

**A Study of the Problem of Work Effort in
British Industry, 1850 to 1920**

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ABSTRACT

The thesis investigates the factors determining the effort put forth by industrial workers in Britain during the second half of the nineteenth century and the first two decades of the twentieth. Why was so much energy and of such kinds put into work, and neither more nor less? What was the contribution of culture and institutions? And in which ways, if any, did the conduct of labour change over time? Labour effort contributes significantly to productivity differentials, between factories and across nations, and its study thus sheds light on that slackening of Britain's economic performance which historians have detected in the late Victorian period. Yet it is, additionally, a subject of interest in its own right. Work was the preponderating element in a man's daily experience, and much of the wide range of factory life found reflection in the matter of how hard he laboured and in what way. Indeed it is the contention of this thesis that an explanation of the level and forms of effort in the late nineteenth century must make reference to the workshop environment and its associated customs and social relationships.

These arguments are illustrated by detailed studies of the shoe and flint-glass trades. Despite obvious contrasts between these industries, important similarities are found to exist in the issues surrounding labour effort. In both industries operatives limited output; shoe and glass employers alike contributed to the failure to fully realise the productive potential of their establishments; the social equilibrium of both industries was subject to mounting competition from overseas - a challenge compounded in the shoe trade by rapid technical change; and in each case these disruptive tendencies eventuated in industrial confrontations which, however apparently successful for employers, left the fundamental characteristics of industrial organisation unchanged. These themes were common, not merely to glass and shoe manufacture, but to a range of major industries. The culture of output limitation was, we conclude, widespread in industry in this period, and emerged from similar reasons out of similar contexts.

LONG ABSTRACT

This thesis is concerned with the place of labour effort in British industry between the years 1850 and 1920. Worker effort is an important factor in productivity differentials between firms, industries, and nations. Yet it is of interest, also, in its own right. Work, especially in the nineteenth century, was the predominant element in a man's life. To the workplace he gave the larger part of his best hours and days, and much of the range of factory life lay concentrated in the matter of how hard he laboured and in what way.

Indeed it is the contention of this thesis that if we are to understand the level and forms of effort in the late nineteenth century we must make reference to the workshop environment. Only rarely was output a straightforward reflection of the mechanical properties of machines or the physical capacities of their operators. Most workmen could influence their weekly output. It does not follow that the observed level of production was wholly a consequence of employee strategy. Effort levels primarily reflect cultural traditions sanctioning certain intensities of exertion as normal and fair. These cultural traditions are historically specific, and help to explain why the pace of work may be faster in one country than another, or in one period than another. Further refined by the conventions of particular industries, these customary effort norms provide the basis of the contract between employer and employee. In contrast to writers like Lazonick and Edwards, it is argued that it is compromise not contention which lies at the heart of production.

Yet effort is also subject to the decision taking processes of workmen and employers, and it is with these that the thesis is chiefly concerned. Workmen, individually and as organised in unions, produced an output below which they knew themselves to be capable. By so doing they secured space within which they could realise a range of objectives besides the short-run maximisation of income. Employers, too, had goals other than income maximisation, and to

some extent this facilitated labour's attempt to mould the workplace environment to its needs. For example, the desire to minimise the stress of organisational change helped workers consolidate their control of shop-floor processes. But employers affected worker behaviour more directly. Thus their concern with the relative wage levels of their hands formed an important motive for cutting piece-rates, which in turn discouraged workers from seeking to increase output and earnings.

In short, workmen and employers sought to realise through industry a multiplicity of ends. If some were compatible, others were inconsistent. What helped provide the basis for compromise was the competitive advantage which British manufacturers enjoyed at mid-century *vis-a-vis* their foreign rivals. A 'margin of slack' within the economy permitted producers to indulge their preferences without immediately imperilling profitability or employment. Correspondingly, as other nations industrialised and the 'menace' of overseas competition grew, the manufacturing system was subject to a greater degree of pressure.

These arguments are illustrated by studies of shoe manufacture and flint-glass making - industries which provide a set of useful contrasts. The former supplies an example of a semi-skilled trade, though with elements both of handicraft technique and unskilled sweat-shop labour. It was undergoing, in the second part of the nineteenth century, unprecedented technical and organisational change. Flint-glass, on the other hand, was a product of highly skilled labour using methods little altered for centuries. Despite these differences, in matters affecting labour effort important similarities are revealed. In both industries operatives limited output; shoe and glass employers alike contributed to the failure to maximise productivity; the social equilibrium of both industries was subject to mounting competition from overseas - a challenge compounded in the shoe trade by rapid technical change; and in each case these disruptive tendencies eventuated in industrial confrontations which, however apparently successful for employers, left the fundamental characteristics of industrial organisation unchanged. And these themes were common, not only to glass and shoe manufacture, but to a range of major industries. The culture of output limitation was, we conclude, widespread in industry at this period, and emerged

for similar reasons out of similar contexts.

Chapter one discusses the nature of labour effort. An important tradition has conceived of effort from a subjective perspective, in terms of the attitudes and experiences of the worker. Yet this, we suggest, can lead to paradoxical conclusions and overlooks the benefits and satisfaction people can derive from work. Consequently, like Marx, we define effort objectively as exertion directed toward a determined end. However the complexity of work effort means that though we may be able to estimate the direction and order of magnitude of changes in effort, precise measures of the sort put forward by Bennett and Smith-Gavine are considered inadequate.

The distinctively 'open' nature of the labour contract is then discussed with reference to analyses of such authors as Marx, Marshall, Commons, and Williamson. Though formally indeterminate, the intensity of effort reflects, in practice, social custom and the structure of rewards and penalties within the workplace. Two contrasting approaches to work motivation are identified: the needs approach, associated, in particular, with Maslow and Herzberg, and the reinforcement or expectancy approach, exemplified in the writings of Vroom and Lawler. The latter, it is concluded, is the more fruitful, in that it possesses greater generality and flexibility and incorporates the chief insights of needs theory.

In chapter two the emergence of effort as a 'problem' attracting the attention of employers and social commentators is attributed primarily to the growing prevalence, after 1850, of centralised employment contracts. The reasons for centralisation are reviewed, in particular the recent work by Gregory Clark contending that workers 'effectively hired the capitalists to discipline and coerce them.' Through putting-out and sub-contracting employers had been able to devolve the organisation and motivation of labour on to others; as these systems declined, so did they confront issues of labour discipline for the first time.

The conscious limitation of output is considered in chapter three. It is found to be a widespread phenomenon, associated with unorganised as well as organised workers. Four main motives for limiting output are identified, *viz.*, (i) the desire to maintain the standard rate of

reward; (ii) a belief that greater productivity could lessen total employment; (iii) a reluctance to sacrifice quality to quantity; and (iv) a wish to maintain traditional wage hierarchies from the disruptive effects of competitive individualism. Chapter four places output limitation in a wider context. By controlling production, operatives were contributing to that more general tendency within Victorian Britain to reassert social control over the economic process. Underpinning the ability of workmen and employers to pursue objectives besides market efficiency was what Alan Fox has called a 'margin of slack' within the economy, attributable to Britain's technical lead and the resources economic growth had generated.

The thesis next considers the structure of rewards and penalties developed by employers to induce effort from their operatives. Chapter five reviews the various monetary incentives and supervisory sanctions available, including piece-work, profit sharing, internal labour markets, and efficiency wages, before charting their diffusion through the economy. Although the proportion of operatives paid piece-wages probably increased after 1850, it did so only slowly, and for most of the period 1880-1914 approximately two-thirds of industrial employees were remunerated by the hour and one-third by the piece. The reasons for this stability are discussed.

Chapter six analyses the operation of incentives in detail. The cutting of piece-prices by employers subverted payment by results as an incentive to extra exertion. However it does not follow that employers behaved irrationally: for they looked to piece-work primarily to stabilise effort with a minimum amount of supervision. The role of promotion as an incentive is also considered, it being suggested that its effectiveness was compromised by a range of factors, including the comparatively narrow wage differentials within the workplace and union claims for seniority and skill to be regarded as the chief grounds for advancement. The following chapter similarly focuses upon the conduct of supervision and labour discipline. Developing on the work of such people as Lewchuk and Lazonick, it is shown that managerial structures within British industry were weakly developed. Operatives were thus accorded significant autonomy in matters relating to the conduct of their work. In addition workmen, particularly when organised in unions, acted to limit the scope for disciplinary procedures. Consideration is given to the role

of efficiency wages. A cross-sectional analysis of the structure of earnings in a number of industries in 1924 provides some support for the idea that capital-intensive firms paid above-average wages in order to increase the returns on capital investment.

Chapter eight traces the tendency towards compromise in British industry. Though neither labour or capital was wholly satisfied with the system of manufacturing which had emerged by the late nineteenth century, no important group was prepared to devote the resources and incur the risk of restructuring existing institutional arrangements. Some comparisons with America are drawn. It was commonly believed that the American economic environment was more conducive to high levels of output and earnings, and it was certainly the case that productivity was greater in America than Britain even when - as the shoe industry illustrates - comparable machinery was utilised. An important factor shaping attitudes to incentives in Britain was the class system, which encouraged the pursuit of positional goods like relative income and status, as against higher living standards and growth. Chapter nine emphasises the continuity of business practice and attitudes in the decade leading up to the First World War - notwithstanding some important challenges to union workplace controls and new departures in methods of remuneration and factory administration.

The following five chapters concentrate on issues surrounding work effort in the boot and shoe industry. Chapter ten shows how the putting-out system enabled the merchant-capitalists to avoid the problem of inducing effort, whilst the weak bargaining position of the outworker ensured that the price per unit of effort was low. From the 1860s, however, mechanisation began to transform shoemaking into a factory trade. This process was at first slow and piece-meal; however in the 1890s the National Union of Boot and Shoe Operatives, which represented the factory hands, pushed forward the centralisation of employment as a means to strengthen its negotiating position.

Chapter twelve recounts how, in the context of new factories and new machines, labour effort became a point of controversy for the first time. Employers took advantage of changing production conditions to substitute time for piece-wages. This, in itself, diminished the incentive

to exertion, but employers failed to compensate for this fact by strengthening supervisory procedures. Consequently the speed of work became a matter of contention, as operatives ran the machines at below feasible rates with the active support of the Union. Employer annoyance at this policy culminated, in 1895, in a nationwide lock-out, as employers tried to secure a free-hand in the management of their factories. Though the Union was defeated, the day-to-day control by workmen of the production process was not broken, and from the turn of the century complaints of output restriction reached a new pitch.

Chapter thirteen considers the reasons for the failure of shoe manufacturers to fully exploit the productive capacity of their establishments. Emphasis is placed on the poorly elaborated systems of promotion and wage hierarchy; inadequacies in the operation of payment by results and the move to day-labour in the 1890s; the low levels of supervision; and Union interference in questions of remuneration and discipline. Chapter fourteen summarises the leading features of the effort problem within the shoe industry.

In Part three a second case study is made of labour effort in the flint-glass trade. Chapter fifteen describes the leading features of this branch of the glass industry, focusing upon the processes and organisation of work and the idiosyncratic methods of shift-work and wage calculation. Chapter sixteen investigates the problem of work effort in the flint-trade. Emphasis is given to the Flint Glass Makers' Society. Founded in 1849, the Union represented the great majority of glass makers, and dominated the industry in the second half of the century. It operated a thoroughgoing policy of labour control, including explicit limits to the daily production of each glass maker. The reasons given by the workmen to justify this practice are found to be similar to those motivating output restriction in British industry more generally. However the removal of tariff barriers at mid-century exposed the trade to low-cost competition, and with its attachment to antiquated methods and low output the British industry began to contract.

The next chapter reviews more systematically the means adopted by employers to secure effort from their workforce. In each case it is apparent that the methods used, however effective

in theory, were in practice subordinated to the long-established customs of the glass house. Thus although wage differences were significant, promotion to higher paid positions was largely in the control of the Union which sought to reward patience and seniority before hard work and enterprise. Similarly the piece-work system, though helping to stabilise performance, was prevented from encouraging greater productivity by Union-imposed output ceilings. Supervision in the glass house was never strict. More, even, than in other industries were the men left to exercise their skill free from close monitoring.

Chapter eighteen discusses the effectiveness of effort inducement. As in shoe-making, a substantial productivity differential is shown to exist with the United States. Owing to foreign competition in the market for cheaper goods, British firms increasingly specialised in high quality ware, in the manufacture of which traditional glass-house practices continued to possess advantages. Union control of recruitment, for instance, gave employers ready access to a supply of skilled labour, while output limitation prevented piece-work from encouraging scamping on quality.

The fact nevertheless remained that by concentrating on high-quality, high-priced, products, the industry was tying itself to a static market. As the attrition from imports continued, unemployment amongst glass makers grew, thereby weakening the Union's position. Chapter nineteen describes how a lock-out at a Stourbridge glass house precipitated a general move by employers to free themselves from Union controls. The Union crumbled surprisingly quickly, and by 1903 it was a shadow of its former self. But, as we witness repeatedly in industry in this period, the Union's defeat did not coincide with any marked change in the glass-trades fortunes or character. The same men were employed as before the stoppage. More importantly, the attitudes of employers as well as workmen served to perpetuate the traditions and outlook of the previous half-century. As chapter twenty concludes, the social arrangements of the flint glass industry proved fundamentally resilient in the face of overseas competition. Rather than adapt to new conditions, masters and men elected to retreat into the more artistic parts of the trade where traditional ways remained unequivocal strengths. This strategy exhibited

several elements of what Sabel and Zeitlin have since called 'flexible production', though the contention surrounding effort levels helped to prevent the sort of cooperative and symbiotic relationship between masters and men which has been seen as underpinning the long-term success of other craft industries in Europe.

A concluding chapter reviews the main results of the shoe and glass case studies in the light of the theoretical approaches to effort motivation discussed in chapter one. Developing upon an expectancy model of motivation, it is suggested that operatives in both industries limited production because the anticipated benefits from greater output were insufficient to outweigh the expected costs. The structure of firms in the late 19th and early 20th centuries, and their systems of material rewards and penalties, the operative relatively little inducement to expend greater effort. Further, in choosing how to respond to an incentive the worker was influenced by workshop opinion, and in both shoe and glass manufacture, and indeed in British industry more generally, it was held that an individual seeking to work harder would damage the long-term interests of the workgroup as a whole. This state of affairs, it is argued, was not necessarily irrational or dysfunctional since the foremost objective of employers as well as workers was to stabilise the economic environment and its attendant social relations. Only as the 20th century proceeded did it become apparent in a wide range of industries, of which shoe making and flint glass were merely prominent examples, that the developing threat from foreign competition meant that existing methods of manufacture could not be sustained in the long run.

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Preface

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The author has lastly to recognise the debt of gratitude he has incurred, over several years, to his wife Chandrika and his parents.

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Introduction

A land which could produce, within a century, both the Industrial Revolution and the British Disease, offers a formidable challenge to the historian. The Englishman, described by Carlyle in 1843, was a 'terrible worker', his Epic 'written in huge characters on the face of this Planet - sea-moles, cotton trades, railways, fleets and cities, Indian Empires, New Hollands...'¹ These characters were tangible indeed. But others were to become more prominent and hardly less often referred to. At the beginning of the 20th century the average American industrial worker produced twice as much each year as his British counterpart.² Between 1873 and 1913 output per man hour expanded at an annual rate of 0.9 per cent. in the United Kingdom - significantly below that for the United States (1.6 per cent.) and France and Germany (1.5 per cent.). From a figure productive of awe, the English worker often became an object of derision. Canadian employers were said to have appended to the notice of vacancies: 'No English need apply.'³

Not that workmen were alone responsible for the slackening of Britain's economic expansion, or the emerging productivity differential with America. Export of capital, inefficient management, entrepreneurial deficiencies, liabilities of an early start, schools, universities - to these and other factors has Britain's poor performance also been attributed. To acknowledge that all played some part is to confess that a simple causal explanation is unattainable. What can be asserted is that it is dispositions, objectives, and values which ultimately shape economic conduct, and it is to this 'human element,' and the institutions through which it operated, that we must refer if we are to account for the leading features of British economic performance. Below we investigate one part of the picture, *viz.*, the effort put forth by industrial workers.

¹ T. Carlyle, *Past and Present* (1843).

² A. L. Levine, *Industrial Retardation in Britain* (1967), p. 21; S. Broadberry, *The Productivity Race* (1997), p. 30.

³ A. Offer, *First World War* (1989), p. 133.

Why was so much energy and of such kinds put into work, and neither more nor less? What was the contribution of culture and institutions? And in which ways, if any, did the conduct of labour change over time?

Besides being a factor in productivity differentials, between factories and across nations, labour effort can also influence the rate of growth of production. Workers might exert themselves more intensively over time; if one group of employees devotes more energy to improving productive practice than another, the output of that group may expand more rapidly; lastly, if operatives vary effort levels according to their preference for different types of technology, the use of certain technologies will be encouraged or discouraged.

Work effort thus possesses a dual importance: as a factor in productivity and growth; and as a subject of interest in itself. Work, especially in the 19th century, was the preponderant element in a man's life. To the workplace he gave the greater part of his best years, and much of the range of factory life lay concentrated in the matter of how hard he laboured and in what way.

Part I

Labour Effort and Its Place in British Industry, 1850-1914

Chapter 1

The Nature of Labour Effort and Factors Determining its Level

An important tradition has regarded work effort as something disagreeable to the operative, as involving disutility, and for the performance of which the worker has, accordingly, to be compensated. Jevons, for instance, defined labour as ‘any painful exertion of the mind or body.’ Underlying this conception is a subjective definition of effort, which makes reference to the attitudes and experiences of the worker. This is the conception of effort utilised by Baldamus, who provisionally defines effort as ‘the sum total of physical and mental exertion, tedium, fatigue, or any other disagreeable aspect of work.’¹ It is supported by Guest, who remarks that ‘if we want to know whether workers are working hard, we should ask them.’²

However there are a number of problems with a subjective definition of effort. To begin with, it can generate paradoxical results. Thus a person performing some task may only find the later hours of the day tiring or irksome, yet we should not say that they were not working for the earlier period. Baldamus has recognised the unstable character of work feelings. The specific deprivations such as impairment, tedium, and weariness, which in sum, he says, provide a theoretical definition of effort, are ‘essentially unpredictable, unstable, and beyond any form of measurement.’ The sensation of tedium, he notes, may at any moment give way to one of

¹ W. Baldamus, *Efficiency and Effort* (1961), p. 29.

² D.E. Guest, ‘Have British Workers been Working Harder in Thatcher’s Britain?’, *British Journal of Industrial Relations* xxviii (1990), p. 306.

traction - a sense of being pulled along by the rhythmic nature of the task, which is a pleasant experience associated with feelings of reduced effort.¹ Similarly, Mondays are generally characterised by greater feelings of weariness with the work situation than the latter parts of the week: output is lower and rates of absenteeism high.²

Second, subjective definitions emphasising disutility overlook the benefits and happiness people derive from work. Many people who have become financially independent choose to continue to work, and a growing quantity of research testifies to the positive consequences of work for the individual. A British survey conducted by Peter Warr in 1981, for instance, found that 69 per cent. of employed men said they would continue to work even if they had enough money to live comfortably for the rest of their lives.³ Indeed some studies have questioned whether the expenditure of energy is disagreeable. Rats, for instance, fully provided for with water and food, nevertheless run in activity wheels in proportion to the time during which their activity has previously been restricted.⁴

Objective definitions of work accord more closely with what we mean when we refer to the amount of *work done* by labour. Work is a particular mode of activity: it is effort consciously directed to some end. This definition corresponds to that given by Marx, who described the labour process as 'purposeful activity aimed at the production of use-values.'⁵ Some writers have inferred from this that effort admits of objective measurement, at least in the sense of gauging the amount by which it has gone up or down. This has been the import of the Percentage Utilisation of Labour Index (PUL), developed by Bennett and Smith-Gavine. These authors define the PUL index as a measure of:

¹ Baldamus, *Efficiency and Effort*, pp. 76-77, 59.

² *Ibid.*, p. 73.

³ C.f. D. Gallie, 'The Quality of Employment: Perspectives and Problems', in A. Offer ed., *In Pursuit of the Quality of Life* (1996), p. 179.

⁴ V. Vroom, *Work and Motivation* (1964), pp. 33-34.

⁵ K. Marx, *Capital*, I. (1867; trans. by Ben Fowkes 1976), p. 250; see also H. Braverman, *Labour and Monopoly Capital* (1974), pp. 46-9.

the fluctuating intensity of human exertion per hour by factory operatives as working specifically mandated equipment; as doing so according to stipulated methods and with only the needed and advised movements; and working under carefully noted general circumstances.¹

What the measure seeks to capture is the rate of factory throughput, holding constant the organisation and technique of working. Changes in the PUL index are then interpreted as indicating changes in labour effort. The output figures themselves are presented as a percentage of the standard feasible output calculated by time and motion studies. On the basis of a sample of 177 factories, Bennett and Smith-Gavine estimate that the PUL index increased between 1980 and 1988 by over five per-cent, which they suggest indicates that workers have been putting forth more effort since the commencement of the 'Monetarist experiment.'²

The idea that the PUL index represents a satisfactory measure of changes in labour effort has been strongly criticised by David Guest. He points out that the 'standard times' set by industrial engineers cannot be considered as wholly reliable bench-marks by which to judge performance: errors of at least 10 per cent. have been shown to exist; minor changes are continually occurring in the way jobs are performed which are not immediately incorporated in revised standard times; and numerous studies indicate the ability of workers to distort the measures arrived at by time and motion study. Workers themselves find new ways to carry out jobs which imply that output can increase though overall effort levels remain constant. More significantly, Guest argues that work intensity and work effort are distinct entities, and even if it is assumed that the PUL index captures variations in the former, it does not follow that labour effort has itself changed. For instance, if a job with unpredictable stops and starts is rendered more continuous, the daily throughput and intensity of work may be calculated to have increased, but workers themselves might report that the work has become less fatiguing, with less waste of energy. These and similar examples, Guest concludes:

¹ A. Bennett and S. Smith-Gavine, 'The Percentage Utilisation of Labour Index (PUL)', in D. Bosworth and D.F. Heathfield eds., *Working Below Capacity* (1987), p. 353.

² *Ibid.*, pp. 352-3.

illustrate how throughput can be increased without increased intensity of labour. They also illustrate the need to give careful consideration to the productive system when linking intensity of work and output. Finally, they highlight the difference between throughput, intensity and effort.¹

The weaknesses of the PUL index reflect the general difficulties of constructing an accurate measure of variations in work effort. Guest refers to laboratory experiments which seek to monitor the respiratory, metabolic, and cardiovascular costs of various forms of activity.² However these measures are not only of little applicability outside the controlled environment of the laboratory, but themselves capture merely the physical dimensions of effort. Yet the activity of work is, in detail, highly complex. It can be mental as well as physical, skilled and less skilled, routine or innovative. Still more, work is ultimately inseparable from human life itself. For man's capacity to consciously direct his labour is his essential defining feature. Tilgher, towards the end of an historical account of the meanings of work, provided his own definition: 'Work at its fullest is every process, every activity, by which man masters rebellious matter and subjects it to his personality.'³

It does not follow that we can form no estimate of the extent and direction of movement in levels of effort. When, for instance, an incentive scheme introduced into a factory with a given technology and workforce is found to result in a significant expansion in output, it is not unreasonable to assume that part of the increase is attributable to more vigorous application by the operatives. Further, the testimony of workers themselves may be a guide since, as Guest observes, several studies have demonstrated the existence of a positive correlation between physical measures of exertion and the self-reporting of effort levels by workers.⁴ What appears to be infeasible - and this is especially so in the historical context, where we can rarely be confident that other things are being held constant - are precise quantitative comparisons of the level of effort expended by the same worker at different periods of time, or of different workers

¹ Guest, 'Have British Workers been Working Harder', 304.

² *Ibid.*, p. 307.

³ A. Tilgher, *Work* (1931), p. 196

⁴ Guest, 'Have British Workers been Working Harder', 307.

at the same time.

Labour Contracts and the Effort Problem

Labour is unique among factor inputs in that its possessor has an immediate interest in the manner in which the asset - that is to say, his own person - is treated during production. Further, the worker's utility function may well diverge from that of his employer's. Whereas effort is often, at the margin, irksome, it is positively related to the firm's output and profit and an incentive problem is therefore likely to arise. One possible remedy for short-falls in agent performance would be to specify in the initial contract all the employee's duties in every conceivable circumstance, and then ensure that the terms of this contract were fulfilled. Yet rigorous contracts of this sort are hardly seen, largely owing to the 'bounded' nature of rationality - the fact that man is subject to limitations in knowledge and computational capacity.¹ It would be difficult enough, for any set of circumstances, to write a complete description of the duties expected from labour. But conditions change unpredictably. A contract 'optimal' at one moment may the next cease to be so. For reasons like these, observed labour contracts are incomplete.² Frequently, little definite is said about what the worker is to do, or the speed at which he is expected to do it. The employer, therefore, does not purchase labour effort. For the duration of the contract the worker agrees, in return for a wage, to be managed by the employer, who is able to adjust his deployment of labour to meet the ever changing conditions of production.

Expressed otherwise, there is no fixed relationship between the amount of labour time purchased by the employer and the level of effective worker effort - a fact to which Marx was the first to draw attention. He observed that the worker did not sell to the capitalist his labour, but rather his *labour power*, i.e., his capacity to work for a given period of time. To the

¹ H.A. Simon, 'Bounded Rationality', in J. Eatwell *et. al.*, ed., *New Palgrave A Dictionary of Economics* (1987), 1, 266-7.

² O.E. Williamson, *Markets and Hierarchies* (1975), pp. 65-7; S. Tolliday and J. Zeitlin, 'Employers and Industrial Relations between Theory and History', in S. Tolliday and J. Zeitlin eds., *The Power to Manage?* (1991), p. 11.

capitalist fell the onus of putting that labour to work, and only to the extent that he was successful would labour create value in excess of its wage and hence 'surplus value' be realised.¹ The workplace thus becomes what Edwards has called a 'contested terrain', in which workers seek to resist employer attempts to speed-up work so as to increase their profit.

The role of bargaining in determining the production and distribution of income between workers and employers was also recognised shortly afterwards by Alfred Marshall, who saw it to be a corollary of his concept of composite rent. When, Marshall observed, the total income accruing to two separately owned resources used together exceeded the sum of their incomes when used individually, this additional income could be considered a composite rent.² Take the case of a particular group of workers employed over time by a given firm. As the workers gain familiarity with the idiosyncratic features of the firm's machinery, lay-out, product etc., and as the firm gains knowledge about the capacities and qualities of this set of workers, the value of the output of workers and firm together will be greater than the sum of the values of output each could produce separately in their next best employments. Put simply, there is a distinct increment to productivity and potential earnings from the fact that these two particular factors are used together.³

However there arises the question as to how this surplus income is to be distributed between the employer and workers. Since the extra productivity is specific to the particular firm-context, no competitive market solution will exist and the division of the composite rent must be decided by what Marshall called 'higgling and bargaining'. There will be scope, in this process, for negotiations not only regarding the level of wages but the intensity of labour, as employer and workers each try to secure as much as possible of the joint advantage. Further, as Williamson has recently emphasised, when workers possess significant amounts of firm-specific expertise, both 'firm and workers have an interest in maintaining the continuity of such

¹ Marx, *Capital I.*, 277-80.

² A. Marshall, *Principles of Economics* (8th edn., 1920), pp. 453-4.

³ *Ibid.*, pp. 626-8.

employment relations.’¹ One manifestation of this are internal labour markets, the key operating principle of which is that the firm will not necessarily dismiss workers when this appears to offer a short-term advantage (for example, when other workers are available to do the job at a lower wage).

However the writer who perhaps most clearly delineated the peculiar features of the employment relation was J.R. Commons. The working man, Commons noted in 1920:

differs from the capitalist in that he gives up his liberty for a certain number of hours each day. He does not turn over his dollars. He turns over his body and his will to the command of the foreman and superintendent.

In this context the worker was ‘not concerned merely in the amount of wages he may get. He may get very high wages, but he is getting these wages in exchange for liberty.’ Commons, in other words, clearly saw that in the work process the remuneration of labour could not be considered in isolation from the exertion and discipline with which it was associated. Yet, as he also recognised, the openness of the labour contract meant that such aspects as effort levels and duties were not specified in advance and had to be continually adjusted through workplace bargaining. In effect there was a new labour contract ‘every day and every hour.’² Like Marx, Commons inferred that it was not only the objectives of capitalists and workers which were in conflict, but their relations within the workplace.

Later institutionalists writing from a class perspective, such as Lazonick and Lewchuk, have similarly emphasised that, since the ‘effort bargain’ is only partially market enforced, the possibility exists ‘for both the buyers of labour time and the sellers of labour time to invest in institutions which shift the effort bargain in their favour.’³ The interests of the two parties are at variance. ‘For a given wage’, says Lazonick, ‘managers want to secure as much effort from the workers as possible (consistent with the maintenance of product quality). For a given wage,

¹ O.E. Williamson, ‘The Economics of Organisation: The Transaction Cost Approach’, *American Journal of Sociology*, 87 (1981), p. 565.

² Cited in M. Shalev, ‘Labour Relations and Class Conflict: A Critical Survey of the Contributions of John R. Commons’, in D.B. Lipsky ed., *Advances in Industrial and Labor Relations* (1985), 11. 338.

³ W. Lewchuk, *American Technology and the British Vehicle Industry* (1987), p. 3.

workers typically want to expend as little effort as possible.’ The level of exertion reflects the ‘relative power of managers and workers to control the duration and intensity of labour.’¹

Factors Determining the Level of Effort: Needs and Expectancy Theories of Motivation

It is apparent that the level of effort expected from the employee is formally indeterminate and must be decided within the process of manufacture. Yet while the conflicting interests of workers and employers will undoubtedly shape the intensity of effort which actually emerges, it is perhaps a mistake of some of these writers to place exaggerated emphasis upon this aspect of effort determination. Three general points should be noted.

First, the dominant feature of the employment relation is its continuous nature, which tends to ensure that conflict and struggle are not its leading characteristics. As Marshall’s analysis of composite rent makes clear, the sustained interaction between firm and worker is a precondition for that addition to productivity around which bargaining over the intensity and remuneration of labour can take place. Only when these particular factors cooperate is composite rent produced. More generally, game theorists such as Rapoport, Chammah, and Axelrod have shown that where, as in the employment relation, parties to a contract have repeated dealings and both have a share in future pay-offs, there will be a tendency for them to cooperate, even though each could gain an immediate advantage by reneging upon an agreement. Anticipation of retaliation by the other party will, in most cases, cause the future costs of defection to appear to outweigh the short-term benefit.²

Interestingly, Robert Frank has argued that human evolution has tended to reinforce propensities to cooperate in these circumstances. Individuals who have an emotional reaction against cheating or lying, who feel guilty or bad, will be better placed to solve what Frank calls the ‘commitment problem’, namely, the ability to commit themselves to conduct which, while it is in their long-term material interest, is not in their immediate self-interest. Thus if, in the

¹ W. Lazonick, *Competitive Advantage on the Shop Floor* (1990), p. 6.

² C.f. R. Axelrod, *The Evolution of Cooperation* (1984); A. Rapoport and A. Chammah, *Prisoner’s Dilemma* (1965).

early stages of human evolution, a hunter-gatherer who felt guilty if he shirked or cheated when engaged in some joint activity could cooperate with another who felt similarly, the long-run payoff to both would have been greater than if either behaved opportunistically and shirked whenever he knew he could get away with it. The reason, according to Frank, that negative emotions towards cheating have evolved to become widespread in society is because people can, on average, distinguish cooperators from non-cooperators on the basis of physical traits (such as facial and body movements) and assessments of character. It is therefore possible for cooperators to seek out fellow cooperators and avoid non-cooperators, who are consequently forced to interact with each other. Doing better materially, cooperators have higher survival rates and expand relative to non-cooperators in an evolutionary setting.¹

These ideas are highly tentative and form, as Frank acknowledges, only a contribution towards the explanation of genuinely altruistic, selfless, behaviour. Prisoner dilemma simulations conducted by Frank do, however, show that individuals can, with reasonable accuracy, distinguish between people likely to cooperate and defect on the basis of half-hour interviews.² Where Frank's work is useful is in pointing the way towards an explanation of why people do not behave opportunistically when there is no chance of detection - which reiterated prisoner-dilemma theories of cooperation fail to do. It thus provides at least some basis for understanding why, in contrast to certain models of effort determination, workers in practice put forth more than the minimum amount of effort they can safely get away with. Firms can promote cooperative conduct amongst their employees, notes Frank, by recruiting those who feel bad when they shirk (on the basis, primarily, of references from former employers) and by encouraging closer ties within the work group.³ Yet the implications of cooperative emotions for effort levels are not unequivocal: for they can also help to explain why workers who could

¹ R. Frank, *Passions Within Reason* (1988), pp. 46-59.

² *Ibid.*, pp. 140-41.

³ *Ibid.*, pp. 237-40.

surreptitiously break informal output restrictions do not always do so.¹

Second, as we shall argue, for much of the time effort levels, though nominally indeterminate and thus subject to negotiation, are not so in reality. That is to say, there tends to emerge in each workplace a standard level of exertion which is accepted as reasonable and taken for granted by employer and employee alike and thus forms part of the customary structure of exchange. As Commons himself argued, all collectivities rely on custom and law to settle disputes and so maintain the cooperation of their constituents.² The effort relation is too fundamental an element in the manufacturing process to be, in practice, a continual point of contention. It is, rather, when either workers or employers seek to shift the accepted effort standard that conflict tends to occur.

Lastly, to say that the employment relation is inherently conflictual or cooperative does not, in itself, tell us much about the factors which determine effort levels in practice. It is, indeed, a feature of most economic analyses of the effort decision, including those from the neo-classical and Marxist traditions, that they fail to make full allowance for the wide range of variables which have been shown by psychologists and industrial sociologists to influence work motivation in practice, and whose relative importance has given rise to much vigorous debate.

With regard to the question of what motivates people to work, two distinct approaches may be identified. First there are content or needs theories. These hold that people have a specific set of needs which motivate them to action. Once a need is met it ceases to motivate, and is generally superseded by some other need. Such motives - for example, the need for food, security, prestige, challenge - are, it is argued, brought by people to the workplace. The degree to which an organisation is able to motivate its members will therefore depend on the extent to which it offers them opportunities to satisfy their needs. 'From this point of view,' write Tausky and Parke, 'the "needs" are givens and organisational structures must be adapted accordingly or

¹ The flint glass industry was one in which workplace relations were close. But while the emotional ties between workers which were thus encouraged helped ensure a basic level of performance from all operatives, they also acted to keep output levels within certain limits which were considered desirable by the work group as a whole. See below, pp. 351-2.

² Cited in Shalev, 'Labour Relations and Class Conflict', 351.

there results continuous friction between persons and organisations which reduces the effectiveness of both.¹

A second approach to motivation derives from expectancy, reward, or reinforcement theories. Here the emphasis is placed upon the relationship between the behaviour of the individual and its consequences. People pursue a range of goals - pay, promotion, peer-group acceptance, security etc., and adopt those forms of behaviour most likely to yield them. The motivational process is thus seen in terms of 'exchange': the individual puts forward time, energy, and skills in exchange for a valued reward which the organisation offers.² It follows that the organisation does not simply have to adjust to the already existing needs of the individual; it can itself, by shaping the work environment and the structure of rewards and penalties, influence behaviour.

The Needs Approach to Motivation

Most writers in this tradition take their inspiration from Abraham Maslow's 1954 book *Motivation and Personality*. According to Maslow, people are motivated to act in order to satisfy their basic needs. These needs are 'constitutional or hereditary' in origin. Consequently:

needs cease to play an active determining or organising role as soon as they are gratified... If we are interested in what *actually* motivates us, and not in what has, will, or might motivate us, then a satisfied need is not a motivator.³

The basic needs themselves Maslow arranges in a hierarchy of 'relative potency'. First come the physiological needs for food, sex, and sleep; then the need for safety and security; third, the need for love, affection, and belonging; fourth, the need for self-esteem and the esteem of others; and lastly, the need for self-actualisation - man's desire for self-fulfilment, to 'become actualised in what he is potentially.'⁴

¹ C. Tausky and E.L. Parke, 'Job Enrichment, Need Theory and Reinforcement Theory', in R. Dubin ed., *Handbook of Work, Organisation, and Society* (1976), p. 534.

² *Ibid.*

³ A. Maslow, *Motivation and Personality* (2nd edn., 1970), p. 57.

⁴ *Ibid.*, pp. 35-46.

For Maslow most men seek to satisfy each of these basic needs in succession.

The chief dynamic principle animating this organisation is the emergence in the healthy person of less potent needs upon the gratification of the more potent ones. The physiological needs, when unsatisfied, dominate the organism...Relative satisfaction submerges them and allows the next higher set of needs in the hierarchy to emerge, dominate, and organise the personality, so that instead of being, e.g., hunger-obsessed, it now becomes safety obsessed. The principle is the same for the other set of needs in the hierarchy, i.e., love, esteem, and self-actualisation.¹

All needs, with the exception of self-actualisation, are thus assumed to be finite. That is, a person can conceivably satisfy their need for food, security, love, and esteem, and at this point these needs cease to act as motivators. However man's ultimate desire for self-actualisation is considered insatiable.

To this simple model Maslow makes a number of qualifications. A need, he says, does not have to be completely satisfied before a new need emerges. Most normal people are partially satisfied and unsatisfied in all their basic needs at the same time.² Second, not all individuals progress through the hierarchy in the manner described. For some self-esteem is more important than love; others are drawn to creativity even though their more basic needs have not been met; in others, for example the long-term unemployed, the higher needs for esteem and creativity may fall into abeyance.

It would appear to follow from Maslow's analysis that in a developed, prosperous, and orderly society most physiological and security needs would have been met. The higher social and egotistical needs will then become dominant, and in particular the need for self-actualisation. It is, therefore, these 'higher order' needs which effectively motivate individuals at the margin - not the lower order physiological needs.

One of the first authors to apply Maslow's ideas to the problem of work was Douglas McGregor. Like Maslow, McGregor assumed that man puts forth energy to satisfy his needs, and that these needs are organised in a hierarchy of importance, ranging from physiological

¹ *Ibid.*, p. 59.

² *Ibid.*, p. 54.

needs, through safety, belongingness, and esteem needs, to the need for self-fulfilment.¹

In the light of this understanding of motivation, McGregor considered the assumptions which he believed underlay the prevailing approach to management - what he called 'theory x'.

The three main propositions of theory x were:

1. The average human has an inherent dislike of work and will avoid it if he can.
2. People must therefore be coerced, directed, and threatened with punishment to get them to put forth adequate effort.
3. The average human prefers to be directed, wishes to avoid responsibility, and wants security above all.

Resulting from these assumptions was a system of management emphasising control and discipline, for only then could people be made to do what was necessary for the success of the enterprise. Although this approach to industry had enabled most of the workers' physiological and safety needs to be met, it provided little scope for them to satisfy their social and egoistic needs. It failed, therefore, to provide motives for exertion. Managers, McGregor noted, often asked why people who enjoyed good working conditions, wages, fringe benefits, and steady employment, were unwilling to put forth more than a minimum effort. The reason was that precisely through meeting workers' physiological and safety needs, industry had caused a shift in:

the motivational emphasis to the social and the egoistic needs. Unless there are opportunities *at work* to satisfy these higher-level needs, people will be deprived; and their behaviour will reflect this deprivation.²

The result was indolence, passivity, unwillingness to accept responsibility, resistance to change, and unreasonable demands for economic benefits.

As a contrast to theory x, McGregor put forward theory y, the chief assumptions of which were:

1. The average human does not inherently dislike work; it may, according to circumstances, be

D. McGregor, *The Human Side of Enterprise* (1960), p. 36.

² *Ibid.*, p. 40.

a source of satisfaction or dissatisfaction.

2. Most people will exercise self-direction and self-control in the service of objectives to which they are committed.

3. Commitment to objectives is a function of the rewards associated with their achievement - in particular satisfaction of ego and self-actualisation needs.¹

Whereas the guiding principle of organisation derived from theory x was that of control and direction through the exercise of authority:

The central principle which derives from Theory Y is that of integration: the creation of conditions such that the members of the organisation can achieve their own goals *best* by directing their efforts toward the success of the enterprise.²

That is to say, by a process which has subsequently come to be called job-enrichment, a working environment should be created in which the individual is able to meet his higher needs by developing and utilising voluntarily 'his capacities, his knowledge, his skill, his ingenuity in ways which contribute to the success of the enterprise.'³

Similar conclusions were arrived at in the late 1950s by a group of Pittsburgh psychologists led by Frederick Herzberg, who set out to answer the question: 'What do people want from their jobs?'⁴ To this end they interviewed 200 engineers and accountants representing a 'cross-section of Pittsburgh industry,' each of these men being 'asked to recall specific incidents in their recent experience which made them feel particularly good or particularly bad about their jobs.'⁵ The researchers found significant differences in the character of the factors which made workers feel positively or negatively about their jobs. When respondents reported feeling happy with their jobs 'they most frequently described factors related to their tasks, to events that indicated to them that they were successful in the performance of their work, and the

¹ *Ibid.*, pp. 47-8.

² *Ibid.*, p. 49.

³ *Ibid.*, p. 55.

⁴ F. Herzberg, B. Mausner, and B. Snyderman, *The Motivation to Work* (2nd edn., 1959).

⁵ S.W. Gellerman, *Motivation and Productivity* (1963), p. 48.

possibility of professional growth.’¹ Five factors stood out as strong determiners of job satisfaction: achievement (successful completion of a job), recognition (by supervisors, peers, customers etc.), work itself (varied, carried through to completion), responsibility, and advancement (promotion). The basic feature of the satisfiers was that they related to the *doing* and *intrinsic content* of the job and reflected, according to Herzberg, man’s fundamental need to actualise or realise himself through his work. They were therefore referred to as *motivators*. When questioned as to the effect of improved levels of job satisfaction, three out of four respondents claimed that better job attitudes caused them to improve their work performance.²

By contrast, the factors making people unhappy in their work tended to reflect, not the job itself, but the *context* in which it was performed. The major ‘dissatisfiers’ were company policy and administration, supervision, salary, inter-personal relations, job-security, and working conditions. When any of these were considered inadequate by the worker the result was unhappiness; yet when all were adequate the result was not happiness but the absence of unhappiness. These background elements of the job Herzberg called *hygienic factors*. Although necessary if dissatisfaction were to be avoided and a foundation laid for the operation of the motivating factors, they were themselves powerless to motivate the individual above a certain level of performance.

In a subsequent book *Work and the Nature of Man*, Herzberg elaborated upon the idea that man has two distinct categories of needs.³ There are his basic animal needs, which arise from the desire to avoid pain and deprivation, and his human need for continuous psychological growth. Viewed in this context, the hygiene factors relate to the former need of the individual to avoid unpleasant situations, while the motivators relate to man’s aspirations to growth:

¹ Herzberg, *Motivation*, p. 113.

² *Ibid.*, p. 86.

³ F. Herzberg, *Work and the Nature of Man* (1968).

both kinds of factors meet the needs of the employee; but it is primarily the 'motivators' that serve to bring about the kind of job satisfaction and...the kind of improvement in performance that industry is seeking from its workforce.¹

Another influential needs theorist was Chris Argyris. Argyris observed that in Western culture the typical pattern of personality development is from immature child to mature adult, a process characterised by a transition from passivity to activity; dependence to independence; shallow interests to deep interests; short-time perspective to long; a subordinate position to one of equality or superiority; a lack of awareness of self to an awareness of self and self control.²

Yet when the individual enters the workplace he finds that the conduct expected of him approximates closer to that of the irresponsible child than the responsible adult. The traditional pyramidal organisational form, with its concentration of power in a few hands, directive leadership of the order-compliance kind, and managerial control measures such as budgets, time and motion study, and rate-setting, demands of the worker that he be:

passive, dependent, subordinate, submissive, shallow, and insensitive - that his role was to do as he was told, repeat routines interminably, and leave the thinking to somebody else.³

In short, the individual is expected to behave like a child, and the lower down the hierarchy of control he is located, the greater is this the case.

From these observations Argyris formulated a number of propositions. First, there is 'a lack of congruency between the needs of healthy individuals and the demands of the (initial) formal organisation.' Second, the results of this disturbance are 'frustration, failure, short-time perspective, and conflict' as individuals find their desire for self-expression, self-control, and decision-taking blocked. Third, this sense of frustration will increase as one's degree of dependence, subordination, passivity etc. increases. Fourth, employees can act to maintain 'self-integration' in the face of formal organisation by creating 'informal activities.' These can range from quitting the organisation to becoming apathetic towards company objectives. Going-slow,

¹ Herzberg, *Motivation*, p. 114.

² C. Argyris, *Understanding Organisational Behaviour* (1960), pp. 8-9.

³ Gellerman, *Motivation and Personality*, p. 76.

quota restrictions, cheating, are all examples of the latter. Informal groups are also likely to emerge, sanctioning this mode of behaviour. Lastly, the adaptive behaviour of the employee has a cumulative feed-back effect. Employers, disliking the informal responses of their workforce, react by tightening organisational discipline, which further exacerbates the basic dichotomy between needs and organisational demands which is at the root of the problem.¹

The solution for Argyris, as for McGregor and Herzberg, is to re-design jobs - in this case in such a manner that mature personalities would be required for all organisational posts. The sense of frustration, apathy, and even negative feelings towards company objectives would then be significantly diminished.

Thus the basic theme of writers within the 'needs' tradition is that once a certain level of physical consumption and security is attained, the individual will be motivated primarily by his social and egotistical needs. Most people look upon the workplace as a sphere central to their self-actualisation or psychological growth. In practice, however, the hierarchical structure of most firms, with their fragmented tasks and systems of authority and compliance, means that little scope is provided for the pursuit of esteem and self-realisation needs. The result is a lack of motivational impetus, with dissatisfied individuals exhibiting indifference, indolence, and discontent towards the work and organisation.

