alternatively, Knox's depiction of labour from 1850-1880, when the workgroup retained primacy and collective bargaining was contained within individual works is more compelling and remained a salient characteristic of Lanarkshire's iron and steel industries until 1900.¹ Finally, whilst there is some evidence supporting McIvor's theory of work intensification, from 1870-1900 acceptance of new procedures or technology by labour was accompanied by significant financial rewards. Therefore, throughout the period Lanarkshire's iron and steelworkers possessed varying degrees of influence, but generally retained significant autonomy and control within the workplace.

Although the general failure of malleable ironworkers and steelworkers to embrace collectivism bounded their influence over capital, sectionalism was also indicative of labour's inherent independence from capitalist control. Indeed, the persistence of sectionalist attitudes was a reflection of the persistent, cogent power of individual labour sections such as the smelters, adding resonance to Zeitlin's observation that significant wages and privileged status enhanced both independence and influence. Alternatively, blast-furnacemen's weaker bargaining position induced the necessity of collective opposition to capital, apparent during the blast-furnacemen's strike in 1890.

Trade unions mirrored their membership's attitudes and often formalised

¹ Knox, *Industrial*, pp.104-113.

sectionalism, particularly within steelworks where relations between the principal unions, the BSSAA and the ASMS, were often acrimonious. However, many trade unionists continually endorsed collectivism and sought to standardise wages, working practices and hours of labour amongst their membership. Further, negotiations with employers conducted either independently by the BSSAA or within formalised collective bargaining structures, reinforced the authority of trade unions over their rank-and-file and influence over non-unionised elements. Although there is evidence of disjuncture between union hierarchies and their membership, particularly within the ASMS, the BSSAA's rank-and-file was often more conservative than the executive and opposed reforms to working hours as well as attempts to formalise an alliance with millmen. Instead of acquiescing with capital, trade unionists actively employed arbitration boards such as SMSTCAB and SMITCAB as a medium to extend their influence over employers and to discipline and control staunchly independent sections of their membership, such as the underhand puddlers. Indeed, the underhand puddlers' resistance to the combined authority of the forehands, the union, the masters and SMITCAB, exemplifies the continued, fractious independence of labour at the end of the 19th century.

Labour pressure was the primary catalyst causing the development of collective bargaining institutions in each industry. The development of formalised collective bargaining effectively created power-sharing executives. However, the timing of the formation of independent arbitration boards' generally reflected the existing balance of power within each industry. Although steel millmen secured their board in 1890, malleable ironworkers waited until 1897, whilst the pig ironmasters were sufficiently

powerful to avoid conceding a board to blast-furnacemen until 1900. Indeed, the pig ironmasters' compliance was only secured after the concession of a similar board to the miners and Lanarkshire's blast-furnacemen joined forces with malleable ironworkers in the ASS&IW. Further, the pig iron industry's board was the most limited in scope. Nonetheless, labour's vigour also secured concessions from capital prior to the formation of independent arbitration boards governing Lanarkshire. The BSSAA was powerful enough to secure direct negotiations with SSIMA in 1890, four years after the BSSAA's formation, whilst the north of England's board regulated the wages of Lanarkshire's malleable ironworkers since the puddlers' strike in 1870.

This thesis highlights the gaps in existing historiography, which is often rooted within the integrated iron and steelworks more commonly found in England during the 19th century and frequently demonstrates a fundamental lack of understanding about the productive techniques employed by Lanarkshire's iron and steel industries from 1870-1900. Even McKinlay's perceptive analysis of steelworkers contains various errors; the exclusion of numerous trades and the concentration on smelters and labourers, references to 'blast-furnaces', which produced pig iron rather than steel and 'Summerlee', which remained a pig ironworks that did not employ steelworkers.² The masters did not operate in a vacuum, therefore studies including those of Johnston and McIvor, concentrating solely on capital are reduced in value. Alternatively, McGuffie's sweeping examination of the 'metals' industries covers the whole of Europe and America. Given the pronounced variety of experience within

individual works and the myriad conditions, tasks and wage rates in a single industry in a particular region, the relevance of McGuffie's conclusions are questionable.

Indeed, analysis of Lanarkshire's iron and steel industries provides evidence concerning assorted historical hypotheses. Various historians cite industrial evidence as significant in the development of class-consciousness. Marxist interpretations focus upon the labour process, whilst Johnston argues, 'it is in the collective *action* of individuals that class can be located'.³ By the same logic, the failure to act collectively might also indicate the absence of class-consciousness. This was readily apparent amongst both capital and labour in Lanarkshire from 1870-1900.