Several comments can be made with respect to this theory.

1. The idea that man's conduct is shaped by a set of needs, arranged in some hierarchy, is based largely upon intuition. There is little empirical evidence for these propositions. Indeed Maslow himself, reviewing the application of his ideas by McGregor, questioned the extent to which they could be applied to industry:

¹ Argyris, *Organisational Behaviour*, pp. 14-18.

a good deal of the evidence upon which he bases his conclusions comes from my researches and my papers on motivation, self-actualisation, etc. But I of all people should know just how shaky this foundation is as a final foundation. My work on motivations comes from the clinic, from a study of neurotic people. The carryover of this theory to the industrial situation has some support from industrial studies, but certainly I would like to see a lot more studies of this kind before feeling finally convinced that this carryover from the study of neurosis to the study of labour in factories is legitimate.¹

Most research in fact suggests that, unless existence and security needs are satisfied, none of the higher order needs will come into play, but it is *not* possible to arrange the higher order needs into a hierarchy.²

2. The above mentioned authors pay relatively little attention to the *origin* of the needs to which they refer. They are generally considered to be, if not universal, then widely distributed amongst the population and genetic in origin. Argyris forms an exception here, since he remarks that in 'our culture' individuals are expected to advance from immaturity to maturity.³

3. Important doubts exist with regard to the applicability of the propositions of need theory to the majority of workers. The initial research of Herzberg, for instance, showing the role of job content as a motivator, was conducted amongst professional engineers and accountants, and there remains some question as to its importance to semi and unskilled manual labourers. Two separate studies undertaken in 1965 and 1972 found that amongst workers doing fragmented, monotonous tasks, approximately 50 per cent. declared themselves dissatisfied with their jobs and 50 per cent. satisfied.⁴ Similarly Blaumer found that among unskilled automobile workers, 49 per cent felt their jobs 'too simple to bring out their best abilities,' but 51 per cent. did not feel this way.⁵ Gallup opinion surveys in 1958 and 1973 showed the proportion of workers declaring themselves satisfied with their jobs increasing from 81 per cent. to 90 per cent.⁶

¹ Cited in M. Fein, 'Motivation for Work', in Dubin ed., *Handbook of Work*, p. 467.

² E.E. Lawler, *Motivation in Work Organisations* (1973), p. 34.

³ M. Rose, *Industrial Behaviour: Research and Control* (2nd edn., 1988), p. 203.

⁴ Tausky and Parke, 'Job Enrichment', p. 541.

⁵ *Ibid.*

⁶ Fein, 'Motivation for Work', p. 469.

Clearly many workers, even those in the most monotonous jobs, do not consider themselves dissatisfied or frustrated when opportunities to realise their higher needs at work are denied. In fact Fein argues that it is precisely because most workers do not seek 'self-fulfilment' through their work that they remain healthy human beings. 'By rejecting involvement in work which simply cannot be fulfilling, workers save their sanity. Workers would indeed become mentally ill if they took the behaviourists' proposals to heart. The factory workplace is abhorrent to the self-actualising person.'¹ Workers, he continues, hardly ever raise demands for job enrichment: their demands focus around the material rewards of pay and security - what Herzberg classified as hygiene factors. When schemes of job enlargement and workplace participation have been introduced or discussed, it seems that around 15 to 20 per cent. of the workforce respond positively. Could this be, asks Fein, the proportion of employees who seek self-actualisation in their work?²

5. Again, the sort of work enrichment advocated by need theorists appears to be more applicable to professional jobs than the mechanised tasks characteristic of the shop floor. To significantly increase the scope of such jobs would almost certainly diminish physical output and raise costs.

6. Lastly, there is little evidence of a positive correlation between job satisfaction and productivity. In a 1964 survey of 20 published studies, Vroom found the correlation between job satisfaction and performance to vary from -.31 to .86. The median figure was only .14.³

Meeting workers' needs might make them satisfied: there is little to suggest that it makes them work harder.

¹ *Ibid.*, p. 493.

² *Ibid.*, p. 496.

³ Vroom, *Work and Motivation*, pp. 183-6.

Reinforcement or Expectancy Theories

As we have noted, reinforcement or expectancy theories seek to explain motivation in terms of the relationship between conduct and its consequences. People do those things which they consider are most likely to enable them to realise their goals. Most economists have implicitly operated within this framework, it being assumed that individuals seek to maximise their happiness through consumption, and are accordingly guided in their work behaviour by the desire to maximise their income. Since the 1930s, however, several authors have sought to elaborate upon the initial research of Tolman and Lewin, developing models of reward seeking behaviour which incorporate a more complex set of variables than those familiar in the writing of economists.¹

Victor Vroom was the first to consider specifically motivation in the work environment. He began by posing the question: why are people motivated to choose one course of action rather than another? Maslow answered this question in a concrete way, referring to people's desire to satisfy a given structure of needs. Vroom's approach was to develop a model of how a person might go about making this decision. He then proceeded to fill in the details by referring to a range of laboratory and field experiments.

Vroom assumed that people have attitudes or 'affective orientations' towards the outcomes of their conduct. These expected dispositions towards outcomes he calls their 'valence.' An outcome is positively valent if a person prefers it to not attaining it; it is zero if the person is indifferent; and it is negatively valent when he prefers not attaining it to attaining it. Individuals are considered to be 'subjectively rational,' in the sense that their behaviour will be directed toward the attainment of desired outcomes and away from aversive outcomes.² However a person's choice between various courses of action will not depend simply on their degree of attraction or aversion towards its consequences. It will also depend on the probability that a particular course of action will result in a particular outcome. This estimate of probability

¹ C.f. Lawler, *Motivation*, Ch. 3.

² Vroom, *Work and Motivation*, p. 276.

Vroom calls expectancy, where expectancy is defined as the 'momentary belief concerning the likelihood that a particular act will be followed by a particular outcome.'¹ Expectancy can vary in strength from +1 (certainty that act a will result in outcome b) to 0 (certainty that act a will *not* result in outcome b).

Combining valence with expectancy we arrive at what Vroom calls the motivation or force making for a certain choice of conduct. This force is a product of the valence of an outcome and the expectancy that a certain mode of action will lead to it; i.e., $F=EV$. But most actions in fact lead to a number of outcomes. For instance the extra pay associated with increased output on a piece-wage system might be positively valent; yet the extra output may also bring other negative consequences - such as fatigue or the threat of unemployment. Hence the force making for an action is properly to be considered as the sum of all the products of the action. That is, $F= \Sigma (EV)$. 'It is...assumed that people choose from among alternative acts the one corresponding to the strongest positive (or weakest negative) force.'²

Developing upon Vroom's work, Lawler has provided the most widely used formulation of the expectancy model.³ He retains the notion of the valence of outcomes; and also of the expectancy that a certain performed act will result in particular outcomes (which he calls the Performance - Outcome [P-O] expectancy). Lawler adds, however, an additional term, namely the expectancy that the expenditure of effort will actually result in the intended performance (the Effort-Performance [E-P] expectancy). Thus:

a persons motivation to perform in a particular way will be influenced by his expectancies about trying to perform in that way, his expectancies about the outcomes associated with performing at that level (P-O), and the attractiveness of the outcomes involved.⁴

Like Vroom, Lawler suggests that the various terms in the expectancy model can be

¹ *Ibid.*, p. 17.

² *Ibid.*, p. 19.

³ Lawler, *Motivation in Work Organisations*.

⁴ *Ibid.*, p. 51.

multiplied together to obtain a single motivation score. The valence of all the possible consequences of a particular outcome should be multiplied, in each case, by the likelihood that the performance will in fact lead to the specified outcome. Summing the results gives the expected valence of a particular form of performance, and this sum is then multiplied by the probability that effort will result in the performance; i.e.

$$(E-P) \cdot \sum [(P-O) \cdot (V)]$$

If either the E-P or P-O expectancies, or the valence of outcomes, are zero or very low, motivation will accordingly be zero or low.¹ People will be motivated to be highly productive if (a) they feel they *can* be highly productive and (b) they perceive a number of positive outcomes associated with being highly productive. Of these three elements, Lawler considers Performance-Outcome expectancies and the attractiveness of outcomes to individuals as the most important determinants of motivation. To this extent his model does not differ significantly from Vroom's.

Though expectancy models provide a persuasive formulation of the structure surrounding the individual's choice decision, much investigation remains to be done concerning the factors which actually shape the effort decision. These cannot be deduced in advance, but must arise from empirical observation, and both Vroom and Lawler provide thorough surveys of the factors affecting an individual's effort motivation.

Performance-Outcome expectancies are, says Lawler, strongly influenced by the objective situation, by people's past experiences in similar situations, and by what other people say about the situation. The importance of the reports of co-workers has been emphasised by W.F Whyte, who found that, in their response to incentives, workers could be convinced by the testimony of their peers that if they were highly productive the pay rate would be reduced, even though they had never seen this happen and the company said it would not happen.²

With regard to the rewards associated with outcomes, these Lawler divides into extrinsic and

¹ *Ibid.*, p. 52.

² *Ibid.*, p. 56.

intrinsic. Extrinsic rewards include pay, promotion, status symbols, and fringe benefits. Pay has been the most widely studied of the external rewards, and fits readily into the expectancy-choice framework. Assuming, says Vroom, that money is positively valent:

we would predict that the valence of effective performance on a job would be directly related to the instrumentality of performance to its attainment. Supporting this prediction are a large number of investigations indicating that level of performance increases as the expected relationship between performance and wages increases. It is also supported by the finding that this effect is greatest for workers who report that money is relatively important to them.¹

Even the most conservative results from these studies, observes Lawler, 'seem to suggest that individual incentive plans can increase productivity by 10 to 20 per cent.'²

Yet this result is not general or always straightforward. Tying earnings to output, for instance, will not motivate workers who attach little value to money income. Lawler cites the case of a factory staffed largely by married women. Attempts to motivate through piece-work failed, but when the women were told they could go home after a certain amount of work was done 'productivity increased dramatically.'³ Further, research by Adams and Rosenbaum suggests that workers are guided in their response to a wage by a sense of equity; they strive to attain what they consider an equitable relationship between the inputs and outcomes of their job and that of others. If a worker believes he is overpaid relative to others, he may work harder to reduce the tension; if he believes he is underpaid he will, for the same reason, work less hard. It is a corollary of this theory - and one for which there is some evidence - that workers who believe their piece-rates are relatively high will limit output to diminish the disparity in earnings.⁴

Promotion is another external reward affecting performance, and studies show that it does so in ways which the expectancy model would predict. If, writes Vroom:

¹ Vroom, *Work and Motivation*, p. 260; for a review of the effects of wages on motivation, see pp. 252-60.

² Lawler, *Motivation*, p. 119.

³ *Ibid.*, p. 138.

⁴ Vroom, *Work and Motivation*, pp. 252-3.

workers are indifferent to receiving a promotion, *or* if they expect that their chances of receiving it are independent of their level of performance, they will perform less effectively than if they desire promotion and believe that their chances of receiving it are directly related to their level of performance.¹

Whereas extrinsic rewards are achieved instrumentally through performance, intrinsic rewards are feelings experienced directly by an individual from behaving in a certain way, and include the sense of self-esteem, achievement, and competence. It was these intrinsic motivators that Maslow and McGregor emphasised, and Lawler, in particular, acknowledges their importance. Job design then becomes a crucial element in motivation since it influences the extent to which valued intrinsic outcomes can be reached through performance. Under Scientific Management, for instance, intrinsic rewards are deliberately diminished, work being seen merely as the means to the greatest possible output. In this case powerful extrinsic incentives must be put in place - as Taylor himself recognised.

Job enrichment adopts an opposite approach, seeking, by making jobs complex, challenging, and interesting, to produce greater worker motivation and satisfaction.² To achieve this end it is necessary, says Lawler, that three 'core dimensions' be present in a job; it must:

- (a) allow the individual to feel personally responsible for a meaningful portion of the work;
- (b) provide outcomes which are intrinsically meaningful or considered worthwhile; and (c) provide feedback concerning what is accomplished.

Studies of the effects of job enrichment show that in about half of cases it led to higher productivity, while in nearly every instance the quality of work improved and absenteeism and turnover diminished.³ In accounting for this result, Lawler argues that enriching jobs increases the extent to which intrinsic rewards can be achieved through work behaviour, and to this extent positively affects a person's P-O beliefs with respect to good performance.⁴

Inter-personal relationships are recognised by Vroom and Lawler to have an important

¹ *Ibid.*, p. 261.

² Lawler, *Motivation*, p. 152.

³ *Ibid.*, pp. 152-3.

⁴ *Ibid.*, p. 154.

effect upon motivation, influencing both extrinsic and intrinsic rewards. For instance, the adoption by supervisors of a 'considerate' or 'employee orientated' approach was found, in eight out of eleven studies cited by Vroom, to have a positive effect on performance. However this result is not readily explicable in terms of the expectancy model since in these cases consideration appears to have been extended to *all* employees, not just those who had reached some performance standard. It similarly appears that operatives allowed a greater say in the decisions affecting their work perform better than those permitted less.¹

Another inter-personal factor influencing performance is the work group. Where individuals value the approval of their peers, the expectancy model predicts that they would pursue conduct leading to this end. In practice the influence of group attitudes on productivity is equivocal, as the Hawthorne studies illustrated. In the Relay Assembly Room the group ethos promoted high levels of individual productivity; in the Bank Wiring Room, by contrast, workmen seeking acceptance had to limit their output to a standard daily production of 6,000 units, even though they could have comfortably made 7,000.² Group pressure may be particularly important in restricting output under piece-wages:

research has demonstrated that workers on wage incentive plans may be pressured by their co-workers to hold down production. Individuals whose production exceeds some informal group standard of production are subject to persistent influence attempts and, if these are unsuccessful, they tend to be rejected by their co-workers.³

Several studies have sought to establish *why* norms against high productivity develop. A 1945 survey of American manual workers found that 40 per cent of those questioned thought that an operative, when taking a job in a factory, ought to produce, not as much as he could, but the 'average amount.' Those making this reply were asked what they thought would happen to the worker if he turned out *more* than the average. 30 per cent. believed that production quotas

¹ Vroom, *Work and Motivation*, p. 226. See also J.A.C. Brown, *The Social Psychology of Industry* (1954), p. 84, for a summary of the study by the Survey Research Centre of the University of Michigan on the effect of 'supervisory styles' on productivity at the Prudential Insurance Company.

² P.S. Florence, *Labour* (1949), p. 82; Brown, *Social Psychology of Industry*, p. 81.

³ Vroom, *Work and Motivation*, pp. 231, 258.

would be raised; 23 per cent. thought it would be unpopular with other workers; 11 per cent. expected piece-rates to be reduced; eight per cent. believed the worker would break down physically; seven per cent. anticipated that the worker would gain nothing from producing more; and seven per cent. predicted that it would cause unemployment.¹ Since each worker was asked to name his chief fear, it is quite possible that a worker might expect more than one of these outcomes to follow upon greater productivity. In a 1949 survey of 1,021 manual workers, 38 per cent. expressed the opinion that it would be 'bad for me' if all workers in my plant turned out more per hour.²

As is apparent, the expectancy approach to work motivation is of wider scope than the needs approach; indeed it incorporates important aspects of the latter. Yet this generality is purchased at a price. Whereas the motivation theory made definite predictions regarding the manner in which an individual's needs will operate as motivators over time, expectancy theory has a tendency, like the utilitarianism from which it ultimately derives, towards circularity: assuming, what it in fact professes to prove, that if an individual acts in some way it is *because* he believes it will result in the highest feasible valence.

Nevertheless it is the merit of the expectancy approach that it makes full allowance for the variety of circumstances determining motivation. Some individuals will place most importance to meeting their 'lower order' needs through extrinsic rewards. Others attach greatest weight to intrinsic 'higher order' satisfaction. But modern research suggests that the majority have many different needs which they seek to realise through their work - needs which themselves fluctuate over time and with the ever shifting context. As Schein has emphasised, the sources of human motivation are highly complex:

Not only do people have many needs and potentials, but the patterning of those needs changes with age and stage of development, with changes in roles, with situation, and with changes in inter-personal relationships.³

¹ M.S. Viteles, *Motivation and Morale in Industry* (1954), p. 51.

² *Ibid.*, pp. 51-2.

³ E.H. Schein, *Organisational Psychology* (3rd edn., 1980), p. 93.

No one theory, even one so general and flexible as expectancy theory, can satisfactorily account for all the factors contributing to the effort decision. As Vroom acknowledges, 'it appears that a person's desire to perform effectively on a task cannot be completely understood through an examination of the social reward and punishment systems used to control behaviour.'¹

An important advantage of the reinforcement perspective is that it can make allowance for the social and industrial context within which effort is actually expended. While the individual might be motivated to work by, for instance, a desire to realise some basic need, there remains the question of how hard in practice he will actually work. Individuals throughout history and in all countries have sought to realise their physiological needs; but the level of effort expended in the pursuit of these goals has differed widely in a way which cannot be simply explained in terms of the *strength* of those needs. To account for these differences and variations in generally acceptable levels of exertion we must make reference to the social context.

In his 1961 study *Efficiency and Effort* Baldamus argued that there were three elements which combined to form the expectations of effort standard within any given employment situation. First there was 'the remote and indirect influence of basic values originating as social supports in the process of (primary) socialisation.' A young person, entering employment for the first time, would bring with him 'a set of general role-expectations of what is right and wrong for him as a wage-earner.'² This sense of reasonable work obligations 'are a powerful and yet widely diffused determinant' of effort levels.³ Next there was the 'more definite effect of institutional controls that are acquired in the course of employment itself.' The young worker must soon adjust himself to the informal rules governing acceptable standards of effort or restriction of output prevalent within the workplace; he would, in due course, incorporate into 'his habitual pattern of behaviour a specific set of institutional controls.'⁴ Lastly his conduct

¹ Vroom, *Work and Motivation*, p. 267.

² Baldamus, *Efficiency and Effort*, p. 84.

³ *Ibid.*, p. 88.

⁴ *Ibid.*, p. 84.

would be affected by the regulatory controls instituted by the employer, which govern such matters as the method of production, the type and intensity of supervision, and the mode of wage-payment.

The result of these three sets of influences is, within any given work environment, a standardised expectation as to the appropriate level of effort - an expectation shared, broadly speaking, by employer and operative alike. This socially sanctioned level of exertion, refined by the particular context of the workplace, forms part of the institutional structure of exchange. It thus renders determinate the expected intensity of labour, and, hence, the standard rate of reward per unit of effort - what Baldamus calls 'effort values.' It is around this conventional level of performance that individual variations in productivity will occur.¹ Without it, stable industrial relations or even a predictable industrial process would be impossible.

Although accepted, in practice, by both employer and worker, this is not to imply that nobody should wish to alter the customary effort standard, and it will indeed adjust over time. Yet in so far as some change is considered by one or other party, in most cases the cost and difficulties entailed will ensure it is not worthwhile. The conventional level of effort becomes, in the language of North, an element of the institutional equilibrium of society.²

¹ The pattern of this variation cannot be predicted with certainty. Whilst we might, *a priori*, anticipate a normal distribution, it may, for example, be negatively skewed if the workshop is particularly cohesive and seeks to enforce an upper limit to productivity. For the use of output distributions as an indicator of effort restriction, see H.M. Vernon, *Industrial Fatigue and Efficiency* (1921).

² D.C. North, *Institutions, Institutional Change and Economic Performance* (1990), p. 86.

Chapter 2

Centralised Employment and the Emergence of Effort as a Problem

From the mid 19th century, growing numbers of employers and social commentators expressed dissatisfaction with the effort expended by the average worker. Whether characterised as unambitious, surly, or un-cooperative; as a militant, or the servile dupe of trade union leaders; whether compared with the energetic American or disciplined German: it was held that Englishmen were less willing to put in a hard day's work than their fore-fathers or competitors overseas. How should we account for this?

The most important reason was that, as the 19th century proceeded, more and more employers were confronted with the necessity of organising and motivating large numbers of employees. In 1850 centralised employment of significant numbers of workmen was comparatively rare, the greater part of industry occurring in workers' homes or small workshops. The total steam horse power used in manufacturing industry in 1871 was only 15 per cent. of the 1907 figure.¹ Where factory production was utilised, the hire and deployment of operatives was often sub-contracted to leading hands and piece-masters.

The Putting-Out System

Under the 'putting-out' system, a merchant-capitalist acquired raw materials and sold the finished product, yet did not oversee the manufacturing process. Instead outworkers and workshop owners contracted to make so many items at a given price and within a specified period. A good example was shoe-making, whose organisation is described in detail below. But domestic and workshop production predominated in the manufacture of such varied items as guns, jewellery,

A.E. Musson, *Growth of British Industry* (1978), pp. 113, 169.

buttons, chains, nails, iron and steel tools, hosiery, and tailoring.¹ Putting-out offered the employer several advantages. It enabled him to utilise sources of cheap labour - women, children, the elderly; capital expenditure on equipment and factory buildings was avoided; fluctuations in orders could be accommodated without the concomitant idle men and machinery. However what we wish to emphasise is that by arranging for work to be performed off the premises, effort was removed as an element in the principal-agent problem. Employers purchased, not labour time, but the product of labour. 'The relation of employer and workman does not exist,' stated a chain maker in 1888, 'it is really buyer and seller.'² Though the employer was concerned that work be completed punctually and satisfactorily, the amount and distribution of effort put forth by the worker was a matter of indifference. As one boot manufacturer commented: 'We never ask how much work a man can do, but give him out according to what we think he can do.'³ It was said of the Birmingham gun trade that 'no master can tell how many hands he is employing at any given time...'⁴

In either domestic or workshop setting the challenge of securing labour effort was not entirely absent. Yet within the family, husband and wife had an ever present need to earn their daily living, and parental authority ensured the compliance of children. A workshop owner was usually remunerated according to the difference between the price for a piece of work and its cost, and he therefore had every incentive to see that his workmen were kept up to the mark. Frequently working alongside a small number of men, detecting shirking was not difficult. The prospect of mobility to master status itself provided a motive to exertion. A master tailor declared in 1892 that 'more than a clear third of the employers in our trade to-day are men who

¹ For a description of the out-working trades of the Midlands, see G. C. Allen, *Industrial Development of Birmingham and the Black Country* (1929).

² *Select Committee of the House of Lords on the Sweating System*, 3rd Report (1889), Q. 22,437.

³ *Ibid.*, 2nd Report, Q. 11,478.

⁴ S. Timmins, *Birmingham and the Midland Hardware District* (1866), p. 391.

have risen from the board.’¹ Low barriers to entry in many trades facilitated this process. A few pounds was said to enable a ‘respectable workman’ to set himself up in the Birmingham button trade.² Nine out of ten master jewellers in that town in the 1860s were reputed to have once been journeymen.

More ‘tyrannical’ forms of supervision, referred to as ‘sweating’, were associated with large metropolitan areas, especially East London. With its shifting, and particularly immigrant, population, the constraints of convention were less strong. It was a feature, also, of unskilled labour, partly, according to Schloss, because this most needed strict monitoring, and partly since the markets for its products were more competitive. The smaller sub-contractors in London, said one contemporary, ‘do the commonest work, have the lowest prices, and pay the least wages, and exact the *maximum* of toil from their workers.’³

Sub-Contracting

Where gathering workers into one place was unavoidable or preferable on grounds of cost, centralised wage contracts did not automatically follow. Sometimes manufacturers constructed a factory, complete with machinery, and then leased space to garret-masters on the ‘room and power’ system. An Inspector of Factories in 1868 described how, in Sheffield’s metal trades, factories erected by limited companies were ‘divided into numerous separate rooms, power being "laid on" in each room, and an operative grinder hiring a grinding wheel or trough...’⁴ ‘Tenement factories’ remained important in the lace trade until after 1918.⁵

When an enterprise had to be conducted as a coherent unit, manufacturers could still

¹ Evidence of J. Gordon, Secretary of the Master Tailors’ Association, *Royal Commission on Labour*, Mins. of Ev. (Group C), Vol. I., Q. 15,388.

² Timmins, *Hardware District*, p. 441.

³ Cited in D.F. Schloss, *Methods of Industrial Remuneration* (3rd edn., 1907), p. 217.

⁴ *Factory Inspectors’ Reports*, 1868-9 XIV, pp. 13-14.

⁵ *Report of the Departmental Committee Appointed to Consider the Position of the Textile Trades After the War*, 1918, p. 98.

delegate responsibility for employing and managing labour to a sub-contractor.¹ In mining, quarrying, construction, and dock work groups of workmen, sometimes co-partners, more often organised by a leading hand, would contract to perform specified quantities of work. Contracting-out the supply of labour continued within factories. A familiar figure in the Lancashire engineering trade was the piece-master.² Given an assembly job by an employer, he oversaw the work of a gang of men, receiving any difference between the wage bill and the contract price.³ In the iron industry production was controlled by such skilled workers as puddlers, shinglers, shearers, and rollermen, to whom employers contracted work at a rate per ton.⁴ Under shipbuilding's squad system groups of specialised workers moved between yards performing particular jobs. Ships-platers, who were paid by the piece, employed their own helpers on time wages. One helper complained in 1892 that the platers:

attempt to get as much done as they possibly can, and in the shortest amount of time, seeing that the harder we work and the quicker the job is finished, their wages will rise in proportion. The jobs are then finished far sooner than they would be if the men were allowed to work reasonably, as they ought to, and not driven at it so hard.⁵

In the cotton industry the self-acting mule was operated by skilled minders, who recruited and supervised their own assistants - the piecers and scavengers. In Lancashire, Derbyshire, and Cheshire 8,000 operatives aged under 18 were employed by other workers in the 1830s.⁶

Sub-contracting shared many of the effort securing qualities of workshops. Remunerated by the piece, the contractor's income increased the faster the work was completed. He was well placed to supervise, and often had the additional authority derived from family relations. And

¹ H. Gospel, *Markets, Firms, and the Management of Labour* (1992), p. 19.

² There were approximately 400 piece-masters in Lancashire in 1861. M. and J. B. Jefferys, 'The Wages, Hours and Trade Customs of the Skilled Engineer in 1861', *Economic History Review*, xvii (1947), 40-1.

³ *Ibid.*; *R. C. on Labour*, A, Vol. III, Q. 25,308.

⁴ F. Wilkinson, 'Collective Bargaining in the Steel Industry', in A. Briggs and J. Saville ed., *Essays in Labour History*, III. 104.

⁵ *R.C. on Labour*, A, Vol. III, Q. 20.632.

⁶ W. Lazonick, 'Industrial Relations and Technical Change', *Cambridge Journal of Economics*, iii (1979).

before the hard-working underhand was the prospect of elevation to sub-contractor status. Sub-contracting was, in brief, an effective and widely utilised means by which an employer could have his workforce organised and kept up to a reasonable level of exertion without having to see to oversee these matters for himself.

Nineteenth century capitalists were thus far from keen to centralise employment, a point writers like Marglin overlook.¹ If - as he argues - factories emerged, not for reasons of technology, but because they offered a more effective means of exploiting labour, why did employers hesitate to construct such profitable institutions for so long? Better understanding was exhibited by a representative of the Midland Counties Trades Federation in 1892:

the employers...prefer to have domestic workshops, where it is possible, rather than factories in some districts...seeing that domestic workshops relieve the employer himself from any responsibility or risk of an inspector, and for many more reasons, such as throwing the whole responsibility upon the operatives themselves, the employers prefer to have workshops so that the workshops should take their work to a warehouse instead of the employer having a factory; in that way he has less responsibility and less liability.²

Centralisation of Employment

During the last decades of the century industrial organisation underwent significant alteration. The outworker, small-master, and sub-contractor retreated into the shadows of economic life. In their place stood the employer of large numbers of labourers. Employment returns for 1913 reveal a factory population seven times that engaged in small workshops.³

Amongst the factors bringing about these changes were technologies permitting the application of power-driven processes; the emergence of new industries without traditions of domestic work or sub-contracting; intensifying competition; and a shift in consumer preferences towards more standardised products. Government also played its part. The Workshops Regulation Act of 1867 prohibited all work by children below eight years of age and established

¹ S. A. Marglin, 'What Do Bosses Do?', *Review of Radical Political Economy*, vi (1974).

² *R. C. on Labour*, A, Vol. II., Q. 17,818.

³ Musson, *British Industry*, p. 246. These figures are not wholly satisfactory since a factory was categorised as any establishment using power, and many workshops would thus have been included.

maximum working hours for women and young people.¹ Its provisions were reinforced when the 1870 Education Act raised to 13 the age of compulsory school attendance, depriving workshops of cheap child labour.

Interesting insights into this process of centralisation have recently been provided by Gregory Clark.² Seeking to account for the emergence in the late 18th century of factory discipline, under which ‘the employer dictated when workers worked, their conduct on the job, and that they steadily attend to their assigned tasks,’ Clark subscribes to what he calls the coercion theory. That is to say, disciplined factories developed, not because of their potential to reduce co-ordination costs, but because discipline could increase worker effort. Workers subject to factory discipline produced more than those left free to determine the length and intensity of their working day.

Why, then, had factory coercion not been introduced earlier? According to Clark, workers had to be paid a ‘disgust’ wage premium to induce them to accept disciplined conditions. What *changed* during the industrial revolution was the emergence of new technologies which increased fixed capital costs per worker. The employer now had an incentive to discipline workers and increase output, since by so doing he could ‘pay the disgust premium and still have lower costs.’³ It was this conjunction of a ‘disgust premium’ and significant fixed costs per worker which explained the centralised discipline of the industrial revolution.

There remains the question why workers accepted the new discipline rather than, as Clark believes was possible, working for firms in which they pledged to produce an output quota per week identical to that achieved under discipline, but were left at liberty to choose precisely when and how they worked. The reason advanced by Clark is that workers realised that they needed to be subject to discipline if they were to produce the high output, and make the high wages, associated with the coercive factories. Whilst the immediate experience of discipline was

¹ D. Bythell, *Sweated Trades* (1978), p. 241.

² G. Clark, ‘Factory Discipline’, *Journal of Economic History*, 54 (1994).

³ *Ibid.*, 142.

disagreeable, in its absence workers lacked the will-power to put in the long, intensive, hours of the new factories. 'Whatever the workers themselves thought, they effectively hired the capitalists to discipline and coerce them.'¹

Dealing, as he does, with such wide and controversial issues, it is not unexpected that Clark's work should raise as well as answer questions. To begin with, several of Clark's assertions would seem to rest on rather slender evidence. For instance, his estimate that factories had to pay, in the first half of the 19th century, a wage premium of 4 per cent. per piece to get their workers to submit to discipline, is derived from figures relating to Welsh miners at Dowlais in 1846 and female laundry workers, cigar makers, and Scottish rag-pickers half a century later. A sample so small and disparate appears a shaky basis for a generalised figure of 4 per cent; indeed elsewhere Clark suggests the disgust premium averaged 17 per cent. per piece. Such differences can only undermine the faith placed in either figure. Similarly, in calculating the cost of irregular attendance to a centralised factory Clark counts only the expense of holding an inventory of work in progress so that production does not halt because of one worker's absence. This is likely to be an underestimate, since it does not include the time and disruption entailed in seeking, collecting, and transporting the stocks. As we shall see below, in the case of shoe making it was a conclusion of productivity investigators in the 1940s that the superior performance of American factories was partly attributable to the greater attention paid to the prompt supply of materials to workers - thus avoiding the stopping and starting of British factories. Further, the frequent absence of individual workers would have been likely to contribute to an air of slackness and irregularity within the workshop as a whole.

Second, as noted Clark cites limits to worker rationality and will-power as the ultimate factor explaining the emergence of coercive factory environments. Yet it is not clear that worker deficiencies in these areas were so marked. Unlike Clark's analogy of the dieter who cannot resist taking 'one more bite', domestic and workshop operatives *did* get out of bed in the morning and work, producing, on Clark's estimate, an output 75 per cent. that of the factory

Ibid., 131.

worker. Again they possessed, according to Clark's argument, a conception of the distinction between short and long term interest sufficiently vivid to cause them to trade in their historic 'liberties' for a coercive regime. Neither rationality or self-will were obviously missing.

Clark says that factory discipline served to solve the problem of worker self-control. 'By locking them in the factory and banning most social intercourse, the possibility of seeking a few moments pleasure rather than working is eliminated.'¹ But, as is described below, workers did seek, amongst other things, pleasure within the factory and resisted employer attempts to increase monitoring and discipline. Whilst these occurrences are not incompatible with Clark's model, they do suggest that the pattern of conduct was more complex: workers, on Clark's reasoning, could have been expected to call upon employers to assist them in overcoming their weakness of will *within* the factory.

Behind these questions concerning events inside the factory lies a failure by Clark to define clearly what discipline entailed. Towards the beginning of his article he notes that, under factory discipline, workers surrendered to employers, in return for a wage, 'complete command of their labour for a fixed period each day. The employer sets the pace of work and also dictates how workers will conduct themselves on the job.'² Yet Clark subsequently says surprisingly little about supervision and monitoring - indeed he states that supervision costs would have been greater in undisciplined factories since they would be open for longer hours, which appears to suggest that the intensity of supervision was comparable in the two cases. Clark emphasises, instead, the regulations and fines governing attendance and punctuality, and cites rules in textile factories specifying penalties for such indiscretions as 'Idleness and looking thro' the window', 'riding on each other's back', 'Dancing in the room', 'Neglecting his work to talk to people', etc. Factory discipline did indeed imply regulations on attendance and conduct. However the rules Clark describes were most elaborate in the early textile industry (the examples given above relate to the period 1805 to 1813) and were not really representative of the discipline experience

¹ *Ibid.*, 160.

² *Ibid.*, 131.

of most 19th century workers. It was not the length of the rule book which governed the extent of discipline, but the number of foremen and managers, the frequency of their visits to the workshop, their attitudes towards the work people, the ease with which performance could be monitored, and so forth. Here again we shall see that in many of the centralised 'coercive' industries of the 19th century - such as engineering - discipline was frequently not that close. In fact the situation within workshops often corresponded to what Clark considers the less competitive 'freedom model', with workers being left to organise production themselves subject to the condition of achieving some expected weekly output.

Lastly, the relationship between discipline and output is problematic. Clark provides two kinds of evidence to support the existence of a positive correlation between the two. First, comparing factory and outworkers operating similar machinery, Clark says that the weekly earnings of factory workers were about 60 per cent. above those of outworkers. Partly this reflected the piece-rate 'disgust' premium paid to factory employees; but it reflected also the fact that disciplined workers produced 36 per cent. more output per week. However doubts exist concerning the extent to which this earnings differential can be attributed to differences in directed effort. Can we be sure that the only difference between factory and outwork conditions was the greater discipline existing in the former? Was the machinery always of the same technology, vintage, and repair? Were such matters as the supply of materials and division of labour the same? Were the workers the same? If factory workers were offered higher wages then we might, on efficiency wage grounds, expect that the supply of labour to the factories to be stronger and more skilled. Further, as Clark himself acknowledges, outworkers were widely regarded as having little bargaining power in wage negotiations and their lower income would, in part, have reflected this.¹

Second, Clark refers to evidence from British efficiency investigations of the early 20th century suggesting that discipline would have 'a causal role in driving up labour effort.'²

¹ *Ibid.*, 158.

² *Ibid.*, 148.

However the results of these studies cannot be considered conclusive. The introduction of piece-work, for instance, has been shown on numerous occasions to lead to greater output; that is to say, workers often respond to incentives by producing more, the level of discipline remaining constant.¹ This is difficult to explain with Clark's model: why should the worker increase output by one unit if the pain is immediate and the addition to wages marginal and delayed? What is more, the move to less coercive supervision - what is called employee-centred supervision - has been shown in several studies to *increase* output. For example, investigations of the productivity of employees engaged by insurance companies and on railway maintenance found that work-groups with high productivity tended to have supervisors who attached importance to the 'human relations' aspect of their job, taking a personal interest in their employees, while supervisors of low productivity groups were characteristically 'production-centred', using punitive measures to 'get the work done.'² And, in contradiction to Clark's reference to the positive effects of isolation on productivity, alternative studies by Allport and others suggest that persons set to perform identical tasks alone and in the presence of others produced more in the latter situation - and this difference was greater the more mechanical the tasks.³

In view of these weaknesses Clark's analysis cannot, as yet, be considered a proven explanation of the development of centralised factory production. Nevertheless it does help us to make sense of several features of the move to factory working - in particular the interesting role played by trade unions. A number of unions, for instance, resisted the imposition of fines and called instead for workers irregular in attendance to be dismissed. A manual on cotton industry management found that spinners 'are generally unwilling to submit to fines either for bad work or for improper conduct; it seems to be a general feeling amongst them that they would

¹ For a recent example, see the study by Edward Lazear of the introduction of piece-work at the Safelite Glass Corporation, Ohio, where average productivity increased 35 per cent. between 1994 and 1995. (*The National Bureau of Economic Research Digest*, January 1997).

² Vroom, *Work and Motivation*, p. 213.

³ *Ibid.*, p. 230.

much rather have the master turn them away than fine them.’¹ The Webbs attributed this to a desire to protect the standard rate, though it is compatible with Clark’s argument that workers realised the necessity for stiff penalties if they were to maximise their incomes. Equally, several unions had their own disciplinary procedures to punish irregular application.² Lastly, and most strikingly, some unions - of which the union of shoe makers was most prominent - actually pressed for factory working *against* the wishes of many employers and a significant part of their own membership. ‘We should be glad,’ said a unionist in the chain-making industry, ‘to see all of it made in factories, all sizes and all sorts.’³ Here it might be argued that union representatives had a clearer conception of the long-run interests of their members than the men themselves - and this was certainly a view expressed by union leaders.⁴ Though, of course, whether this was the prime factor actuating their conduct is a different matter: centralisation of production was unequivocally in the *union’s* long-term interest. Where all labour was engaged by a single employer and confined to a factory it could be more effectively organised.

What rendered union objections to outwork increasingly significant was the greater tendency for factory and out-work to coexist within the same trade. Unions in the new factories found their position compromised by the home-worker. Maintaining standard rates of pay was

A representative of the Lock and Key Smith's Society described how:

When there comes a time of fair trade in the market the masters will ask us to quote a price, and when that is done the masters will say, no, I will have it made out. It is in that way that it does not allow the men at the large factories to better their position in the least.¹

An employer unhappy at some union regulation could threaten to put his work out. When nearly all employees were union members, said one master tailor, the workshop was often 'less his own workshop than when he gets it made in an out-workshop.'

They object to work with non-unionists. They have a unionist shop official, a shop steward they call him, who constantly is reporting little things until really many an employer in disgust turns his key in his workshop and says for the future I will get all my work made out.²

Unions consequently sought to prevent employers utilising domestic labour. Where possible industrial action was threatened - a course exemplified by the shoe trade and considered below. The Amalgamated Society of Tailors took similar steps to end outwork. However, weakening the position of unions was the fact that in pressing for factory working they could only withdraw the labour of those already within factories. Appeals were therefore directed towards other interests. Among employers, unions enjoyed the sympathy of those 'respectable' and 'principled' men who had already adopted factory working. Many, said a unionist in the lock-trade, were 'against outwork' but practised it in order to compete with those continuing to put work out.³ Public opinion was also invoked, attention being especially drawn to the abuses of the sweating system. Government commissions investigated its evils; health and safety legislation was extended to encompass the small workshop; and in 1909 Trade Boards were established to enforce minimum wage levels in the chief outworking industries. With labour, trade, public, and Government opinion hostile to putting-out, the system's decline, if not precipitated, was undoubtedly hastened.

Union dislike of outwork was eclipsed in vehemence only by its opposition to sub-

¹ *Ibid.*, A, Vol. II., Q. 18,347.

² *Ibid.*, C, Vol. II., Q. 14,193.

³ *Ibid.*, A, Vol. II., Q. 18,295.

contracting. 'All workmen,' wrote Thomas Wright, 'do strongly object and with bitter reason, to the sub-contracting system...,' while George Howell spoke of the 'intense hatred of the workmen to sub-contracting.'¹ Running through this opposition were a number of themes. Most prominent was the contractor's ability to enforce levels of effort which were not only high but unremunerated. Conventionally paying his under-hands time wages, the contractor had an incentive to employ as few men as possible and work them as hard as possible. Operatives therefore conceived of the sub-contractor as a task-master; in the building trade 'such a man would be continually on the back of the men, driving them, making them scamp their work, because they must produce a certain quantity in order that he may realise his profit.'² While the workman received little for his extra exertion, the sub-contractor reputedly enjoyed substantial earnings; as an iron-worker remarked: 'he takes the substance while the workers themselves go home with the shadow.'³ A Scotch steel-maker recalled how the sub-contractor would pay his men:

3/-, 4/-, 5/-, 6/-, or whatever it was, and he got so much from the employer for all the work. He used to go home to my knowledge with £40 or £50, which he got for standing there and just lifting his finger.⁴

The sub-contractor was also held responsible for work of poor quality, since he had little reason to overly concern himself with the work's character - especially when there was stiff competition for contracts. Accusations of 'scamping' were notorious in the building trades: 'The work is pushed on in such a hurried and inferior manner that it is not only bad to the workman...but it is equally bad to the party who is having the work done...'⁵ Wright maintained that sub-contracting had 'done more than anything else to destroy the prestige formerly attaching to English workmanship, introducing a course unfinished "o-that'll-do" style

¹ T. Wright, *The Great Unwashed* (1868), p. 121; G. Howell, *Conflicts of Capital and Labour* (2nd edn., 1890), p. 261.

² Evidence of G. Dew, Secretary of the London Building Trades' Committee, *R. C. on Labour*, C, Vol. II., Q. 17,576.

³ *Ibid.*, A, Vol. I., Q. 14,908.

⁴ *Ibid.*, Q. 16,359.

⁵ Dew, *ibid.*, C, Vol. II., Q. 17,380.

of workmanship.’¹

The piece-master’s promotion was usually believed to owe little to ability and much to a willingness to ‘drive’ the men. Contractors were in many cases ‘inexperienced’: ‘He tells a man to do a certain thing. The man thinks it is wrong, or knows from practical experience that it is wrong, but he has to do it...’² Viewed as an interloper, the sub-contractor was a man ‘equal with themselves’ but ‘taking a large amount of money home for work while they themselves are earning that money.’³ Since sub-contracting occurred where production was already centralised, unions were better placed to secure its abolition. Miners in the Midlands struck against the contracting or ‘butty’ system as early as 1842.⁴ The Amalgamated Society of Engineers maintained a consistently hostile front. From 1861 any piece-master failing to share the surplus equally amongst the work-group was fined and, if persisting, excluded from the union. A member working for a sub-contractor without receiving a share of the surplus was similarly disciplined. In the 15 years following the resolution piece-mastership failed to extend its sway, and by 1900 few traces of its existence remained.⁵

From the 1880s under-hands in the iron and steel industry formed unions and pressed for an end to sub-contracting. The Association of Iron and Steel Workers claimed in 1892 that it was ‘doing away’ with sub-contracting ‘very rapidly.’⁶ A representative of the Scottish Society of Mill-Men recounted how:

¹ Wright, *Great Unwashed*, p. 121.

² *R. C. on Labour*, A, Vol. II., Q. 16,757.

³ *Ibid.*, Q. 19,024, evidence of C. Hobson, President of the Sheffield Federated Trades’ Council.

⁴ A.J. Taylor, ‘Sub-Contract System in the British Coal Industry’, in L.S. Pressnell ed., *Studies in the Industrial Revolution* (1960), p. 219.

⁵ Jefferys, ‘Skilled Engineer’, 42, 44; *R.C. on Trade Unions*, 1st Report, Q. 743.

⁶ *R. C. on Labour*, A, Vol. II., Q. 15,329.

About three and a half years ago we took action with regard to the matter...we appealed first to one employer and pointed out the inequality of the thing and the unfairness of it, and we got it abolished through every works in the West of Scotland, except in a few non-unionist works.¹

By the mid 1890s contracting was practised extensively only in Sheffield.

Dissolution of the contracting system was achieved by London dockers in the strike of 1889.² Around this time the long-standing objection of building workers to piece-mastership intensified. Branches of the Association of Operative Plasterers raised levies to finance strikes against it, and in 1892 the General Secretary stated that:

in some of our large centres during these last two or three years they have endeavoured with all their power to put a check to this evil system of sub-contracting, sub-letting, which has been in existence for so long, and consequently they strike.³

To coordinate opposition the London Building Trades Committee was formed and persuaded the London School Board and London County Council to forbid sub-contracting on work they commissioned. A building employer complained of 'an organised crusade at the present time against task-work' with two contractors being recently 'driven entirely out of the trade.'⁴ It was made a rule of the Amalgamated Society of Carpenters and Joiners in 1892 that no member take a job under sub-contract or work for any person on that system.⁵

By seeking to end sub-contracting, labour was working with the evolving logic of industrial organisation. New machine technologies, extended division of labour, more integrated production processes: all rendered contracting-out units of work less and less feasible. Sub-contracting then, like outwork, retreated over the latter decades of the century in the face of institutional as well as more narrowly economic pressures. The extent of change should not be exaggerated. The domestic worker, garret master, and contractor survived in several trades

¹ *Ibid*, Q. 15,982.

² J. Lovell, *Stevedores and Dockers* (1969), pp. 102, 112.

³ *R. C. on Labour*, C, Vol. II., Q. 17,296.

⁴ *Ibid.*, Vol. III., Q. 32,051.

⁵ K. Burgess, *Origins of British Industrial Relations* (1975), p. 131.

through to the inter-war years, and never wholly disappeared. What is undeniable is that the position of the typical capitalist-employer in the Edwardian period *vis-a-vis* the securing of labour effort was much removed from that of 1850. At the earlier date he was able, if not to solve the problem, at least to pass it on to others. But the utilisation of alternatives to centralised employment became steadily less feasible and the capitalist had himself to arrange for the hire, motivation, and discipline of significant numbers of human beings.

With employment centralised, there were two dimensions to the effort problem: the regularity of work and its intensity. Sustained exertion could not be taken for granted. The irregular application of domestic labour was notorious. Having neglected work for the first few days of the week, Thursday, Friday, and Saturday saw activity late into the night as the outworker sought to crowd 'six days' work into the last three days of the week...¹ A generally looser life-style was encouraged; so complained a London Factory Inspector:

our girls go to bed late; our music halls get filled; they go to bed late, they get up late; and piece-work...is the one great thing which allows this domestic labour and overtime to exist.²

The connection between outworking and alcoholism was reputedly strong. Nail-makers did their washing on Monday and 'unfortunately some have to get over Saturday's drunk.'³

To two factors was this uneven work pattern attributable. First, the domestic producer appeared to have in view a target income, to which there corresponded a certain quantity of work.⁴ In times of good trade and rising incomes working hours tended to fall.⁵ Of greater importance, the domestic worker enjoyed discretion as to *when* work was performed. Asked by C. Hoare, Inspector of Factories for Wolverhampton in the 1890s, whether they should not

¹ G.C. Allen, 'Methods of Industrial Organisation in the West Midlands', *Economic History*, i (1929), 541. On similar patterns of work in the Leicester hosiery trade, see P. Head, 'Industrial Organisation in Leicester 1844-1914: a study in changing technology, innovation and conditions of employment' (Leicester Univ. PhD. thesis 1960), p. 221.

² *S.C. on Sweating*, 2nd Report, Q. 17,128.

³ *Ibid.*, 2nd Report, Q. 11,342; 3rd Report, Q. 23,085.

⁴ C.f. Lazonick, *Competitive Advantage*, p. 38.

⁵ M. A. Bienefeld, *Working Hours in British Industry* (1972), pp. 12, 114.

prefer to work in factories, the outworkers cried out against it:

No, we would rather have this work at our doors; if we have to go to a factory we are bound to be there at a certain moment in the morning, no matter how the weather is, or anything else; whereas here, if we do not feel inclined to do any work before breakfast, we need not do it.¹

These propensities did not cease with the centralisation of production, and it was some while before sustained application could be taken for granted. In the potteries little work was accomplished at the beginning of the week, but much overtime at its end.² Staffordshire iron-workers were described in 1865 as ‘vivacious pleasure seekers,’ St. Monday being observed as ‘a general district holiday.’³ Workshop tailors, complained a contemporary:

will only work just so long as it suits them; and on Mondays very often and Tuesdays, I am sorry to say it will even run to Wednesdays, they will not show up to work, and consequently all the work is driven to the end of the week.⁴

Poor work performance at the beginning of the week continued a feature of industry into the 20th century. Time lost by ship-yard workers was consistently highest on a Monday; amongst Welsh coal-miners in 1918 ‘absenteeism was at a maximum on Monday, and dwindled down to a minimum, which was about half the Monday value, on Friday.’⁵

Where wages were calculated by the piece, flexibility often remained a feature of the trade. One colliery manager described in 1867 how miners went ‘into the pits and come out pretty well at what hours they like.’⁶ Such irregularity was common in the first Midland metal-working factories. Lock-smiths were said to walk out of the factory when they pleased; chain-makers ‘leave off at any time they feel disposed.’⁷ Putting-out merchants could tolerate uneven patterns of work, and in factories where the operative produced a self-contained commodity the

¹ *S. C. on Sweating*, 3rd Report, Q. 23,013.

² Bienefeld, *Working Hours*, pp. 65, 114.

³ Timmins, *Hardware District*, p. 75.

⁴ *S. C. on Sweating*, 3rd Report, Q. 28,806.

⁵ Vernon, *Industrial Fatigue*, p. 155.

⁶ *R.C. on Trade Unions*, 6th Report, Qs. 11,605-8.

⁷ *R. C. on Labour*, A, Vol. II., Qs. 18,168, 16,975.

distribution of effort could be of secondary importance. But this was less often the case. When paid day-wages, an indolent worker represented a direct loss to the employer. Even when on piece-work, his absence meant that factory overheads would be spread over fewer units, and more integrated processes frequently rendered one man's output dependent upon that of several others.

Chapter 3

Output Limitation and its Motives

Despite the progress of mechanisation, effort remained, in the late 19th century, a variable quantity even in apparently automated processes. A war-time study by Florence found two-thirds of workers in a mechanised American brass-factory were not actually engaged on mechanised work. Of those that were, most controlled the pace of production.¹ His conclusion that the ‘human factor’ continued an important determinant of output was confirmed by investigations of munitions production. In one factory youths removed, four times each minute, a cap from a semi-automatic machine and clamped in another, a task taking below two seconds. Over a 13 week period they worked an average week of 71 hours. When for the following 66 weeks average hours were reduced to 55, hourly production increased by 21 per cent.² It was in fact observed in a wide range of industries that a reduction in hours was associated with *enhanced* output per hour. Not without reason did gas-workers complain in the 1890s that a diminution in hours had benefited them little since the pace of operations had risen in proportion.³

All of which reaffirms that the level of effort is not a technological phenomenon, but a social one. This is usually acknowledged by worker and employer alike. Notwithstanding expressions of discontent from either side, the prevailing intensity of work is regarded as ‘normal’ and ‘fair’. It is when disagreements emerge as to the acceptability of the observed level of exertion that conflict may result. Such disequilibrium threatened in the later 19th century owing to three tendencies. One was the movement of labour into factories. Effort became, in

¹ Florence, *Labour*, p. 34.

² Vernon, *Industrial Fatigue*, p. 44.

³ Bienefeld, *Working Hours*, p. 221.

many trades, an 'issue' for the first time. Second, additional to customary bounds upon output, the labour force imposed further constraints of its own. And third, employers were subject to pressures causing them to question the established intensity of labour.

Informal Constraints Upon Output

That informal output limitation occurred is little open to doubt. Starting with Mayo, a series of sociological studies have described the practice.¹ A leading discussion appeared in Mathewson's 1931 book *Restriction of Output Among Unorganised Workers*. Whereas output limitation had usually been attributed to trade unions, Mathewson suggested the practice antedated union organisation and was 'a widespread institution, deeply entrenched in the working habits of American labouring people.'² Upon entering a workshop the operative:

is first aware of the direct pressure exerted by his fellow workmen. In fact, a new worker will often practice restriction for a long time for no other reason than the working group insists upon it. Later, he becomes familiar with the underlying... factors which make 'regulation' in the eyes of his fellows, necessary.³

It is to be anticipated that comparable limitations to exertion existed in Britain. Yet being typically uncodified, direct evidence is not readily come by. Contemporaries certainly believed it common. 'There is no doubt,' said W.T. Thornton in 1868, 'that men in general could if they pleased do more and better work than they usually do.'⁴ The efficiency expert H. Atkinson assumed it 'well known that the worker can produce far more than he does,' whilst Vernon noted shortly after the War that: 'Almost everyone is agreed' that output limitation 'is widespread, and is a serious danger to economic prosperity, especially in this country.'⁵ For the employer Ernest Benn output restriction remained in 1926 'the principal problem of importance existing to-day.'⁶

¹ C.f. T. Nichols, *British Worker Question* (1986), pp. 25-27.

² S. B. Mathewson, *Restriction of Output Among Unorganised Workers* (1931), p. 146.

³ *Ibid.* p. 15.

⁴ W. T. Thornton, *On Labour* (1868), p. 391.

⁵ H. Atkinson, *Rational Wages System* (1917), p. 1; Vernon, *Industrial Fatigue*, p. 118.

⁶ E. Benn, *If I Were a Labour Leader* (1926), pp. 72-3.

Valuable insights are provided by studies of munitions production during the Great War. Where performance is not confined within narrow technical parameters, uniformity of output, between individuals or over time, is unlikely, serving as *prima facie* evidence of a notional standard output amongst employees.¹ In 1923 Vernon described measuring the output for a 58 week period of 18 women making tiles with hand-presses. During the first four months 41 per cent. of production values fell, on average, within the 28 unit per day group. Electric heaters were then incorporated into the presses and the reduced need for cleaning saved an hour's working time a day. Yet by the end of the first month output had increased only five per cent. A third of the women continued to produce a daily output of 28. Five men believed to exercise a 'moral' influence upon the women were then withdrawn, and output immediately increased ten per cent. A new customary make of 33 units then emerged, with between 20 and 40 per cent. of daily outputs conforming to this quantity. It appeared:

as if the women had an unconquerable desire to work to a fixed standard of some sort, and that when they found that they could easily exceed one recognised figure, they promptly set-up a higher one.²

Another instance of such behaviour was cited by the Health of Munition Workers Committee:

At one long established factory a new shop has been built and staffed so as to produce 5,000 of a particular stock article of warfare per week, that estimate being based upon the results of the older shops doing the same work. New hands were engaged, and these in the new shops are now, after six months, producing in spite of their inexperience not only 5,000, as expected, but 13,000 of these articles per week. The older hands in the other shops do not approach this output, though all the mechanical conditions of work are practically the same.³

This lower output of experienced hands was attributed 'to the effects of long-standing customary restrictions upon habits or rhythms of work from which the newer hands are free.'

Informal output limitation was suggested in a study by W.N. Jones. Measuring rest pauses of over three minutes duration taken by 27 women in a munitions factory on five days in 1916, he found that during each ten-hour shift the women rested voluntarily for an average of 60

¹ P.S. Florence, *Economics of Fatigue and Unrest* (1924), p. 218.

² H.M. Vernon, 'Note on the Causes of Output Limitation', *Journal of the National Institute of Industrial Psychology*, i (1923), 185.

³ Cited in Vernon, *Industrial Fatigue*, p. 132.

minutes. There is no reason to consider such results extraordinary. Vernon, observing the output of eight women working on fuse-bodies over two shifts of 12 hours, found voluntary rests averaged 90 minutes per shift.¹

Turning to more general references, the iron-trade commonly figured in allegations of output restriction. Puddlers recognised six 'heats' as the proper quantity; once completed the puddler went home 'leaving his furnace for an hour or more doing nothing.'² In the 'declining malleable-iron industry' the tendency of operatives to go slow, says Burn, 'was, and had been, chronic.'³ A union official acknowledged the existence of a 'stint' amongst chain-makers. 'There are a certain number of links each day which are sufficient for a man's work per day; that is the regulation of the trade.' This limit met 'with universal approbation on the part of the employers, because they think that when a man shuts so many links he has not got physical power to do more rightly.'⁴ Similar 'stints' had been a feature of coal-mining, though they became less common after the 1850s.⁵

Work-group pressure to limit the output of more productive members was indicated by the Superintendent of the Royal Carriage Department. An individual would be disinclined to pursue higher wages since 'if one man is making a larger percentage above the average make I think there would be some influence at work to stop him...it would be owing to some internal arrangement amongst themselves.'⁶ When one man received a wage above the standard, his fellow employees 'would be apt to find out eventually, it could not go on very long, I imagine,

¹ *Ibid.*, p. 47.

² Cited by K. McClelland, 'Time to Work, Time to Live', in P. Joyce ed., *Historical Meanings of Work* (1987), p. 198.

³ D.L. Burn, *Economic History of Steel Making* (1940), p. 147.

⁴ *R.C. on Labour*, A, Vol. II., Qs. 17,262-266.

⁵ Bienefeld, *Working hours*, pp. 27, 55, 94. However the Reid Committee on technical methods of coal mining, appointed in 1944, found 'stints' limiting the length of the face men were prepared to work during a shift still in place. These, along with short-shifting, whereby the operative ceased work before the end of his shift, it criticised as 'incompatible with good mining practice.' [C.f. W.H.B. Court, *Coal* (1951), p. 313.]

⁶ *Report of the Committee appointed to Inquire into the Organisation and Administration of the Manufacturing Departments of the Army*, 1887, Qs. 1,577-578.

without their finding out, and I think the impulse would be to put a stop to it if they could.’¹

The building trades were infamous for output limitation. Pratt claimed it an ‘unwritten law’ that ‘a bricklayer must "go-easy" and not lay more than 400 in the day.’ Anyone exceeding this limit ‘will be subjected to constant annoyances...and life will become so unpleasant that he will be forced either to work no harder than the others do, or to go elsewhere.’² Price cites comparable regulations amongst builders in the North-West. In 1845 labourers reduced the number of bricks to be carried in each hod from 14 to 12, and declined to move materials by wheel-barrow.³ Here, however, we are passing from informal to formal restriction.

Trade Unionism and Output Limitation

Constraints upon production enforced by the culture of a trade could exist independently of union organisation. There has nonetheless been a tendency to associate output control with trade unionism. Certainly as labour organisation developed, established workshop practices became more frequently matters of conscious policy; whilst the strengthening of labour’s position facilitated enforcement of such procedures. Contrariwise, workers able to sustain restrictions were more likely to found unions. In addition, many contemporaries had difficulty comprehending that workers could, of themselves, raise-up hindrances to the free pursuit of gain. Practices so evidently dysfunctional must surely be traceable to politically motivated agitators.

E.A. Pratt provided the most forthright exposition of this viewpoint in *The Times* at the turn of the century.⁴ Industrial efficiency, he argued, was being undermined by trade union policies, chief amongst which was the limitation of output. Though operatives desired a ‘fair day’s pay,’ there was an ‘almost universal unwillingness, among those who are subject to trade union influence, to do a fair day’s work.’ Most workmen were anxious to do their best, but

¹ *Ibid.* Q. 1,613.

² E.A. Pratt, *Trade Unionism and British Industry* (1904), pp. 28-30.

³ R. Price, *Masters, Unions and Men* (1980), p. 42.

⁴ A series of articles reprinted as *Trade Unionism and British Industry*.

were ‘compelled by their fellows to do as little as they, being so treated that they are forced to abandon any idea of doing their duty to their employer...’¹ Pratt cited the experiences of businessmen across industry. Building was characterised by ‘lazy working, excessive labour cost, and resort to intimidation;’ in engineering there remained, despite the 1897 lock-out, ‘too great a prejudice on the part of the workers against labour saving machinery, still too great a reluctance to work with full energy.’ Within the London gas industry, non-unionist stokers at the South Metropolitan Company drew 50 retorts an hour; unionists at other works did at best 40. Union restrictions had brought the flint-glass industry within ‘measurable distance of extinction.’ An ‘authority’ on the printing trade believed the tendency of the men to ‘go easy’ in the use of machinery was ‘almost universal.’²

Pratt voiced the grievances of many employers. A Northumberland colliery manager alleged, in 1867, that unions limited each man’s earnings to 3s. per day - half the customary figure - at a great loss to the owner: ‘The mines produced considerably less coal, the same incidental expenses went on, pumping water, keeping the mine in proper repair and so on.’³ The Managing Director of the Wigan Coal Company said that union organisation at his colliery resulted in:

a great want of economy directly tending in every way to enhance the cost of production of coals by causing the men, I suppose acting under the council of their leaders, to perform their various operations not only in a sullen spirit, but to a much smaller extent than formerly.⁴

One employer conceded that there were, amongst building unions, no written rules limiting labour. However there occurred:

weekly meetings unionists are expected to attend, and if any man does more than some of his partners think that he ought to do, it is a very easy thing to bring him up there and condemn him.⁵

¹ *Ibid.*, p. 26.

² *Ibid.*, pp. 33-4, 95, 150-51.

³ *R.C on Trade Unions*, 6th Report, Q. 11,790.

⁴ *Ibid.*, 7th Report, Q. 15,035.

⁵ *Ibid.*, 3rd Report, Q. 4,436.

In the absence of unions, claimed a Manchester builder, the men ‘work more with a will...’

Now a man knows that he has the eye of his fellow on him, and if he can do more work than his neighbour, and is doing so, the fact is at once mentioned to the delegate of the union, who is not slow to take action...¹

Another builder challenged operatives in his joinery shop: ‘Now come, do you mean to say that is a fair day’s work?’ And the answer has been, ‘Well sir, it is not, but I am not allowed to best my mates.’² In the London gas industry strikers sought, in 1889, to ‘impose restraints upon the intensification of work’ by restricting the number of mouthpieces to be worked by each gang and limiting the volume of coal carbonized in a shift.³ G. Livesy, Chairman of the Vauxhall Gas Works, judged that a fifth less work was done in 1889 than in 1888.⁴

The contention that unions promoted output limitation received little endorsement from writers sympathetic to labour. ‘Ca’canny or deliberate going slow,’ wrote Cole in 1918, ‘is not countenanced in any Trade Union rule or byelaw...There is no evidence at all of its existence in any widespread form...’⁵ Myers stated in 1925 that investigators of the Institute of Industrial Psychology had met with no instance of output restriction by unions.⁶ These remarks may be broadly accepted. Yet not wholly. For some unions did incorporate regulations on the quantity of work into their rules. This was true of the Flint Glass Makers’ Society in the 1850s and 1860s.⁷ Rule 11 of the Society of Operative Stonemasons, adopted in 1865, specified that:

¹ *Ibid.*, Q. 5,255.

² *Ibid.*, 1st Report, Q. 2,920.

³ R. Price, *Labour in British society* (1986), p. 117.

⁴ *Ibid.*

⁵ G.D.H. Cole, *Payment of Wages* (2nd edn., 1928), pp. 23-24.

⁶ C. Myers, ‘Hindrances to Output’, *Journal of the National Institute of Industrial Psychology*, ii (1925), 292.

⁷ See below pp. 285-86.

Not to take less time than that taken by an average mason in the execution of the first portion of each description of work is the practice that should be adopted among us as much as possible; and where it is plainly visible that any member or other individual is striving to overwork or 'chase' his fellow workmen ...the party so acting shall be summoned before the lodge, and if the charge be satisfactorily proved a fine shall be inflicted.¹

The Society's Secretary was questioned by the Trade Union Commission in 1867:

Q. 1,214. Does Rule 11 prevent a worker stronger and more skilful than the average from doing more stonework in the day than the average man?

A. Certainly it does.

Q. 1,215. Do you consider yourself a better judge of the man's capacity for work than the man himself?

A. We consider that we know what he ought to do.

Q. 1,216. What do you mean by that?

A. A fair average day's work.

Q. 1,238. You would fine the good man and the better workman because he was a good man and a better workman?

A. According to that rule.

Candidness of this kind at the national level was exceptional, as Pratt recognised.

It is not much use searching among union rules for clear evidence of the adoption and enforcement of a principle which has become the bane of our industrial system. The average trade unionist is much too cute to offer evidence against himself in this way. The more prominent leaders would, of course, disavow the principle; but though they may not encourage it openly, they do so tacitly, and their subordinates, 'shop delegates' etc. do so directly.²

Here Pratt arguably demonstrated greater perception than writers like Cole and the Webbs. The latter, notes Fox, were misled into believing that labour was abandoning restrictionist tactics by 'heeding too much the statements of national leaders, and too little the quiet but unremitting defence of "custom and practice" by work groups on the shop floor.'³ It is in union regulations at branch or district level that limitations to output are most frequently encountered. Burgess, for example, says that local rules of bricklayers' societies often specified limits to working. Manchester bricklayers in 1869 were fined for 'running or walking beyond a regular speed.'⁴ It was said to be the fifth rule of the Leeds bricklayers' lodge that:

¹ Cited in S. and B. Webb, *Industrial Democracy* (New edn., 1902), p. 305.

² Pratt, *Trade Unionism*, pp. 26-7.

³ A. Fox, *History and Heritage* (1985), p. 214.

⁴ Burgess, *Industrial Relations*, p. 120.

Any brother in the union professing to carry any more than the common number, which is eight bricks, shall be fined 1s., to be paid within one month, or remain out of benefit until such fine be paid.¹

Also cited before the Trade Union Commission was a rule of the Bradford branch of the Labourers' Union:

You are strictly cautioned not to outstep good rules by doing double the work you are required (by the Society), and causing others to do the same, in order to gain a smile from the master. Such fool-hardy and deceitful actions leave a great portion of good members out of employment the year round.²

In 1892 it was a reported stipulation of the General Labourers' Union of Darwen:

That any man found running or working beyond the regular speed or trying to run off or take any advantage of his fellow workmen, be fined for such an offence as the committee may think proper.³

The Hull branch of the Shipwrights' Society ruled that a 'day's work in metalling', i.e., affixing copper to a ship's bottom, 'shall in no case exceed 25 sheets on hard wood strips, and 28 on soft wood strips.'⁴ As is discussed below, officials in the Leicester district of the Shoe Makers' Union raised techniques of output limitation almost to the point of science.

Again the gas industry provides instances of local restriction. W. Thorne, General Secretary of the Gas Workers' Union, described in 1892 how men at the Bromley Station of the Gas Light Company voted to limit daily production to 76 retorts. The company called instead for 80. To 'avoid conflict' the union agreed to do 80 retorts over the six months before and after Christmas. When, at the end of this period, the men returned to 76 the company divided the workforce into those prepared to complete 80 retorts and those who were not. 'Intimidation' was applied to the latter, several being dismissed. Balloted again, the men elected to restore 80 retorts.⁵

Figuring more prominently in local union regulations suggests that output restriction owed

¹ *R. C. on Trade Unions*, 1st Report, Q. 3,122.

² *Ibid.*, Q. 3,120.

³ *R. C. on Labour*, C, Vol. III, Q. 26,112.

⁴ Schloss, *Industrial Remuneration*, pp. 22-3.

⁵ *R. C. on Labour*, C, Vol. III., Qs. 24,867-70.

less to conscious leadership strategies than to everyday work group practices. Effort constraints were not imposed 'top-downwards' upon feeble-minded operatives. They originated within, and drew strength from, established shop-floor opinion and procedures. Even the Masons' Rule 11, introduced in 1865, 'was generally understood previous to that.'¹

Output limitation and trade unionism were, nevertheless, frequently associated, and each reinforced the other. There was a bias towards restricting labour supply at all levels of union organisation. No union was likely to encourage expanded numbers of entrants into its trade, and a call to raise effort levels was equally improbable. Unions exerted, however, their greatest impact in causing labour to become more self-conscious. The very act of clarifying procedures prompted reflection upon the ends they served and their appropriateness as means. Such a process was part of that move from custom to contract which Hobsbawm has identified in the second half of the 19th century. Previously workmen had conceived of effort levels and wage rates as contingent upon status and custom rather than market bargaining, but by the 1870s this was changing, with skilled workers, in particular, wishing to render labour scarce so as to raise its price. And Hobsbawm suggests that:

It is at least possible that certain groups of workers now began systematically to allow their output to sink unless held up by incentives, or else that the weakening of older forms of labour discipline or tradition produced the same result.²

Contemporary writers similarly spoke of a consolidation of the 'cash-nexus' between men and employers. 'To enable themselves,' wrote Thornton of unions in 1868:

to get the highest attainable wages, and to do in return the least possible work, doing that little, too, with the least possible inconvenience to themselves...such, stripped of its various glosses and represented in its natural colours, is their simple scheme.³

We should not follow Hobsbawm and these other writers so far. There is much evidence of output restriction in the 1860s, and no reason to assume it a new phenomenon even then. Nor

¹ R. C. *on Trade Unions*, 1st Report, Q. 1341; this was true of the Flint Glass Makers' rule of two moves per turn also.

² E. Hobsbawm, 'Custom, Wages and Workload in Nineteenth-century Industry', reprinted in *Labouring Men* (1964), pp. 348, 351.

³ Thornton, *Labour*, p. 200.

was it confined to skilled or organised workmen. What unions did was encourage amongst labour a belief that it had interests distinct from, even opposed to, those of employers. Successive master builders, appearing before the 1867 Trade Union Commission, cited unions as solvents of the 'personal compact' between employer and operative. G. Trollope recalled how there used to be 'some sort of attachment between master and men,' but that had entirely gone and 'it is the unions and nothing else that has brought about that result.' The men's individuality had been lost. 'I have talked to them and argued with them, but in two or three days' time it is all obliterated by the influence of the union.'¹ It was, declared A. Mault, Secretary of the General Builders' Association, customary for working arrangements to be settled by mutual agreement of master and man.

A master had a set of men that he kept by him for 10, 20, or 30 years, in fact very often for the whole term of their lives. The men did not receive more wages in good times or less in bad times...the man was always to be found work and always to be prepared to make an extra push when the master required it.²

But trade unionism had fractured allegiances:

A workman at the present time is taught to think that in any question in which his duty to himself or to his master militates against his duty to workmen in general, the former must give way to the latter, and he is also taught to think that there are many cases in which those two classes of duty do militate...³

Intensity of labour naturally constituted a scene for this process of differentiation. Existing limits were underscored, while formalisation brought more stringent enforcement. 'I am sure,' said Mault, 'that as much work is not done now as used to be done, and that is attributable to the feeling generated by the union,' according to which the old notion of a worker:

having a duty to perform, and his pleasurably doing that duty to his master, is to be put upon one side, and that he is to think that if he does too much work, other people will be kept out of employment.⁴

To summarise. Trade unions did not innovate the practice of output limitation, nor were

¹ *R. C. on Trade Unions*, 1st Report, Qs. 2,904-5.

² *Ibid.*, 3rd Report, Q. 4,236.

³ *Ibid.*, Q. 4,322a.

⁴ *Ibid.*, Q. 4,322.

they responsible for its continuance. But they rendered it more conscious and heightened its effectiveness. As J.R. Commons remarked in 1904, the 'non-unionist does not change his nature when he becomes a unionist, but merely has more power to do what he wanted to do before.'¹

Direct Motives for the Limitation of Effort

Operatives did not put all the energy they were capable of into their work. Output and standards of material well-being were consequently lower than they would otherwise have been. Why did labour act in this way? Several reasons were given by workmen to justify output limitation.

(i) Maintaining the Standard Rate

It was widely believed that if production was increased, remuneration per unit of effort would fall. A Durham colliery manager attributed the 'restrictive principle' amongst his employees to an idea:

that they would limit the produce of coals from the mine, reduce the stock on the colliery in case of a strike, reduce the supply to the market, increase the price of coal, and thus raise the wages.²

If the worker produced more, it was possible that he should find himself earning wages little above those before, whilst having to put forth more effort. Such scepticism as to the ultimate reward from greater application was intimately connected to the phenomenon of rate cutting. A piece worker lifting his output could, it was alleged, expect his payment per unit to be cut so as to keep his wages within bounds acceptable to the employer. A Government committee inquiring into the Textile Trades in 1918 concluded that, of the factors hindering productivity, resentment of rate cutting was:

probably the most widespread, and is certainly the most powerful in creating distrust and ill-feeling between employer and employed. The fear on the part of the workers that if they exert themselves to the utmost they will not reap the full reward of their efforts is easy to understand and not altogether groundless.³

¹ Cited in Mathewson, *Restriction of Output*, p. 6.

² *R.C. on Trade Unions*, 6th Report, Q. 11,791.

³ *D.C. on the Position of the Textile Trades*, p. 115.

There emerged in these circumstances a notion of a quantity of work it was 'safe' to perform, which if exceeded was likely to prompt wage cuts. Rate-cutting and its effects lie, in many respects, at the heart of output limitation.

Underlying this unwillingness to labour harder for uncertain benefit was an attachment to the principle of a fair day's work for a fair day's wage. Dividing the former into the latter yielded the 'standard rate' of return to effort, to maintain which, the Webbs acknowledged:

Various unions of operatives working at time wages have from time to time attempted to secure a real, as distinguished from a nominal identity in the rate of remuneration, by fixing, not merely the minimum money wage, but also the maximum amount of work to be done for that wage.¹

Besides notions of customary fairness which gathered around the standard rate, Huberman has argued that it reflected, also, workers' concern with life-cycle earnings. Focusing upon the experience of cotton spinners in the first half of the 19th century, Huberman notes that the uncertainty of the market, combined with the breakdown of traditional kinship networks and the absence of unemployment insurance, caused operatives to seek a wage and employment bundle that provided them with income support over their lifetime. Maintaining a standard rate of reward was an important element of the bundle since, he writes, 'it gave workers some protection that as they aged they would not have to work harder to maintain their levels of income.'²

¹ Webb, *Industrial Democracy*, p. 304.

² Huberman, *Escape from the Market*, p. 38.

(ii) *The Lump of Labour Theory*

The most important motive for limiting output arose from a conviction that if each workman produced more total employment would decline. This 'lump of labour theory' assumed there was, at any given time, a fixed amount of work to be done. The more performed by one workman, the less remained for others.¹

This idea was long and widely entertained by labour. In 1832 the *Poor Man's Advocate* called upon operatives to 'lessen their labour that they may enjoy the more. Let them cease to "produce" so much, that the "demand" for their labour may increase.'² Almost a century later a Report on the engineering industry found that:

there seems to have been in certain quarters a belief that there is only a certain amount of work to be done, and that it is necessary that this work should be spread over the largest number of workmen possible.³

The Labour Commission was told by a member of the Society of Carpenters and Joiners:

If a man was working piece-work he would not work piece-work for anything less than time and a half. Now if we had 50 men working on a ship, and they are receiving time and a half, if they were satisfied with time wages, there would have been work for 25 other men.⁴

That increased output could damage employment was a reason cited by the Secretary of the Portsmouth Branch of the Shipwrights' Society for his union's objection to piece-work:

We have to work harder, and the consequence is that we are doing more work, which other men should be employed to do. That is the general system under which we try to govern our Association - that no man shall work piece-work or overtime if there is an idle man to be got.⁵

It is sometimes said that this viewpoint was more common amongst operatives than the better educated union officials. While union leaders rarely evoked the doctrine, this may simply

¹ Schloss, *Industrial Remuneration*, p. 80; S. Webb, *Works Manager To-Day* (1917), p. 57.

² Quoted in S.J. Chapman, *Lancashire Cotton Industry* (1904), p. 99.

³ *D.C. on the Position of the Engineering Trades*, p. 14.

⁴ *R. C. on Labour*, A, Vol. III., Q. 22,086.

⁵ *Ibid.*, Q. 21,789.

reflect, as Fox suggests, their sensitivity to middle class opinion.¹ Some were less reticent. The Secretary of the Union of Boot Clickers stated before the Labour Commission that, to maximise employment, hours of work should be reduced and output per worker regulated.² And unions frequently argued that diminutions in working hours, even with wages unchanged, would bring increased employment - which comes to much the same thing. The Trade Union Congress in 1869 resolved that a shortening of hours of labour would 'assist in finding employment for the unemployed.'³ The Secretary of the Masons' Society asserted, in 1867, that the benefit of reduced hours, besides greater hourly wages, was employment 'for an increased number of hands.'⁴ Reduced unemployment was, from the beginning, an advantage urged by Tom Mann and other campaigners for an Eight Hour Day. Just as reduced hours increased employment, overtime diminished it. When founded in 1850, the A.S.E. attacked systematic overtime, and in 1892 the Society's districts unanimously believed that abolition of overtime 'would find employment for a large number of men who are less fortunate, and of a necessity walking the streets; and thereby bring about a more equal distribution of those benefits which arise from good trade.'⁵

Behind this concern with the employment consequences of greater output was the dread of unemployment. Possessing little beyond his capacity to work, subject to the unstable environment of early capitalism, confronted by unprecedented technological change, seeing traditional mechanisms of support overwhelmed: with such a history behind and around him, the typical operative not unexpectedly regarded unemployment as a calamity. 'If there is one thing,' said the dock-worker George Milligan, 'more than another that even the stoutest-hearted son of toil dreads, it is to be out of work.' Increased earnings in the immediate term could thus present

¹ Fox, *History and Heritage*, p. 214.

² *R. C. on Labour*, C, Vol. II., Q. 15,182.

³ R.A. Hadfield and H.De.B. Gibbins, *Shorter Working Day* (1892), p. 34.

⁴ *R. C. on Trade Unions*, 1st Report, Q. 1,186.

⁵ *R. C. on Labour*, A, Vol. III, Q. 22,658.

an unacceptable bargain if purchased at the expense of job security. Through output limitation the operative hoped to stabilise employment and earnings.

Self-interest entered the employee's reasoning in other ways. Unemployed workers represented a burden upon union funds, and the greater the 'reserve army of unemployed' the weaker the position of those in work. Yet altruism was present also, since an individual could usually best further his own chances of avoiding redundancy by out-performing his fellows. This aspect of worker motivation was similarly evidenced by the fact that in trades such as cotton textiles, glass, and engineering, shortage of orders caused demands for short-time working in which all operatives, including the stronger and more skilled, shared in reduced hours so as to maximise employment.

Did the belief that greater productivity diminished employment have any justification? The 'lump of labour' theorem has been refuted many times. It frustrated Shadwell to discover that workmen seemed 'unable to understand that demand expands indefinitely with cheapness and that lowering the cost of production increases employment.'¹ The Departmental Committee on engineering held it:

a fallacy to believe that within practicable limits, the demand for engineering outputs is a limited quantity. There would appear to be no reasonable limitation to engineering demands from the world at large for certain articles.²

Ernest Benn attempted to disabuse labour of its suspicions. Suppose, he said, a chair sells for £3, but that, as a consequence of workmen doubling their output, reduced average costs enabled the price to diminish to £2.

It is a solid fact that the market for chairs at £2 is five times as large as the market for chairs at £3... That is nothing to do with capitalism, it is no part of any 'system', it is no conspiracy by profiteers, it is not a trick to cheat the workers, but a simple, common human fact...³

Each of these authors advances a 'strong' objection to the lump of labour theorem,

¹ Shadwell, *Industrial Efficiency*, p. 554.

² *D.C. on the Position of the Engineering Trades*, p. 14.

³ Benn, *Labour Leader*, p. 77.

contending that if operatives in an industry increase output, employment in *that* industry will not fall and may rise. The validity of this assumption depends on the behaviour of average costs and the elasticity of demand for the product. For example, if operatives receive piece-wages at a fixed unit rate and overhead charges constitute a small proportion of costs, increased productivity can reduce average costs and prices comparatively little, and the amount of labour necessary to produce the firm's output will almost certainly decline. Similarly for many products, especially those catering for a specialised, often luxury market, elasticity of demand was low. Increased output could then result in fewer men working harder. Obviously, different assumptions would yield a contrary outcome. The point is that the 'lump of labour' theory cannot be casually dismissed.

That enhanced productivity could, at least temporarily, reduce employment was acknowledged by J.E. Powell, a contemporary writer on industrial productivity. In some works where piece-work had been introduced 'the previous output has been much less than half of what was reasonably possible.' As a result 'wonderful increases in output have followed and in many cases, shortage of work, for which, in consequence, payment by results has been blamed as "working men out of their jobs."' ¹ Correcting over-manning could thus reduce employment, and 'it is not to be expected that men of any trade...will be enthusiastic in pursuing efficiency when by such pursuit their means of livelihood will be even temporarily endangered.'² Higher motives had, therefore, to compensate:

We can only say that there appears to be a duty laid upon every employer and worker to prevent a false demand for employment by allowing inefficiency of any kind to exist.³

It may be objected that a contraction of employment in one part of the economy would, through falling prices and rising real incomes, bring an expansion elsewhere. But while the total

¹ J.E. Powell, *Output Problem* (1920), p. 119.

² J.E. Powell, 'Future of Payment by Results', *Journal of Industrial Administration*, xv (1923), 75.

³ *Ibid.* It is noteworthy that, in his first application of efficiency methods at the Bethlehem Steel Company, F.W. Taylor increased the average wages of the workers loading wagons by 60 per cent., but *reduced* employment from 500 to 140. See Brown, *Social Psychology of Industry*, p. 14.

volume of employment might not fall, it was unlikely that a worker losing his job in one sector of the economy would secure employment in another, probably located elsewhere in the country. The operative possessed of a definite skill, manufacturing a product for a specific market, could be forgiven for assuming that the task before him was well defined, not admitting of indefinite extension or easy replacement. What is more, in certain trades - such as ship and house building - work was task specific. Once a job were completed there was no guarantee another would be immediately available. Tressell's 'ragged trousered philanthropists' were ever aware that work was a scarce resource, completion of which threatened a return to poverty.

(iii) *Preference for Quality*

A third objection to increasing output arose from the belief that faster working entailed a decline in product quality. Operatives were not indifferent to the *form* of effort. Whatever the initial quality of a manufactured article, we can be confident no workman gained satisfaction from producing a piece that was inferior, and it was appreciated that this is what accelerating production frequently entailed.

This view was strongest amongst craftsmen. Sturt, for instance, found the 'temper' of the wheelwright's made lowering the quality of the product 'out of the question.'¹ As we shall see, the sacrifice of quality to quantity perceived to be required by piece-work was one of the chief objections to the system. Such debasement had itself damaging consequences for productivity. As work becomes less interesting operatives tend to slow down, talk, and become restless.² A 1934 study considered the effect of incentive schemes upon girls making sweets, each working successively at five processes. With the introduction of piece-work, output on some processes increased by more than on others, and in the task of unwrapping faulty chocolates failed to increase at all. When asked to list processes according to preference, it was found that favourably viewed jobs exhibited greater increases in output. Unwrapping was widely disliked:

¹ G. Sturt, *Wheelwright's Shop* (1923), p. 53.

² Marriott, *Payment Systems*, p. 225.

The unpleasant nature of the task, combined with its apparent aimlessness, created a feeling of aversion which weakened the inclination to work and caused it to be described by the operative as boring and dull.¹

Yet in resisting deteriorating quality the operative was often motivated by a wider perspective. Glass makers regarded a quality product as the ultimate guarantee of the prosperity of the trade. Furniture producers were of similar opinion:

The type of work for which the employers wish to establish a system of payment by results is 'low-grade, shoddy work which is now being sold in the retail shops as furniture.' The unions believe that this cannot but be detrimental in the long run to the best interests of the trade, and they are not prepared to lend any support to such a tendency.²

(iv) *Hierarchy and Status*

If everyone does their best a hierarchy will emerge, some earning above the average, others below. This operatives did not wish to see. Nineteenth century workshop opinion endorsed rankings founded upon length of service and degree of skill. While these often went together, rapid production was likely to be at variance with both.

By limiting production workmen could reduce disturbance to those features of the hierarchy they valued. This was particularly important for operatives on piece-work. Unchecked, it threatened to create a new order based upon productivity, with weaker and steady workers placed at a disadvantage. In the engineering trade of 1918 it was believed, for example, that 'older or less experienced hands must not be handicapped by the superior powers of production of their fellow workmen.'³ There could be no doubt, said the Webbs, 'that a considerable section of the wage-earning class have a deeply-rooted conviction that the conscientious, industrious, and slow mechanic ought in equity to receive no less pay than his quicker but equally meritorious neighbour.'⁴ Colonel Maitland, Superintendent of the Royal

¹ *Ibid.*, pp. 189-90.

² J. Hilton, *Are Trade Unions Obstructive?* (1935), p. 185.

³ *D.C. on the Position of the Engineering Trades*, p. 14.

⁴ Webb, *Industrial Democracy*, p. 285.

Gun Factory, told an 1887 Inquiry that the men fixed 'the amount themselves that they take away, which is a little over a time and a half you will observe. Practically, they say, we will not do any more.' This was partly because 'they do not quite like to throw the less able workers too much into the background. I think there is that feeling amongst the men a good deal.'¹ In the Carriage Department the Superintendent acknowledged that wage differentials between piece-workers on similar work were only around 1s. 6d:

I think there is a very strong desire on the part of the men themselves to be upon an equality as a rule, and that any selfish impulses would be more or less nipped in the bud by external pressure.²

Unions were frequently charged with 'levelling' performance. A building master complained in 1867 that:

if there should be an inferior man who is a member of the union and there are three other men on the scaffold with him, in all probability the three union men would accommodate their work to the inferior man, and although they could do much more they would not finish theirs until he got his done.³

Unions, contended the Secretary of the Building Masters' Association, 'endeavour to equalise the value of labour by reducing the work of the more industrious and skilful to the standard of the least industrious and skilful.'⁴

The order sanctioned by labour was regarded as superior to any thrown up by competition, rewarding skill, patience, and a willingness to make sacrifices for the good of the work group. Each workman realised that even if faster and stronger than other operatives, time and chance could reverse the situation to his disadvantage. Whereas to a building-master union opposition to piece-work controverted 'the natural law, that an industrious and an intelligent man should have no obstacle place in the way of his making the most of his industry and his intelligence,' unions in the furniture trade justified opposition on these very grounds. They did not object:

¹ *Manufacturing Departments of the Army*, Qs. 906-7.

² *Ibid.*, Qs. 1,560-61.

³ *R. C. on Trade Unions*, 3rd Report, Q. 4,433.

⁴ *Ibid.*, 1st Report, Q. 3,117.

to all differentials in earnings. They realise that some men are better workers than others, and they approve of the recognition of merit by increased payments above the minimum scale. Carvers, for example, are rated according to their individual ability. Some can only do ordinary moulding, others are real masters, and there is a committee which decides what the rate for any particular man shall be...What they object to is a system which sets one man against another, and of which the sole criterion is speed...It places a premium on physique rather than on craftsmanship.¹

Frank's work on the role of status in social organisation throws additional light on these attitudes.² When, he argues, effort and earnings play some part in the establishment of a workplace hierarchy, operatives would still have an incentive to restrict output. Any individual would be tempted to increase his application, hoping to secure not merely enhanced earnings but increased status. With other operatives behaving similarly, the latter objective is frustrated. The return to effort appears misleadingly large. Ceilings to piece-wages set by workshop opinion or union regulation could check such mutually damaging conduct.

We have omitted hostility towards machinery as a distinctive factor motivating effort constraints. This is not to deny that many workmen objected to mechanisation and sought to restrict the output of machines. How labour hindered the performance of new machinery in the shoe trade is considered below. Cotton spinners resisted the introduction of self-acting mules, while the automatic loom enjoyed at best grudging acceptance from cotton weavers, with frequent disputes over wages and workloads.³ Printers, during the late nineteenth century, operated compositing machines at below feasible rates. When pneumatic riveting machines were introduced into shipyards after 1900, requiring three men for their operation, the Boilermakers' Society enforced retention of four-man squad's.⁴

Failure to maximise machine production was partly actuated by dislike of machinery as such. But the policy is best understood in terms of the motives considered above, for on all grounds machinery constituted a threat to labour interests. With greater output per operative,

¹ Hilton, *Unions Obstructive?*, pp. 185-6.

² R. Frank, *Choosing the Right Pond* (1985).

³ Lazonick, 'Industrial Relations', 257.

⁴ E.H. Lorenz, 'Evolutionary Explanation for Competitive Decline', *Journal of Economic History*, 51 (1991), 920.

not only would selling prices and the reward to effort decline, but it was expected that fewer workmen would be employed. Mechanisation was associated with the manufacture of standardised products and diminished worker discretion. Lastly, by transforming work, machinery challenged the established ranking of earnings and status.

Workmen did not conceive of increasing output as a simple, once-and-for-all matter, raising earnings or reducing costs in some fixed ratio. They regarded it as a complex process. Expanding output would generate *some* reaction, either automatically, or by the forces of the market, or by employer volition. The extent and nature of this reaction was unpredictable, yet it was certain that the eventual pay-off to enhanced productivity would be altered, and in ways possibly damaging to the operative or labour as a whole. Whatever the worker's initial position, he suspected that boosting output could ultimately make it worse. Had they been asked, British workmen would probably have echoed the fears expressed by operatives at the Hawthorne Plant:

If we exceed our day's work by any appreciable amount something will happen. The 'rate' might be cut, the 'rate' might be raised, the 'bogy' [standard output] might be raised, someone might be laid off, or the supervisor might 'bawl out' the slower men.¹

¹ Quoted in Marriott, *Payment Systems*, p. 191.

Chapter 4

The Social Background to Output Limitation

Though distinct, labour's motives for holding-back production were elements of a wider movement within society. Preserving the standard rate, maintaining employment, upholding workmanship, supporting factory hierarchies: by all these means did operatives reflect the 19th century's search for order.

Throughout history man has sought to bring stability to his economic life. Thus trade in mediaeval England was hedged around by regulations designed to protect various communal interests, it being understood that every economic decision had political, military, and religious implications. However through a process which gathered momentum from the 16th century, formal constraints upon the operation of markets fell into abeyance. Polanyi has described how the market system, once freed from control, proceeded to restructure society in line with its requirements. If industry were to be organised through the price system, it was essential that labour and land be available as commodities. The consequences of this men could not long tolerate, for:

the alleged commodity 'labour power' cannot be shoved about, used indiscriminately, or even left unused, without affecting also the human individual who happens to be the bearer of this peculiar commodity. In disposing of a man's labour power the system would, incidentally, dispose of the physical, psychological, and moral entity 'man' attached to that tag.¹

Accordingly there developed, from the middle decades of the 19th century, a movement to re-assert social control over the economic process; to limit the market's disturbing features and protect individuals and the environment from its damaging effects.²

¹ K. Polanyi, *Origins of Our Time* (1945), p. 79.

² *Ibid.*, pp. 81-2, 133-4.

Polanyi's analysis bears important similarities with that developed twenty years earlier by J.R. Commons. Writing of the American context, Commons identified the process of a 'Reasonable Stabilisation of Capitalism' through custom, which he dated to the late 19th century.¹ The 18th and early 19th centuries had been characterised by the abolition of the restrictions 'of mercantilism, of guilds, and of ancient custom' in accordance with the doctrines of competition and unregulated private property. However:

the 19th century, with its alterations of prosperity and depression, its overemployment and unemployment, its unregulated and cut-throat competition, showed the mistakes of this doctrine, and hence, at the close of this century, the period of stabilisation began to take shape.²

Yet this stabilisation was not inevitable:

it has been the conscious activity of the collective wills of businessmen, of workingmen, of farmers, of the judiciary, of legislatures, and of public boards and commissions, endeavouring to adapt their customs, their rules and regulations, to the new industrial conditions...³

The guiding concepts, according to Commons, were the common-law ones of reasonable practice and reasonable value, developed through the 'age-old practices of custom.'