Examination of iron and steelworkers' tasks reveals limited evidence of the de-skilling or mechanisation that Kirk, Knox and Price maintain radicalised labour and encouraged a homogenised working-class from 1880-1900. Indeed, workmen including the puddlers retained traditional methods long after the period concluded and retained a strong sense of sectionalist identity. The absence of such triggers must call into question the development of class-consciousness in Lanarkshire during the period. McIvor argues Marxists' overstate the importance of work in the development of socialism and claims political, cultural and social factors, as well as economic forces were significant.⁴ Certainly, the labour process does not provide convincing evidence of collectivism amongst Lanarkshire's iron and steelworkers. Rather, as Reid states, 'the survival of real skills and strong trade unions tended to fragment workers into distinct and sometimes even antagonistic sections, which it

² McKinlay, 'Philosophers', p.89, 91.

³ Johnston, *Clydeside*, p.207.

⁴ McIvor, *Work*, p.248.

would have required a conscious effort to mobilise along the lines of united working-class politics.’⁵

Similarly, McIvor and Johnston maintain that employers demonstrated increasing levels of class unity. Johnston refers to, ‘a shared identity that set apart those who employed labour from those who did not.’⁶ Johnston’s conclusion is difficult to substantiate given the wide discrepancies between Lanarkshire’s masters. Further, Johnston’s study includes small-scale employers including retailers, but takes little account of subcontractors. Did a puddler employing one underhand share identity with millionaires like James Baird who employed 9,000 workmen? Even when capital is perceived in a narrower sense, Lanarkshire’s geological properties and contemporary productive techniques ensured the industries’ separate development, with limited co-operation apparent between industries and capitalists.

The formation of arbitration boards is significant for various reasons. Firstly, as Trainor observes, ‘the formation of such boards reflected a near balance of power’.⁷ This was achieved in each industry at differing periods, reflecting the disparity of power levels and fluctuating influence enjoyed by the various components of capital and labour. Trainor’s view is endorsed by the earlier concession of boards governing the steel and malleable iron industries. However, the formation of arbitration boards including SMITCAB might signal employers’ recognition that the active participation of the workmen’s representatives was required to effectively control

⁵ Reid, *Social*, pp.50-51.

⁶ Johnston, *Clydeside*, p.209.

⁷ Trainor, *Black*, p.162.

labour. Therefore, acceptance of collective bargaining agreements could denote employer weakness. Kirk notes, 'institutionalised collective bargaining appealed to a growing number of employers faced with uncertain markets and wage and price competition from other employers.'⁸ Further, McIvor argues labour perceived the achievement of disputes procedures and negotiating machinery as a means of making the gains obtained by strike action, 'irreversible'.⁹ Consequently, the creation of arbitration boards reflected an equitable distribution or convergence of power levels in each industry, rather than the continuation or enlargement of employers' advantages over labour, as advocated by Wrigley, Van Gore, Clegg, Fox and Thompson. Secondly, arbitration boards marked the pinnacle of collectivisation achieved by labour and capital during the period. Indeed, organised labour perceived the formation of arbitration boards as an opportunity to extend their authority over independent workmen. This is apparent in the BSSAA's attempt to monopolise representation on SMSTCAB and in ASS&IW's endorsement of SMITCAB. The workmen's delegates struggled not only to influence capital, but also to contain their members, lending support to the 'rank-and-filist' perception of divisions between union hierarchies and membership. However, the rank-and-file's failure to disestablish the boards, despite possessing the power to do so, indicates their overall acceptance of the boards' wages mechanism. Indeed, Price misinterprets periodic discontent as symptomatic of socialist sympathies. Alternatively, such disjuncture mainly stemmed from the inherent conflict between labour's latent individualism and membership of newly developed collective institutions.

⁸ Kirk, *Change*, p.176.

⁹ McIvor, *Work*, p.218.

Revisionist historians emphasise disparities emanating from gender, religion, housing and numerous other factors. However, societal factors such as gender have little relevance to this hypothesis. Indeed, study of Lanarkshire's iron and steel industries highlights the pronounced divisions contained within the workplace, due to the pronounced heterogeneity of labour and capital. Johnston states, 'individualism was not the keynote of capitalism'.¹⁰ However, sectionalism was undoubtedly the keynote of Lanarkshire's iron and steel industries from 1870-1900. Therefore, either alternative interpretations or time scales must be sought to adequately explain the development of class-consciousness amongst labour and capital in Lanarkshire. The arbitration boards created during the period displayed the greatest degree of collectivisation amongst both capital and labour, but also contained considerable sectionalist characteristics. Although arbitration boards established a symbiotic relationship between trade unions and masters' associations, the extent to which they altered the fundamental independence and sectionalism of individual masters and workmen is questionable. Further research is required to determine whether such individualist sentiment is typical of Scottish capitalism during the period 1870-1900, or unique to Lanarkshire's iron and steel industries.

¹⁰ Johnston, *Clydeside*, p.206.

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