In Britain the reaction against the unregulated market occurred at a number of levels. In the world of ideas, criticism of the doctrines of *laissez faire* liberalism grew in extent and confidence. The works of Carlyle, Ruskin, Morris, Matthew Arnold, and T.H. Green could all be cited. In the expanding middle class professions, associations arose to organise these practitioners and represent their interests. Strict rules governing qualifications and promotion were considered essential for maintaining the quality of the service and the respectability of its practitioners. In the legislative sphere, a growing tendency for the state to interfere in the formation of contracts, grant privileges to organisations as opposed to persons, and undertake a wider array of functions, caused Dicey to characterise the mid-Victorian years as marking the

¹ J.R. Commons, 'Marx Today: Capitalism and Socialism' (1925), reprinted in W. Rutherford and W.J. Samuels eds., *John R. Commons: Selected Essays* (1996) 11. 379, 385.

² *Ibid.*, 38.

³ *Ibid.*

ascendancy of 'collectivism' over 'individualism.'¹ The dramatic increase in the scale of government is indicative. In 1851 64,000 males worked in public administration; by 1901 the figure was 191,000.²

Within industry, also, the second half of the century saw a tendency toward employer organisation, and Joyce shows these years to be ones in which paternalism achieved its highest development. To the professional concept of justification through service there corresponded a belief in 'the civilising mission of industry.'³ But of more lasting importance, some employers began to recognise (and others had never forgotten) the economic limitations of relying solely on the market mechanism in conducting employment relations. While the supply of labour at the market wage rate may have been adequate in quantitative terms, firms also had an interest in the quality of that labour - its skill, productivity, and reliability.⁴ Huberman has shown how, in the early decades of the 19th century, Lancashire cotton spinners made active use of the external labour market in seeking to minimise labour costs, discharging workers failing to conform to factory discipline, laying-off workers during periods of bad trade, replacing male spinners with cheaper women and young people, and cutting piece-rates whenever market conditions appeared to warrant. However over time employers, particularly those specialising in high quality fine cotton, began to appreciate the costs of this strategy. Employment of women and inexperienced hands raised wastage costs; frequent rate cuts undermined the standard rate

¹ A.V. Dicey, *Law and Public Opinion in England* (2nd edn., 1914), p. 64.

² B.R. Mitchell, *British Historical Statistics* (1988), Ch. 2, Table 2. Dicey's work has given rise to a substantial debate on the chronology and motives of state economic regulation in 19th century Britain. In an early article J.B. Brebner attacked Dicey's linking of the age of *laissez faire* with the writings of Bentham, arguing that 'Bentham was the archetype of British collectivism.' ['*Laissez Faire* and State Intervention in Nineteenth Century Britain', *Journal of Economic History*, viii (1948)] The role of the Benthamites was itself downplayed by O. MacDonaugh, who saw the growth of government intervention as a piece-meal process, emerging in response to particular problems. ['The Nineteenth Century Revolution in Government: A Reappraisal', *Historical Journal*, i (1958)] A similar point was made by D. Roberts, who claimed that had 'Bentham never written his epochal works, Victorian reformers would probably have contrived their poor laws, factory acts, and educational schemes, all fitted out with central inspectors.' ['Jeremy Bentham and the Victorian Administrative State', *Victorian Studies*, ii (1959)] The work of these 'revisionists' was forcefully countered by H. Parris ['The Nineteenth Century Revolution in Government: A Reappraisal Reappraised', *Historical Journal*, iii (1960)] and J. Hart ['Nineteenth Century Social Reform: A Tory Interpretation of History', *Past and Present*, 31 (1965)]. The whole debate has been well summarised by V. Cromwell in 'Interpretations of Nineteenth Century Administration: An Analysis', *Victorian Studies*, ix (1966).

³ P. Joyce, *Work, Society and Politics* (1980), pp. 136, 153.

⁴ Huberman, *Escape from the Market*, p. 6.

and prompted employees to respond with output restriction; and short-term contracts provided little basis for the development of reciprocal trust and cooperation. As a consequence these firms began moves to, in Huberman's words, 'escape from the market,' developing employment packages that were, in the eyes of the workforce, fair. This involved working short-time, rather than discharging hands, when trade declined; giving, if bad trade persisted, preference in employment to senior hands; and avoiding, so far as possible, piece-wage reductions in acknowledgement of operative attachment to the standard rate. Firms following this strategy gained reputations as good and fair employers, thus attracting the services of steady, skilled, labour, which cooperated within the workplace to maintain high levels of effort.

Huberman here describes only the beginning of a process whose impact was by no means general during the 19th century. He himself notes that his remarks apply chiefly to the high-quality fine-spinning section of the cotton industry; in the course-spinning and rural sector employers continued to shape their employment strategies according to external labour market conditions. As we shall see, this remained a widespread feature of industry throughout the century, particularly in small and medium sized firms which did not possess the resources or incentives to internalise labour relations.

Further, as Huberman again recognises, the impetus towards the insulation of employment practices from market contingencies arose primarily from the demands of workers themselves, and it was indeed the case that the reaction against the unchecked market mechanism operated earliest and most sustainedly amongst working people. From the beginning operatives resisted attempts by employers to apply tests of efficiency to an ever-wider share of productive decisions. Workers in traditional crafts sought the enforcement of legislation regulating wages and apprenticeship, but any success was temporary, as laws appealed to were abolished.¹ Operatives therefore sought to develop systems of self-defence. The poverty and impotence of the individual tradesman rendered a stable and supportive society essential for his well-being. And if workmen could not, initially, shape the wider society to their needs, they could at least regulate the world

¹ H. Perkin, *Origins of Modern English Society 1780-1880* (1969), pp. 188-89.

of labour. To this end there occurred a steady development of communal organisations, the basic object of which was to secure to the workman greater control over the condition of himself and his family. By organisation the workman hoped to reduce uncertainty, even out good times with bad, defend his status, and provide some basis for the fuller life education and rising incomes promised. All of which was especially important for skilled operatives desiring respectability and opportunities for self-improvement. These the market afforded in a contingent and transitory way. Stability and security were their *sine qua non*: to feel ‘somewhat settled,’ said the Boilermakers’ Monthly Report, ‘is one of the things a respectable man wants.’¹

Trade unions grew in membership over the second part of the century. In 1892 about a fifth of all males engaged in manufacturing and transport were organised. So far as possible they limited employer power over labour utilisation through a host of regulations and customs relating to ‘hours of labour, overtime, the right of entrance to trades, demarcation of jobs, methods of payment, the regulation of boy labour, manning ratios, the exclusion of women and unapprenticed men to certain occupations, the right to use certain tools...’² Against such constraints manufacturers chafed. In circumscribing individual initiative, complained one, trade unionism ran against ‘all the principles that regulate progress.’³ Building masters in Leeds in 1867 noted that, with free trade in labour, each operative was able to:

Work piece or contract work, and by so doing increase, in proportion to his skill and industry his weekly earnings, and to share with his employer the profits of his labour. To embrace any opportunity for improving his individual position, or of obtaining increased remuneration for his services. The result of all this would be: That each workman would find his own level.⁴

Yet with unions the worker was no longer free ‘to embrace any opportunity of increased remuneration; though better educated, more skilful or more industrious than his fellow, he cannot

¹ Quoted in McClelland, ‘Time to Work’, p. 200.

² Fox, *History and Heritage*, p. 274.

³ *R. C. on Trade Unions*, 9th Report, Q. 16,919.

⁴ *Ibid.*, 3rd Report, Q. 4,572.

rise above others of his class.’¹ Unions, in short, had no intention of allowing the individual to ‘find his own level;’ this, and the conditions of work associated with it, were to be consciously regulated.

Other collectivities besides unions brought stability to the workman’s life. Assisting operatives in times of sickness or unemployment was a concern of the Friendly Societies, which emerged in the 1830s and 1840s. There were in 1847 around 10,000 societies, with a membership of 782,000.² By the mid 1880s over four million adults ‘were active participants in the life of the societies.’³ Membership of the Co-operative retail society simultaneously grew from a few thousand in the early 1850s to half a million in 1881 and three million in 1914.⁴ During the later decades of the century these organisations were joined by a host of others - sports and recreational clubs, allotment societies, building societies, political parties. Not all were originated by workmen. Working Men’s Clubs, founded by middle class reformers with a view to refining the habits of the working classes, were ‘absorbed’ by their members during the 1880s. The number of associations affiliated to the Working Men’s Club and Institute Union in 1904 was 1,000, accounting for a membership of 250,000.⁵ Already in 1870 labour’s attempts to make a settled existence for itself amidst the new industrial society disillusioned a former Chartist. Once the working men of Lancashire, though poor, could be found huddled together discussing great issues of ‘political justice’:

Now you will see no such groups in Lancashire. But you will hear well-dressed men talking, as they walk with their hands in their pockets, of ‘Co-ops’ and their shares in them, or in building societies. And you will see others, like idiots, leading small greyhound dogs.⁶

Formal elaboration of an organisational framework for a workman’s life was accompanied

¹ *Ibid.*

² J.H. Clapham, *Economic History of Modern Britain* (2nd edn., 1930), I. 590.

³ *Ibid.*, (1932), II. 477.

⁴ E.J. Hobsbawm, *Industry and Empire* (1969), p. 163.

⁵ R.N. Price, ‘Working Men’s Club Movement’, *Victorian Studies*, xv (1971-72).

⁶ Thomas Cooper, cited by Hobsbawm, *Industry and Empire*, p. 126.

by equally significant developments at the informal level - inside and outside of the factory. Indeed, the latter ultimately nurtured and sustained the former. It is in this context that restriction of output may be best understood, for controls upon application were an essential part of that institutional structure within which individuals and organisations operated. There were *rules* governing productivity, and these were one means by which operatives endeavoured to bring stability to the workplace. Exercising discretion over the speed of production was valued in itself, yet it was additionally regarded as a way of regulating employment, remuneration, status, and the quality of labour. Workmen could produce more, but the consequences of doing so were unpredictable. And this was a fatal objection since the workman appreciated knowing what his daily task would be and that it was comfortably within his powers.

Output limitation was not, however, a purely defensive policy, and this for two reasons. (1) Restriction of output helped lay the conditions for labour organisation. It constrained individual conduct to the collective rule of the workshop; assisted in producing stable conditions of work; and was, as the Webbs observed, essential for collective bargaining. A 'general treaty' governing payment for work implied some measure to which this rate referred. This was the Standard Rate, its principle being that operatives should receive identical pay for identical work.¹ If this rule were to be observed when workmen were paid time wages, effort per hour, as well as the wage, had to be regulated.

It is a necessary incident of the collective bargain that one man should not underbid another; and this underbidding can as easily take place by the offer of more work for the same hour's wage, as by the offer of the normal amount of work for a lower hourly wage.

Collective wage negotiations implied workshop effort restraints - or what the Webbs called 'subsidiary regulations.'

In short, if the fundamental object of Trade Unionism, the enforcement of a Common Rule, has any justification at all, the principle of the Standard Rate must be conceded, and if a Standard Rate is admitted, the subsidiary regulations which we have described follow as a matter of course.²

¹ Webb, *Industrial Democracy*, pp. 281, 319.

² *Ibid.*, pp. 305, 320.

(2) Restrictions upon production reflected the wider significance of work. A typical artisan of 1860 worked a sixty hour week. Though hours fell during the 1870s, in the last decades before the First World War the customary week was 54 to 56 hours, with working days of nine or ten hours.¹ The workplace could never be simply the scene of a commercial transaction; it was the sphere in which life itself was chiefly lived, and it was thus natural for work and its social relations to become ends in themselves. This is evidenced in the attention workmen gave to maintaining the 'conditions of the job' through influencing such matters as overtime, rest breaks, machine operating procedures, apprenticeships, supervision, and promotion. Claims to participate in decisions governing the functioning of the workshop were denounced by employers as infringing their 'power to manage.' 'It is no longer enough,' wrote Thornton in 1868, 'for a master to say to his men that he wants a thing done, he must also enquire whether they will be pleased to do it.'² For Pratt, negotiation over the price of labour was legitimate; not so interference in production.

What these commentators overlooked was that operatives had interests in their work besides the earnings it generated, and in pursuing these they were frequently prepared to forgo income. Some had a potentially positive effect upon productivity. Such was true of the loyalty many workmen felt towards their employer. Dependent upon the employer for work, income, and numerous daily favours, there arose in the operative a sense of reciprocal obligation. The authority of employers, declared the Cotton Spinners' Association in 1830, was just and all members ought to 'pay a due obedience and respect to their respective masters...'³ Other values contributing to production found no simple reflection in quantitative measures. An example was the concern with the quality of the finished product felt by large sections of the Victorian labour force. Requiring time and effort, quality working had a price in output, yet it was a trade-off many workmen considered worthwhile - especially those with a distinct skill. In the munitions

¹ Bienefeld, *Working Hours*, p. 106.

² Thornton, *Labour*, p. 254.

³ Chapman, *Cotton Industry*, p. 216.

department of the Royal Ordnance Factory, the most skilled operatives on piece-work never earned a time-and-a-third. It was the lower-rated men, said the Superintendent, 'who really get up to that.'¹

Several workmen journeying to America with the Mosely Commission in 1903, found the balance there struck between speed and quality unwholesome. After visiting several engineering works, D.C. Cummings of the Boilermakers' Society reported that:

Finish as we understand it is practically unknown; even in the engine works, and other parts necessary to be machined, only those parts are done that are absolutely necessary, all the rest being left rough and ugly...American locomotives compared with our own are extremely ugly, and of inferior work and finish.

Although they might serve their purpose, he would 'be sorry to see such an age of utility in our country that would sacrifice all beauty and finish, believing, as I do, that if anything is worth doing at all it is worth doing well.'² Representing the Bricklayers' Society, H. Taylor similarly observed that in America the demand had been mainly for 'cheap and nasty' work. The proportion of 'faced' to 'rough' work was small, though he hoped that in the future:

demand for faced work will increase, and that architectural designs in brickwork will assume a more artistic form than heretofore, and that more concern will be given to the *quality* of the work executed, thus giving the workman an opportunity of taking some pride in his craft, and in excellence and character of finish.³

In Britain the bricklayer gave 'a smaller quantity but better quality for a low wage;' whereas the American produced 'a larger quantity of lower quality for a much higher wage.'⁴ If American methods were adopted in this country:

Technical knowledge, training, and skill would be at a discount. All that natural pride the real craftsman takes in the strength, durability, and finish of his handicraft would be extinguished and destroyed; all the years of struggle and work we have had to raise the standard of workmanship to its present high standard would have been in vain, and all would be sacrificed in the interests of present-day utility.⁵

¹ *Manufacturing Departments of the Army*, Q. 3,148.

² A. Mosely, *Reports of the Mosely Industrial Commission* (1903), p. 83.

³ *Ibid.*, p. 178.

⁴ *Ibid.*, p. 179.

⁵ *Ibid.*, p. 181.

Skill was not, in the opinion of operatives, a mere indulgence. Employers valued the skilled worker's ability to make judgements in the unpredictable circumstances of production, and there was frequently truth in the claim that good quality work secured the long-term success of a trade. Yet it remains likely that much of the workman's attention to finish failed to be fully reflected in measures of production.

Amongst other dimensions of work valued by operatives, yet entailing more explicit sacrifice of output, was participation in the social life of the workshop. The engineer Thomas Wright found the employee who considered work 'even during his working hours...his being's end and aim' to be a monster rarely 'met with in the flesh,' and his chapter 'On the Inner Life of Workshops' describes some of the 'traditions, customs, and usages interwoven with, and indeed in a great measure constituting, the inner and social life of workshops, a knowledge of which is...essential to the comfort of those whose lot is cast amongst them.'¹ Beginning work, the apprentice would soon be introduced to such customs as 'keeping nix,' which involved:

keeping a bright look-out for the approach of managers and foremen, so as to be able to give prompt and timely notice to men who may be skulking, or having a sly read or smoke, or who are engaged on 'corporation work' - that is work of their own.

Another accomplishment was the ability to smuggle drink into the shop 'in a bold and scientific manner.' Apprentices ran such errands for it was on the good-will of the skilled workmen that they depended 'for being initiated into those little "wrinkles" and specialities' of the trade.²

Marriage was the occasion for the ceremony of 'ringing in.' Permitted to return after breakfast from a few days' holiday, the newly-wed's arrival caused his workmates to commence hammering against any metal object likely to yield decent sound.

¹ Wright, *Great Unwashed*, p. 84.

² *Ibid.*, pp. 85-6.

In a large establishment, the Benedict of the occasion may have to pass several shops before reaching the particular one in which he works. In that case the ringers in each shop, having rung him through their particular department, follow him as he passes out of it, until the whole body of them are assembled in his own shop, and then the peal reaches its grand climax.¹

Alfred Williams's 1915 account of *Life in a Railway Factory* shows these customs to have been confined in neither time or space. Described are the pranks workmen delighted to play - particularly on All Fools' Day; the night-shift's New Year celebrations; how a usually punctual workman arriving late could find 'an effigy of himself standing near the forge' and 'a salute composed of hammers knocking on steel plates;' the excitement generated by the annual 'Trip;' the 'ringing in' of a newly married man, and a host of other diverting activities.

These accounts highlight the extent to which the energies and emotions of operatives were directed towards ends other than production. Workmen appreciated the community dimensions of labour, with the opportunities it provided for camaraderie and rough humour, and their actions showed them ready to bear the cost in lost output: an attitude to which employers were not necessarily unsympathetic. One day, recalled George Sturt:

there came, knocking at my office-door, an innocent apprentice-boy with a message from the wheelwright ... 'Please sir,' the boy said, 'Mr ___ sent me to get a straight hook.' Of course I ought to have been angry with the man for wasting time in sending the boy off on a fool's errand, and with the boy for coming to me when he must assuredly have been sent to the blacksmith. But in fact I could not be angry. I sent the boy back. 'Go tell Mr ___ if he wants a straight hook to come and ask me for it himself.' And though there cannot have been any profit in that transaction I have always valued the good temper it betokened all round, as a product of industry too much overlooked in modern times.²

Work was thus a rich process, tending to a wide range of needs. In the act of production more was created than commodities. Friendships, skills, loyalties, ambitions, customs, ethical judgements: all were brought to, and generated by, the manufacturing process. Viewing production, less as a thing to be maximised, more as an activity taking place within the wider structure of workplace culture, it is probable that the operative put forth less directed effort than his employer, and ultimately the consumer, would have been prepared to pay for, and that his

¹ *Ibid.*, p. 100.

² Sturt, *Wheelwright's Shop*, p. 203.

measured productivity suffered accordingly.

Workmen were not alone in attaching importance to things distinct from income maximisation. Status, for instance, was a concern of employers with the potential to impinge upon effort levels. Though occupying the apex of the world of industry, the employer may have risen to this position from more humble origins, and the social gulf between himself and his operatives was frequently not fundamental. Further, employers inhabited a cultural environment in which industry was considered an inferior activity, viewed with disdain, not simply by the aristocratic classes, but also by the expanding 'professional' middle class. His position therefore doubly insecure, the employer was likely to be sensitive to matters of social status. One area in which this was manifested was in concern with the level of employee earnings. Like their workmen, employers did not regard wages as a purely economic category. They, too, had a notion of a 'fair' wage, and there was a sense in which they could judge wages to be 'reasonable' or 'excessive' *without the need to refer to the productivity of that labour*. Reference was made, instead, to the operative's class position and the level of remuneration in keeping with its requirements. Thornton noted in 1868 that many people:

who have no personal motive for thinking otherwise - evidently think that there are certain limits of remuneration which it would be unbecoming for manual labour to overstep. This rate of wages they style reasonable and suitable, that, disproportionate and extravagant.

He recalled the 'almost angry surprise' when:

some of us, during the iron-masters' lock-out of 1865, heard for the first time of the wages which some descriptions of iron-workers get. How we exclaimed on being told of shinglers with nearly five, seven, even ten guineas a week!...What business have mere mechanics - fellows with grimed faces and grubby hands - with rates of pay so ill-accordant with the stations in life to which it has pleased God to call them.¹

The 1887 committee investigating the Government's ordnance factories was concerned with rumours of a period of high wages at the Enfield works. 'Do you remember,' a Superintendent was asked, 'hearing at one time that the workmen used to make very large sums...even some hundreds a year in the case of ordinary workmen?...Did not ordinary workmen keep gigs and

¹ Thornton, *Labour*, pp. 196-7.

things of that sort?' There had indeed, said the Superintendent, been 'a foreman who used to drive up in his gig.'¹

Such attitudes tended to create an informal ceiling to workmen's earnings which labour also came to acknowledge. As an American observer noted at the turn of the century:

Nothing is more frequent than the remark that the workingman does not need more than so many shillings a week...This view among employers has prevailed for so long and is so nearly universal that their every effort is to obtain more work for a traditional wage rather than to decrease the cost of production by means which will justify a higher wage...Working men have come to accept the view widely too and it is the acceptance of this theory of status which is at the bottom of the deadlock in British Industry.²

It was in piece-work that the implications for productivity of this reluctance to pay wages above a certain level were most direct, since it formed an important factor behind the propensity of employers to cut piece prices. If an operative, responding to a wage incentive, expanded his output, what, asked Sidney Webb, would the 'stupid employer' be inclined to do?

Because he can't bear to see the 'mere workman' draw so many pounds at the end of the week, because he finds that the workmen, as he quite frankly says, 'earning too much,' he cuts the rate.³

Schloss commented in 1907 that:

In fixing piece-prices the employer will often keep an eye on the men's earnings, and, if he thinks that they are making too much money, will lower their piece-wage by 'nibbling,' i.e. by an insidious process of continual petty reductions.⁴

In England, argued Mosely in 1902:

it has been the rule for generations past that as soon as a man earns beyond a certain amount of wages, the price for his work is cut down; and he, finding that working harder or running his machine quicker (naturally a greater strain) brings in the long-run no larger reward, slackens his efforts accordingly.⁵

This 'certain amount of wages' ranged between a quarter and a half above the standard weekly time wage for the labour in question. In engineering a 1918 Report found it to have been

¹ *Manufacturing Departments of the Army*, Qs. 1,587-88.

² Cited in Offer, *First World War*, p. 123.

³ Webb, *Works Manager*, p. 74.

⁴ Schloss, *Industrial Remuneration*, p. 71.

⁵ Mosely, *Industrial Commission*, p. 7.

‘widely held’ that ‘if a piece-worker drew between time and a quarter and time and a third, that was the most he ought to earn under the piece-rate.’¹ ‘Nothing was laid down in the early days’ of the engineering trade, remarked Powell, ‘as to the amount of earnings which a man should be able to make, but 25 per cent. became gradually to be looked upon as representing the happy medium. It may be that when this amount of earnings was exceeded, reduction in job rates were found to take place...’²

Concerned with the status implications of an advance in wages, employers tended to conceive of their relation with their workforce as a ‘zero-sum game.’ An increase in productivity and wages, though possibly bringing greater profits, was seen as occurring at the employer’s expense. *The Organiser* recognised in 1918 that much responsibility for the restrictionist bias within industry rested with masters who, seeing:

a man has done exceptionally well on piece-work, has said ‘this man is making too much money; we must cut down his rate.’ A more insanely suicidal policy it would be hard to imagine, yet no one can say it has not been. The spirit which it stands for has been one of the great obstructions to cooperation between British capital and labour.³

As a foreman remarked in 1915: ‘what can you do when a girl is earning as much as 15 shillings a week, but lower the piece rate?’⁴

Status was not the only factor influencing the conduct of employers. Religious obligations exerted a powerful hold over many industrialists, as did the ‘paternal ideal,’ according to which the factory master was responsible for the social and cultural, as well as economic, welfare of his employees. ‘He was not indifferent,’ said the mill-owner Hugh Mason in 1868, ‘to the teachings of political economy, but he should be very sorry if the rigid and abstract rules of political economy alone prevailed in his workshops...He felt a deep interest in the welfare of his

¹ *D.C. on the position of the Engineering Trade*, p. 14.

² J.E. Powell, *Payment by Results* (1924), p. 88.

³ *The Organiser*, July 1918, p. 58.

⁴ *Report of the Chief Inspector of Factories* (1915), p. 49.

workpeople...The bond which united them was not the cold bond of buyer and seller.’¹ Joyce has shown that such attitudes were far from exceptional. By the 1850s in Lancashire:

works dinners and treats, trips to the countryside and the employer’s residence, libraries, reading rooms, canteens, baths, lectures, gymnasia, burial societies and the like were...the rule rather than the exception among the big employers.²

Employers and workmen therefore sought to realise in work and its social relations a range of objectives. Income was a means to some of these - status, for instance. It was not, however, the only one, and in pursuing some of those other means - friendship with fellow operatives, the exercise of skill and patronage, and so forth - wages or profits were almost certainly forgone. In this producers were acting in ways subsequent research has tended to endorse. Studies show that it is through work, as well as consumption, that happiness and human development are furthered.³ It is at once the means by which goods are produced and a leading source of the conditions for well being. Some of the properties of work favouring the producer enhance productivity, but most do not. In practice the market system resolves this conflict. Resources expended in production yet not realised in the value of commodities constitute a form of inefficiency, and competition eliminates such unproductive costs, ensuring that the consumer obtains goods at the lowest conceivable price. Markets have, in short, a consumer as opposed to a producer orientation, the interest of the latter in enjoyable and rewarding work being subordinated to the former’s desire for cheapness.⁴

What permitted workmen and employers to indulge in actions which raised costs was the existence of what Fox describes as a ‘margin of slack’ in the British economy, enabling people to exercise preferences not economically productive.⁵ Since the output from a given set of inputs will not be maximised, slack implies the existence of what Leibenstein called x-

¹ Cited in Joyce, *Work, Society*, p. 134.

² *Ibid.*, p. 148.

³ R.E. Lane, *Market Experience* (1991), pp. 240-42.

⁴ *Ibid.*, p. 334.

⁵ Fox, *History and Heritage*, p. 168.

inefficiency.¹ A firm or economy's ability to operate at this higher level of cost rests, ultimately, upon market power. Several factors provided the economy at mid-century with protection from foreign competition. Most important was its technological lead, which meant that even if a machine were not operated to full capacity, costs per unit were still lower than those achievable by competitors. Others included costs of transport; preferences for British goods in dominion and colonial markets; and idiosyncratic features of the national market. Mid-Victorian economic growth also eased pressure on costs. In Lancashire, says Joyce, paternalism became possible after 1850 'if for no other reason than the money and time prosperity brought with it.'² And the general commercial environment could be one in which competitive pressure was limited - consumers, too, manifest slack. This, according to Sturt, was true of the Surrey wheelwright trade. He acknowledged in 1923 that he would soon have become bankrupt in the 1880s:

if the public temper then had been like it is now - grasping, hustling, competitive. But then no competitor seems to have tried to hurt me. To the best of my remembrance people took a sort of benevolent interest in my doings, put no difficulties in my way, were slow to take advantage of my ignorance. Nobody asked for an estimate - indeed there was a fixed price for all the new work that was done.³

Slack arises also from the cultural factors which establish for employers and workers the range of acceptable conduct. Just as certain forms of repressive work regime were unacceptable in late 19th century England, so did workmen expect to put forth levels of exertion within recognised limits. Effort, as we have argued, was a social phenomenon, and to this extent so was production as well.

Due to these market imperfections and wider cultural influences, producers were able to engage in non-productive activities at limited cost to themselves. Output was forgone, but in the short term employment or profitability did not appear imperilled. We have enumerated several

¹ H. Leibenstein, *Beyond Economic Man* (1976), Chapter 3.

² Joyce, *Work, Society*, p. 147.

³ Sturt, *Wheelwright's Shop*, p. 53.

of these alternative interests. To these may be added trade unionism, which absorbed a large share of the energy of some of the most gifted workers (besides, as Austin and Lloyd remarked, a significant part of their members' incomes).¹ Another were sports and games which, Shadwell commented in 1905:

are taken more seriously in England than anywhere else; they absorb a much larger proportion of the attention, interests, energy and thought of the population in all classes. It is not that young mechanics and mill-hands spend an hour and a half on Saturday watching a football match; it is that they think and talk football all the week.²

For one German it was 'a source of wonder' to see 'the thousands who go to Lord's' on a weekday to watch cricket.³ Stock-taking at the end of the War revealed, says Clapham, that there had been amongst those controlling industry 'a certain indifference towards the attainment of maximum technical efficiency at the expense of other values, values sometimes doubtful sometimes high.' It was this indifference which French, German, and American businessmen mocked when they caricatured the English long weekend.⁴

It has been said that the chief advantage of monopoly is a quiet life, and this was true of slack also. Change is stressful and, for most people, unpleasant. Besides resources utilised in the process of change itself, relinquishing a given state of affairs usually entails unpredictability. Individuals, moreover, tend to grow fond of what they do and use regularly. Following tested procedures not only minimised the daily cares of business but itself reinforced rigidity. Conservative acquiescence in the *status quo* was not confined to operatives. Returning to England in 1901 the future George V called upon the Old Country to 'wake up.' It was supposed, noted Masterman, that this invocation was addressed:

¹ B. Austin and W.F. Lloyd, *Secret of High Wages* (1926), p. 102.

² A. Shadwell, *Industrial Efficiency* (2nd edn., 1909), pp. 490, 500.

³ *Ibid.*, p. 654.

⁴ Clapham, *History of Modern Britain* (1938), III. 121.

mainly to the working people, whose extravagant thirst for alcoholic refreshment, and whose Trade Unions, encouraging an enforced idleness, are creating, in this theory, a falling-off in commercial and industrial efficiency. But far more than among the 'rude mechanicals,' a facing of realities is needed among the classes who have conquered and attained; and now, absorbed in the difficult art of living under elaborate standards, finding little superfluous energy or wealth remaining for the setting of the house in order.¹

Williams found hostility to innovation throughout the factory. Many times had he suggested improvements and been 'rewarded with the cutting of my prices' and 'the mortification of being "hooted" by my shop mates into the bargain.'

The fact of the matter is, workmen and overseers, too, want to run along in the same old grooves, at any rate, so far as processes are concerned...There are many jobs in the sheds which have been done in the same old way for half a century. It is painful to contemplate the ignorance, stupidity, and prejudice of the staff in charge of operation.²

Marshall believed managers were prone to the temptation 'to consult their own ease by jogging along quietly in accustomed routes, and avoiding the trouble and worry of new initiative,'³ while for Tawney most employers were satisficers, finding the prevailing state of affairs to be, if not the best conceivable, at least 'good enough.' An ordinary employer:

does not spend sleepless nights reflecting whether by raising wages he would not increase the efficiency of his employees, of whether he could not meet the extra cost by better organisation and machinery, until the need for attending to such matters is forced upon his notice. While to the outside observer such matters may appear fluid, to those actually engaged in the industry they usually present themselves as conditions more or less fixed, which 'will last our time,' and to alter which would involve capital expenditure and the tiresome work of reorganisation.

'In fact,' concluded Tawney, 'there are probably not many industries where the actual product is identical with the potential product under good conditions of labour and management;' employers, like other people, "get into ruts."⁴

The established intensity of effort was one of the routines or 'ruts' of economic life. Hobson judged it not unreasonable to assume that 'pre-war slack' amounted to one-third or even

¹ C.F.G. Masterman, *Condition of England* (1909), pp. 62-3.

² A. Williams, *Life in a Railway Factory* (1915), p. 230.

³ A. Marshall, *Industry and Trade* (1919), p. 324.

⁴ R.H. Tawney, *Establishment of Minimum Rates in the Tailoring Industry* (1914), pp. 157-8.

one-half of the available productive power. Nobody seriously disputed:

that bricklayers could increase their toll of bricks by, say 50 per cent., without injurious over exertion, if they felt it to be worthwhile, and that the same holds of very large bodies of other time workers in the building, transport, engineering and distributive trades...¹

However if labour closed this 'slack' by raising the pace of work the stress of workplace life would have increased and those spaces giving play to a host of concerns would have been closed.

To this fact labour was not indifferent. According to Cole, there was 'a very great volume' of workshop opinion 'which is opposed to speeding-up as such, and prefers a living wage under reasonable conditions to high earnings under conditions which preclude the enjoyment of them.'²

There was thus elaborated in the second half of the 19th century, not consciously or explicitly, as in the continental varieties of 'syndicalism,' but pragmatically and intuitively, an economy which laid greater emphasis upon the interests of producers. What emerged bore only partial resemblance to the world of creative labour imagined by social reformers. The individual found himself hedged around by restrictions often frustrating and sometimes perverse; they nevertheless helped sustain a work environment more settled, predictable, and relaxed than would otherwise have existed.

¹ J.A. Hobson, *Incentives in the New Industrial Order* (1922), p. 123.

² Cole, *Payment of Wages*, p. 30.

Chapter 5

Techniques for Inducing Work Effort and their Diffusion in British Industry

To raise effort levels an employer could either enhance the quantity of effort customary for the workshop or encourage individuals to substitute targets of performance above those collectively sanctioned. Corresponding to these alternative strategies were collective and individualistic approaches to the intensification of effort. In either case, the employer sought to act upon the employee's desire for gain or fear of pain. The former had greater potential. Whereas the stick of discipline could only realistically raise the worker's effort up to some socially accepted level, the prospect of a carrot might induce him to go beyond this.

Monetary Incentives

(i) *Piece-Work*

With straight piece-work there was attached to a piece of work or operation a rate of payment which did not vary however much was produced.¹ Piece-work was held to simultaneously serve the interest of workmen and employers. To the former it promised higher earnings for additional effort, while the employer's supervisory costs were diminished since he paid only for work accomplished. And although, as output expanded, labour costs per unit remained unchanged, overhead charges were spread more widely. Further, workmen would have a broader interest in the efficient functioning of their plant, for stoppages and time-wasting depressed earnings.

Where the finished product represented the combined endeavour of a number of men, or the speed at which one man produced depended upon that of others, collective piece-work was

¹ It is possible to distinguish progressive piece-rates, where the reward per unit increases with production, and regressive piece-rates, where it declines. Bonus wage systems provide examples of the latter; of the former there was little evidence. Even during the First World War Vernon came across only one instance.[Vernon, *Industrial Fatigue*, p. 138.]

sometimes used, a group of workmen receiving a sum of money for each unit of output they made. The remuneration of flint-glass chairs provides a good example.

(ii) *Premium Wages*

Prior to the 1890s premium wage systems had not that vogue they were to enjoy subsequently. Their basic characteristics were, however, established. Each workman received a time-wage to which there corresponded a standard output. If the operative completed less than the standard output in the time allotted, he received his basic wage nonetheless. But if he produced more he would be paid a bonus.¹ A variant of premium wages was 'gain sharing,' whereby the worker accomplishing a task in less time received as an addition to his basic wage a share of the saving in labour costs.

The worker appreciated the security of a guaranteed wage, yet it entailed the anomaly that, prior to achieving the standard output, the more the worker produced the lower the average price per unit. If the employer set the standard output too high, his workers would have no incentive to seek to approach it. Another feature of premium systems was that the worker did not gain the full wage value of any increase in productivity. Any additional output therefore benefited the employer doubly, reducing his average labour costs as well as his average fixed costs.

In the case of collective premium wages every worker had an incentive to speed his fellows up and ensure a high average standard of performance. After, for example, the adoption of a collective bonus scheme at the Thames Ironworks in 1891, the managing director remarked that 'No driller is kept on unless, in fact, he can earn a good deal more than his time wages; if he cannot do this his mates ask that he may be sent away; and this request is not refused.' Within months of the scheme's adoption over 300 men were 'discharged out of the various trades at the request of the fellowships themselves.'²

¹ Schloss, *Industrial Remuneration*, p. 87; Cole, *Payment of Wages*, p. 44.

² Cited in D.F. Schloss, *Report on 'Gain-Sharing'* (1895), pp. 100, 111.

(iii) *Internal Labour Markets and Efficiency Wages*

It has been increasingly recognised over the last three decades that many firms operate what have come to be called internal labour markets, in which ‘the pricing and allocational functions of the market take place within rather than outside the establishment.’¹ Characteristically, a set of rules limit entry to certain occupations within the firm, the remaining jobs being reserved to those already employed, who have a long term relationship with the firm. These jobs will themselves be structured into a hierarchy of skill and status, and the assignment of high-level positions will be governed by explicit or implicit procedures.²

While there is general agreement concerning the features of internal labour markets, this is much less the case in matters regarding their origin and function.³ An influential approach, represented by the work of Williamson, Wachter, Harris, and Wright, has modeled internal labour markets in terms of the optimising goals of firms and workers. Four factors, in particular, are identified as rendering internal labour markets efficient. First, as we have noted, firm-specific investments in human capital imply that a firm and worker are more productive jointly than severally, and this provides an incentive to maintain long-term relationships so as to maximise the joint productivity surplus. Second, risk aversion on the part of workers ensures that they value the predictability of an established earnings hierarchy. Third, asymmetries in the information possessed by employer and worker mean that long-term relations diminish the incentive and possibility of either party engaging in opportunistic behaviour at the expense of the other. Lastly, employers and workers are held to have a common interest in minimising the transaction costs involved in specifying in advance the details of the employment contract. However, when contracts are incomplete, both parties may be tempted to behave strategically;

¹ P. Osterman ed., *Internal Labour Markets* (1984), p. 2.

² L.T. Pinfield, *The Operation of Internal Labour Markets: Staffing Practices and Vacancy Chains* (1995), Ch. 1.

³ C.f. R.P. Althausser, ‘Internal Labour Markets’, *Annual Review of Sociology* xv (1989) for a summary of the debate.

the reiterated dealings entailed by long-term contracts render this opportunism less likely.¹

Of these elements, the third is most directly relevant to the problem of effort. When, note Wachter and Wright, the employer cannot observe worker effort, the operative will have an incentive to put forward as little effort as possible and attribute the low output to factors beyond his control (such as technology). An incentive contract like piece-work, which links output to output, is one solution to this problem. Yet it renders employee earnings unpredictable, and this may be resisted when employees are risk averse. Internal labour markets offer an alternative solution. On the one hand, continuous employment provides the firm with more occasions to judge the performance of the employee. On the other, when the firm connects various rewards to advancement through the organisation, and undertakes to advance those who perform best, employees will have an incentive to behave cooperatively and diligently.

These rewards can take numerous forms. Besides the obvious inducement of higher pay, the firm could offer enhanced job security. In the 19th century trade fluctuations were marked and unemployment insurance non-existent, so an employer's promise to discharge during poor trade only his least diligent workers, or guarantee employment for certain higher grades, would act as a significant spur to effort. Indirect monetary incentives could thus be established for workers paid by the hour. Pensions were another reward to diligent operatives, while other forms of preferment were distributed informally within the workplace. 'In a large building,' wrote the Webbs,

the employer will select his best stonemasons to do the carvings, an occupation not involving great exertion and consistent with an occasional pipe, whilst the common run of workmen will be setting stones under the foreman's eye.²

Associated with internal labour markets, but logically distinct, is the concept of efficiency wages, according to which firms may sometimes be willing to pay wages higher than is necessary

¹ M.L. Wachter and R.D. Wright, 'The Economics of Internal Labour Markets', *Industrial Relations*, ix (1990), 244-253.

² Webb, *Industrial Democracy*, p. 284.

to hire their current workforce.¹ Put another way, firms which face an excess supply of labour at the existing wage will not necessarily cut the wage rate. Efficiency wage models suggest that firms behave in this manner because they perceive a connection between the level of the wage and the *quality* of labour: if lowering the wage has the effect of lowering the quality of labour, firms might find themselves worse off.²

There are three reasons why paying an above equilibrium wage could result in higher productivity. First, in poor societies better paid workers will probably have more nutritious diets, and so be stronger and less frequently ill. Second, there might be selection effects. Workers, it is assumed, often know their true ability better than potential employers. Hence higher-ability workers will ask for a higher wage than lower-ability workers, who will be content with the competitive wage. By paying wages above the average firms can expect to attract these higher-ability workers. Thirdly, it may have various incentive effects. For example, the higher a worker's relative wage the greater the monetary cost if he is caught shirking and dismissed. A firm may then pay a wage above the 'going rate' to induce its workers to put forth more effort.³ Alternatively George Akerlof has interpreted the payment of high wages as part of a 'gift exchange' between workers and firms. Workers tend to develop sentimental attachments to each other and the firm, and are consequently prepared to perform more than the acceptable minimum quantity of work. Firms, not wishing to lose this goodwill, reciprocate the output 'gift' by paying a wage in excess of what the operatives would otherwise receive.⁴

¹ A.B. Sorenson, 'Firms, Wages, and Incentives', in N.J. Smelser and R. Swedberg eds., *The Handbook of Economic Sociology* (1994), p. 514.

² A. Weiss, *Efficiency Wages: Models of Unemployment, Layoffs, and Wage Dispersion* (1991), pp. 1-2.

³ C. Shapiro and J.E. Stiglitz, 'Equilibrium Unemployment as a Worker Discipline Device', *American Economic Review*, 74 (1984), 433.

⁴ G.A. Akerlof, 'Labour Contracts as Partial Gift Exchange', *Quarterly Journal of Economics*, xlvii (1982), 543-4, 559-60.

(iv) *Profit-Sharing*

Profit-sharing has been defined as a voluntary agreement, by virtue of which an employee receives a share, fixed beforehand, in the profits of an undertaking.¹ In England the contractual distribution of profits to workers, without the requirement of taking them into partnership, was made possible by a company law amendment of 1865. From this date did the career of profit-sharing proper commence.

Rarely can so much have been expected from a comparatively small adjustment to economic organisation. Thornton declared that 'when capital takes labour into partnership, every labourer in becoming a partner becomes also a partaker in a master's motives for vigilance.'² For George Howell, sharing profits with workmen could not 'fail to produce results more or less beneficial and lasting,' encouraging operatives 'to do their best in order to promote the progress and prosperity of the firm.'³

Yet as a stimulus to effort, profit-sharing's deficiencies are more apparent than its strengths. There is no direct or stable relationship between a worker's energy and the profits of an enterprise, for the latter is also a function of 'manufacturing policy; the utility of the product; the state of the trade; wise buying; effective selling arrangements; the suitability of the plant; the efficiency of the organisation and of supervision; efficient labour and the efficient use of labour.'⁴ Connecting a workman's remuneration to factors for which he has no responsibility is subversive of any incentive mechanism. Second, profit-bonuses are necessarily distributed infrequently - once, or at most twice, a year. Lastly, a part of profits, shared across all employees, normally made little difference to individual earnings. In 1894 the average ratio of bonus to wages on 83 schemes was 4.4 per cent.⁵ - a figure unlikely to prompt noticeably

¹ Quoted in D.F. Schloss, *Report on Profit-Sharing* (1894), p. 2.

² Thornton, *Labour*, p. 392.

³ Howell, *Conflicts of Capital*, p. 466.

⁴ Powell, *Payment by Results*, p. 114.

⁵ Schloss, *Profit-Sharing*, p. 155.

greater exertion, or inaugurate transformed industrial relations. The record of profit-sharing was indeed poor. Between 1865 and 1919 only 380 schemes were implemented, of which 198 had ceased to exist by 1919. The average duration of discontinued schemes was nine years.¹

Effort through Supervision - The Stick

With time-wages the employee sells to the employer his ability to work over a given period of time, and this payment he receives irrespective of the amount of work accomplished. It does not follow that effort is of no account. To the hourly wage offered by the employer there corresponds some minimum acceptable level of exertion, and a worker falling below this minimum could be fined, demoted, and ultimately dismissed - as was most apparent under task work, where a definite output was to be accomplished in a given period. The worker could be induced to perform above the basic standard if he believed that by so doing he should enhance his prospects of promotion or diminish the likelihood of redundancy. To the extent to which these considerations encroached, time-work approximated to a monetary incentive.

A consequence of time-wages was the employer's need to monitor performance and maintain acceptable levels of discipline. Supervision tended to be the responsibility of a factory manager and, more especially, the workshop foreman. There remained, of course, the matter of motivating the motivator. Awareness of coincidental interests between supervisor and firm could be promoted through such means as the delegation of responsibility and display of trust. Additionally, various incentive payments were evolved for foremen, relating their earnings to the output of the employees. A particular instance of the use of one man to stimulate the exertion of others was the employment of a fast worker known as a 'chaser' or 'bell-horse,' who was paid a premium to set a pace which others must emulate. In building, for instance, two men constructing a wall had to meet in the middle and a 'bell-horse' was able to force the other to keep up.²

¹ Ministry of Labour, *Report on Profit Sharing* (1920), p. 189.

² Schloss, *Industrial Remuneration*, p. 95.

The effectiveness of supervision as a means to secure effort was a function of the intensity of monitoring and the costs of redundancy, of which there were two types.¹ On the one hand, the personal costs of broken friendships and loss of status. Much here was beyond the employer's influence, but through the cultivation of a friendly working environment and the promotion of social activities amongst employees, these personal hardships of redundancy could be made more keen. On the other hand, there was the reduction of earnings consequent upon dismissal, which depended upon the difference between the worker's current earnings and his next best wage, and the ease with which he could secure an alternative position.

The distinction we have drawn between incentives and supervision as means to the inducement of effort is obviously exaggerated. All supervisory schemes contained elements of material reward, and monitoring and organisation were necessary in even a wholly piece-wage workshop. Nevertheless, it is just to say that these two approaches to worker motivation presented themselves as alternatives to the 19th century industrialist.

The Relative Deployment of Piece and Day Wages 1850-1914

Table 1 gives results from two Government surveys into the application of incentive schemes: the 1886 *Report on the Wages of the Manual Labour Classes* and the 1906-07 *Enquiry into the Earnings and Hours of Labour*. The latter, covering 40 per cent. of operatives in manufacturing, processing, and construction, indicates that approximately two-thirds were paid by the hour and one-third by the piece.² If those in mining, transport, public utilities, and agriculture are included, the proportions become 75 per cent. and 25 per cent. respectively. The 1886 figures suggest an equal division between piece and day work. However if an estimate for building, a large employer of time-labour, is included, and the gas and water utilities removed, we arrive again at a ratio in manufacturing and construction of two-thirds day to one-third piece work.

Piece-work was probably more prevalent in 1886 than in 1850. As sub-contracting

S. Bowles, 'Production Process in a Capitalist Economy', *American Economic Review*, lxxv (1985).

² *Report into the Earnings and Hours of Labour* (1906-07).

declined, operatives in industries like coal mining and iron making increasingly earned piece-wages directly. Piece-work also strengthened its hold upon the cotton industry. Day and piece work were evenly balanced in the cotton mills of the 1830s,¹ yet by 1892 a union representative could doubt whether any time-workers could be found in the weaving sheds - 'unless it was the man who swept up the alleys; they are all paid by results.'²

¹ Chapman, *Cotton Industry*, pp. 262-3; S. Pollard, *Genesis of Modern Management* (1965), p. 190.

² *R. C. on Labour*, C, Vol. I., Q. 1,095. Though it should be remembered that under the minder-piecer system, the spinner paid big and little piecers time wages.

Table 1. Proportions of Workers Paid Day and Piece Wages in Certain Industries, 1886 and 1906

<i>Industrial Category</i>	1886		1906	
	Time Work (%)	Piece Work (%)	Time Work (%)	Piece Work (%)
Textiles	40	60	49	51
Cotton Manufacture	38	62	34	66
Woollen and Worsted	43	57	62	38
Linen	42	58	50	50
Silk	51	49	55	45
Jute	48	52	67	33
Clothing	N/A	N/A	62	38
Hosiery	11	89	27	73
Boot and Shoe Manufacture (indoors)	48	52	77	23
Dress, millinery (workshop)	N/A	N/A	99	1
Dress, millinery (factory)	N/A	N/A	43	57
Shirt, Blouse &c.	N/A	N/A	32	68
Tailoring (bespoke)	N/A	N/A	53	47
Tailoring (ready made)	N/A	N/A	35	65
Corset making (factory)	N/A	N/A	18	82
Pottery, Brick, Glass, Chemicals	N/A	N/A	65	35
Porcelain, China, Earthenware	N/A	N/A	38	62
Brick, Tile, Pipe	57	43	66	34
Glass Bottle Making	N/A	N/A	36	64
Paper and Printing	N/A	N/A	79	21
Paper manufacture	N/A	N/A	70	30
Printing	75	25	91	9
Mines and Quarries	43	57	N/A	N/A
Coal and iron ore mining	42	58	N/A	N/A
Metalliferous mines	32	68	N/A	N/A
Slate mines	21	79	N/A	N/A
Stone quarries	68	32	N/A	N/A
Iron and Steel Processing	87	13	72	28
Pig Iron Manufacture	87	13	90	10
Iron and Steel	N/A	N/A	72	28
Tin Plate Manufacture	32	68	40	60
Shipbuilding (Iron and Steel)	75	25	67	33
Engineering and other Metal trades	90	10	67	33
Railway Carriage Building	55	45	32	68
Cycle Making and Repairing	N/A	N/A	47	53
Smiths and Smiths' Strikers	82	18	69	31
Turners	94	6	69	31
Fitters and Erectors	93	7	73	27

Table 1. (Continued)

<i>Industrial Category</i>	1886		1906	
	Time Work (%)	Piece Work (%)	Time Work (%)	Piece Work (%)
Building and Woodworking	N/A	N/A	95	5
Building	N/A	N/A	99	1
Harbour, Dock Construction	N/A	N/A	90	10
Cabinet Making	N/A	N/A	83	17
Saw Mills	94	6	95	5
Carpenters and Joiners	N/A	N/A	92	8
Food, Drink Tobacco	N/A	N/A	83	17
Grain Milling	N/A	N/A	99	1
Baking and Confectionary	90	10	98	2
Malting, Brewing, and Distilling	N/A	N/A	96	4
Chocolate, Sugar Confectionary	N/A	N/A	54	46
Drink Bottling	N/A	N/A	97	3
Biscuit Manufacture	N/A	N/A	72	28
Miscellaneous	N/A	N/A	81	19
Leather, Tanning	N/A	N/A	58	42
Coach, Carriage Building	90	10	86	14
Brush and Broom Manufacture	N/A	N/A	32	68
Oil Seed Crushing	N/A	N/A	97	3
Rubber	N/A	N/A	69	31
Coopering	60	40	60	40
Bag Manufacture	N/A	N/A	73	27

Source: *Report on Wages of Manual Labour Classes* (1886); *Enquiry into the Earnings and Hours of Labour* (1906-7)

The movement towards piece-work was not large, and from the 1880s the relative proportions stabilised. The major scene of change was engineering. Outside the manufacture of standardised items like textile machinery and locomotives, payment by results occupied a subordinate place within engineering: in 1886 six per cent. of turners, seven per cent. of fitters, and eleven per cent. of the less skilled machinists were paid piece wages. Henceforward piece-work spread into traditional sectors of engineering and was adopted in the emerging areas of cycle and motor manufacture. By 1906 27 per cent. of fitters, 31 per cent. of turners, and 44 per cent. of machinists were paid by results.¹ But while piece-work grew in engineering, it gave place to time wages in the previously piece-work trade of shoe-making. By 1906 the proportions of piece to day wages were little changed from 1886, and thirty years later it remained the case

¹ Burgess, *Industrial Relations*, p. 50.

that a third of manufacturing and a quarter of industrial employees were paid by results.¹

While most piece-wages were calculated on an individual basis, collective piece-work operated in such trades as glass-making, textile-dyeing, and the 'tonnage-system' in Her Majesty's Dockyards. Prior to the early 1900s collective piece-work was the chief sphere of the premium wage system, which tended to emerge with the decline of sub-contracting in such trades as iron making and railway engineering. Maintenance staff sometimes received a bonus on collective output. Cadbury described how, at Bournville, men responsible for machinery earned a commission according to the output of their department. Similar motives underlay the payment to foremen of bonuses dependent upon workshop output.² This was far from general: guaranteed weekly wages were one of the chief privileges of the foreman's position. Nevertheless, commission payments to weaving overlookers had been introduced into cotton mills in 1847, and by 1906 three-quarters of foremen and assistant foremen were paid by the piece. In cotton spinning, by contrast, only seven per cent. were so remunerated.³

If premium bonus blurred the distinction between piece and time work, the same was true of task work. In the iron industry at mid-century puddlers were expected to finish six 'heats' during a nominal twelve hour shift. Once completed, the operative would go home, sometimes working less than twelve hours, sometimes more. If failing to make his six heats he could be fined or dismissed. By the 1890s this practice was being superseded by a standard working day of eleven hours.⁴ Task work was employed at the London furniture firm of Maples. Upholsterers were paid for a certain number of hours, provided they turned out a specified quantity of work. If completed in a shorter time, the operative could leave off; if taking longer, he could find his wage and standard output reduced. Maple's, said one upholsterer:

¹ Marriott, *Payment Systems*, p. 49.

² E. Cadbury, *Experiments in Industrial Organisation* (1912), p. 160.

³ Joyce, *Work, Society*, p. 100; *Earnings and Hours of Labour*, 1906-07.

⁴ *R.C. on Labour*, A, Vol. II., Qs. 15,228-9, 15,423, 15,437.

is the worst shop I have ever worked in. A man at this firm has to work twice as hard as he would have to do at a West End house, and is bullied and blackguarded by the foreman, and is treated altogether more like a machine than a man.¹

Several factors influenced the extent to which piece-work prevailed in any given trade.

(1) It was necessary that the output consist of easily measured units. The absence of an identifiable product precluded piece-work in most general labouring trades - even cotton manufacture employed its labourers on day wages. Where, on the other hand, labourers performed standard functions - such as the dockworkers who loaded cargoes like iron-ore, grain, and coal - work was often paid by the piece.

(2) The wished for characteristics of the article should be few and conveniently monitored. His remuneration linked to one dimension of the finished product, usually number or weight, the employee had no immediate incentive to maintain others. Where the qualitative features of the product were complex or important, payment by results was accordingly less applicable. In the saddlery trade, for instance, 'men doing preparing, finishing and all the skilled part of the work are paid day-wages; and the stitchers and those doing the mechanical part are paid by the piece.'² Day, piece, and task work were all found in the furniture trade but, said the Secretary of the Cabinet Makers' Association, 'day work is used where the best class work is made.'³

(3) Individual piece-work required that a direct relationship exist between an operative's effort and output. Where production was affected by the quality of materials, the functioning of machinery, or the performance of other workmen, difficulties were created: witness disputes over 'bad cotton' and 'bad metal' in cotton spinning and glass manufacture. In coal-mining differences in thickness and accessibility of seams had to be compensated through complex price-lists.

(4) Where techniques of production or the finished product changed frequently, price lists were troublesome to implement and more often required revision. Piece-work was thus commoner

¹ *S.C. on Sweating*, 1st Report, Q. 4,527.

² *Ibid.*, 3rd Report, Q. 24,391.

³ *R. C. on Labour*, C, Vol. II., Q. 19,770.

in trades with a standardised product and technique. In furniture making variability of the finished article acted as a barrier to piece-wages. Even in upholstery, where payment by results was more widely used, frequent re-negotiations necessitated by design changes created problems:

Suppose that an employer is bringing out a settee with straight lines; next year he wishes to alter the design a little, and introduces a curved back - an extra rate is immediately demanded...every time any alteration is made, an addition is demanded, so that the cost grows like a snow-ball.¹

Within printing it was the uniform newspaper compositing that was remunerated by the piece; in the varied work of book, jobbing, and periodical offices, time wages were the rule.²

Complexity or variability of the finished product was not an insurmountable barrier to piece-work. Some complicated articles, such as shoes, were compounded out of a series of standard operations. In other trades elaborate price lists encompassed more common variations in work and product. Thus in shipbuilding, the Boilermakers' Tyne and Wear list ran to 46 closely printed pages.³ Such lists were troublesome to construct and operate, revisions and questions of interpretation requiring on-going negotiations between management and labour representatives. (5) Supervision and incentive wages being to some extent alternatives, when the former was particularly difficult or expensive, piece-work was often favoured. Coal-mining's 'butty system' offered a means to oversee the performance of hewers scattered throughout the mine, and as this declined the natural alternative was to pay miners by the ton.⁴ Problems of supervision were one factor explaining the wider use of piece-work in large firms than small, as well as its greater prevalence in night work: the Gun Factory's Superintendent claimed that in his workshop 'day-work would be almost impossible - you would find all your men asleep - therefore, we put every man who is on a night shift, with one or two trifling exceptions, on piece-work.'⁵

¹ Hilton, *Unions Obstructive?*, p. 177.

² J. Zeitlin, 'Compositors and Engineers', in R. Harrison and J. Zeitlin ed., *Divisions of Labour* (1985), p. 190.

³ Cole, *Payment of Wages*, p. 85.

⁴ Webb, *Industrial Democracy*, p. 290.

⁵ Cited in Schloss, *Industrial Remuneration*, p. 52.

Many contemporaries would have included, amongst the circumstances influencing the application of piece-work, the hostility of organised labour. However in their *Industrial Democracy* (1897) the Webbs showed not only that many unions recognised both day and piece wages, but that 49 of the 111 principal labour organisations insisted upon piece-work. Amongst these latter were unions of cotton operatives, coal miners, shoe makers, tailors, glass makers, and tin-plate workers.¹ In fact, the second half of the 19th century saw several instances of unions resisting moves to introduce day labour. In Coventry's ribbon trade time wages were substituted for piece-work with the development of factory production in the 1840s. When in 1858 demands for a return to piece-wages prompted a strike at one factory, employers called a lock-out in defence of hourly wages.² The 1895 lock-out in the shoe industry arose from employer attempts to abandon piece-work, while tailors likewise resisted any intrusion of day-work into their trade.³

If some unions welcomed piece-work, others only grudgingly accepted the system and opposed its expansion, whilst others were unequivocally hostile. The A.S.E. provides an example of the former; 37 unions, with a combined membership above 200,000, were in the latter category, including societies representing Pattern-Makers, Brassfounders, Bakers, Carpenters, Stonemasons, Bricklayers, Plasterers, and Plumbers. According to the Webbs, this dichotomy between unions welcoming and objecting to piece-work arose from a common desire to maintain the standard rate of reward for effort. Where circumstances permitted collective enforcement of price lists, unionists saw piece-work as the best means to secure the standard rate. Where, on the other hand, each job had to be separately priced the standard rate could only be protected with day-work.⁴

Where output was idiosyncratic it was indeed difficult to set standard prices and payment

¹ Webb, *Industrial Democracy*, pp. 285-8.

² Timmins, *Hardware District*, pp. 187-8.

³ *R.C. on Labour*, C, Vol. III., Q. 33,296.

⁴ Webb, *Industrial Democracy*, pp. 285-301.

by results was unsuitable - from the employer's or worker's perspective. Still there was no logical sense in which the standard rate was more secure under day-work. In a trade such as engineering the inability to set piece-prices reflected the difficulty of setting a standard *time* for a job, but a piece-worker vulnerable for this reason to rate-cutting would, under time-work, be vulnerable to driving and oppressive supervision. Engaged in a customarily day-work trade, engineers believed they could best deal with these pressures on time-wages. However what most determined the outcome of this situation was not the mode of payment, but such factors as the degree of workshop cohesion, strength of tradition, and level of skill.

The clue to labour's attitude lies in the observation that conventionally piece-work trades had unions accepting or insisting upon that system; whilst time-work trades had unions preferring or recognising only that system. In the period 1850 to 1914 several instances occurred of workmen striking to prevent employers altering an accustomed mode of payment; there are hardly any of workmen striking to change an established system. Trade unions reinforced the existing distinction between price and time work industries, contributing to the stability in the coverage of the two systems.

Preference for customary forms of remuneration was part of labour's wider attachment to the *status quo*. Under whichever mode of payment they were employed, workers sought to regulate production. Piece and time workers alike feared a shift to another system would disrupt these patterns of production. Both associated new modes of payment with increased output, bringing downward pressure on payment per unit of effort, compromise of quality, subversion of the existing earnings hierarchy, and heightened probability of unemployment.

This was apparent in opposition to piece-work in trades like engineering, building, and woodworking. Sometimes operatives objected to speeding up directly. Under piece-work, complained a representative of the Shipwrights' Society, 'we have to work harder...It adds to our old age I might say before it should do.'¹ Furniture Unions similarly believed piece-work,

¹ *R.C. on Labour*, A, Vol. III., Q. 21,789.

by leading to constant speeding up, 'shortens the life of a man.'¹ More commonly workmen cited the adverse consequences of increased output. As the intensity of work increased, so would remuneration per unit of effort fall - and under payment by results this assumed the visible form of a cut in piece-prices. We do not approve of the system, commented an A.S.E. official in 1892:

because we find from practical experience that it reduces the wages. It has always a downward tendency, and I know of no instance in which employers have raised the piece-prices.²

Another result of accelerated production was diminished employment. Owing to the introduction of piece-work, said a shipwright in the Government dockyards, 'we are doing more work, which other men should be employed to do.' It was a policy of the Shipwrights' Society 'that no man shall work piece-work or overtime if there is an idle man to be got.'³ Piece-work, declared a Boilermakers' Journal, 'gives to one man what ought to be enjoyed by three or four.'⁴

Piece-work was thirdly criticised for encouraging the sacrifice of quality to output. George Potter, carpenter and unionist, acknowledged that men who could 'skip their work' without being discovered made it 'inferior to what it would be if they were on day work, and if more time was given them to manufacture the article.'⁵ This was a weighty objection in hitherto time-wage trades, for these had tended to manufacture unstandardised products, generating traditions of skilled workmanship. Builders, carpenters, and engineers all associated piece-work with 'scamping.' An A.S.E. survey of 1892 showed it to be the unanimous opinion of 123 districts that piece-work conduced to 'scamping of work and the concealing of defects in partly finished

¹ Hilton, *Unions Obstructive?*, p. 185.

² *R.C. on Labour*, A, Q. 22,797.

³ *Ibid.*, Q. 21,789.

⁴ Cited by McClelland, 'Time to Work', p. 199.

⁵ *R.C. on Trade Unions*, 1st Report, Q. 398.

work.’¹

It was lastly argued that piece-work threatened the social cohesion of the workshop. As each workman looked to his own capacities to improve his earnings, jealousy would displace solidarity, and legitimate differentials of age or skill give way to ones owing more to brute strength and anti-social motives: piece-work, objected unions in the furniture trade, ‘places a premium on physique rather than on craftsmanship.’ Building unions alleged that, with much of their trade depending upon team work, ‘Recognition of individual craftsmanship would only break the team spirit and would militate against reduction in costs.’² One casualty of these individualistic tendencies was believed to be organised labour; an employer in the iron trade welcomed payment by results precisely because he considered it ‘the only mode of getting rid of trade unions.’³

These criticisms assumed that operatives presented with an incentive would respond by increasing output. That which employers hoped to achieve through piece-wages was the very reason for labour’s disapproval. Though less often having cause to protest, workmen in piece-wage trades similarly feared a move to time wages would herald a loss of control over the production process. In the absence of payment by results supervision would intensify - to the point of ‘oppression.’ ‘Supposing the master pays by time,’ commented one tailor, ‘he takes the men by the shoulder and drives them like slaves.’⁴ Additional effort threatened to go unrewarded, undermining the standard rate. Only with piece-wages would workmen be sure to receive sixpence for every ‘sixpenny worth of work’ performed.⁵ While, for instance, printers protested as piece-work encroached upon the provinces, London compositors believed the system

¹ *R.C. on Labour*, A, Vol. III., Q. 22,658.

² Hilton, *Unions Obstructive?*, pp. 185, 25.

³ *R.C. on Trade Unions*, 6th Report, Q. 11,723.

⁴ *S.C. on Sweating*, 3rd Report, Q. 30,056.

⁵ Schloss, *Industrial Remuneration*, pp. 56-7.

ensured that high levels of exertion were rewarded with high earnings.¹

Labour's relationship to the various forms of remuneration may be summarised as follows. Certain trades were better suited to one payment system than another, and there was a tendency for them to gravitate toward that system most appropriate. Labour went with the grain. Where piece-work was suitable and customary, unions supported it; where day-work was the rule, unions approved. If there was a single factor shaping employee attitudes it was custom. Thus as conditions of production changed in certain trades we find unions struggling to prevent payment methods adapting. Shoe-makers struck in defence of payment by results, while cabinet makers and engineers resisted the spread of piece-work as production became more standardised.

Workmen objected to the risk any alteration in customary practice entailed. Having regulated working practices under one payment system, workmen came to connect this latter with regulation *per se*. Workers in time trades, for instance, believed piece-work led to reduced quality. This was, in principle, true. But taking a skilled trade like flint glass manufacture, which was conducted on piece-wages, we find operatives did not in practice maximise output at the expense of quality. Equally, while workmen on day-wages pitied their piece-wage brothers for the pressure of their work regime, piece-workers did not envy the oppressive supervision to which the time worker was subject. The Secretary of the A.S.E. objected in 1867 to piece-work because it tended towards 'something like the sweating system amongst the tailors.' In fact, sweating occurred primarily amongst tailors on day-wages, those working to the piece rejecting the system for that very reason. Operatives on piece and day wages alike underestimated the capacity of labour to regulate production under any mode of payment.

¹ C.f. Zeitlin, 'Engineers and Compositors', p. 192.

Chapter 6

The Conduct of Economic Incentives

Inadequate rate setting procedures were the essential fact undermining payment by results as a stimulus to increased exertion. It is useful to contrast them with those shortly afterwards recommended by the movement for Scientific Management, which clearly perceived the importance of this function. Required, first, was an analysis of the production process to arrive at the best manner of performing an operation. A 'good average' worker was then trained in these procedures, and his performance measured by time and motion study, permitting a standard time to be set for each operation. After adding an allowance to enable workers of lower ability to make the standard output in actual workshop conditions, this standard 'task' was combined with the conventional wage to yield a piece-price per unit. Piece-work was then introduced with a pledge that rates would only be revised if production techniques altered.

Such procedures were absent from the setting of prices in nearly all industry before 1900, and in most parts beyond 1914. Payment by results was generally grafted *onto* the prevailing conditions of production, and few steps were taken to arrive at a standard rate of production. The administration of piece-work was chiefly the foreman's responsibility, and in arriving at an appropriate price he was likely to utilise one of three methods.

The output customary under day wages commonly served as the basis of the standard task. Although ensuring more ready acceptance of piece-work from labour, no attempt was made to ascertain the extent to which production was a fair test of the operative's potential, and how far it reflected 'idleness, inefficiency, bad supervision, bad organisation, and shortage of work.'¹ All those factors compromising productivity were thus embedded in the job rate.

Powell, *Output Problem*, pp. 39-40.

On other occasions the foreman estimated the price. This was the procedure in the Royal Carriage Department. 'The foreman,' said the Superintendent, 'from his long experience of the work knows pretty well what the value of a job is, and the probability is that he errs on the side of liberality than otherwise.'¹ Including rate setting amongst a foreman's duties met with criticism from early writers on Scientific Management. Most foremen, observed Powell, 'had insufficient time at their disposal to do the work properly,' while for Knoeppel 'piece-rates cannot be set without careful study. It needs infinitely more than a look and a guess.'² Alternatively, a particular individual's output supplied the basis for a standard rate - though this attracted allegations that the workman was chosen for exceptional ability. Williams describes how, upon the introduction of Yankee hammers and oil furnaces into the Stamping Shed, management turned to the strongest man to set the piece prices.

This man was urged to work hard, and he was timed during the morning period after breakfast, when a man is at his best. As a consequence the prices set were very competitive, and the best of workers has to work incessantly to make his basic wage.³

In other instances the output of a group of workmen was measured. Inevitably, workmen were held to prolong jobs in the hope of securing more generous terms. When, in the coal industry, 'a new seam is opened it is common to find that the men go slow, and deliberately restrict output during the period while prices are under consideration.' Rather than deny this charge, miners pleaded self-defence, alleging it 'the practice of the employers to select a short length of new face, and to have everything ideal for securing a maximum output.'⁴

Piece-prices thus bore the imprint of custom, bargaining between capital and labour, and the personal judgements of foremen. Neither employer or operative could be confident that the time allowance for a job reasonably reflected the workman's abilities. This ignorance fatally compromised payment by results as an incentive to additional exertion, for it meant there was

¹ *Manufacturing Departments of the Army*, Q. 1,530.

² Powell, *Output Problem*, p. 134; Florence, *Economics of Fatigue*, p. 87.

³ Williams, *Railway Factory*, pp. 183-4.

⁴ Hilton, *Unions Obstructive?*, pp. 50, 54.

no direct connection between effort and remuneration. Piece-prices were, as the Superintendent of the Carriage Department admitted, 'more or less arbitrary.'¹ Workers found some prices 'good', others 'bad', according to the ease with which they were able to make their customary income. Equally, employers were uncertain whether an alteration in earnings reflected changed production conditions, excessive allowances, or intensified application.

Piece-prices were usually embodied in lists, whose sphere depended upon the degree of uniformity in production conditions between firms. Where techniques of manufacture were standardised, district or even national lists were feasible. Still their establishment remained an act of will, initiative usually originating from trade unions. Trades operating district lists by the late 19th century included cotton spinning and weaving, shipbuilding, shoe manufacture, iron and steel making, and printing. Where, however, working conditions were variable or trade organisation weak, firm-specific prices were the rule.

Even if the initiative for stable prices embodied in lists came from operatives, many employers - particularly large, more established concerns - were willing to cooperate with this demand. Huberman, on the basis of a study of the Lancashire cotton industry, suggests two reasons for this. By standardising remuneration per unit of output across firms, the threat of competitive rate-cutting was reduced. Opposed by employer and workman alike, rate-cutting evolved in the Lancashire cotton industry into a 'taboo' which helped to preserve piece-rate stability.² Second, as the 19th century proceeded employers came to realise the value employees placed on a secure standard rate and saw that, by promising to pay 'fair', guaranteed, wages, they could attract productive employees who would cooperate by expending high levels of effort. This policy of 'fair wages', Huberman believes, was operated by Manchester firms specialising in fine spinning after 1829. Whereas previously firms had responded to falling demand by maintaining capacity production and cutting piece-rates, after 1829 they sought to limit piece-rate

¹ *Manufacturing Departments of the Army*, Q. 1,554.

² Huberman, *Escape from the Market*, p. 86.

reductions and adopt, instead, part-time working.¹

Price lists could thus become an institutional parameter of the trade. ‘We have a Scale of Prices, the result of various conferences,’ said the Chairman of the Association of Master Printers in 1867. ‘This scale is really our law.’² Its authority strengthening with time, the wage list stabilised prices. Employees, commented the representative of a wool firm, know the price they are going to receive for a job; ‘The price has been laid down, and it has never been altered for 20 years, I believe.’³ A worsted manufacturer had not changed his prices ‘for the last seven or eight years.’⁴ Hilton found payments in the coal industry based on lists drawn up 20 or 30 years previous.⁵

Yet notwithstanding these forces making for stable prices, rate cutting remained common. How common cannot be definitely stated, though it was considered widespread by observers as well as workmen. ‘The history of payment by results,’ wrote Powell, ‘is not the happiest,’ being damned by shortages of work and rate cutting. Shadwell encountered the complaint that ‘when a man increases his output by working harder, the employer cuts down the price and reaps the benefit; and it cannot be denied that this has often been done.’⁶ Sidney Webb believed it an ‘habitual practice in the past...in all sorts of trades.’⁷ Engineering was the ‘cockpit’ of the rate cutting controversy. A 1918 report found price-cutting in the ‘old days’ prevalent ‘to such an extent and without justification, that piece-work was brought into disrepute.’⁸ At the Royal Ordnance works, the Gun Factory’s Superintendent described how ‘from time to time we go into

¹ *Ibid.*, p. 84.

² *R.C. on Trade Unions*, 10th Report, Q. 19,629.

³ *R.C. on Labour*, C, Vol. I., Q. 6,438.

⁴ *Ibid.*, Q. 7,710.

⁵ Hilton, *Unions Obstructive?*, p. 50.

⁶ Shadwell, *Industrial Efficiency*, p. 391

⁷ Atkinson, *Rational Wages*, p. 7; S. Webb, *Works Manager*, p. 67.

⁸ *D.C. on the Position of the Engineering Trades*, p. 14.

the prices and see if we cannot reduce them, and they are very often reduced.’¹ An average of 80 piece-price revisions, mostly downwards, occurred each week in the Carriage Department.²

Accusations of rate cutting were, however, made in other industries. It was said of the Sheffield metal trades in 1892 that ‘the most common cause of disputes and strikes is the demands made by the employers for reductions in prices of work.’³ The Brass Founders’ Union alleged that it was constantly having ‘to grant strike pay to a member resisting reduction.’⁴ Piece-prices in the cotton trade were cut repeatedly during the 1870s and 1880s, and the *Report on the Position of the Textile Trade* placed foremost amongst the factors making for output restriction the operatives’ fear ‘that if they turn out the maximum amount of work and earn big wages, the piece-price may be reduced by the employer.’⁵ As we shall see, downward pressure on prices operated in flint glass manufacture and, to a lesser extent, in shoe-making.

In explaining the prevalence of rate-cutting, a distinction can be made between ‘legitimate’ and ‘illegitimate’ factors making for reduction. The former encompasses circumstances necessitating adjustment of rates *even where* the initial piece-price accurately reflected the operative’s effort. The latter reflect errors in the scheme’s establishment or dispositions on the part of those overseeing it at odds with its functioning as an incentive.

‘Legitimate’ reasons for revision included technological changes reducing effort per unit of output, and downward pressure on the selling price. One producer might be able to expand output and maintain price, but if several operated successful incentive schemes a fall in price would be likely.⁶ General price deflation would also prompt a lowering of piece-rates - a factor of some importance during the Great Depression. Where, as in the case of iron and coal, prices

¹ *Manufacturing Departments of the Army*, Q. 535.

² *Ibid.*, Appendix 31, ‘Memorandum on the Piece-Work System’, H.J. Butter, Manager.

³ President of the Sheffield Trades’ Council, *R.C. on Labour*, A, Vol. II., Q. 19,029.

⁴ *Ibid.*, Vol. III., Q. 24,570.

⁵ Burgess, *Industrial Relations*, p. 241; *D.C. on the Position of the Textile Trades*, p. 114.

⁶ C.f. Huberman, *Escape from the Market*, p. 67.

were especially volatile, their connection with piece-rates was established by means of ‘sliding scales.’

However justified such reductions may have appeared to the employer, they were frequently contested by operatives. Employers in the cotton industry asserted that operatives objected to re-timing ‘regardless of changes in equipment and other facilities.’¹ The manager of a Staffordshire Iron firm informed the Trade Union Commission that though, initially, his workmen’s wages were reasonable, of late:

the improvement of machinery and so forth has enabled a man to do very much more of some classes of work in a given time now than he could do formerly, whilst the same scale of wages that he used to have he obtains now...but the moment you introduce anything new of that kind the Union is down upon you at once...²

Another iron master described how the installation of steam hammers caused a ‘considerable diminution’ in effort per ton, and piece-rates ought to have been reduced. However:

It was necessary for me to consider that in the excited state in which the workmen then were, instead of offering less to the men who went to these new hammers, and instead of the firm having the benefit from this large outlay of money in improved machinery, we shall have to give the same wages per ton with the improved machinery as the men had with the old machinery.³

Consequently ‘for many months - in fact for two or three years - we paid in that department most extravagant and extraordinary wages; wages which the trade could not afford.’

Underlying the ‘illegitimate’ motives for cutting was the belief that there was a level of earnings appropriate to each class of labour. Where a worker made a wage between 25 and 50 per cent. above this amount his piece-price was cut. There existed, in other words, an implicit day rate, around which wages could vary only within limits. ‘The evil in piece-work system,’ complained a mason in 1867, is that ‘if a man earns a certain amount of money the master considers that the price is too high, and of course he cuts that price down.’⁴ For one carpenter:

¹ Hilton, *Unions Obstructive?*, p. 79.

² *R.C. on Trade Unions*, 5th Report, Qs. 10,479-485.

³ *Ibid.*, Q. 11,147.

⁴ *Ibid.*, 4th Report, Q. 7,665.

The objection to piece-work is this...When it is found that a workman is earning double, say, of his ordinary wages, the employer at once thinks that the man is getting too much money, and he cuts down the price.¹

An 1861 survey by the A.S.E. found that, of the 218 branches furnishing replies, only seven reported no limit to piece-earnings. Of the workmen covered by other branches, 45 per cent. could make 25 per cent. above day rates before prices were cut; 22 per cent. up to 40 per cent., and 25 per cent. were permitted to raise their incomes by a half.²

Upper limits to wages were openly acknowledged at the Royal Ordnance factories. According to W. Barlow, Superintendent of the Laboratory, the rule of a maximum to wages of 'time and a third' was 'a very old one at the works and universal.'

We look upon the limit of piece work to be the earning about a time and a third of a man's day rate. For instance...say that a man's time rate is 21s., then he might earn, we will say, one third more; he might earn up to about 28s....If I found that the average were earning more than that I should expect the Manager to reduce the piece-work price.³

In the Carriage Department prices were so regulated that 'the average earnings of the men should be about a time and one-third.' Where this was exceeded 'the rate would be reduced.'⁴ E. Maitland, Superintendent of the Gun Factory, noted that the ceiling to average wages of time and a half was 'not fixed in any written law, but it naturally follows: it is a sort of boundary that we have tacitly fixed.'⁵

There were two senses in which earnings could appear 'excessive'. The first, already discussed, had to do with a 'just' price for labour, beyond which it would be inappropriate to go. Such reasoning exerted an influence at the Royal Ordnance factories. 'We started with the one third,' explained the Carriage Department's Superintendent, 'because we found that one third added to his rating gives him a very liberal week's pay and makes the man satisfied.' 'I have

¹ *R.C. on Labour*, C, Vol. II., Q. 18,874.

² Jefferys, 'Skilled Engineer', 40.

³ *Manufacturing Departments of the Army*, Qs. 3,061-064.

⁴ Evidence of H. Butter, Manager, *ibid.*, Qs. 4,899-900.

⁵ *Ibid.*, Q. 876.

always thought that a time and one third was a reasonable addition, that one third added to the common time was a reasonable amount for a man to earn.’¹ The second arose from the belief that if a worker made significantly more than his customary wage this indicated some mistake in the piece-price, a conviction which in turn reflected the weaknesses of the rate-setting procedure. Although failing to ensure piece-prices truly reflected the effort per unit of production, employers appreciated that errors could have serious implications for costs. How, then, did they judge if a price were accurate? Unable to gauge a suitable output, they could at least ascertain the market wage for the type of labour in question. When a number of workmen earned wages a quarter or half above the standard this was taken to demonstrate, not special zeal, but that the piece-price was too high.²

That the customary limitation of earnings at the Royal Ordnance works served as a check upon prices was conceded by Barlow:

It would be impossible for any Superintendent to go through the enormous number of piece work rates that there are, and to check them, but...I call weekly for a return from one shop or another, and I look through it, and I then see whether the men are earning what appears to be an extravagant rate of pay, and, having this one and a third rule, I, without having a thorough technical knowledge of each job that every man is engaged on, I can tell whether I am paying the people pretty well in proportion to the rates paid by outside firms.³

It is impracticable, he continued, ‘to draw the line and say that you actually do arrive at a price that is reasonable.’ Better was it ‘to give a man what is a sufficient inducement to make him work hard; and certainly one third more than his ordinary rate is a very great inducement to a man to work.’⁴ Where operatives earned half as much again as their daily wage, it was likely, argued the Laboratory’s manager, ‘that their piece-work price had been set too high to begin with.’⁵ Once a new rate had been set in the Carriage Department, if, said the Superintendent,

¹ *Ibid.*, Qs. 1,639, 1,654.

² C.f. Schloss, *Industrial Remuneration*, pp. 72-3; Powell, *Payment by Results*, p. 5.

³ *Manufacturing Departments of the Army*, Q. 3,066.

⁴ *Ibid.*, Q. 3,084.

⁵ *Ibid.*, Qs. 5,959-60.

over 'the course of a month or six weeks we find that the average men possibly are making considerably over what their fellows would be making at the other jobs in the same shop, all equally good men. The attention is called to this, and the piece-work prices are revised.'¹ With management lacking confidence in the existing piece-rate, there prevailed an almost irresistible bias towards reduction.

This bias was far from groundless. As Powell pointed out, productivity gains under piece-work were frequently traceable to the removal by workmen of inefficiencies incorporated in the initial piece-price. It was the problem with this mechanism of improving organisation that workmen were rewarded as if the one-off change in technique were a continuous intensification of exertion. Labour was being paid the wrong way for something which was the responsibility of management.² In addition, workmen were suspected of restricting production whilst prices were being assessed, and the phenomenon of 'good' and 'bad' prices implied that, just as operatives had every incentive to see a 'bad' one raised, employers were likely to lower a 'good' one.

The fact remained, however, that piece-rate reductions were utterly at odds with the operation of payment by results as an incentive. High earnings were required to serve two inconsistent ends: to reward the operative for increased exertion and highlight mistakes in the rate-setting procedure. To the extent that the latter function prevailed, the former was nullified, an outcome which reflected the fact that, as Gospel observes, the British employer was apt to regard labour more as a cost to be minimised than a resource to be developed.³ Far from being rewarded with increased earnings, the operative found that he had to work harder merely to maintain his previous income. The workman's defence was obvious; *viz.*, to ensure his earnings did not go beyond that point at which rate cuts would be initiated. In practice output was not permitted to exceed by more than about a third the level standard under time work. Thus,

¹ *Ibid.*, Q. 1,531.

² Powell, 'Future of Payment by Results', 77.

³ Gospel, *Markets, Firms, and the Management of Labour*, p. 2.

remarks Powell, was "'ca' canny" born, baptised, and by both sides carefully nurtured.'¹ Indeed, by limiting the growth in wages, employers encouraged that propensity of their operatives to seek protection and security not through individual exertion leading to higher incomes, but by means of trade unionism and workplace regulation.²

The 1887 Enquiry into the Royal Ordnance factories disclosed the informal rules governing output and earnings. In the Gun Factory, noted its Superintendent, the men rarely permitted their wages to exceed by more than three-eighths the day-work rate, knowing 'very well that after a time the piece-work price would be reduced. It is a constant match between the foremen to reduce the prices and those men to prevent their being reduced.'³ The workmen, concurred the department's Manager, realise 'that we are watching and looking after them; we do not say, "You must not earn any more," but they seem to think this: - "If we do earn something more, we shall probably have our prices taken down".'⁴ Where more was produced, operatives sometimes held work back for another week when output was deficient. In this way earnings were equalised between workers and over time, and the method of payment was not, as the Superintendent acknowledged, 'piece-work pure and simple after they have attained a certain level of proficiency...it comes to day-work paid at the price of piece-work.'⁵ Similar uniformity of wages prevailed in the Carriage Department, while the possibility that, by limiting earnings, output was forgone had not occurred to the Superintendent of the Laboratory 'because we have always kept to this rule.'⁶

Where limits to piece-wages prevailed they, and the level of output corresponding, tended to become customary aspects of the trade. Employers did not expect operatives to produce more,

¹ Powell, *Output Problem*, p. 115.

² Austin and Lloyd, *Secret of High Wages*, p. 101.

³ *Manufacturing Departments of the Army*, Q. 532.

⁴ *Ibid.*, Q. 6,415.

⁵ *Ibid.*, Q. 531.

⁶ *Ibid.*, Qs. 1,540, 1,560, 3,160.

and they, in turn, did not conceive of earning more. Output was as much constrained under piece-work as under day wages. From the standpoint of productivity the rate-cutting employer was 'behaving like a fool.'¹ Yet in judging conduct, motives must also be considered. Employers were not indifferent to the status implications of increased piece-wages. Nor was this the only factor influencing their administration of payment by results.

Of the stimulus to productivity associated with piece-work there are numerous examples. When, for instance, individual incentive wages replaced group contracting in the West of Scotland steel trade, output is said to have increased by a quarter.² With the introduction of a bonus scheme at Willans and Robinson, engine builders, the men 'got through their work with more than normal expedition.'³ A furniture manufacturer claimed to Hilton that by introducing piece-work output had increased 50 per cent.⁴ 'I should certainly say,' stated the Superintendent of the Royal Gun Factory, 'that you get more work' under piece than day wages.⁵ Intensified effort was a consequence of piece-work anticipated by employers and workmen alike.

However this heightening of exertion was a once-and-for-all phenomenon - a boon traceable to piece-work, not its primary quality. Employers rather looked to piece-work to stabilise effort with a minimum of supervision. That a satisfactory level of productivity could be taken for granted, and not contingent upon vigilant management, was what the employer desired. Under day-work, commented Close, Superintendent of the Carriage Department, 'we should have no absolute certainty that anything would be turned out,' and there would be required 'an enormous amount of supervision.'⁶ Piece-work offered 'an inducement to men to work generally, I do not say to work excessively hard, but to work fairly well, because what is

¹ S. Webb, *Works Manager*, p. 80.

² *R.C. on Labour*, A, Vol. II., Q. 15,984.

³ Schloss, 'Gain-Sharing', p. 56.

⁴ Hilton, *Unions Obstructive?*, p. 176.

⁵ *Manufacturing Departments of the Army*, Q. 870.

⁶ *Ibid.*, Qs. 1,570, 1,677.

paid is paid on the output.' 'I am sure,' he continued, 'to get the worth of my shilling under piece-work; but I am not sure of getting a shilling's worth of work under day work.'¹

In providing a stimulus to output, payment by results was seen as a substitute for supervision. As A. Noble, Managing Director of W. Armstrong, explained: 'The advantage that employers have' with piece-work 'in certain classes of work is that they do not require the same number of sub-foremen to look after it. The men are interested in it.'² Piece-work performed an effort stabilising, as opposed to intensifying, function. It was not because, said Close, he got the largest possible quantity of work that he preferred piece-work, but because 'I am quite sure that I will get more work for my money.'³ A customary level of output below the maximum, whether arising from labour regulation or rate-cutting, was not incompatible with the operation of piece-work since, as Close remarked, 'I am sure of the work up to a certain point, because I am sure that the man will make his rate.'⁴

To the control of exertion desired by labour there corresponded a certainty of output appreciated by the employer. As the complexity of firms increased over the 19th century, individual differences in application threatened to create disequilibrium. Yet it was the effect of freely functioning piece-wages to promote variability between workmen and in the daily performance of a given workman. To these disruptive potentialities of piece-work many employers preferred a system which, though providing an incentive, ensured that most workmen operated to a customary level of effort. Moreover, with earnings confined within limits there was less temptation to scamp on quality. It was thus, for instance, that piece-wages were rendered compatible with a skilled trade like flint-glass manufacture. As conducted, therefore, payment by results was akin to task work. The employee received a wage one-third greater than under day-work, and in return did one-third more work. It was not expected that he should fall

¹ *Ibid.*, Qs. 1,646, 1,653.

² *R.C on Labour*, A, Vol. III., Q. 25,296.

³ *Manufacturing Departments of the Army*, Q. 1,652.

⁴ *Ibid.*, Q. 1,657.

significantly below this level of output - nor that he should significantly exceed it.

Payment by results reproduced, even reinforced, the strengths and weaknesses of the existing system of production. Standard tasks were based on customary performance, supplemented by the foreman's personal estimate. In responding to the incentive, the worker was guided, on the one side, by workshop opinion and conceptions of a 'fair' level of exertion; on the other, by an employer reluctant to pay more than a certain amount for his labour and looking to piece-work to reduce supervisory costs and stabilise output. This subordination of piece-work to the broader organisation of production explains labour's acceptance of the system, for it found much to approve in standard price lists, ceilings upon earnings and output, and less intensive supervision. Noble claimed he would be pleased to see able men earning time and three-fourths, and others earning less. But amongst his men there existed an idea 'that because a man is on piece-work, his rate must be time and a half.'¹ Unions in the furniture trade acknowledged, in 1935, that they imposed a limit of one-third to the extra earnings on piece-work. To this regulation 'reputable firms' had never objected: 'It is done so we do not have cutting of prices. If we did not do this, a firm might get hold of a number of high speed men, and this would result in displacing labour.'² Thus hedged around with restrictions, piece and day wages had, in practice, little to distinguish them.

Engagement and Internal Labour Markets

We have last to consider, under the heading of economic incentives, the engagement and promotion of labour. Employers made some effort through internal labour markets to connect an operative's performance with his rewards. When hiring a worker, attempts were made to evaluate his capacity for work. References were frequently requested, the workman's wage rate being regarded a 'fair index' of what his last firm thought of him.³ Employer associations

¹ *Ibid.*, Q. 9,012.

² Hilton, *Unions Obstructive?*, pp. 184-5.

³ Evidence of A. Noble, *R.C. on Labour*, A, Vol. III., Q. 25,256.

sometimes systematised these arrangements with a standard 'character note.' Such schemes operated in sections of the shoe industry and in the engineering trade of the early 1890s.

Within firms, employers wished to promote diligent operatives to positions commanding higher income and status. Cotton masters, notes Joyce, 'took a pride in their workforces, weeding out the less efficient and making the utmost efforts to hold on to good workers.'¹ By the late 19th century there had developed a plentiful supply of piecers ready to become spinners, and employers used the occasion, said the Secretary of the Spinners' Union, to 'select the giants - I do not mean the giants in stature, but the giants in working capacity, as spinners to begin with.'² Cadbury's operated a scale of wages for its adult males, making twice yearly wage revisions on the basis of performance reports. According to Cadbury, the scale was not rigid: 'where special ability or industry is shown, an amount over and above the scale is given; conversely, where circumstances warrant, a part of the rise is withheld for a time.'³ The South Metropolitan Gas Company tried, said Livesy, 'to give to every man the wage we thought he was worth, and whenever a man showed himself to be worth more I think a desire was shown on the part of the management to give it to him.'⁴ Standard piece-prices prevented men at the Dowlais iron works being paid different rates for the same job; nevertheless the good worker was 'sure of steady employment' and had 'the choice of best furnaces, and...the most convenient place in the forge for work.'⁵

Internal promotion was integral to the administration of the Royal Ordnance factories. The foreman's rank was distinguished into three grades: Chief Foreman, Foreman, and Assistant Foreman. Of course, said the Superintendent of the Gun Factory:

¹ Joyce, *Work, Society*, p. 119.

² *R.C. on Labour*, C, Vol. I., Q. 794.

³ Cadbury, *Experiments*, pp. 155, 246.

⁴ *R.C. on Labour*, C, Vol. III., Q. 26,762.

⁵ G.T. Clark, Trustee of the Dowlais Works, *R.C. on Trade Unions*, 5th Report, p. 93.

A man must get himself known before he becomes Assistant Foreman at all; you must see that he is a little better than the average, and that there is some probability of his becoming a useful man in that line before you take him from his tools...if he is a good Assistant Foreman he gradually becomes a Foreman, and so on to Chief Foreman.¹

The Department's Manager had himself joined the Factory in 1859 as a draughtsman, becoming subsequently Foreman, Principal Foreman, and Assistant Manager.² The Manager of the Small Arms Factory had similarly risen from the shop-floor. If, he commented, a man 'shows ability, and is a steady man and a good tradesman, if we want a foreman I recommend him.'³ Below the supervisory grades, also:

The promotion and advancement of workmen is made to depend entirely upon the skill and assiduity of each individual workman, and at stated periods the Manager submits, for the Superintendent's approval, a list of such men as he considers deserving the higher rate of pay than those which they are receiving.⁴

Lathe operators at the Laboratory commenced at weekly rates of about 20 shillings. After four or five years their wages rose to 23, 26, and even 28 shillings if 'they get first class hands at the work.'⁵

At the Royal Dock Yards there was open, to the journeyman of 'good character and ability,' the possibility of elevation to such positions as draughtsman, dockyard writer, leading men of trades, foreman of the yards, masters of trades etc.⁶ Prior to 1891 workmen in any given trade received a standard wage, but pay-scales were then introduced, permitting, explained the Financial Secretary to the Admiralty, a better connection between performance and remuneration:

¹ *Manufacturing Departments of the Army*, Q. 503.

² *Ibid.*, Q. 6,388.

³ *Ibid.*, Q. 8,014.

⁴ *Ibid.*, Q. 2,995.

⁵ *Ibid.*, Q. 6,069.

⁶ *R.C. on Labour*, A, Vol. III., Q. 25,811.

The heads of the departments concerned, aided by the advice of the foreman of the ship or shop under whom the men are serving, are to submit to the Admiral Superintendent the names of those whom they recommend for such promotion or increment of pay. In making such selection, competency, diligence, and conduct are to be regarded as of primary importance, due consideration also being given to length of service.¹

A range of enterprises thus appreciated the potential of internal labour markets to elicit loyal and diligent service. And we may suspect that the prospect of promotion, particularly to the status and security of the foreman's position, acted as a stimulus to many hands. Yet when assessing the effectiveness of such schemes, certain qualifications must be entered. For systems of promotion were adapted to the character and preferences of those constituting British industry.

First of all, earnings variation in most firms was quite limited. The highest position to which most workmen could aspire was the foreman's. Table 2 illustrates for 1906 how his wage compared to that of the average operative's.

Ibid., Qs. 25,816-821.

Table 2. Earnings of Foremen and other Adult Male Operatives in Selected Industries, 1906

	Av. Male Earnings (s.)	Av. Earnings of Labourers (s.)	Weighted Av. Wages of Foremen and Ass. Foremen (s.)	Foreman's Wage as Percentage of Av. Wage (%)	Foreman's Wage as Percentage of Labourer's Wage (%)
Cotton	29	20	41	141	205
Woollen and Worsted	27	20	35	130	175
Boot and Shoe	29	N/A	39	135	N/A
Building	33	24	47	142	196
Saw Milling	27	21	39	144	186
Cabinet Making	33	22	47	142	214
Paper Manufacture	29	21	52	180	250
China and Earthenware	32	22	43	134	195
Brass and Allied Wares	32	20	44	127	220
Light Iron Castings	31	20	48	155	240
Engineering and Boilermaking	32	21	52	163	250
Ship Building	36	21	50	139	240
Railway Carriage Building	31	22	52	168	236
Electrical Appliances	35	25	53	151	212

Source: *Earnings and Hours Survey 1906-7.*

With the exception of paper manufacture and engineering, workmen on average earnings could expect, if becoming foremen, to raise their wages 30 to 50 per cent. In no case could they double their earnings. The last column further shows that an adult male, entering a trade as a labourer and then, however improbably, rising through the wage hierarchy to its summit, could normally little more than double his earnings. Where the spread of wages was larger, as in engineering and paper making, a maximum increase of 150 per cent. was possible. But in the wool, worsted, porcelain, china, and building industries it was impossible for a labourer to even double his income. Operatives completing an apprenticeship could look forward to wage advances over a life-time significantly less than this. What is more, wage differentials tended to correspond to distinctions in skill. Here effort was less important than the particular trade in

which the operative was apprenticed or had specialised. The workman's ability to raise his earnings by hard work and consequent promotion was thus limited.

Unions encouraged this equality of earnings, with many insisting that no workman be engaged at less than some minimum wage. The Ironfounders' Society resisted payment of weekly wages below 32s. to any moulder between the ages of 22 and 50.¹ A minimum wage was similarly fixed by the A.S.E.² It was a more general complaint of employers that unions, by insisting that all workmen on time wages doing the same job receive identical rates of pay, prevented the adjustment of earnings to effort. Such was allegedly the case in shipbuilding. When we engage a man, said one employer, 'he must be paid the general rate of wage, or he is immediately withdrawn from our employ.'³ Preference for uniformity did away 'with the wholesome element of competition...Instead of your first-class man getting, we will say, 38s. or 39s. a week, and your inferior men getting 32s. or 34s.; if the trade union system were carried out you would then have the whole of these men coming in at 36s. a week...'⁴ One Thames shipbuilder described in 1867 the state of affairs consequent upon growing union power:

When I began business 35 years ago we always took note of a man's working when he was first engaged, and...then rated that man accordingly...30s. a week, or 32s. a week, as we thought he was worth...But gradually and by degrees the men have become the parties who have fixed the wages, and the masters have been ignored in the matter altogether...

The unions:

meet together and determine that no man shall work under a certain price. They no longer leave the masters free to fix the wages...but say, "Good men or bad men, you shall insist upon having 6s. in the case of joiners and 7s. in the case of shipwrights."⁵

When introduced, the classificatory system at the Royal Dockyards met with resistance from the men. A meeting at Pembroke protested 'against the new wages scheme which necessitates absurd

¹ *R.C. on Trade Unions*, 5th Report, Qs. 8,631-635.

² *R.C. on Labour*, A, Vol. III., Q. 22,774.

³ *R.C. on Trade Unions*, 9th Report, Q. 16,913.

⁴ *Ibid.*, Q. 16,916.

⁵ *Ibid.*, Qs. 16,712, 16,776.

distinctions between workmen,' and affirmed that the only 'fair policy' was to 'have been to have paid all workers at the same rates as are paid to those who do similar work for private firms.'¹

Complaints of union interference in the structure of remuneration emanated from across industry. Building masters claimed they were prevented from giving greater rewards to superior workmen, operatives contending that if a man 'is a superior workman, and so does more work in a day, he, to a certain extent is depriving that other workman of the extra amount of work which he does.'² A carpenter objected to the regulation that all employees receive a standard hourly rate. It puts 'a stop to enterprise on the part of the individual workmen...I do not like to find myself going to the pay office and getting just the same as the most inefficient men in the shop.'³ But 'the inferior workman is most loud and most prominent in asserting himself if he finds another man getting better payment or better treatment.'⁴

A. Noble acknowledged the benevolence of seeking to bring 'inferior men up to the advantages that ought to belong more especially to men who can distinguish themselves by their capacity;' it was nonetheless the effect of such measures 'to extinguish, or at all events diminish, individual excellence.'⁵ 'The action of the trades unions,' said another engineering employer, 'certainly tends to equalise the wages of all the men. You get the inferior man getting a higher wage, and the superior man getting a lower wage than he otherwise would do.'

This state of affairs, even if immediately associated with union influence, conforms with a more widely noted tendency for observed pay schedules within firms to be more egalitarian than would be predicted if all workers were paid their marginal product. That is to say, high productivity workers, it is argued, tend to receive a wage below their marginal product, and low productivity workers a wage above their marginal product. Robert Frank, for example,

¹ *R.C. on Labour*, A, Vol.III., Q. 24,405.

² Evidence of Mr. Wright, builder, *ibid.*, C, Vol. III., Q. 32,285.

³ *Ibid.*, Vol. II., Qs. 18,798, 18,817.

⁴ *Ibid.*, Q. 18,912.

⁵ *Ibid.*, A, Vol. III., Qs. 25,448-9.

comments that according to the conventional marginal productivity theory of wages a worker's wage should increase by one dollar every time they add a dollar to the firm's product. But, considering a random sample of 13 large auto-dealerships in New York State, he did not find this prediction confirmed:

Whereas the slope of the earnings schedule predicted by standard theory is 1.0 - meaning a \$1 increase in earnings for every extra dollar in gross commissions - the largest slope among the earnings schedules in my sample was only .30 - meaning that 30 cents more wages for every extra dollar in gross commissions.¹

The average slope was .24. A similar survey amongst real estate salespersons revealed a ratio of .7, while amongst research chemists it was as low as .09.²

Frank attributes this failure of earnings to rise in line with productivity to the fact that individuals value their status within local hierarchies. Consider two individuals, A and B, where B has a lower marginal productivity than A. If B attaches value to his relative position in the earnings hierarchy he will have an incentive to leave this firm and join another where average productivity is lower so that his marginal product yields him a higher place in the earnings hierarchy. Equally, B's arrival will cause lower-productivity workers in this other firm, not wishing to occupy inferior positions in the earnings hierarchy, to seek out firms where their marginal product and wage is relatively higher, and so on. 'If,' writes Frank, 'workers are paid their marginal product, and care about income differentials, then the only sustainable outcome is for each firm to employ workers whose marginal products are identical. There will be no room for a firm with a heterogeneous workforce.'³ Since, in fact, heterogeneous workforces are typical, Frank concludes that wage levels must adjust to compensate for status differentials. Essentially, those workers attaching particular importance to a high position in the earnings hierarchy receive a wage below their marginal product. This wage reduction is then used to purchase the acceptance by other workers of lower-status positions, who earn a wage above their

¹ Frank, *Choosing the Right Pond*, p. 62.

² Frank, *Passions Within Reason*, p. 182. Of course, as Frank himself admits, the limited size of these samples renders their results suggestive rather than conclusive.

³ Frank, *Choosing the Right Pond*, p. 41.

marginal product by way of compensation. The result is a compression of the wage hierarchy. However, although individual workers do not receive the value of their marginal product, workers on average at the firm do.

Though the logic of Frank's argument is persuasive, the evidence he himself supplies is insufficient to confirm the theory. This is not unexceptional, given the difficulty in many trades of measuring the difference between marginal products and wages and the further difficulty of establishing the role of status considerations in accounting for any differential. It was certainly a complaint of 19th century employers that wages were subject to levelling pressures which prevented them from fully reflecting differing contributions to production, and status was, as we have observed, a factor capable of influencing employee performance. Yet there were many examples of lowly-paid workers whose earnings appear to have been almost certainly below their marginal products. The flint glass industry, considered in detail *below*, provides a good illustration. Here the footmaker, who performed the important and strenuous task of gathering molten glass onto the blowing iron, occupied the lowest position, in terms of status, within the work group. He also received wages which, at often less than one pound a week, were low both absolutely and in comparison with those of senior work-group members. What reconciled the footmaker to his low earnings was the prospect that, over time, he himself would rise to occupy the high-wages positions. This dynamic element Frank overlooks. By tying wages and status to seniority there was less need, in British industry, for high paid workers to compensate permanently low-paid colleagues. The minder-piecer distinction within cotton spinning provides another prominent example of this phenomenon. Indeed, in these cases the structure of earnings accords more closely with that suggested in various Internal Labour Market models, according to which the spread of wages actually exceeds that of productivities.¹ Here it is argued that workers are encouraged to invest in human capital and reduce shirking by accepting long-term contracts with the firm in which they at first receive a wage below their marginal product and

¹ C.f. E.P. Lazear, 'Agency, Earnings Profiles, Productivity, and Hours Restrictions', *American Economic Review* lxxi (1981); R.J. Flanagan, 'Implicit Contracts, Explicit Contracts, and Wages', *American Economic Review* lxxiv (1984).

then, as they become more senior, a wage above their marginal product. 'Senior workers,' writes Lazear, 'are paid a high wage not because they are productive at that point in time, but rather because paying high wages to older workers induces young workers to perform at the optimum level of effort in the hope of growing old in that firm.'¹

Whether the wages of senior workers are, in general, greater or less than their marginal product is not, however, clear. Studies by Dalton and Thompson and Medoff and Abraham have suggested that wages do increase more rapidly than productivity. Dalton and Thompson, for instance, found that, according to managers in six major engineering firms, the contribution to the company made by design and development engineers increased till they reached their mid-30s, after which it declined steadily. Salaries, by contrast, peaked in the early 40s and thereafter levelled-off.² However the figures provided by Frank point in the opposite direction, while a 1983 study by James Brown found no evidence of significant wage growth following the completion of on-the-job training.³

Even if wage hierarchies are, on average, compressed, status-compensation is not the only possible explanation. Stiglitz and Baily, for example, have developed models in which workers are assumed to be risk averse, preferring steady income streams to variable ones.⁴ Although workers may know their own productive potential, they cannot predict how productive they will be at any given time due to the operation of forces beyond their control - such as technology and market conditions. Since firms are taken to be less risk averse, the way is open for trade in which the firm assumes some of the risk by offering the worker a more constant wage. In Stiglitz's analysis this is accomplished by the payment of wages based upon the average productivity of the group rather than the particular performance of the individual. The operative's income will then be a 'weighted average between the mean marginal product of those

¹ Lazear, 'Agency, Earnings Profiles, Productivity, and Hours Restrictions', 615.

² G.W. Dalton and P.H. Thompson, 'Accelerating Obsolescence of Older Engineers', *Harvard Business Review* (1971).

³ Cited in Flanagan, 'Implicit Contracts, Explicit Contracts, and Wages', 346.

⁴ J.E. Stiglitz, 'Incentives, Risk, and Information: notes towards a theory of hierarchy', *Bell Journal of Economics*, vi (1975); M.N. Baily, 'Wages and Employment under Uncertain Demand', *Review of Economic Studies*, xli (1974).

working under the given contract and the individual's own marginal product.'¹

Such a mechanism may well help to explain the narrow wage hierarchies in many 19th century firms - notably for labour of a given skill or experience. Workers were, we have contended, risk averse, especially given the absence of reliable sources of income outside the labour market. They feared not only the impact upon their earnings of technological change and the trade cycle, but the unpredictable consequences of their own ageing process and ill health. As a result they attached a premium to stable income streams. This, we have suggested, was an important motive underlying the practice of output limitation, while Huberman has shown how the employee desire for predictable earnings prompted Lancashire cotton firms to adopt 'fair-wage' policies. Considerations of risk, as well as status, it seems fair to assume, helped account for the preference for narrowed wage hierarchies amongst late 19th century workers.

A second factor weakening the incentive from promotion was the limited opportunities for advancement in most firms. 'Promotion among the workmen,' observed Williams, 'is very slow and tedious.'² 'Foremen are only made once or twice in a generation, and when the odds on any man for the post are high, surprise and disappointment always follow. The first is usually relegated to the rear, and the least expected of all is brought forward to fill the coveted position.'³ Most operatives were resigned to spending their working lives upon the shop floor. 'Once a puddler a man remains a puddler as long as he has health and strength to carry on his avocation': such was the rule in the iron trade.⁴ A gas-stoker appearing before the Labour Commission acknowledged that, in 15 years, he had had 'no promotion whatever. I remain now what I always was - a workman.'⁵ In the cotton industry the piecer-minder distinction had provided an effective basis for promotion. Yet as growth slowed in the late 19th century, the

¹ Stiglitz, 'Incentives, Risk, and Information', 559.

² Williams, *Railway Factory*, p. 282.

³ *Ibid.*, p. 74.

⁴ Evidence of W. Whitwell, President of the Conciliation Board for the Iron and Steel Trade, *R.C. on Labour*, A, Vol. II., Q. 15,128.

⁵ *Ibid.*, C, Vol. III., Q. 28,312.

number of big piecers awaiting a minders' position exceeded the available vacancies. Half those entering the trade as piecers could expect to leave it or remain assistants permanently.¹

Third, the operation of engagement and promotion as incentives was compromised by three influences.

(a) It has been emphasised by, for instance, Gospel, that the majority of British employers in the late 19th century retained a bias towards externalising their labour relations. We have seen how reluctant they had been to centralise employment, seeking as long as possible to subcontract the provision of labour services. Though increasingly employing labour directly, they continued to make extensive use of the labour market. When setting wages, employers looked to the going rate for the type of labour in question; when trade was depressed they laid-off hands, and when expanding recruited freely from outside the firm. Labour turnover before the First World War was generally high.² 'From the employers' viewpoint,' writes Gospel, 'external labour markets might not be perfect, but they were sufficiently good for there to be no strong inducement to bypass them by creating internal markets.'³ Yet whilst these procedures may have reduced the employer's costs, they weakened the incentive for operatives to apply themselves more diligently with a view to securing improved wages and conditions *within* the firm. Receiving general market terms, they were less likely to apply themselves beyond generally accepted levels.

(b) In most works decisions regarding who should be appointed and advanced formed one of the miscellaneous duties of the foreman. Those factors undermining the foreman's capacity to supervise effectively acted here also. Additionally, the criteria for promotion were rarely systematised, much resting upon the foreman's personal judgement. One consequence of this was unpredictability: no operative could be sure which dimensions of performance would lead to advancement. But it was a grievance frequently raised that foremen indulged in favouritism.

¹ Lazonick, 'Industrial Relations', 7; Burgess, *Industrial Relations*, p. 240.

² Gospel, *Markets, Firms, and the Management of Labour*, p. 64.

³ *Ibid.*, p. 29.

A workman in the Royal Shipyards thus objected that a system dividing labour into grades to encourage competition would be impracticable:

by reason of the prevalence of a most aggravating system of patronage which...continues to become more and more the ruling principle of the service, and as such at the present time pervades nearly the whole field of dockyard administration. Promotion and everything else is regulated by it. Extraneous considerations are dragged in and used to the detriment of deserving merit.¹

These criticisms induced the Director of Dockyards to investigate the matter, though it was his conclusion that 'there was no favouritism, and that the men were really promoted according to their good work and on their merit.'²

It occasionally came about, said one carpenter, that during slack trade inferior hands were retained because they had 'a good understanding with the foreman' or made underhand payments.³ At the Royal Ordnance works 'too much,' it was claimed, 'depends upon foremen in the selection of foremen,' who exhibited a preference for friends and relatives. Whatever the reality of these accusations, with incentives perceptions are fundamental, and many operatives would have concurred with Williams that 'blood is thicker than water in the factory, as elsewhere.'⁴

(c) Labour influenced hiring and advancement decisions in ways serving ends other than the reward of effort. Trade unions were usually critical of character note schemes, occasionally taking action against them - as the case of the shoe trade illustrates.⁵ It was, further, a common policy to secure preference for Society members in the filling of vacancies. Demarcation rules similarly prevented employers apportioning rewards to merit. A master, said the Secretary of the Builders' Association, was hindered:

¹ *R.C. on Labour*, A, Vol. III., Q. 24,405.

² *Ibid.*, Qs. 25,816-821.

³ *Ibid.*, C, Vol. II., Q. 18,806.

⁴ Williams, *Railway Factory*, p. 53.

⁵ See below, p. 206.

from encouraging a handy intelligent labourer by putting a trowel into his hand, or putting a mallet or chisel into his hand, and getting him on to be a skilled artisan; because directly he does such a thing as that, the men of the skilled trade to which he is advancing this other man immediately strike against him.¹

It occasionally happened at the railway factory that a labourer was promoted, during a busy period, to brick-laying. From this moment he became 'the subject of sneering criticism; whatever work he does is condemned, and he is hated and shunned by his old mates and companions.'²

More directly, labour rejected effort as a basis for promotion, favouring the criteria of seniority and skill. Seniority removed the possibility of favouritism, prevented competition for consideration, and held before all operatives capable of solid work the prospect of eventual promotion. It was accordingly insisted upon by many unions, and in fact formed a common element in promotion decisions. Iron and steel unions insisted upon advancement according to length of service in a single plant. Lower-paid operatives did not object, as they anticipated the benefits of higher-paid jobs in due course.³ It was the 'general usage' amongst Manchester brick-layers in the 1860s for 'the labourer who has longest been employed in the job' to take 'precedence as gang leader.' When, in 1864, the foreman overseeing work on the new gaol brought in a labourer as gang-leader a strike immediately resulted.⁴ Cold-roll boys employed by a tinsplate firm trade struck work in 1899, achieving thereby their demand for promotion by seniority. Thirteen years later tinsplate workers at Pontardawe stopped work when a man was appointed from outside.⁵ Violation of the rule of promotion by seniority caused a strike of gas stokers at Llanelly in 1898.⁶ Constant agitation was kept up within the cotton trade to ensure promotion proceeded by mill seniority. For example, 1897 saw a strike at one firm against the

¹ *R.C. on Trade Unions*, 1st Report, Q. 3,283.

² Williams, *Railway Factory*, p. 49.

³ *R.C. on Labour*, A, Vol. II., Qs. 15,351-360; Wilkinson, 'Collective Bargaining', pp. 106-7.

⁴ *R.C. on Trade Unions*, 3rd Report, Q. 4,326.

⁵ Board of Trade, *Report on Strikes and Lockouts* 1899, p. 41; 1912, p. 95.

⁶ *Ibid.*, 1898, p. 83.

‘selection of piecers out of turn for promotion;’ while at another, piecers objected to the external appointment of a spinner to fill a vacancy.¹ The bringing in of spinners from outside caused a similar strike of piecers at Mossley the following year. When a firm’s piecers demanded, in 1900, that all minders come from their ranks, it agreed that in future two piecers would be promoted for every outsider introduced.²

However potentially effective as an inducement to exertion, internal labour markets were subordinated to the prevailing industrial order. This subordination reflected the conduct of all the chief actors: employers favoured narrow wage hierarchies and entrusted a considerable range of responsibilities to their foremen; foremen allowed their preferences to affect the advancement of operatives; and labour levelled wages and insisted upon criteria for promotion which did not provide a direct incentive to application. Everybody got a part of what they wanted. Still there were costs. Some men of exceptional talent or industry found their scope for advancement blocked. All, ultimately, paid a price in reduced standards of material welfare.

¹ *Ibid.*, 1897, pp. 63, 65.

² *Ibid.*, 1898, p. 55; 1900, p. 47.

Chapter 7

The Conduct of Supervision

Labour's ability to influence many aspects of production reflected the significant autonomy it enjoyed within the workplace. Pollard has described the simple managerial organisation which carried Britain through the industrial revolution, yet for Elbaum and Lazonick the atomistic organisation of industry compared increasingly unfavourably with the 'corporate capitalism' developing in America, Germany, and Japan. The chief feature of the latter was a systematisation of business control, manifested in tendencies towards oligopolistic markets, administrative bureaucracy, regulation of job content, integration of production and distribution, and scientific research. In Britain, however, industrial structure remained fragmented, with most trades characterised by single-plant firms run by owner-proprietors, with small market shares and managerial staffs, and crude methods of cost accounting.¹ Even by 1907, notes Gospel, 'the proportion of managerial, technical, and clerical staff to production workers in manufacturing industry was only 8.6 per cent., smaller than in the U.S. or Germany.'²

Lack of intelligence concerning production conditions could prove an important weakness. 'As a rule,' commented Mosely in 1902, 'the British employer hardly knows his men' and 'seldom leaves his office for the workshop.'³ An authority on the printing trade attributed its failure to adopt new methods to the 'general absence of technical knowledge' on the part of employers. They relied 'upon their overseers for the management of the men, and on their managers for the technical verdicts on any mechanical improvements,' yet commercial

¹ B. Elbaum and W. Lazonick eds., *Decline of the British Economy* (1986), p. 4.

² Gospel, *Markets, Firms, and the Management of Labour*, p. 17. By the mid 1930s the ratio had increased to 15 per cent.

³ Mosely, *Industrial Commission*, p. 9.

success increasingly required 'an accurate knowledge of what machinery shall do, and upon tact and skill in getting these results out of the men.'¹ Hilton found that although, in the furniture trade, complaints of underproduction were general, several manufacturers confessed their costing systems did not allow them to determine where the trouble lay.²

Employers delegated as much of the responsibility for organising production as possible. At first sub-contractors bore a substantial share. Though by the last decades of the century foremen had largely taken their place, these, as Gospel observes, still often ran their departments with considerable autonomy in matters of hiring, work allocation, and labour management.³ Were their numbers sufficient? For the 1830s Pollard answered this question affirmatively. The average ratio of overseers to workers among 151 cotton firms was 1 to 28. In the two largest woollen firms the ratio was 1 to 40. Figures for coal-mining were less favourable, while in railway construction there was only one supervisor to every 71 employees. Yet these ratios 'do not seem unreasonable,' especially in view of the sub-contract and piece-work systems.⁴

With this conclusion the early experts on industrial efficiency would have been unlikely to concur. Taylor found that in the best managed engineering works the ratio of non-producers to producers was 1 to 7; in the worst, 1 to 11 or more.⁵ One of England's first exponents of Scientific Management, L. Urwick, argued that in production the 'ideal number of subordinates for all superior authorities' was between 8 and 12.⁶ Industry diverged from these 'ideal' levels of supervision throughout the 19th century. At the Waterloo mills, Bradford, in 1892, each of the 13 overlookers had under him 35 operatives on average.⁷ The Royal Ordnance factories saw

¹ Cited in Pratt, *Trade Unionism*, pp. 157-8.

² Hilton, *Unions Obstructive?*, p. 177.

³ Gospel, *Markets, Firms, and the Management of Labour*, p. 19.

⁴ Pollard, *Modern Management*, p. 135.

⁵ Cited in T.S. Smith, 'Acceleration of Output in Building', *Journal of Industrial Administration*, i (1921), 121.

⁶ Cited in Z.C. Dickinson, *Compensating Industrial Effort* (1937), p. 117.

⁷ *R.C. on Labour*, C, Vol. I., Qs. 10,317-320.

the number of workers per foremen vary from 34 at the Carriage Department in 1886 and 38 in the Gun Factory, to 65 at the Enfield Small Arms Factory and 70 in the Laboratory.¹ Some indication of the intensity of foremanship for a range of trades is provided by Table 3.

Table 3. Average Number of Full-Time Workers Per Foreman in a Range of Industries, 1906

Cotton	36	Ship Building and Repairing	33
Woollen and Worsted	20	Railway Carriage Building	37
Linen	29	Light Iron Castings	32
Silk	25	Brass and Allied Wares	29
Hosiery	41	Electrical Apparatus	28
Lace	79	Paper	54
Carpets	37	Printing	20
Shirts and Blouses	32	Bookbinding	19
Boots and Shoes (ready made)	27	Porcelain, China, Earthenware	87
Building Trades	20	Brick, Tile, Pipe Making	37
Saw Milling and Machine Joinery	19	Malting and Brewing	16
Cabinet Making	19	Chocolate and Sugar Confectionary	20
Engineering and Boilermaking	31		

Source: *Earnings and Hours Enquiry, 1906-07*

Supervisees typically numbered around 30, only a few trades, such as bookbinding, brewing, and

Manufacturing Departments of the Army, Appendix iv.

cabinet making, having ratios at all comparable to those recommended by Scientific Management. It was not by inadequate numbers alone that the foreman's ability to enforce a rigorous work regime was compromised. He was commonly responsible, not simply for the conduct of labour, but for a wide range of managerial duties including stock-keeping, quality control, wage setting, ordering material, coordinating work flows, and hiring and training labour. It thus came about, remarked Powell in 1920, that the rate of output 'being "nobody's" responsibility, is one of the first considerations crowded out, bad easily becomes worse, and the position which so often obtains is evolved - the rate of output is decided by the workers themselves.'¹

Further diminishing the foreman's ability to impose a system of working *upon* labour was the fact that he was usually a *product of* the existing factory regime. The foreman was a workman who happened to represent the interests of the employer. Probably having served an apprenticeship, almost certainly having spent time on the shop-floor, he understood the men's attitudes and ways, and if he were to exert influence, let alone find his duties tolerable, he needed the respect of the operatives. Not that the social position of foremen coincided with that of other operatives. They enjoyed a guaranteed income in advance of the average, and this enabled them to realise some of their aspirations to respectability. Nevertheless the boundary dividing the foreman from the mass of workers was narrower and less secure than that separating him from managers and proprietors, and this he could never forget.

How these tensions worked themselves out varied between trades, workshops, and individuals. Sometimes the overseer proved a hard master. The 'bullying and driving foreman' was said to be 'an archetypal figure in the building trades.'² Williams found most foremen 'excessively autocratic and severe with their men, denying them the slightest privilege or relaxation of the iron laws of the factory.'³ Supervision was especially likely to be 'oppressive'

¹ Powell, *Output Problem*, p. 16.

² Burgess, *Industrial Relations*, p. 119.

³ Williams, *Railway Factory*, p. 56.

when the foreman's income varied with output. A unionist in the woollen trade described how, following the introduction of payment by results for overseers, pressure on the operatives increased:

when the week's work was made up, each foreman goes round to his own set of weavers and asks them how much they have earned that week...and if it occurs to them at the moment that there is not a sufficient sum, or it is less than perhaps others get, then the weavers are often subjected to abusive language.¹

Yet on other occasions foremen retained sympathies with labour. 'A few,' Williams conceded, 'are generous and humane. They hold the reins slack, and, without the knowledge of their chiefs, grant a few small privileges and are rewarded with the confidence of the workmen...'² As conceived by the President of the Bradford Managers' and Overlookers' Society, the wool-trade overseer was 'a kind of guardian over the workers,' it being his duty to 'see after the interests of the workers as well as the employers.'³

Foremen in several trades kept up their union membership. Having contributed over many years to society funds, foremen were reluctant to relinquish entitlement to benefits. Overseers in printing were said to be 'men who have grown grey in the service of trade unionism.'⁴ Recognising the potentially conflicting loyalties, employers occasionally prohibited union membership amongst their foremen - as did railway companies until 1907.⁵ Alternatively employers encouraged foremen to establish 'responsible' organisations of their own. Examples included the Foreman's Benefit Society, subsidised by employers in the engineering and steel trades, and the Pottery Officials' Union. These supervisory unions were not necessarily hostile to the wider labour movement. The South Wales Colliery Officials' Union was affiliated to the South Wales Miners' Federation, while it was the policy of the National Foreman's Society, with 2,000 members in the engineering trade by 1919, 'not to do "blackleg" work in the case of

¹ *R.C. on Labour*, C, Vol. I., Q. 898.

² Williams, *Railway Factory*, p. 57.

³ *R.C. on Labour*, C, Vol. I., Qs. 10,416-417.

⁴ Cited in Pratt, *Trade Unionism*, pp. 158-9.

⁵ C.L. Goodrich, *Frontier of Control* (1920), p. 130.

strikes...'¹

Within the production process foremen sometimes shared the attitudes of the workmen. Schooled in workshop practice, they could prove second to nobody in respect for established ways. Mathewson found examples of American foremen colluding in output restriction.² Similar motives no doubt operated in England. According to Powell, a foreman tendering the labour cost of a job commonly erred on the generous side, care then being necessary to ensure that actual costs did not highlight the disparity.³ He might have been similarly reluctant to disclose his workshop was 'overmanned.' When overseeing piece-workers the foreman could be expected to look indulgently upon output constraints preventing operative earnings approaching, or even exceeding, his own.

Besides relying on foremen to secure effort, employers looked, first, to what Powell termed the 'draught-horse of management,' payment by results. Yet they consistently failed to appreciate that effective piece-work systems required careful management, in the absence of which the employee was likely to lack the inducement, or even possibility, of doing his best. What is more piece-wages weakened the incentive to properly utilise the workman's time. Under printing's piece-stab system, for instance, employers ensured time or 'stab' hands were supplied with copy, while piece-workers sat idly awaiting jobs.⁴

Lastly, employers relied upon the 'cake of custom,' especially as it guided the actions of workpeople themselves. This was the pivotal element within the production process, for here converged the two principles by which 19th century industry was governed: delegation and tradition. The first guide to how a problem of organisation ought to be tackled was the manner in which comparable problems had been overcome previously. 'Old customs and systems,'

¹ *Ibid.*, p. 133.

² Mathewson, *Restriction of Output*, pp. 30-52.

³ Powell, *Output Problem*, p. 116.

⁴ Zeitlin, 'Engineers and Compositors'.

reflected Williams, 'die hard at the works.'¹ When challenged as to the damaging effects of limiting earnings to time and a third, the Royal Laboratory's Superintendent could counter: 'There is one thing to be said in favour of it, that it has been in use for 20 or 30 years in the department and I certainly think that it has worked well.'² Such trust in established practice ensured that many potential difficulties never presented themselves to the employer.

Strengthening the hold of tradition and empiricism was the employer's reliance upon the skill, initiative, and sense of duty of the workmen. With foremen comparatively few in number, and their attention absorbed by a range of duties, workmen were expected much of the time to monitor their own performance. For Friedman such conduct exemplifies a strategy of 'responsible autonomy,' operatives being conceded 'a wide measure of discretion over the direction of their work tasks.'³ Contemporary writers on industrial efficiency were less charitable. 'Again and again,' commented Powell in 1920, 'one is faced with evidence that there is an insufficient knowledge of output possibilities, that the question has been neglected, and that what is little better than a policy of drift has taken the place of a policy of action.'⁴ A consequence was that workmen retained the ability to influence many features of the production process. Besides working, labour was expected to coordinate the flow of work, the division of labour, and the training of apprentices. 'All that talk about organisation,' declared one steel worker, 'is bunk. It is the worker himself who does the bulk of the organising; the man on the machine, the man on the floor, the squad-leader with ha' penny an hour on his rate.'⁵ Many supervisory functions in the building trade remained the responsibility of operatives, while Lazonick has emphasised the extent to which delegated authority retained its place within the

¹ Williams, *Railway Factory*, p. 41.

² *Manufacturing Departments of the Army*, Q. 3,088.

³ A. Friedman, 'Responsible Autonomy Versus Direct Control', *Capital and Class*, i (1976), 47-8.

⁴ Powell, *Output Problem*, p. 22.

⁵ J. Stirling, 'Steel Works,' in Common ed. *Seven shifts*, p. 87.

cotton industry.¹

In discharging these responsibilities workmen were influenced by such objectives as have been discussed. Of comparable weight was the men's reverence for established ways and suspicion of innovation. Describing a steel works between the Wars, James Stirling contended that the 'organisers' in the office did not understand what the various jobs entailed.

In the shops it is agreed that work goes through in spite of the management of the works, and that the best course for everybody is followed when we accept orders from the 'chiefs' and carry them out superficially, retaining meanwhile the methods we have found satisfactory in our experience.²

Faith in the sufficiency of familiar techniques, and scepticism of management's formulas and initiatives, could generate a 'dogged defence of custom and practice' which Fox believes must have been 'daunting.'³

These attitudes were strongest amongst skilled labour. Admittedly having most to lose from a change in technique, there was more to their attachment to the established ways. Skill was, in essence, a formalised system of customary method. Although apparently exercising discretion, the skilled operative typically worked to prescribed rules - a point made by Sturt with reference to the wheelwright trade.

Reasoned science for us did not exist...What we had to do was to live up to the local wisdom of our kind; to follow the customs, and work to measurements, which had been tested long before our time in every village shop all across the country. A wheelwright's brain had to fit itself to this by dint of growing into it...⁴

And this knowledge was acquired 'on the job' - by watching and emulating experienced hands. In this process there was transferred between generations an eclectic mixture of short-cuts and long-detours, notions of 'right' conduct towards workfellows and superiors, accounts of instances of rate-cutting and redundancy, and the tradition of a fair and safe intensity of effort.

It would not be remarkable if their emerged operatives with what some have regarded

¹ Lazonick, *Competitive Advantage*, p. 45.

² Stirling, 'Steel Works', pp. 87-8.

³ Fox, *History and Heritage*, p. 215.

⁴ Sturt, *Wheelwright's Shop*, p. 19.

as an 'exaggerated respect for established methods' and a 'reluctance to adopt new ones.'¹ Allen cites the difficulties the Birmingham Small Arms Company encountered persuading lock and spring filers accustomed to local workshops to relinquish 'old-time methods and prejudices.'

These men still followed the practice of a hundred years previously...they still resorted to 'fiddle-drilling' (i.e., bow and breast drilling), when, by going a few yards, they could use power machinery. They still used tallow-dip candles (purchased by themselves) when tempering springs, though the Company had offered to supply them with best Russian tallow free. They would not do tempering after ten o'clock in the morning, owing to their superstitious belief...that springs tempered after that hour would break.²

If in these circumstances production was not maximised, it was at least sustained, and this, in a situation of poorly developed costing systems and an absence of trained managerial staff, was itself an achievement. Employers could trust their supervisors and workmen to ensure that the firm continued along lines satisfactory in the past. Sturt, unexpectedly having to manage the family firm, later acknowledged that:

The steadiness of the men was doubtless what saved me from ruin. Through them I felt the weight of the traditional public attitude towards industry. They possibly (and properly) exaggerated the respect for good workmanship and material; and I cannot blame them if they slowed down in pace.³

Inefficiencies could even become accepted features of the trade. As employers in the printing industry explained:

Rightly or wrongly, from the very beginning of newspapers being printed in London the compositors have established certain principles which in a sense are grievances, but they are not regarded as grievances by us, because we are familiar with them.⁴

Labour organisation was not merely tolerated within a structure of weak managerial authority; its disciplinary procedures helped maintain production. Skilled unions appreciated how important it was for their authority that their members display ability and self-discipline, and many insisted, like the Progressive Society of Carpenters, that any applicant be declared by two

¹ C. More, *Skill and the English Working Class, 1870-1914* (1980), p. 84.

² Cited in Allen, *Industrial Development*, p. 189.

³ Sturt, *Wheelwright's Shop*, p. 53.

⁴ Hilton, *Unions Obstructive?*, p. 231.

unionists to be capable of average workmanship.¹ In the glass trade the Flint Makers' Union acted as a labour bureau, processing employer requests for workmen and ensuring operatives were of sufficient quality. Shipbuilding unions similarly sustained the squad system, facilitating movement of labour between yards and supporting workmen in slack periods.² Performance was also monitored. If a man, said the General Secretary of the Boilermakers' Society in 1892, leaves a job unfinished, we 'order him back again to complete his contract, and if he does not do that our council inflict a very heavy fine upon him.'³

Supervision and Labour Discipline

We might suppose supervision to have been more intense in time than piece-work trades, and Tables 1 and 3 indeed show that piece-work trades tended to have a lower ratio of foremen to those characterised by time-work. Of the industries in Table 3, the 13 having 30 or fewer operatives per foreman were all predominantly time-work trades, while the two with the greatest number - porcelain and china (87) and lace manufacture (79) - extensively utilised piece-wages. Even so, paper making, a day-work trade, had the third highest number of operatives, and for many piece and time wage industries differences in the numerical ratios of foremen were not large. There is, also, little to suggest that the overseer in a day-work factory was better placed to discharge his numerous duties than his piece-wage counterpart.

Labour sought to influence the conduct of supervision, resisting, in particular, that which it considered 'oppressive.' There were, in the four years 1897-1900, an average of ten disputes per annum attributed by the Board of Trade to the appointment or behaviour of managers and foremen, a flavour of which may be gained by reviewing the examples from 1899. 95 London bricklayers struck against a non-union foreman - they were replaced; a similar fate befell 11 woodworkers protesting at an 'objectionable foreman;' 40 Welsh miners sought the dismissal

¹ Evidence of G. Potter, *R.C. on Trade Unions*, 1st Report, Q. 322.

² E. Lorenz and F. Wilkinson, 'The Shipbuilding Industry', in Elbaum and Lazonick eds., *British Economy*, p. 115.

³ *R.C. on Labour*, A, Vol. III., Qs. 20,719-722, 20,774.

of a new overman, but resumed work unconditionally; by contrast, a strike of 100 Gloucestershire coalminers saw an overman's removal; 86 cotton weavers complained at unfair treatment by an overlooker - he was given a further trial; at Burnley weavers secured the dismissal of a new overlooker; those at two other factories stopped work, alleging 'excessive driving;' in the woollen industry 24 warp dressers were on strike for 21 days protesting at the appointment of a foreman; 49 carpet printers resumed work after expressing dissatisfaction with a new foreman; two disputes in the shoe trade directed against 'objectionable' foremen were settled amicably; at Leeds nine French polishers were removed from the authority of a foreman after an 11 week strike; while 46 cement workers at Jarrow lost their jobs after seeking a foreman's dismissal.¹

Goodrich believed the number of disputes attributed to grievances over foremen was an underestimate, resentment often breaking out over some other issue.² Nevertheless it was probably the *threat* of strike action, combined with less explicit forms of union pressure, which did more to set a standard of acceptable foremanship. The Steel Smelters' Association was said to have prevented 'under-gaffers and under-managers from bullying the men and using abusive and foul language to them...The men having become united have been able to put a stop to it, at least to a very great degree.'³ Resistance to excessive supervision did not emanate from unions alone. 'Any group of men,' noted Goodrich, 'no matter how helplessly situated, enforces, if only by nagging and sulkiness, some sort of standard treatment from its overseers.'⁴

More energetic sanctions were not unknown. 'Now and again,' writes Williams:

a foreman, who has been guilty of some underhand action, is taken to task by the exasperated victim and treated to a little surprise combat of fisticuffs. Perhaps the foreman is a sneak or a bully and has carried his tyrannical behaviour too far. Whether right or wrong, the pugnacious one is dismissed.⁵

¹ Board of Trade, *Reports on Strikes*, 1899.

² Goodrich, *Frontier of Control*, p. 141.

³ *R.C. on Labour*, A, Vol. II., Q. 16,601.

⁴ Goodrich, *Frontier of Control*, p. 143.

⁵ Williams, *Railway Factory*, p. 54.

Allegations of bad work at a Preston weaving firm resulted in an assault upon the manager by 13 operatives.¹

Measures directed toward particular foremen were part of labour's wide-ranging opposition to more stringent work regimes. Operatives were watchful of attempts to weaken privileges, diminish discretion, or increase standard effort levels. The countless incidents constituting this passive obstructionism are now hidden from us. What we observe are moments when some event caused opposition to surface. A few will illustrate. In 1891 a wool manufacturer dismissed an overlooker, compelling the remaining nine 'to do the work which had been done by ten.' The men asked the Overlookers' Society 'whether they must do it; we told them no, consequently they got a week's notice.'² 1,213 weavers at a cotton mill in Hyde left work in 1908 in a dispute over the number of looms to be worked. By the eventual settlement there was to be no limit on machine numbers, each operative to make separate agreements with the employer.³ Spinners at a Sowerby Bridge firm struck work in 1911 over the number of spindles to be attended by each worker, while 405 weavers from Accrington protested at 'excessive speeding up.'⁴ Bricklayers in Dublin stopped work for a day in 1899, seeking an 'apology in consequence of charge of dilatoriness made against one of their number.'⁵ A proposed increase in the number of bricks to be carried was withdrawn after a strike of 60 labourers at Wallasey in 1908. The imposition of an increased workload upon one of their number was blocked by a strike of hauliers at Blaina, South Wales, in 1911. When a coal master imposed a fine of 10s. upon a workman found sleeping he was confronted with a strike of 300 pony drivers.⁶ A stoppage by 1,600 Birmingham cycle makers in 1913 led to the

¹ Board of Trade, *Reports on Strikes*, 1897, p. 67.

² *R.C. on Labour*, C, Vol. II., Q. 11,510.

³ Board of Trade, *Reports on Strikes*, 1908, pp. 114-5.

⁴ *Ibid.*, 1911, pp. 106-7.

⁵ *Ibid.*, 1899, pp. 18-19.

⁶ The fine was rescinded and the case taken before local magistrates, who fined the man 20s. with costs!

withdrawal of fines imposed on workmen returning late from a holiday.¹ The introduction of mechanical time recorders caused a strike of over three months amongst Jarrow shipyard workers, while an 1898 stoppage by Sunderland shipwrights arose from 'what they considered to be an implied reprimand by a member of the firm, who told them to "hurry up."'²

Any employer contemplating the enforcement of more intensive working had therefore to pay regard, not merely to workshop opinion, but to the possibility that there could be prompted a stoppage lasting days, possibly weeks. Even if carrying his point, it was uncertain that the benefit would exceed the costs of lost output, damaged morale, and engaging new hands. The ability of employers to impose their will through supervision was thus limited - a not unexpected fact given the average firm's reliance on delegation and tradition.

The effectiveness of supervision rested on the firm's willingness and ability to impose sanctions on those performing inadequately. Available penalties included fines, demotion, suspension, and dismissal, the last named occupying the largest place in the policies of employers and calculations of employees. As labour resisted fines and lowered wages for less adequate workmen, employers increasingly had no alternative but to dismiss those unable or unwilling to earn the standard rate. 'There are,' said one master builder:

a great many men who have been perhaps years in our employment, and those men are not permitted, although incapable of doing as much work as a man in full health and strength, to receive less wages than such a man...it injures those men, because directly we have a slackness of work we have to turn off a number of men, and under the present rule we cannot pay respect to a man's character beyond a certain extent, but we must immediately tell our foreman to turn off every man who is not up to the mark.³

Dismissal was not costless for the employer. There were the search costs of securing replacement workers, and also the loss of skills and the need to train new members of staff. These costs were obviously greater the more expertise was required for the work (and in particular, the more firm-specific the expertise entailed) and the greater the cost of capital and

¹ *Ibid.*, 1913, pp. 116-7.

² *Ibid.*, 1898, pp. 38-9.

³ *R.C. on Trade Unions*, 1st Report, Q. 2,880.

raw materials. Huberman, for instance, has shown how Lancashire firms spinning coarse cotton-yarn continued to rely on dismissal and high labour turnover to enforce factory discipline in the first half of the 19th century, whereas firms specialising in fine-yarn found that the indirect costs of dismissal - notably wastage from damaged yarn - outweighed any productivity advantages, causing them to place greater reliance on various incentives.¹

Performance and the probability of dismissal were connected directly and indirectly. In the latter case, slack trade saw the employer lay-off less productive workers. 'When we discharge,' remarked an engineering employer, 'of course we discharge all our inferior men first, instead of keeping a portion of the men and discharging *pro rata*.'² The Royal Gun Factory followed a similar policy.³ Although receiving the same wage as a less industrious colleague, the good worker, commented a carpenter, 'has the preference when the times are slack in being kept on, while other men are being discharged. That is an inducement for him to keep in the race and to keep himself in the front.'⁴

In the direct case the worker whose output was insufficient was dismissed. The foreman of the cabinet makers' shop at Maples retained no bad workmen. 'If I do not consider that the man has done justice to the best of his ability I sack him.'⁵ When, said a cutlery manufacturer, an employee was unsatisfactory 'we discharge him.'⁶ 'Not having got sufficient work out' was said to be the commonest reason for dismissing cotton weavers.⁷ Even at Bournville, where dismissal occurred only after 'all the various reformation and remedial agencies and influences have failed,' an average of 16 men and boys, equivalent to 1.5 per cent. of the total, were

¹ Huberman, *Escape from the Market*, Ch. 2.

² *Ibid.*, 9th Report, Q. 16,926.

³ *Manufacturing Departments of the Army*, Q. 1,116.

⁴ *R. C. on Labour*, A, Vol. III., Q. 22,230.

⁵ *S.C. on Sweating*, 1st Report, Q. 7,816.

⁶ *Ibid.*, 3rd Report, Q. 25,074.

⁷ *R.C. on Labour*, C, Vol. I., Q. 899.

discharged annually between 1899 and 1910.¹

The effectiveness of dismissal depended primarily upon the level of unemployment for the labour in question. When this was high the operative's position was weak, for while he would find it difficult to secure employment at a comparable wage the employer anticipated little difficulty in filling a vacancy. It was thus said that, in the plastering trade:

Work during the slack period is always much more intense than when we are busy. Men are then at the mercy of the gaffers. Both he and they know that men are coming round hourly for work. It's awful to know that the gaffer can replace you at his whim. You murder yourself and murder the job in order to be kept on.²

During trade depressions 'by-turn' men appeared at iron works at the changeover of shifts, hoping to fill the place of any absent man. When returning the absentee was asked: "How was it you were off last night? We have been compelled to take this individual on in your place."

This, said a Union leader:

compels the men to work as regularly as they possibly can, and even to work until they cannot work any more - until they are thoroughly exhausted. They are afraid if they do not work regularly they will lose their places.³

When labour markets tightened, workmen felt their position strengthen. During seasons of plentiful work tailors became 'drunk and incapable;' yet, complained a foreman, 'if we discharge those men at this particular time of year, we can get no others...then we are worse off than ever.'⁴ An employer of bricklayers found output varied inversely with the state of trade. '...when trade is good and hands scarce, workmen do not do near the amount that they will do if trade is slack...When men know that their services are valuable, they are more careless, whereas when they know that their services are not so essential they are more careful.'⁵

In this context the importance employers attached to character notes and black-lists can

¹ Cadbury, *Experiments*, p. 91.

² J. Hilton, 'Plasterer's Life', in Common ed., *Seven Shifts*, p. 28.

³ *R.C. on Labour*, A, Vol. II., Q. 14,163.

⁴ *S.C. on Sweating*, 3rd Report, Qs. 28,869-872, 28,880.

⁵ *R.C. on Trade Unions*, 1st Report, Qs. 3,606-7.

be appreciated. By hindering an operative's attempt to find alternative employment they raised the cost of dismissal. A similar result, as we have noted, could be accomplished by paying workmen a wage in advance of the market equilibrium.¹ Empirical research on the payment of efficiency wages and their effect upon productivity is as yet at an early stage.² Krueger and Summers have shown, for the United States, that comparing the years 1923 and 1984 certain industries paid wages consistently above the average for the economy as a whole, while other industries paid wages consistently below the average. Several of the factors associated with this differential are compatible with efficiency wage considerations: the capital-output ratio (the higher the capital-output ratio the greater the cost to the firm of shirking); the profitability of the firm (which provided resources for employers to initiate a 'gift' of higher wages); and the size of the firm (the larger the firm the more difficult is it to monitor performance directly). Layard, Nickell, and Jackson conclude that 'efficiency wages will tend to be a feature of large firms': since 'small firms are less capital-intensive, have lower product-market power, and find it easier to monitor the efforts of workers, it is not surprising that they pay less.'³ On these grounds we should expect the payment of efficiency wages to have been relatively unimportant in the second half of the 19th century, given the preponderance of small firms with little market power and using labour-intensive techniques. Does the evidence support this conclusion? The availability of capital, profits, and firm-size data for the 1920s provides some basis for assessing the role of these factors in wage differentials for 17 industrial groups. The below table sets out this data for 1924 in descending order by wage (though the profit data refers to 1927).

¹ See above, pp. 93-4.

² R. Layard, S. Nickell, and R. Jackson, *Unemployment: Macroeconomic Performance and the Labour Market* (1991), p. 164.

³ *Ibid.*, p. 168.

Table 4. Efficiency Wage Factors in Wage Differentials, 1924

<i>Industry</i>	Av. Wage per annum (£)	No. workers per firm	Fixed assets per worker (£)	Profits per worker (£)
Electricity	204	64	4325	364
Gas	170	170	2581	172
Iron & Steel	154	188	1087	34
Coal Mining	145	989	267	17
Chemical & Allied	141	82	1311	158
Drink	139	52	1218	417
Non-Ferrous Metals	135	66	1052	84
Paper & Printing	134	67	562	90
Textile Finishing	130	108	1051	105
Other Mining & Quarrying	125	68	43	43
Food	120	62	676	90
Electrical Engineering	114	177	660	138
Tobacco	113	141	409	332
Woollen & Worsted	102	126	508	42
Clothing & Shoe	101	60	169	79
Rayon & Silk	94	173	580	N/A
Cotton	90	193	645	33

Sources: C.H. Feinstein, *Domestic Capital Formation in the U.K. 1920-1938* (1965); C.H. Feinstein, *National Income, Expenditure and Output of the U.K. 1855-1965* (1972); A. Chapman, *Wages and Salaries in the U.K. 1920-1938* (1953); *Final Report of the Third Census of Production, 1924* (1931); *Final Report on the Fourth Census of Production, 1930* (1933).

These figures are highly proximate given, not only the problems attendant upon calculating the individual series, but the fact that they relate to broad industrial categories and not individual industries or, more appropriately, specific firms. At best they provide only an indication of possible relationships. As we have noted, Layard, Nickell and Jackman suggest that efficiency wage theories predict that above-average wages will be paid by industries characterised by larger firm size, larger capital-labour ratios, and larger profits. Regression analysis provides one way by which the influence of these variables upon wages in 1924 may be gauged. The linear equation which was found to best fit the above data is as follows:

$$\text{Wage} = 70.4 + .015 (\text{K/L}) + .011 (\text{Size}) + .028 (\text{Profit}) + .567 (\% \text{ Male})$$

$$\begin{array}{cccccc} & (.552) & (.083) & (.118) & (.503) & \\ t=8.5 & t=4.2 & t=0.8 & t=1.0 & t=4.5 & \end{array}$$

R squared = .87 F = 27.6.

The figures in parentheses are the standardised (beta) coefficients. We have added, as an additional variable, the proportion of the total workforce which was male, since this had an important influence on the earnings structure. Women uniformly received lower wages than men in the early 20th century, and trades with a higher proportion of female operatives, such as cotton, wool, clothing, and tobacco, accordingly had relatively lower average earnings. The standardised correlation between wages and the proportion of male workers in an industry is indeed moderately strong at .503.

As will be noted, capital per worker was the efficiency-wage factor with the strongest connection with wages, the standardised coefficient of .552 (and t statistic of 4.2) pointing to a moderate but definite relationship. That for profits (which corresponds with Akerlof's gift-exchange model) indicates, at .118, a positive correlation, but one which the t statistic suggests cannot be confidently assumed to be different from zero. Equally, the monitoring of shirking model receives little support from these figures, the correlation of .083 between wages and firm size being insignificant.

The data, then, are consistent with the possibility that British employers incorporated some elements of efficiency wage criteria into their wage policies - at least when higher capital-labour ratios increased the returns to greater worker productivity. Indeed, many of the more capital intensive industries, like electricity, gas, chemicals, and drink, were ones which have been seen as leading the way in the development of more bureaucratic, paternalist, and internalised labour strategies, underpinned by stabler, oligopolistic, market conditions.¹

Yet these results are far from conclusive. Besides statistical inadequacies, numerous other factors (in addition to efficiency wages and gender) operated powerfully upon average wages during this period. The link between capital intensity and wages, for instance, could have resulted from workers in more capital intensive industries having a higher marginal product, which labour market imperfections allowed to persist. Differences in human capital requirements

¹ C.f. S. Tolliday and J. Zeitlin, 'National Models and International Variations', in Tolliday and Zeitlin eds., *Power to Manage?*, pp. 281-282.

and non-monetary dimensions of work would also be captured by these figures. A true test of the efficiency wage hypothesis would require a more elaborate study taking these additional variables more fully into account. Lastly, although particular firms and industries paid wages above the average for certain kinds of labour, it does not follow that they did so consciously with a view to raising labour productivity. On balance, Gospel is probably correct to summarise that, in the majority of instances during this period, 'British employers thought in terms of money rather than efficiency wages.'¹

Whether the payment of above-average wages has the predicted effect on motivation, absenteeism, and recruitment is still more difficult to establish. However Roger Kaufman, in a study of smaller, non-unionised British firms in 1982, found that employers certainly believed that wage levels influenced these variables.² Although a time of high unemployment, most employers were reluctant to cut nominal or real wages even when this was feasible.

Employers invariably felt that work effort was endogenous and depended upon worker motivation and satisfaction...Wages were viewed by their workers as a reward for performing competently...The firms felt that wage reductions, especially those unaccompanied by credible information concerning a financial crisis, would consequently be received as an affront.³

Similarly some 19th century employers felt that efficiency wages had positive effects on motivation. A Bradford wool-sorting firm, for instance, believed paying above average wages ensured operatives did better work, for 'they are afraid of losing that shop, and they do everything they can to keep it; but if they are in a poor shop they are indifferent, and they do not care whether they work there or not.'⁴ Generous payments by one mill-owner had the effect that 'a spinner reckons the charge of a pair of mules in our factory a fortune for life, he will therefore do his utmost to retain his situation, and to uphold the high character of our yarn.'⁵

¹ Gospel, *Markets, Firms, and the Management of Labour*, p. 69.

² R.T. Kaufman, 'On Wage Stickiness in Britain's Competitive Sector', *British Journal of Industrial Relations*, xxii (1984).

³ *Ibid.*, 107.

⁴ *R.C. on Labour*, C, Vol. I., Q. 6,375.

⁵ Quoted in Lazonick, *Competitive Advantage*, p. 43.

For similar reasons many employers attached additional benefits to a job which workmen would be reluctant to relinquish. In the iron town of Consett, 90 per cent. of operatives were said by the President of the Iron Workers' Association to live in company houses. Threats of eviction were 'common,' the men receiving notice 'that unless they come to an agreement they would have to leave their houses on a certain day...'¹ At the Royal Ordnance factories a workman serving three years was entitled to half his standard wages when sick, a proportion rising to 75 per cent. after 10 years. Such payments offered a 'decided inducement' and helped compensate for wages below the engineering average.² Fringe benefits such as pensions, paid holidays, housing, and sickness insurance, were developed more systematically in the second half of the 19th century by railway, gas, and chemical companies. These, as Gospel points out, were capital-intensive trades where, as we noted in the context of efficiency wages, firms had a greater incentive to see that equipment was worked intensively and labour turnover minimised. They also tended to serve larger and more stable markets, thereby allowing them to provide more regular employment with greater benefits. However, Gospel continues:

The majority of firms in the British economy in the late 19th century enjoyed less favourable product markets and were smaller and less well coordinated. When faced with a downturn in demand, it was easier for them to lay-off workers and it made less sense for them to develop comprehensive internal employment systems.³

To employer threats of redundancy unions presented a formidable challenge, acting to prevent dismissal and reduce its costs. When an operative was considered unfairly disciplined or discharged strike action could result. Once a pit is unionised, said a colliery manager, there is:

a great difficulty in maintaining discipline in the mine. If a person has been doing anything wrong, for example, and he be punished or dismissed for it, perhaps you have the pit laid idle a day or two...and you have to defend yourself by giving your reasons, and then you have [the Secretary]...coming to see about it, and the whole thing must be gone into.

¹ *R.C. on Trade Unions*, 5th Report, Qs. 8,450, 8,459.

² *Manufacturing Departments of the Army*, Qs. 918, 5,788, 5,811.

³ Gospel, *Markets, Firms, and the Management of Labour*, pp. 30-31.

Given such circumstances:

You are exceedingly cautious, too cautious, I think, in discharging a man even when it is necessary, because you know the union are apt to interfere with it...I have kept men for years at the Holmes Colliery that I do not think worth keeping, to the great injury and cost of the colliery, and I would not keep them in the capacity of ordinary workmen were it not that if I were to discharge them the men would say that they are victims of the union.¹

Cotton masters complained they had great difficulty dismissing a worker, a charge not denied by unionists. 'We would be prepared,' acknowledged a card-room official, 'to allow dismissal for great negligence of duties...but we do not allow dismissal to take place on very trivial matters, and we hold out against it.'²

There were, over the years 1897-1900, an annual average of 41 disputes arising out of opposition to dismissals, accounting for approximately 1 in 20 of all labour disputes registered by the Board of Trade. One-half of these disputes achieved a whole or partial re-instatement of dismissed operatives; all demonstrated the costs of discharging hands as a means to discipline. Unions also obstructed the replacement of dismissed hands by stopping the supply of labour to a firm or insisting that new workers be drawn from the narrower ranks of the unionists. In the longer term, many Societies restricted entry of labour into a trade.

Where redundancies were inevitable, workmen pressed, as in the case of promotion, for seniority to be the criterion governing who should be discharged. But in this case employee-preference conformed to that usually regarded as characterising the operation of internal labour markets - namely a commitment to protect, so far as possible, established staff from the threat of redundancy. This, it is argued, causes workers to place a higher discounted value upon the job, making them less likely to resign and more careful to avoid dismissal. It also encourages workers to invest in acquiring firm-specific skills, whilst longer-term attachments promote trust and cooperation between worker and employer.

Firms had reason, therefore, to meet employee requests for senior staff to be given

¹ *R.C. on Trade Unions*, 7th Report, Qs. 14,320, 14,330.

² Hilton, *Unions Obstructive?*, p. 75.

preference when lay-offs were considered, even when senior workers were less productive. Huberman, for instance, has observed that Lancashire cotton firms adopted a policy from the 1820s of laying-off younger workers first during trade depressions. Since the productivity of spinners generally declined after the age of 35 we should, he argues, have expected employers to give preference in periods of bad trade to ‘younger, more dextrous, workers.’¹ In fact, during the depressed years of 1841-51, the proportion of spinners in the fine-spinning sector aged 35 and over increased; while in 1851-61, when business recovered, the proportion fell as firms recruited younger workers.² Firms behaved in this way because they recognised that a commitment to long-term employment relations encouraged ‘higher levels of effort from the *entire* workforce,’ who saw deference to seniority as ‘just and fair.’ Older workers, whose productivity was declining, valued lengthy tenure as a means of smoothing their consumption stream. But for younger workers, also, ‘the lay-off of senior workers would have signalled to them that they should not expect lengthy attachments;’ as a result ‘the present value of their job would have fallen and they would shirk.’³

However at the coarse-spinning mills located in rural areas, according to Huberman, younger and more skilled spinners were retained by firms during downturns. This difference he attributed to the circumstance that in isolated rural areas the family unit as a whole depended on the local mill, so it was not so much the continuity of employment of an individual that was important, but of the family. If older hands were being demoted to less skilled jobs like packing and sweeping, younger household members were being advanced.

Reducing the cost of dismissal, most obviously through unemployment benefit, was another dimension of union policy. ‘By contributing to the funds of their organisations,’ observed Williams of the men in the fitting-shed, ‘they are insured against accidents, strikes, or

¹ Huberman, *Escape from the Market*, p. 127.

² *Ibid.*, p. 129.

³ *Ibid.*, p. 127.

dismissal, and are thus placed in a position of considerable independence.’¹ To a similar ‘independence’ did a cotton manufacturer attribute the indiscipline of his hands. If a discharged hand had ‘nothing to fall back upon’ the prospect of redundancy would ‘exercise some influence upon his conduct.’ As it was, the works manager declared there would ‘never be any putting an end to the difficulty while the Club give the men 10s. a week, no matter what their fault may be (short of drunkenness and stealing) while they are out of work.’² Unions supplemented benefit payments by placing operatives with other firms, resisting black-lists and character notes, circulating notice of vacancies, and paying travel allowances. The shadow of redundancy was not lifted from the worker, and it remained an important factor in his effort supply decision. Some of its more damaging effects were, however, tempered, increasing the operative’s confidence in his ability to secure from work those things he valued.

Employers allowed workmen significant discretion with regard to the quantity of effort expended and its character. This held equally under time and piece wage systems. In neither case did employers fully exploit a structure of rewards and penalties capable of securing a reasonable maximum of production. By their own admission they operated ceilings to piece-earnings, of which output limitation was a corollary. And that labour regulated effort under time wages was disclosed by those fears of ‘speeding up’ evoked when a move to piece-wages was mooted. The emphasis across industry was upon the stabilisation of effort at reasonable cost. Most employers were indeed confident that work of a customary quantity and quality would be performed. But it occurred at effort levels below those feasible, and in this deficit resided the ‘slack’ characterising the British economy.

¹ Williams, *Railway Factory*, pp. 100-103.

² *R.C. on Labour*, C, Vol. I., Qs. 3,467-8, 3,621.

Chapter 8

The British System of Industrial Relations: Compromise, Stability, and Class

The pattern of conduct characterising industry in the second part of the 19th century, with its low levels of supervision, effort, and wages, was the product of a society seeking, within constraints imposed by the market, to sustain an industrial order conforming to its needs. Upon this endeavour workmen and employers were jointly engaged at a series of levels.

Increasingly faced by associations of workmen, employers recognised that to protect their interests they too needed to form collective organisations, and by 1900 there were 43 national employer federations, with local associations in nearly all major industries.¹ However originally hostile in intent, employers began to awake to the advantages of regularising collective negotiations, and there developed from the 1860s in such industries as cotton, iron and steel, hosiery, and footwear, conciliation mechanisms to resolve disputes. The stable relations between employers and employed, which unions helped to create, were, said Shadwell, the ‘great advantage’ England possessed over her competitors. ‘Nothing has struck me more...than the remarkable difference of attitude towards trade unions displayed, in private, by employers in this country and in the others.’ In Germany and America they were indifferent or hostile; in England ‘I have heard unions unfavourably criticised and condemned, but I have far more often heard from employers and managers fair and even friendly expressions of opinion.’²

Once initiated, the movement toward trade organisation gathered momentum as interests on both sides of industry had an incentive in strengthening it. A firm, for instance, belonging

¹ Perkin, *Origins*, p. 120; Price, *British Society*, p. 94.

² Shadwell, *Industrial Efficiency*, pp. 559, 552. Gospel notes that British unions enjoyed greater employer recognition the late 19th century than in any other industrial country. [*Markets, Firms, and the Management of Labour*, p. 31.]

to a manufacturers' association would be likely to implement the terms of a wage agreement, and expected the union to ensure other firms did likewise. Indeed, it was sometimes the case that employers paying to an industry standard supported strikers in smaller firms which sought to undercut established rates.¹ Unions appreciated the responsibilities arising out of collective bargaining. When the Society of Compositors found an employer paying wages below the London scale representations were made, and 'if he failed to pay it in all its parts we should...strike the house, because we should do that in the interests of the scale.' 'We are,' continued the Society's Secretary, 'bound to support not only ourselves but the fair masters also...'² A firm subjected to external regulations had henceforward a motive to join the association and participate in the bargaining process. By these means did collective negotiation extend its sway within industry.

But why did employers not combine to attack trade unions more forcibly to secure a free hand in the conduct of industry? Some reasons have already been suggested. Few employers regarded unions as unequivocally bad. By their regulations they checked competition. Wage lists helped protect established firms from aggressive price cutting, while lengthy apprenticeships limited the supply of labour and hence the entry of new firms into a trade. At no point did sufficient numbers of employers believe the advantages outweighed the risks to an extent which justified a wide-ranging assault upon union power. Even where groups of employers united to form a common front against unions, they were, says Zeitlin, 'rarely willing to subordinate their individual autonomy to the demands of collective action on a long-term basis.'³ In many industries, iron and steel and cotton being examples, employers, divided amongst themselves and operating in competitive markets, were less well organised than their operatives, and co-operation with labour on the basis of established procedures appeared the only realistic course.⁴

¹ C.f. Huberman, *Escape from the Market*, p. 86; see also below, pp. 290, 323 for instances of this phenomenon in the flint glass trade.

² *R.C. on Trade Unions*, 10th Report, Q. 19,904.

³ J. Zeitlin, 'From Labour History to the History of Industrial Relations', *Economic History Review*, xl (1987), 175.

⁴ Lazonick, *Competitive Advantage*, p. 193.

This point is worth emphasising. To ask why employers co-operated with labour organisations implies they were conscious of a choice and able to realise their preference. No such assumption can be made. Employers themselves appreciated that unions were but the formal manifestation of a system of labour regulation which possessed several advantages. Delegating the day to day organisation of production to his workforce increased the time available for overseeing the commercial affairs of the business or any other activities to which the employer felt drawn. What is more, most manufacturers catered for highly differentiated markets. Complex capital goods such as ships and heavy machinery were built to customer specifications, while even in newer consumer trades like motor vehicles competition, Zeitlin remarks, ‘revolved more around models and designs than price alone...’¹ In this context of short production runs ‘bureaucratic systems for the administration of production and large-scale investment in special purpose equipment’ rarely appeared profitable. What this method of manufacture rather required were workmen of all-round-ability. These Britain possessed in plentiful and cheap supply, and this labour resource the strategy of ‘responsible autonomy’ effectively exploited.²

Individuals and organisations tend to become accustomed to institutions and seek to accomplish their ends by working within existing rules and conventions. Learning by doing reinforces this stability: over time people become steadily better at operating a given set of institutions. Even if an institutional structure is considered less than optimal, it does not follow that movement to another will occur. Substantial transaction costs are entailed in institutional change, and only when groups with sufficient bargaining strength judge it worthwhile to devote resources to a restructuring of institutions will this kind of change occur. For most of the time there prevails an ‘institutional equilibrium,’ in which given the bargaining strengths of players, neither finds it advantageous to devote resources to restructuring agreements.³ British industry

¹ Zeitlin, ‘From Labour History’, 174.

² C.f. Gospel, *Markets, Firms, and the Management of Labour*, p. 32.

³ North, *Institutions*, p. 86.

provided an example of such an equilibrium. To neither workmen or employers did the procedures governing production appear the best conceivable. But no important group was prepared to disrupt them with a view to transforming the social context of industry. The majority of British firms, comments Gospel, small and medium in size, lacked the financial and organisational resources, to push through a thorough transformation of production systems.¹ Indeed they had learned, according to Fox, to put stability before innovation if this was contested, and many had made significant investments in the prevailing system 'in terms of the time and patience required for the relevant committees, conciliation boards, or procedures, and in terms of the slow and often painful learning of negotiating skills and techniques...'² If what existed was not the best, it would, in a phrase familiar at all levels of industry, 'serve my time.'

There should also be recalled the absence of any realistic alternative to the existing methods. Only with the development of Scientific Management and the study of industrial efficiency did comprehensive approaches to the reorganisation of production become available. Even then employers showed themselves reluctant to apply the new techniques. In their history of Scientific Management, Urwich and Brech could cite only one firm operating the system prior to 1914.³ Of the 201 examples of the application of Scientific Management catalogued by an American writer in 1917, Britain accounted for four.⁴

Partly this reticence reflected the costs and risks of introducing the system, magnified by labour opposition and the inapplicability of Taylor's recommendations to many small firms.⁵ Yet cultural factors also were at work. Taylor declared the essence of Scientific Management to lie in a 'mental revolution,' with workmen and employers appreciating that their interest lay,

¹ Gospel, *Markets, Firms, and the Management of Labour*, p. 50.

² Fox, *History and Heritage*, p. 269.

³ L. Urwich and E. Brech, *Making of Scientific Management* (1949), II. 162-3.

⁴ Levine, *Industrial Retardation*, p. 67.

⁵ For the scepticism exhibited by British shipbuilding employers towards the economic benefits of Scientific Management and large-scale centralised production, see A. Reid, 'Employers' Strategies and Craft Production: The British Shipbuilding Industry 1870-1950', in Tolliday and Zeitlin, *The Power to Manage?*

not in securing a greater share of the industrial surplus, but in maximising its growth through the substitution of 'exact scientific investigation and knowledge for the old individual judgement or opinion, either of the workman or the boss...'¹ The material environment of the workplace was to be subordinated to the increased consumption and leisure high output rendered possible. Nothing suggests employers were significantly more susceptible to such a 'revolution' than their operatives. Workmen sought things from work besides income, and the same was true of employers. They valued the status differential between themselves and their operatives. They subscribed, in part, to the ideology of paternalism, utilising some of the income they received not for consumption or making more profits, but to improve the condition of their employees. In the management of industry the employer manifested a conservatism at odds with efficiency, his faith in inherited techniques causing him to overlook inadequacies which drew the attention of others. 'The idleness and loss of time in a workshop,' stated Howell, 'is as often due to the want of effective organisation, and proper foresight, as it is to the listlessness or sloth of the labourer.'² Writing in 1920, Powell suggested that low output normally indicated the 'incompetency or indifference' of management. 'The policy followed by many manufacturers,' he continued, 'might almost have been taken as indicating a preference to make, rather than manufacture - if the shade of meaning be appreciated.'³ For this they attracted some criticism from labour. Reporting to the Mosely Commission, G. Lapping of the Leather Workers' Society attributed the industry's poor productivity to the employer. 'He sticks too much to the old ideas. He does not keep pace with the time. He produces a good article, but that is not all that is required.' Lapping called upon employers to refit factories on modern lines, provide comfortable working conditions, and pay high wages - even if more was expected in return.⁴

In considering employer attitudes towards the social relations of production, it is

¹ Cited in Urwich and Brech, *Making of Scientific Management* (1945), I. 35.

² Howell, *Conflicts of Capital*, p. 266.

³ Powell, *Output Problem*, p. 3.

⁴ Mosely, *Industrial Commission*, p. 172.

necessary to appreciate that they did not regard themselves as engaged in an on-going conflict with their workpeople. Strikes, for instance, were rare in much of the economy. Over the period 1893 to 1913 an average of 2.6 per cent. of those employed in industry and transport engaged in strike action each year. The typical worker could expect to strike once every 39 years. This infrequency of strikes reflected the fact that production generally proceeded by established means, each side respecting the interests and preferences of the other. In some cases special influences made for harmony: a large firm might practice generous paternal provision; a small enterprise could develop personal relations with its employees. E. Southwell attributed the 70 year absence of strikes at his carpet making firm to his family's habit of 'seeing a good deal of the men and knowing them and interesting ourselves in them...the men bring their private troubles and domestic difficulties, and always have done...'¹ From such contacts could arise sentimental checks to business practice. Sturt, for instance, believed that under his management the wheelwrights had grown 'not so much lazy as leisurely.' How to mend the matter was unclear:

Business was troublesome enough even on the best of terms, but I could not have found the heart to go on with it all at the cost of the friction which must have come if I had begun trying to 'speed-up' my friends and instructors.²

Constraining the behaviour of both employers and workers was the need to sustain co-operation by checking certain desires so as to accommodate those of others. Over time compromising in this way ceased to be deliberate, the behaviour to which it gave rise becoming part of the accepted framework of rules and norms rendering production possible. On occasion a conventional practice was questioned, an interest infringed. Conflict, strikes, lock-outs could then ensue. But in general workmen and employers took one another for granted, each adjusting their conduct to the other.

Unions operated within the existing system of institutions. True they exaggerated as well as depressed certain features, and found some of their effects condemned by employers. Yet

¹ *R.C. on Labour*, C, Vol. II., Q. 15,481.

² Sturt, *Wheelwright's Shop*, p. 200.

emerging in numerous trades over many years, workmen's societies became integral to that industrial civilisation which had evolved by the late 19th century. It did not suit everybody. A few, on both Left and Right, were keen to overthrow it, and found unions a convenient target for their criticism. However it was a testimony to the solidity of the established culture that such projects hardly engaged the attention of the typical worker or employer.

The American Contrast

Behind many criticisms of British workshop practice has been a comparison with the United States generally deemed unflattering to employers and workmen alike. It is alleged that in America the two sides of industry co-operated to maximise production. Employers were happy to see operatives receive high earnings, provided they justify them by high productivity. Workmen, in turn, responded to incentives and welcomed new machinery, with its promise of greater output and wages. America, in short, enjoyed the fruits of a virtuous circle: a shared commitment to growth promoted productivity, which vindicated and reinforced co-operation. How refreshing a prospect after the vicious circle of British industry, where fear and jealousy bred rate cutting and output limitation. In America economic life was regarded as a positive sum game - one person's gain being compatible with another's. A zero-sum conception prevailed in Britain: if an employer or consumer gained, a worker or producer expected to lose.¹

With regard to these characterisations we make only a few remarks, chiefly to highlight certain features of the English case. First, it is generally recognised that by the late 19th century labour productivity in the majority of American industries exceeded that in Britain. It appears likely that differences in effort levels were one factor accounting for this disparity. Working hours were longer in America, and that the intensity of labour was greater was the opinion of workers as well as employers. The manager of an engineering firm was struck by the 'terrific energy' of American operatives.

C.f. Austin and Lloyd, *Secret of High Wages*, Ch. VI.

To return to an English shop...and to see a group of 40 surface grinders in the charge of 20 men, all standing idly watching the machines work, having literally nothing to do for 90 per cent. of their time, is a spectacle that sickens and angers one...¹

George Barnes, leader of the A.S.E., agreed that more work was turned out in an hour by an American engineer, but added that there was 'a qualitative as well as a quantitative efficiency.'² Other members of the Mosely Commission formed a similar impression. A representative of Ironfounders' Society concluded that a moulder in the United States produced 25 per cent. as much again as in England; of this differential 40 per cent. reflected extra effort and 60 per cent. better facilities.³ English moulders employed in America agreed that they worked 'a little harder.' Another unionist in the iron trade was informed by a manager that:

Your workman is the best all-round fellow in the world. His only fault at home is that he is a bit too conservative in his work, but he comes here and takes his coat off, and soon lets everybody know the stuff he's made of.⁴

The greater intensity of work in America reflected a range of cultural influences. W.J. Ashley, who spent several years in the United States, believed Americans 'the most individualistic people that have ever lived on the earth.'⁵ With each person responsible for his own well-being, it was essential that the individual maximise his earnings. And these were a means, not only to enhanced consumption, but social mobility. Members of the Mosely Commission were struck by the 'greater opportunities for working men to rise in the social scale of life in America,' there being higher wages and an absence of those cultural and educational obstacles to advancement existing at home.⁶ 'It was easier,' writes Ashley, 'speaking in general terms, for an able or a particularly thrifty (or selfish) man to rise in life than it was in

¹ Cited by Pratt, *Trade Unionism*, p. 189.

² Mosely, *Industrial Commission*, p. 68.

³ *Ibid.*, p. 28.

⁴ *Ibid.*, p. 50.

⁵ W.J. Ashley, 'Economic Atmosphere of America', in *Surveys Historic and Economic* (1900), p. 405.

⁶ Mosely, *Industrial Commission*, p. 135.

England...'¹ The approach to production developed by Ford in 1913 saw the culmination of these attitudes to work. Ford introduced continuous flow production, each operative performing the same task on the cars passing before him, the speed of work being set by the conveyor. Anyone unable to keep with the pace was dismissed. To compensate for this deterioration in working conditions Ford reduced daily hours from nine to eight and doubled standard wages to five dollars a day.

The example of Ford emphasises another feature of American industry favourable to enhanced effort, namely the preparedness of employers to pay high wages. It was a common theme in contributions to the Mosely Commission that American employers were far less prone to cut piece-prices than their British counterparts. W. Steadman, a representative of the T.U.C., stated that:

Where skilled workers are employed on the piece-work system there is no attempt made by the employers to prevent a man earning more than a certain amount. On the contrary, the more the output the higher the wages.²

T. Ashton of the Operative Cotton Spinners found employers did not 'make a practice of cutting down' piece-rates, 'and this consideration on their part is favourable to their scheme of piece-work labour.'³ Far from exhibiting resentment or suspicion, employers spoken to by T. Flynn of the Society of Tailors 'were openly delighted with workpeople who earned high wages.'⁴ Accounting for this attitude, it was generally agreed that employers realised high wages promoted efficiency. 'Cutting,' said Barnes, 'is not so much resorted to in the States as here, because there is more general recognition, both on the part of the employers and employed, of the value of increased output to both sides.'⁵ J. Cox, a member of the Associated Iron and Steel workers, did not find American employers 'so pertinacious over the individual workman's wages as

¹ Ashley, 'Economic Atmosphere', p. 415.

² Mosely, *Industrial Commission*, p. 258.

³ *Ibid.*, p. 135.

⁴ *Ibid.*, p. 156.

⁵ *Ibid.*, p. 69.

several in this country. There the general idea is - reduce costs by improved methods and greater output; not by a low wage to the individual workmen.' English workmen in America confessed to Shadwell to putting more energy into their work than at home. Pressed to explain why, 'they always came back to the earnings.'¹

However any picture of America as an individualistic, maximising economy must be qualified. Unions, although weaker than in England, were not absent. And any weakness reflected, not only cultural influences, but the aggressively anti-union policies of many employers. More important, inter-war studies suggested that American workers sought, like their British counterparts, to bring order to their working lives by restricting output. It was at the Western Electric plant near Chicago that Mayo showed how workers formed groups with informal hierarchies and codes of conduct, which included standard levels of performance. Shortly afterwards Mathewson found output restriction emerging from contexts familiar to any student of the British economy. Indeed Scientific Management, with its emphasis upon detailed job control and incentives, was partly a response to the unreliability of the worker's commitment to high intensity working.

It seems safest to conclude that, whilst effort limitation occurred in American industry, it took place at a higher level of exertion than in England. Precisely how cultural, economic, geographical, and physiological factors combine to determine the effort 'equilibrium' of any society, and why this equilibrium differs between societies, is a matter upon which we are largely ignorant.

The Class System and Attitudes Towards Incentives

What is apparent is that the social context of industry was markedly different in America than in England. In the latter case society was the product of a long evolution and bore characteristics acquired when growth could not be taken for granted and it was a fair assumption that the gain of one section of the community must take place at the expense of another. Many economic

Shadwell, *Industrial Efficiency*, pp. 389-90.

choices remained potentially zero-sum. An acceleration in production could entail the sacrifice of valued features of workplace life or the discharge of a workfellow. Of special importance was the class system. Although the traditional hierarchy of wealth and status was altered by industrialisation, it did not disappear, and in turn influenced the response of operatives to incentives.

Income distribution was highly unequal. Bowley estimated that in 1880, of the 14,770,000 persons earning incomes, four per cent. received nearly half the total. The 83 per cent. classed as manual wage labourers accounted for only 42 per cent. - equivalent to an average income of 15 shillings a week. In 1913 the wealthiest six per cent. of the population absorbed 48 per cent. of national income, representing a weekly sum of £17, whilst the share going to wage earners, constituting 73 per cent. of those in receipt of incomes, was 36 per cent., the weekly average standing at one pound.¹

Such inequalities meant that the mass demand for standardised products developing in America was largely absent in Britain. A good example was the motor car. Underpinning Ford's continuous flow production was, notes Tolliday, an 'expansive, egalitarian market' which absorbed in 1923 almost two million Ford cars alone. In comparison, total U.K. car production was only 182,000 in 1929.² On the other hand the few very wealthy people tended to spend a significant share of their income on services or the luxury products of workshops and small factories, demand for which was price inelastic. Employers and workmen therefore formed a rather static view of economic opportunities: with a comparatively fixed demand, an increase in productivity could only be accommodated if prices or employment fell. Again, the car industry provides a useful illustration. The British market during the 1920s was, says Tolliday, a 'quasi-luxury one dominated by the well-off who bought cars of medium size and price.' No single firm attained sales of more than 70,000 per annum before 1939: 'the keynote of the market was

¹ A.L. Bowley, 'Change in the Distribution of Income 1880-1913' (1920); reprinted in A. Bowley and J. Stamp, *Three Studies on the National Income* (1938), p. 76.

² S. Tolliday, 'Management and Labour in Britain', in Tolliday and Zeitlin eds., *Automobile Industry and Its Workers*, p. 32.

quality and continuous improvement rather than quantity and price competition.’¹

These market effects were not the only consequence of unequal income distribution. With most operatives born into straightened circumstances, their material aspirations tended to be correspondingly limited, and this weakened their willingness to work harder in pursuit of increased income.² Pratt, for example, found it said that the output from file-cutting machines in Sheffield was below that achieved in America. This could not be traced to trade unionism, which was ‘of very little account,’ but ‘to a lack of ambition on their part, and to a spirit of contentment which prompts them to be satisfied with the wages they get - such wages ranging from 30s. to £3 a week - rather than to try and earn more by working harder.’³ Marshall similarly believed many workmen were ‘relatively indifferent to a prospect of high reward for enlarged efficiency.’⁴ The weeks prior to a holiday sometimes provided an exception, with piece-workers raising their output to enable them to cover increased expenses.⁵

When wages did increase, the operative frequently chose to take the gain in the form of a reduced intensity of working or a higher level of absenteeism. Tawney reported that one result of the introduction of minimum wage rates into chain making had been improved product quality, for workers were ‘no-longer obliged to work with the same frantic speed as before in order to make a pittance. They tend, therefore, to work more slowly, and, because they work more slowly, to produce better chain.’⁶ Outworkers, as we have noted, applied themselves irregularly after receiving their wages, and tended to carry the custom into the factory. Coalminers were another group whose absenteeism varied directly with wages. When coal prices rose between 1870 and 1872 miners in Northumberland, Durham, and Lancashire took advantage of the

¹ *Ibid.*, pp. 32-3.

² Florence, *Labour*, pp. 98-100.

³ Pratt, *Trade Unionism*, p. 141.

⁴ Marshall, *Industry and Trade*, p. 353.

⁵ Florence, *Economics of Fatigue*, p. 257.

⁶ R.H. Tawney, *Establishment of Minimum Rates in the Chain-Making Industry* (1914), p. 112.

increased payment per ton to bring their daily hours down from ten to the eight prevailing in other districts.¹ Shipyard riveters, according to Pratt, though able to earn one pound a day, were 'content to earn from 12s. to 15s.,' and one-third of their time was wilfully lost. 'On the Monday, Tuesday, and Wednesday, especially after each pay-day, the streets and the public houses in the shipbuilding centres will be filled with idle men.'² That these remarks were not unfounded is shown by figures discussed by Vernon, relating to four groups of shipyard workers, each of 200-250 men, between 1900 and 1913. Absenteeism was high and positively affected by income. Drillers received the lowest rate and lost only 13 per cent. of their time on average. The caulkers, who were better paid, lost 28 per cent., while the still better paid riveters were absent for 34 per cent. However the platers, whose wages were highest, lost only 16 per cent. of their time. Variations in pay caused 'more or less synchronous variations in time keeping.' Attendance was poor in 1900-1902, when pay was fairly good, riveters, for instance, losing 43 per cent. on average. It improved between 1904-09 when pay was low, though a gradual deterioration then followed as pay increased.³

During World War Two, also, rising wages were found to be associated with increasing absenteeism in many industries. In an official study of the coal industry, for instance, W.H.B. Court remarked upon the difficulty 'public opinion' had in grasping why 'the mineworker's output did not rise as wages went up.' Yet, Court continued:

An assumption about the conduct of an individual is as a rule, however, also an assumption in some sort about the kind of society in which he lives and of which he is a member. The individual's demand for income, his views upon the getting and spending of money, are usually formed by the part of society which he is most in touch with. For most men the social code, whatever it may be in their time and place, is something which they accept as given and take over with little demur or questioning. Before one can assume that a demand for additional income existed in the coalfields and could easily translate itself into extra work, one has to ask whether the mining community had those standards or those habits.⁴

¹ J. Munro, 'Probable Effects of an Eight Hours Day on the Production of Coal', *Economic Journal*, i (1891), 255-6.

² Pratt, *Trade Unionism*, p. 51.

³ Vernon, *Industrial Fatigue*, p. 152.

⁴ Court, *Coal*, pp. 328-9.

In fact, argued Court, the standards of expenditure of the average mineworker's family had been modest for many years and this, combined with the effects of unemployment and war-time rationing, meant that when wages rose 'some mineworkers, finding it easier to make the money required for their needs and amusements, tended to take out part of their earnings from the industry not in the form of money but of leisure.'¹

The dampening effect on productivity of a fixed standard of consumption was reinforced by its influence upon employers, who subscribed to the view that workers had limited needs, so that higher wages would, if anything, discourage application. The Superintendent of the Royal Carriage Department did not pay his foremen for overtime and could see no reason, in view of generous sick and holiday pay, to 'expect those foremen to want more wages...'² Tawney found it a belief prevalent in tailoring that women workers, who were regarded as simply supplementing the family income, 'did not need more than a comparatively low weekly wage,' and that with an increase in piece-rates they would produce less work. "They are content," said one firm, "to go easy and earn from 10s. to 12s. per week." "Our girls are quite content," said another, "to earn 8s. to 10s. a week."³

But class rested upon more than income, and the operative realised that increased wages in themselves would not secure his advance through society. Accent, etiquette, dress, education, manual labour itself - all stamped the worker for life and precluded genuine mobility. Few operatives, noted a steel worker, entertained:

any illusions about 'getting on in the world.' Most workers are resigned. Workshop life and workers' earnings may not be good enough for them, if you question them about it, but they expect nothing else.⁴

Workers, like everybody else, 'knew their place' - knew where they belonged, socially as well as geographically, and where they could 'be themselves.' An element of fatalism was present,

¹ *Ibid.*, p. 330.

² *Manufacturing Departments of the Army*, Q. 2,059.

³ Tawney, *Tailoring Industry*, pp. 124-5.

⁴ Sterling, 'Steel Works', p. 96.

yet this also had its compensations. In many areas of life the worker was free of responsibility. It was the higher classes which assumed this burden as the counterpart to their numerous privileges. Stephen Spender described, in a 1943 *New Statesman* article, how he found workmen typically lacking 'a sense that they are sharing in the responsibilities of war. On the contrary, their great consolation is to feel they are not responsible. At a discussion on the loss of Malaya amongst the firemen, the men talked with a certain satisfaction about the hopeless incompetence of the "ruling class" and the "bosses".¹ Childlike in their impotence, workers could appear childlike in their conduct also - 'tiresome children sometimes.'²

The acceptance by most ordinary people of their lot disabled ambition. For the desire for social advancement implies a dissatisfaction with what one is born to, a wish to be 'mobile'. The spirit of discontent was not absent. We witness it in emigration: more than five per cent of the population left Britain permanently between 1900 and 1914.³ We can read about it in those books produced by men of literary ambition forced to sustain themselves by manual labour. Alfred Williams was one. Culture, he observed, brought a higher sensitivity and rendered a person 'less able to endure the hardships of the toil, and the otherwise brutal and callous environment' of the factory floor. It was 'pure myth and fallacy' to believe that education would make a man 'happier at work and better satisfied with his lot and condition...'⁴ Yet the reactions of a Williams or an emigrant were untypical. Most workmen failed to question their position and entertained no serious thoughts of escape. It was this which caused the socialist and frustrated writer Robert Tressell to dub them the 'Ragged Trousered Philanthropists.'

The term 'working class' itself blurs a series of finely graduated ranks. A man occupied a distinctive place, not only within society, but within a class, and could prove as jealous of encroachments upon his position as any employer. Consider the comments of the General

¹ Cited in Nichols, *British Worker Question*, p. 7.

² Sturt, *Wheelwright's Shop*, p. 55.

³ Offer, *First World War*, p. 121.

⁴ Williams, *Railway Factory*, pp. 290-1.

Secretary of the Boilermakers' Union on the sometimes fractious relations between the ship's platers and their unskilled 'helpers.'

Q. There are certain divergencies of interest between the members of your Union and the members of the Tyneside Labour Union?

A. There ought not to be if we could only get the labourers to keep their places; that is the difficult point of the dispute.

Q. You mean there is insubordination?

A. I mean the plater is the mechanic, and as a matter of course the helper ought to be subservient and do as the mechanic tells him.¹

Nobody was truly at the bottom, for everyone believed themselves slightly above somebody else.

In such circumstances mobility ceased to be unequivocally good. For the individual who raised himself was likely to encounter general disfavour. Those occupying higher class positions resented his emulation, whilst members of the class the individual aspired to leave considered him to exhibit a contempt for his peers. Such an individual was held to have pretensions above himself, to be arrogant and a fair target for sarcasm and jeers. One engineer believed that the 'feeling of antagonism' towards men who had advanced within the trade had, by the 1860s, 'become very strong, and particularly amongst the less informed and less skilful members of mechanical trades.'² Behind criticisms of sub-contracting often lay disapproval of the worker who sought to become a small employer. We object, said the Secretary of the Ironfounders' Society, to a man raising himself:

at the expense of his fellows, because whenever such a man is put in it is harder to work for such a man than it is to work for a *bona-fide* employer. I would prefer to work for a gentleman who is to realise a certain profit out of me than for a man who is to step in between me and the gentlemen.³

For those men who become middlemen:

have not merit more than other men, they have not talent more than other men, nor have they ingenuity more than other men; but they have more effrontery in them. Hence they push themselves into positions...⁴

These general aspects of class combined with the experience of poverty and the upheavals

¹ *R. C. on Labour*, A, Vol. II., Qs. 20,801-802.

² *R.C. on Trade Unions*, 9th Report, Q. 17,919.

³ *Ibid.*, 5th Report, Q. 8,694.

⁴ *Ibid.*, Q. 8,757.

wrought by industrialisation to produce a pervasive fear of failure. Even if successful, the upwardly mobile individual stood to lose much - noticeably the ready acceptance of those around him. But if he should fail, humiliation and poverty would compound his troubles. Workmen consequently valued security and order above the chance of an uncertain and seemingly elusive gain, and these the class system offered.

With class such an important factor in behaviour, there naturally evolved an approach to industry emphasising the adjustment of relations between classes and interest groups. The attention of producers focused more upon the making and distribution of the cake than its size. Relative incomes mattered, and growth which saw one class prosper relative to another could appear undesirable to those whose wealth was increasing less rapidly. It was not only the hierarchy of incomes which was important, but the hierarchy of authority, privilege, and permissible conduct. Every status group was watchful of the fortunes of the others, with the result that, in the words of a contributor to *The Organiser*, 'the energies of masters and men are directed against each other, instead of to the discovery and operation of the least wasteful and most efficient means of production...'¹

Institutions such as collective bargaining reflected these preferences. In so far as people seek to maximise, they do so within the framework of constraints and incentives created by the institutional structure. Where this encourages the pursuit of gain *via* redistributive activity, skill and strategy will be directed to this end rather than the improvement of productivity.² Yet a society of this kind is not necessarily in the grip of self-defeating impulses. It may be contrasted with one which, although valuing status, places no constraints upon personal ambition. The result will be what Frank calls a 'high-status prisoner's dilemma.' Each individual will seek to gain over the next only to find, once he has worked harder and increased his income, that his neighbour acted similarly leaving his relative standing unchanged. He has run merely to stand still. By slowing the 'positional treadmill,' constraining the self-seeking conduct of individuals

¹ *The Organiser*, July 1914, p. 8.

² C.f. North, *Institutions*, pp. 9, 78.

and reconciling people to a class position determined by factors besides income, British society avoided this collectively frustrating upward movement in effort levels.

Chapter 9

Forces for Change and Stability 1900-1914

The social equilibrium we have described was a tendency rather than a fact, and several influences operated by the late 19th century to make for employer dissatisfaction with established effort levels. One, as we have noted, followed upon the activities of trade unions, who in adopting a calculative attitude to labour conditions further weakened the hold of custom upon industry and encouraged the assumption that labour and capital had interests which were opposed. Secondly, mechanisation gave employers an incentive to raise output so as to spread increased fixed costs over larger numbers of units. What is more, having installed machinery, it was important for the employer that effort levels be maintained. Tensions associated with this adjustment were exacerbated by the growing propensity of engineering firms to specify feasible rates of output for their machines 'so greatly in advance' of what was obtained that 'much interest was awakened.'¹

Reductions in hours worked were another element making for increased output per hour. This change was concentrated in the years 1872-4, when a general movement for shorter hours replaced a 63 hour working week with one of 54 hours.² In so far as reduced hours led to a fall in output, average fixed costs increased, and so, too, did labour costs per unit, unless those on time wages acquiesced in lower weekly pay - which was far from the rule. Employers reacted by seeking to intensify working. This was, in fact, what proponents of reduced working hours recommended, nearly all of whom claimed that the loss to output would be partly off-set by increased production per hour.³

¹ Powell, *Output Problem*, p. 117.

² R.C.O. Matthews *et. al.*, *British Economic Growth 1856-1973* (1982), p. 71.

³ C.f. J. Rae, *Eight Hours for Work* (1894), p. 93.

A fourth factor was the threat of intensifying overseas competition. This occupied a special place, in that it impacted on the economic system in general and contributed to other developments making for disequilibrium (such as mechanisation). British manufactured exports as a share of world manufactured exports fell between 1872 and 1913 from 46 to 27 per cent. While over the final three decades of the century British manufactured exports failed to increase in value, manufactured imports grew from £10 million to £16 million. Their share of total imports, seven per cent. in 1850, was twenty per cent. in 1913.¹ Especially striking was Germany's expanding presence in the British market, to which were exported significant amounts of chemicals, iron and steel, clothing, and such items as prints, toys, brushes, pianos, glass, and scientific instruments.²

Discerning observers attached greatest weight to developments across the Atlantic. For it appeared that American workers were capable of producing more output per hour than British workers, even when operating comparable machinery. Shoe making supplied a notable instance. Printing the same. When linotype composing machines were introduced into London in the 1890s the men objected to the use of output-counters, and the machines were set to run at 40 per cent. of the American rate.³ In his report to the Mosely Commission, a representative of the Leather Workers' Society noted that 'the machinery in the States is run at a higher speed than our own. They are not so afraid of overdoing it as we are and treat a breakdown very lightly.'⁴ P. Walls, of the Blastfurnacemen's Union, attributed part of the higher productivity in American foundries to the greater speed of the machinery.⁵ Even in the cotton industry, where British operatives produced more per hour than nearly all competing nations, America alone provided

¹ P. Mathias, *First Industrial Nation* (2nd edn., 1983), pp. 223, 433.

² D. Read, *England 1868-1914* (1979), pp. 284-7.

³ R. Price, 'The Labour Process and Labour History', *Social History*, viii (1983), 59.

⁴ Mosely, *Industrial Commission*, p. 170.

⁵ *Ibid.*, pp. 15, 18.

an exception.¹ Prior to the First World War the British standard of four looms per weaver compared with an American average of six or eight.²

Confronted by foreign competition, or anticipating its emergence, employers in a number of industries made a concerted attempt to lower costs in the decades before the First World War. One means by which they hoped to do this was by raising the level of effort, for this could reduce average costs in two ways. First, if payment per unit of effort (i.e. the standard rate) remained unchanged, greater output would permit overhead costs to be spread more widely. Second, if effort increased in a greater proportion than wages the standard rate would decline. Unfortunately these two processes ran counter to one another. Lowering the standard rate reduced the worker's incentive and caused resentment. This contradiction employers failed to resolve: unable to resist cutting the standard rate, they undermined the growth in physical productivity.

The measures adopted to intensify labour utilisation have been made familiar through the work of Burgess, Price, Zeitlin, and Lewchuk. According to these authors, employer strategy was characterised by a move toward greater managerial authority, with new forms of supervision and technology restricting worker autonomy. The supply of information from the shop floor was improved and cost and planning departments gained in popularity. Attendance was more closely monitored. Methods of wage payment underwent reform. Piece-work was extended and the 'premium bonus' system introduced from the United States. By 1914 nearly 10 per cent. of A.S.E. members were working under the premium system.³

It was, in part, changing technology which necessitated more continuous and controlled labour. For example resilient steel tools operated at a wide range of speeds, and the optimum setting could no longer be left to the turner to decide, becoming the province of 'speed and feed'

¹ *D.C. on the Position on the Textile Trades*, p. 114.

² L. Sandberg, *Lancashire in Decline* (1974), p. 85.

³ Zeitlin, 'Engineers and Compositors', p. 235.

men.¹ In the gas industry new retorts carried a third more fuel and required constant attention.² But intensification also occurred within the context of static technology. Employers in the wool trade reacted to foreign competition by cutting price lists and increasing workloads.³ Cotton spinners were subject to greater pressure from overlookers, while the number of spindles per operative rose from 109 in 1850 to 234 in 1890 and mule speeds doubled.⁴

Upon skilled workers did these tendencies most impinge. Finding themselves under pressure from employers above and less skilled workmen below, they sought to control the new machinery, striking against dilution of labour and imposing terms on manning levels and speed of operation. Such restrictive policies, occurring when employers were taking a more critical attitude towards the existing workshop organisation, brought into focus the control of the labour process. Shoe making was one industry where these tendencies eventuated in a nationwide dispute. Another was engineering, where the Employers' Federation embarked upon a successful lock-out in 1897, ostensibly in response to union demands for an eight hour day, in fact, as one employer explained to *The Times*, to 'obtain the freedom to manage their own affairs which has proved to be so beneficial to the American manufacturers.'⁵

In Williams's *Life in a Railway Factory* we have one individual's perception of the changing workplace regime within a large engineering workshop. Recent years, according to the author, had seen a general speeding up. Machinery was being installed and the workman had to keep pace. His actual exertions having 'doubled or trebled,' there was 'not now the time and opportunity, not even the inclination to indulge in practical jokes.'⁶ The quality of working life had diminished.

¹ *Ibid.*, p. 105; Levine, *Industrial Retardation*, p. 67.

² Price, 'Labour Process', 66.

³ K. Burgess, *Challenge of Labour* (1980), p. 70.

⁴ Burgess, *Industrial Relations*, p. 234.

⁵ Quoted in Fox, *History and Heritage*, pp. 187-8.

⁶ Williams, *Railway Factory*, p. 267.

A decade and a half ago one could come to the shed fearlessly, and with perfect complacency...It was not that the toil was easy, though, as a matter of fact, it was not so exhausting as it is at present, but there was an entirely different feeling prevalent. The workman was not watched and timed at every little operation, and he knew that as the job had been one day so it would be the next. Now, however, every day brings fresh troubles from some quarter or other. The supervisory staff has doubled or trebled, and they must do something to justify their existence. Before the workman can recover from one shock he is visited with another...¹

However we must avoid exaggerating the change in workplace regimes before World War One. Even in engineering, for every large firm such as Armstrong Whitworth, Vickers, or the Great Western Railway, there remained hundreds of modest engineering works specialising in unstandardised products, to which rate fixing departments, speed and feed men, and functional foremanship had little relevance. Returns published in 1871 on the basis of Factory Inspectors' Reports provide, says Clapham, 'reasonably exact measurements of the statistical skeleton of British industrial organisation as it remained in the 'eighties.' These show a total of 1,933 works engaged in the 'manufacture of machinery,' employing some 163,000 - an average of 85 per workshop.² W.F. Watson describes working for numerous small and medium sized engineering shops before and after World War One, shops where diversity of work rendered many new managerial techniques inappropriate.³

Although employers achieved an impressive victory in 1897, enforcing its terms proved more difficult. They remained reliant upon their skilled hands, for not only did craft skills continue in demand, but there was a growing need for tool-setters and technicians.⁴ A.S.E. members secured jobs operating many of the new machines, and in 1914 60 per cent. of the workforce in Federated firms was still classified as 'skilled.'⁵ Informal resistance continued to the spread of such managerial techniques as the premium bonus system, and in 1912 the A.S.E. membership voted to renounce the terms settling the 1897 dispute.

¹ *Ibid.*, p. 304.

² Clapham, *History of Modern Britain*, II. 115, 117.

³ W.F. Watson, *Machines and Men* (1935).

⁴ J. Melling, "Non-Commissioned Officers", *Social History*, v (1980), 201.

⁵ Zeitlin, 'Engineers and Compositors', p. 228.

If engineering saw no radical transformation of workplace relations, still less was this true of other industries. Shoe manufacturers prevailed in an 1895 dispute, during which issues of mechanisation, payment systems, and the 'right to manage' all figured. Yet here too change at workplace level was modest, with workmen continuing to restrict output and resist managerial discipline. Factory administration altered little, and there was nothing corresponding to rate fixing and costing departments, functional foremanship, and speed and feed men.

A similar story could be told of other sectors of the economy. Although as mechanisation proceeded and supervision increased labour became more continuous and intense, this was attributable more to an intensified application of traditional methods of securing effort than their overhaul along lines suggested by Scientific Management. Significant scope persisted for the employee to determine the manner in which he completed a job, including the form and intensity of effort. The premium bonus system, often taken to indicate the preparedness of employers to approach critically established practices, was largely confined to engineering. And as Melling remarks, the new trends in factory administration 'were usually associated with large enterprises and the small firm employing less than 100 workers made up 97 per cent. of manufacturing enterprises in 1914.'¹

Such tardiness was to be anticipated since, as we have seen, several obstacles stood in the way of any more thorough modernising 'project.' Chief of which, it ran counter to the fundamental tendencies of British industrial culture. An institutional pattern had evolved promoting stability and security, and to this there corresponded organisations seeking to secure their objectives within the prevailing arrangements. Confronting a competitive market without the firm, and a delicately poised social equilibrium within, most firms responded to changing circumstances by working *through* the existing framework of production, and this necessarily *constrained* their conduct. Thus manufacturers continued reliant upon foremen with all-round trade knowledge and upon operatives with a capacity for initiative and self-regulation.

Trade unions were the most visible constraint to which manufacturers were subject. These

Melling, "Non-Commissioned Officers", 196.

had taken advantage of the mid-Victorian prosperity to strengthen their place within the economy, and had become indispensable to the conduct of many industries. Perceiving the threat posed by mechanisation and systemised management to labour regulation of production, unions resisted, where possible, their introduction, and when opposition was impracticable, sought to shape the terms within which the new techniques operated. 'A survey of industrial disputes during the period 1900-1913,' writes Burgess, 'shows that conflict over "managerial prerogatives" arising from changes in working arrangements or rules became increasingly common.' In metals, engineering, and shipbuilding, they accounted for more than 20 per cent. of the workers affected by all stoppages.¹ Compositing unions were unable to prevent the introduction of linotype machines. Instead they sought to extend the existing framework of regulation, demanding that machines be operated by trained compositors, working hours cut and wages advanced, and 'task work' and bonus systems prohibited.²

The premium bonus system formed a focus for criticism. Groups of workers, such as tinplate makers and shipbuilders, prevented its introduction. In 1910 a T.U.C. Committee of Inquiry issued a report accusing premium wages of undermining collective bargaining, weakening union organisation, increasing unemployment by speeding up work, encouraging scamping, and promoting selfishness.³ These objections, it may be noted, were those commonly levelled at *any* measure threatening to weaken customary controls upon effort levels. It was fear of intensified exertion which chiefly influenced labour's attitude to the industrial changes of this period.

Though not all operatives were successful in shaping the terms upon which machinery and new forms of productive organisation were introduced, most continued to influence the workplace environment: shoe workers restricted output on lasting and finishing machinery; cotton weaving unions resisted the automatic loom and limited the number of looms per operative; craft demarcation within shipyards slowed the introduction of welding and prefabricating techniques;

¹ Burgess, *Challenge of Labour*, p. 84.

² Zeitlin, 'Engineers and Compositors', p. 208.

³ Levine, *Industrial Retardation*, pp. 99-100.

even unskilled workmen in the gas industry endeavoured to limit the number of retorts to be operated. And these were merely prominent examples of that unrelenting rank and file bias in favour of established custom and practice which formed so stubborn an obstacle to any scheme of change.

Ca' Canny

Subjecting performance to more vigorous evaluation further undermined the 'cake' of convention surrounding the determination of effort levels. This was, indeed, its purpose. Yet employers risked generating a correspondingly critical attitude amongst their operatives. As *The Organiser* warned in July 1914: 'Those masters, whose idea of the control of men stops at getting as much work as possible for as little pay, will continue to be met by demands from the men to do as little work as possible for as much pay as they can get.'¹ 'Restriction of output,' argued a contributor the following year, 'is the great rock on which capital and labour split...many masters seem to think that efficient production and low wages travel in the same compartment. They are either selfish, or thoughtless, and that is where they make the first big mistake.'² It was in this context that the infamous practice of ca' canny posed such a threat.

Although in origin a Scottish term, denoting the practice of 'going easy,' the phenomenon was an international one in the late 19th century. Its nature was expressed by the International Workers of the World as the 'conscious withdrawal of efficiency.' Encompassed was deliberate malingering, confusion, and misdirection of work.³ The best known exposition of the policy in Britain was made in 1891 by the Union of Dock Labourers in Liverpool, which claimed that it represented merely the application of commercial principles to the supply of effort.

¹ *The Organiser*, July 1914, p. 10.

² *Ibid.*, 20 October 1915, p. 54.

³ T. Veblen, *Engineers and the Price System* (1921), pp. 1-2.

The employer insists upon fixing the amount he will give for an hour's labour without the slightest consideration for the labourer; there is, surely, therefore, nothing wrong in the labourer, on the other hand, fixing the amount and the quality of the labour he will give in an hour for the price fixed by the employer. *If employers of labour or purchasers of goods refuse to pay for the genuine article, they must be content with shoddy and veneer.*¹

By turning away from custom and appealing to market laws, employers had to expect, in turn, to get no more than they paid for. Such considerations, write Brown and Browne, came to be 'much more widely and actively entertained' in the 1890s.² Pratt believed working men were adopting ca' canny so generally that it was 'eating the very heart out of British industry.'³

Hobsbawm, however, argues that 'conscious and systematic slacking' was rare, and when proposed 'met with a great deal of moral indignation not only - naturally, if illogically - from employers, but from skilled workers themselves and their sympathisers.'⁴ The Webbs were especially critical. Adulteration of goods was illegal: 'But adulteration of labour is infinitely more injurious to the community.' Deliberate loitering threatened to destroy 'the character and efficiency of even the most resolute worker.'⁵

These writers exaggerated both the uniqueness of ca' canny and the specificity of its threat to industry. Output limitation had long been practised. What was new about ca' canny was the use, as a bargaining tactic, of threats to reduce effort levels, and the rhetoric with which these threats were surrounded. Hardly encountered in reality, it was the *idea* of ca' canny which impressed contemporaries. Whether a response to the open scrutiny of performance by employers, or a procedure independently initiated by labour, it promised to awaken contention at the heart of the production process.

¹ Quoted in Webb, *Industrial Democracy*, p. 307.

² E.H. Phelps Brown and M.H. Browne, *Century of Pay* (1968), p. 186.

³ Pratt, *Trade Unionism*, p. 25.

⁴ Hobsbawm, 'Custom, Wages and Work-Load', p. 351.

⁵ Webb, *Industrial Democracy*, p. 308.

Continuity of Employer Attitudes: The Case of Premium Bonus

If labour constituted one obstacle to more thorough industrial change, the character and objectives of employers formed another. Where some launched concerted attacks upon unionism, many others sought to meet the new challenges through existing mechanisms of collective bargaining. And despite reference, then and since, to modern supervisory systems and corporate organisation, the old low intensity, delegatory management continued characteristic of numerous firms. Employers were hesitant to incur the costs that establishing comprehensive managerial structures entailed, not least because recognition of the distinct quality of the managerial function was slow to develop. As late as 1949 Urwich and Brech could comment:

British industry, it seems, has not been concerned with management, has found difficulty understanding that it exists as a subject, and has certainly never felt that it needed any special skill other than that assumed to be inherent in the acquisition of a share in ownership or a seat on a board of directors.¹

If Williams was dispirited by changes in certain areas workshop life, he remained frustrated by the absence of change in others: ‘...a marvellous lack of real initiative is discovered by the factory staff. Things that have been so and so, and if any sharp and enterprising workman sees the possibility of improvement anywhere and makes a suggestion he is soundly snubbed for his pains.’²

The continuity of these years is well illustrated in the matter of labour remuneration. Premium bonus schemes have been considered an example of the preparedness of employers to adopt procedures developed by Scientific Management. Nothing could be further from the truth. Far from heralding a new approach to incentives, premium bonus represented an attempt to find a method of payment by results insensitive to weaknesses in rate setting and able to meet the preferences of employers, and, to a degree, workers. The purpose was not to end procedural inadequacies, or challenge attitudes antithetical to increased productivity, but to accommodate them.

¹ Urwich and Brech, *Scientific Management*, II. 218.

² Williams, *Railway Factory*, p. 6.

According to the differential piece-wage system recommended by Taylor, or Gantt's method of task and bonus, the worker, having achieved some target output, was to receive a progressively higher rate of reward for each extra unit made. Bonus systems, by contrast, were *degressive*. It was true of both the most widely adopted schemes, those of Halsey and Rowan, that as output increased above a basic standard the average reward per unit of output declined.¹ With the return to effort eventually falling, it was more difficult for the workman to significantly raise his earnings above the basic level than it was under straightforward piece-work. If expending extra effort is increasingly disagreeable as the total level increases, the fact that the marginal reward to effort declined beyond some point effectively placed a cap on the upper level of production.

Premium schemes possessed for the employer certain advantages. Because the workman was paid for only a portion of the time saved, average labour cost per unit fell as output increased. Weaknesses in rate setting procedures had a diminished impact. If a rate were too generous the worker's ability to exploit this fact was limited. According to Powell it was this which formed the chief factor recommending premium wages:

To be candid and honest, the only reason which operates is the doubt as to whether the job rates are correct or not, and that, if they are too high, the reducing factor of the sharing systems will prove to be a corrective.²

With earnings subject to a dampening effect, it was unlikely that they should become 'unsuitably' high, and the incidence of rate cutting would diminish.

Wherever it could, organised labour resisted the introduction of premium bonus. Having increased output, the worker resented being forced to share the benefit of the time saved with the employer who, in any case, stood to gain by reduced overhead costs per unit. Still, premium wage schemes possessed some advantages for labour. Unlike pure piece-work, most systems guaranteed the worker a basic time wage. For the worker, too, the risks of poor rate setting were diminished. G.N. Barnes, General Secretary of the A.S.E., saw in premium bonus a

¹ C.f. Florence, *Labour*, pp. 118-19; Cole, *Payment of Wages*, pp. 49-51.

² Powell, *Payment by Results*, p. 105.

means to protect engineers from rate cutting and secure a recognised share of the returns from increased output.¹ And stabilising the wage structure was something workmen as well as employers desired.

Premium bonus may thus be understood as a means by which some of the diverse pressures and weaknesses of the industrial system could be reconciled. Pure piece-work was essentially used to maintain effort at a given level with minimum supervision. This was still more clearly the case with premium wages. No worker could be expected to increase his output markedly when the marginal reward was lower than the average. It was to a stabilisation of performance that employers looked. Premium bonus symbolised less an attempt to tackle the underlying conditions of production, than an attempt to make the best of them.

Zeitlin, 'Engineers and Compositors', p. 231.

Part II

The Problem of Worker Effort in the British Boot and Shoe Industry 1850 to 1920

Chapter 10

The State of the Industry in the 1850s

The manufacture of ready-made boots and shoes at mid-century typically occurred in the home of a worker or a workshop provided by a 'garret master.' In 1851, of the 17,665 master manufacturers making census returns, 96 per cent. employed nine men or less.¹ The greater part of the wholesale trade was organised by merchant-capitalists, who cut up leather in central warehouses, put it out to small producers, and marketed the finished product. At first the whole boot was made by a single producing unit. Gradually a specialisation of function developed. One group of workers - usually women - sewed together or 'closed' the upper leather of the shoe; 'lasters' then shaped the leather to a wooden last; 'sewers' or 'rivetters' attached the upper to the sole; lastly 'finishers' would ink and polish the shoe.²

Little work took place under central supervision. The chief exception was the cutting of the leather by 'clickers.' Since leather accounted for around 60 per cent. of manufacturing costs, it was essential that full use be made of the hides.³ With outwork, waste or pilfering would be difficult to detect. Cutting 'could not be given out of doors,' said one manufacturer, 'because we should never know where our leather went to.'⁴ Centralised clicking under the

¹ Clapham, *History of Modern Britain*, II. 35.

² C.f. F.W. Wheldon, *Norvic Century 1846-1946* (1946), p. 28. A trade journal remarked that 'many boots and shoes travelled more miles in the course of their manufacture than we are afraid they were capable of supporting their wearer...'

³ H.C. Hillman, 'Size of Firms in the Boot and Shoe Industry', *Economic Journal*, xlix (1939), 283.

⁴ *S.C. on Sweating*, 2nd Report, Q. 11,309.

foreman's eye was the obvious solution.

Under this organisation of production the problem of worker effort was minimal. Indeed, the structure of the industry reflected at once the avoidance and solution of this problem. Technology at the beginning of the 1850s was simple. With hand processes dominant, technical economies from centralising production were limited. Of course outwork had disadvantages. 'In no industry at the present time,' wrote the *Shoe and Leather Record* in 1890, 'is so much time lost in going to and from the shop for work as it is in that of shoe-making.'¹ Embezzlement was another cost of outwork, whilst centralised production would increase the employer's control over product quality. Also, under outwork an employer could never be sure of maintaining a regular flow of output or meeting delivery dates.

Economies from centralising production could therefore be significant. The fact that clicking was centralised in the 1850s indicates that employers appreciated the benefits from this source, and where sufficiently great were prepared to act. For the other processes we may infer that the advantages from centralisation under existing technique were insufficient to make the change worthwhile. To begin with, the costs associated with outwork ought not to be exaggerated. Paid by the piece, it was the worker who absorbed the bulk of the cost in time wasted passing to and fro. Transport costs were probably not excessive. For example, Pollard & Sons of Northampton employed 14 out-workers in the village of Buckby in 1915. The cost of 'carriage' on Buckby work added only about three per cent. to the total wage cost.² Employers sought to control the quality and delivery of work through fines. For a Finsbury firm in 1888 these included such items as poor quality rivetting (half a penny per pair); late delivery (1s.); short quantities (must be paid for); damaged work (as foreman considers appropriate).³ A foreman stated before the Commission on Sweating that if an out-finisher damaged the boots,

¹ *Shoe and Leather Record*, 4 January 1890, p. 12.

² Pollard and Son, *Wage Book*, 1915.

³ *Record*, 21 April 1888, p. 389.

he would have to pay for them at cost price - estimating that 2.5 per cent. was spoilt in this way.¹ So whilst there were diseconomies associated with outwork, firms took steps to minimise them.

Against the costs of outwork ought to be set its benefits. 'Anyone,' writes Bythell, 'who takes work into his own home or workshop saves his employer the rent or ownership of premises, and also relieves him of the cost of heat and light'.² This is only partly true. If the provision of these items necessitates extra costs - such as the building of a workshop or gas-lighting late into the night - then we would expect prices charged by the contractor to rise in proportion. Still the costs implicitly charged by the outworker for the provision of those services may have been lower than the putting-out employer would have incurred - for example, he may have greater knowledge of the location of cheap workshops. Further, the need to mobilise capital for the purchase of factory buildings was avoided. This could be significant. The Wellingborough Boot & Shoe Company's factory commenced in 1890 cost an estimated £600 (equivalent to around £36,000 in today's prices).³ Freeman, Hardy, and Willis's 1899 Kettering factory cost £1,885 (£113,100 today).⁴ The *Record* noted in 1892 that a Leicester firm had to spend over £3,000 on workshops and machinery during the previous 12 months, 'every penny' of which was necessitated by Union enforcement of indoor working. In avoiding such outlays, outwork enabled many small capitalists to enter the boot industry. Indeed, some workers rose *via* this route to become putter-outer's and even factory owners. Schloss, in his survey of the London trade of the 1880s, remarked that:

¹ *S.C. on Sweating*, 2nd Report, Qs. 11,865, 11,875.

² Bythell, *Sweated Trades*, p. 182.

³ Wellingborough Boot Company, *Directors' Minutes*.

⁴ Freeman, Hardy, and Willis, *Directors' Minutes*.

the small capital needed permit a working man who has saved a few pounds to start as a manufacturer. A not inconsiderable number of manufacturers in our own district have risen from the ranks of employees, or are sons of those who have risen in this way.¹

Secondly, with demand for shoes fluctuating between seasons, outwork saved the employer the expense of maintaining idle plant and labour in periods of dull trade, and, as Head comments, the demand for wholesale footwear took ‘some time to expand.’² He had no responsibility for his domestic labour force, and they, equally, were free to seek employment with other producers. There was, thirdly, a reduced need to organise carefully the flow of work. Costs of managing and co-ordinating production were thus minimised. Lastly, one manufacturer who abandoned factory production in favour of outwork during the 1860s claimed that he ‘would not go back to the old system, for I get by this means a better class of girls, whose parents would not like them to work in a factory.’³

However the point we wish to stress is that by putting work out the problem of worker effort, as it appeared to the merchant-capitalist, was effectively solved. The difficulty of supervising workers and inducing effort, and the costs and uncertainties thereby arising, did not exist. As a Factory Inspector observed, with domestic work ‘the master escapes the necessity for supervision, gas, and so forth,’ he ‘gives the work out and it is brought back to him; he prefers this domestic labour.’⁴

It does not follow that effort thereby also ceased to be a problem for the industry, or society as a whole. In so far as effort was wasted or inefficiently deployed under outwork, the output of shoes was less than it otherwise would have been, and assuming workers would not have required a higher wage to induce them to accept disciplined factory conditions, the wage cost per shoe would also have been higher. Nevertheless, the immediate interest of the putting-

¹ D. Schloss, ‘Bootmaking’, in C. Booth ed., *Life and Labour of the People in London* (1889), iv. 86.

² Head, ‘Industrial Organisation in Leicester’, p. 158. Only towards the end of the century did shoe manufacturers like Stead and Simpson and Freeman, Hardy and Willis assume their leading place in the development of multiple shop retailing.[*Ibid.*, p. 168.]

³ Cited *ibid.*, p. 143.

⁴ *S.C. on Sweating*, 2nd Report, Q. 16,696.

out merchant was to obtain finished shoes as cheaply as possible, and by sub-contracting the work he delegated to others the actual problem of securing and organising effort.¹ His position was, in effect, analogous to that of any firm purchasing raw materials or semi-finished inputs: for a given quality, he would seek the cheapest supplies available, irrespective of the effort regime under which they were produced. Of course, if the methods of shoe manufacture under outwork did lead to costs higher than those feasible under centralised production, firms might have been expected to substitute the latter - and here foreign competition could (and indeed did) play an important part in stimulating the transition. But through much of the 19th century employers were conscious of the uncertainties and costs that would arise if they began directly employing labour in centralised factories. The caution underlying the employer's conduct was expressed by the Secretary of the Boot Manufacturers' Association:

In connection with the trade that I represent, and from a manufacturers' point of view, at least, it has rather to be considered whether the workman can be trusted to do a fair day's work for a fair day's pay.²

Subsequent events showed this caution to be well founded.

The condition of the out-worker varied, depending on the circumstances of his employment. There were, generally speaking, two cases: that in which he was employed by a garret master, and that in which he was self-employed. A garret-master would usually employ up to 10 men, paying them either day-wages or a share (commonly half) of the total revenue received. Contracting to perform quantities of work at a set price he had every incentive to secure as much effort from his employees as possible, since under both payment systems this would increase his earnings. As Arnold White explained in 1888:

¹ As Clark comments, '...where output is easily measurable, discipline seems to give employers no gain and to impose some costs.' 'Factory Discipline', 132.

² *S.C. on Sweating*, 1st Report, Q. 9,923.

Having obtained the work, these small masters are unable to affect the price of leather, or of ink, or of tools, or of any other constituents in the cost of carrying out the work; and therefore the wages of the...team of men they employ, are the only factor in the problem of making the boot that is capable of being compressed, that is at all elastic. The effect of this system, according to the men, is that they... receive an unfair proportion of the sums paid by the manufacturers.¹

Although many masters themselves worked at boot making, what they essentially provided the factor was the means to contract out the cost of organising production and enforcing effort. This White recognised, when he said that those masters not working manually:

contribute nothing to the making of the boots, except providing the grindery, the rent, firing, and shopping the goods, taking them to the shop; and, in fact, their only contribution to the work, where the master is not the knifer, is stimulating the men to longer hours, increased exertions, and grinding or lowering the wages.²

This solution to the effort problem relied, for its effectiveness, on two conditions. First, that the garret masters were able to obtain high effort for a given wage. How was effort enforced within the workshop? In those cases where workers were paid a share of the master's revenue -and this was common in the London 'finishing' trade - a monetary incentive to increase output existed. Another incentive to the journeyman was the prospect of upward mobility. A London master said that £2 to buy tools was all that was necessary to become a master, and claimed that a pauper immigrant would be able to accomplish this within two years.³ According to White the capital most necessary to become a master was 'the capital of character with the manufacturers, so that they are trusted with the goods.'⁴ But the 'stick' of supervision was also present. Having only a small staff the master could monitor the work closely, and, by intimate knowledge of his employees, know the capacities of each. A plentiful supply of labour eager to enter the trade strengthened the master's hand. This was most noticeable in London. A master asked whether, having discharged a man, he would have any difficulty replacing him, answered no, for he was 'sorry to say there are a good many of them about the place, as well

¹ *Ibid.*, Q. 411.

² *Ibid.*

³ *Ibid.*, Q. 759.

⁴ *Ibid.*, Q. 519.

unemployed as employed, because there are so many of them that are going about.’¹

Though he could increase effort levels and hence his own income, the master may have chosen not to - perhaps caring more for the esteem of his workmen or neighbours. The second condition was the ease of entry into the trade and the intense competition for work. Fox talks of a ‘proliferation of garret-masters and other small producers’ during this period ‘with little bargaining power yet desperate for orders.’² To the Sweating Commission a master complained:

If I were to receive this morning 3 or 4 dozen boots, for which I received last week 4s. 6d.; and were offered this week 4s. a dozen, if I refused them there are plenty of people behind me who would be glad of them.³

Forced to bid for work, the master had every reason to pressure his workmen to increase their output. For the putter-outer this outcome was ideal: his principal-agent problem was solved and at a low price. Schloss found that many sub-contractors in London in the 1880s earned little more than their employees. A typical ‘master-finisher’ employing three journeymen, each earning 26s. in a busy week, could anticipate an income, after deducting expenses, of 60s. Of this, about 39s. represented his earnings from cutting up the leather, and 5s. the labour of his wife; so his remuneration for seeking the work, transporting it, and organising and supervising production was 16s. per week - less than two-thirds the journeyman’s wage.⁴ The position of the worker was equally unhappy: observers agreed that he put in intense effort for long hours. According to Schloss, the working day in small work rooms was between half-hour and an hour longer than in the factories.

The chief advantage of outwork for the domestic worker was independence. Being self-employed, producers had, within limits, freedom to adjust effort levels according to the price received for work. There is plenty of evidence that this is what they did. Shoe-makers were notoriously dissolute. According to an Edinburgh magazine:

¹ *Ibid.*, Q. 774.

² A. Fox, *History of the National Union of Boot and Shoe Operatives* (1958), p. 17.

³ *S.C. on Sweating*, 1st Report, Q. 758.

⁴ Schloss, ‘Bootmaking’, pp. 89, 108-09.

Shoe-makers work late on Saturday night, often lie in bed all Sunday morning, lounge in listlessness during the afternoon, drink all Monday, are sick and taking physic on Tuesday, and return to work on Wednesday.¹

This view received frequent support from witnesses before the Select Committee on Sweating.

Mr. Moses, boot manufacturer, stated:

My workmen being ordinary Englishmen...they are every Monday worshipping Holy St. Crispin. Mondays, Tuesdays, and Wednesdays sometimes they will never attempt to work, and they will start Thursday morning at home, and perhaps will not leave off till Friday night. Of course over that I have no control. In the summer time, if we get a fine sunshiny Monday, we never get any work in on Tuesday morning.²

‘The majority’ of outworkers, said another employer, ‘have drunken habits; they will not work except when they like to.’³

Such conduct alarmed many. Wheldon, in his history of the Norvic Shoe Company, first noting that "Cobblers’ Monday" in Norwich ‘was something of a carnival among outworkers’ flush with money, adds that the two partners Howlett and White - both rigorous protestants - ‘saw this state of things could only be ended by the supply of regular work in proper factories.’⁴ Even the leader of the Operative’s Union, W. Inskip, criticised outwork as productive of ‘bad habits, irregularity, and intemperance.’ The factory system ‘abolishes all that...because the foremen have the men under their eye, and if they loose a day or two’s work they get discharged. It is a grand thing’.⁵

In itself, the life style of the outworker did not concern the employer. He wasn’t interested in the effort expended per day or week, or even in the effort per unit of output. His concern was with the price, quality, and delivery of the finished product. As the Chairman of the Army and Navy Cooperative Society explained:

¹ Cited in E. Brunner, ‘Origins of Industrial Peace’, *Oxford Economic Papers*, i (1949), 248.

² *S.C. on Sweating*, 2nd Report, Qs. 12,277, 12,282.

³ *Ibid.*, Q. 12,036.

⁴ Wheldon, *Norvic Century*, p. 38.

⁵ *R.C. on Labour*, C, Vol. II., Qs. 16,028-030. As we have noted, this Union support for factory discipline accords well with Clark’s analysis of the phenomenon.

We know nothing about the hours during which they [the outworkers] work; they are piece-workers, and therefore work in their own homes; they work when they please and as long as they please. All I know is that they receive fair prices for the garments which they produce.¹

Here outwork possessed a further advantage: competition for work kept piece-prices down. What was true for garret-masters held even more strongly for domestic workers. Outwork in the shoe trade often expanded where older industries had flourished. Kettering benefited from the decline in the woollen industry.² At Norwich shoe-making ‘continued the long tradition of home-work in the weaving industry...’³ The story was similar at Leicester and Leeds in the 1830s.⁴ This ready availability of labour was supplemented in Leicester and Northampton by the entry of agricultural labourers. In London pauper immigration was a special factor. Indigent Jews from Eastern Europe rapidly displaced indigenous workers in the poor quality trade, being prepared, it was said, to take work at a lower price and work longer hours than British workers in a comparable state of poverty.⁵

The outworker was in a weak bargaining position. Possessing few resources, he could little afford to turn down work on the chance of securing more favourable terms. This urgency was compounded by the trade’s seasonality: the worker was keen to earn as much as possible during prosperous seasons to see him through the slack. Most important was the outworker’s lack of information regarding the bargains other operatives were prepared to strike with a putter-outer. The employer could threaten or bluff the domestic worker with the offers he had received from others eager for work. As one out-worker complained: ‘If the manufacturer had all the work done in his factory...we would make a society between us inside...that no deduction should be made any more;’ but at present ‘one is in one corner and the other in another, and we cannot

¹ *S.C. on Sweating*, 1st Report, Q. 10,653. See also Qs. 10,159-160.

² R.A. Church, ‘Messrs. Gotch and Sons and the Rise of the Kettering Footwear Industry’, *Business History*, viii (1966), 144.

³ Wheldon, *Norvic Century*, p. 28.

⁴ Bythell, *Sweated Trades*, p. 107.

⁵ C.f. *S.C. on Sweating*, 1st Report, Q. 3,438.

work together, and we have not the power to ask for it.'¹ Schloss noted more generally that the 'practice of giving work out to outworkers tends to produce industrial conditions less advantageous to the workers than those which prevail when work is carried on in large factories.'²

The *extent* of this difference is hard to ascertain. Schloss found that in the 1880s female factory machinists earned 15-20s. in a working week of approximately 56 hours. Their outworking counterparts earned about 14s. and worked 59-62 hours; so factory operatives enjoyed an hourly wage about 30 per cent. higher than that of outworkers. Yet we cannot attribute all this difference to their weaker bargaining position. Outdoor 'closers' were usually less skilled than those indoors; we do not know the comparative amounts of effort per hour in the two cases; and it is likely that, *ceteris paribus*, operatives preferred home to factory work - a preference for which they would have to be compensated. What is at least clear is that the labour cost of outdoor work was relatively low - as indicated by its dominance in the cheap, low quality trade.

Two further factors rendering outwork a cheap source of effort should be noted. First, Bythell argues that most piece-workers had a target income, so that if piece-rates fell they would try to increase output so as to maintain their total earnings - adding thereby to the over-production which had caused the reduction in the first place.³ The flexibility of the outworkers position gave them obvious possibilities in this respect.

Secondly, putting work out was an effective way of tapping additional sources of labour. Most outworkers employed assistants - usually family members, or sometimes an apprentice. Again, therefore, the capitalist was able to devolve the costs of employing and supervising others. The labour thus indirectly obtained was cheap. Usually only supplementing the family income, the effort price of female and child assistants was low. Youths helping outdoor lasters

¹ *Ibid.*, Q. 988.

² Schloss, 'Bootmaking', p. 86.

³ Bythell, *Sweated Trades*, p. 178.

earned only 5-10s. per week.¹ With access to such labour the outworker could afford to take work at a low price. The introduction of factory working in London in 1890 caused the income of finishers to fall, since they were deprived of the assistance of wives and children.² In this context the effort problem was minimal. Either the assistants fully associated with the family unit, in which case they would monitor their own effort levels; or, in the case of a child or apprentice, supervision in a small room would be simple and cheap.

As is apparent, the system of outwork prevailing in the shoe industry in the 1850s was an effective way of solving the problem of labour effort in two senses. For the merchant-capitalist outwork constituted a means by which the difficulty of inducing effort could be largely avoided - by contracting it out to others and by purchasing the output of independent producers. And second, whilst employers were not directly concerned with the cost of each unit of effort, the competitive structure of the industry ensured the reward per unit of effort was low: it was generally recognised that shoe-makers, whether employed in small workshops or their own homes, worked hard for comparatively small earnings. While domestic workers sometimes applied themselves irregularly, they were only paid for what they did. If they chose not to work for an hour, neither were they paid for it.

¹ Schloss, 'Bootmaking', p. 97.

² *Record*, 7 June 1890, p. 691.

Chapter 11

New Technology, Trade Unionism, and the Move to Indoor Working

In 1850 shoe making was a hand trade; by 1900 machine production was the rule. The introduction of a sewing machine for closing uppers about 1856 began this process. Shortly afterwards a method of hand-rivetting uppers to the sole was developed - a quicker and less skilled operation than hand sewing. Still more important was the Blake sole-sewing machine, which displaced the hand-sewing of soles to uppers on cheaper goods.¹ Henceforward mechanisation proceeded steadily. During the 1870s machinery for rough-stuff cutting, heeling, and finishing was introduced - though much of this was hand or foot powered.² A lasting machine was invented in 1882.

A technical revolution of this kind inevitably had important effects upon the structure of the industry, and therefore on its systems of effort enforcement. Historically, mechanisation has tended to coincide with a move to centralised factory production, and thus away from the indirect purchase of labour services towards the wage-labour relation. Such a development was therefore anticipated. Before the Sweating Committee, the Vice-President of the Boot Manufacturers' Association stated that 'this factory system being the best system we shall ultimately come to it, and that is what we have to aim at.'³ And so they did. But the process was a slow one. 'Factory production in all or most of the processes of boot and shoe making,' writes Head, 'was an object whose attainment was the work of more than a half-century.'⁴

Since the closing machine could be accommodated in the domestic workplace it tended,

¹ Fox, *Shoe Operatives*, p. 15.

² R.A. Church, 'Effect of the American Export Invasion', *Journal of Economic History*, xxviii (1968), 230.

³ *S.C on Sweating*, 1st Report, Q. 10,132.

⁴ Head, 'Industrial Organisation in Leicester', p. 142.

if anything, to strengthen outwork. Many employers rented sewing machines to closers, whilst garret-masters specialised in closing work.¹ The situation with the early hand-rivetting technique was similar. The Leicester manufacturer W. Charlesworth observed in 1864 that ‘the rivetting is now being given out to be done at their own homes...It is daily becoming the practice to give out and not have them done on the manufacturing premises.’² Further, the distinct processes of shoe production ensured that if one process were mechanised and moved indoors, others could continue unchanged. Although lasting entered factories during the 1870s and 1880s, the majority of finishers, for example, remained outworkers.³

We therefore find that by 1890 the structure of the industry was highly variegated, with outwork still conducted on a substantial scale. In Leeds in 1891 approximately half the finishing work was ‘done in the homes of the people.’⁴ In the villages of Northampton in the late 1880s ‘nearly the whole of the work is done in the peoples’ homes.’⁵ At Raunds in 1889, for instance, the production of army boots occurred at 260 places, of which less than 100 were workshops as defined by the Factory and Workshops Acts.⁶ Outwork was widely practised in the town of Northampton itself. Not until 1889 was the first factory built in which production took place wholly indoors.⁷ In centres such as London and Norwich outwork was easily dominant, and even in Leicester, where mechanisation was most advanced, the majority of operatives worked out of doors in 1891.⁸

¹ Schloss, ‘Bootmaking’, p. 88; Fox, *Shoe Operatives*, p. 14. Stead and Simpson of Leicester charged their operatives between 1s. and 2s. 6d. a week in the 1860s for the hire of sewing machines.[Head, ‘Industrial Organisation in Leicester’, p. 142.

² Quoted in Head, ‘Industrial Organisation in Leicester’, p. 140.

³ Fox, *Shoe Operatives*, p. 16.

⁴ Evidence of J. Judge to *R.C. on Labour*, C, Vol. II., Q. 11,984.

⁵ Evidence of T. Lilley to *S.C. on Sweating*, 1st Report, Q. 10,185.

⁶ Clapham, *History of Modern Britain*, II. 182.

⁷ *Record*, 7 September 1889, p. 286.

⁸ P. Head, ‘Boots and Shoes’, in D.H. Aldcroft ed., *Development of British Industry and Foreign Competition* (1968), p. 168.

Employers, as we have discussed, were reluctant to move to indoor working since, amongst other things, the problem of worker effort would emerge, bringing uncertainty and costs of supervision and administration. Given the hitherto small size of manufacturing units, management skills were lacking and slow to develop. Producers accordingly sought to continue sub-contracting work as long as possible, and there emerged firms specialising in the performance of certain machine-processes. 'Closing for the trade' was common, with a firm undertaking to do closing by the dozen at an agreed price. 'Sole-sewing' and 'finishing' for the trade developed likewise.¹ P. Head, noting the slow development of centralised production in the 1870s and 1880s, writes that:

the reasons for tardiness were less and less attributable to technical factors and increasingly to a reluctance or inability to innovate on the part of those who exercised, and sometimes failed to exercise, the entrepreneurial function in this industry.²

Yet there were, for an employer, strong reasons for persisting with outwork, and it does not seem that these had been decisively outweighed by the advantages of centralised machine production. The industry was in a transitional state. Head himself later admits that even if employers:

had the necessary capital to centralise their business...they had "no sufficient reason" for doing so. For those who were turning to factories were doing so in a very partial manner, and those who relied wholly upon putting-out were able to compete for many years.³

Labour attitudes should also be considered. Outworkers were far from keen to enter the factory. The sewing machine prompted long and bitter strikes in Stafford, Northampton, Kettering, and Wellingborough, as workers demanded their destruction.⁴ 'One of their principal arguments,' wrote the *Boot and Shoe Trades Chronicle*, 'was to the effect that it would lead to the introduction of the factory system and its attendant evils, thereby aiding in overthrowing the

¹ *Record*, 1 April 1892, p. 1204; 7 October 1892, p. 861.

² Head, 'Boots and Shoes', p. 162.

³ *Ibid.*, p. 169.

⁴ Fox, *Shoe Operatives*, p. 13; Head, 'Industrial Organisation in Leicester', p. 133.

ancient independence and prosperity of the craft.’¹ A Northampton strike leader asked in 1859: ‘Is it not the factory system which is contemplated more than the machines?...Yes shopmates, it is the infernal Factory System...they want to introduce.’² Although failing to prevent the introduction of machines, strikes helped ensure that they were installed in the workers’ homes, rather than in factories.

Opposition amongst outworkers to factory employment continued into the 1890s. One employer recalled in 1888 how, several years previous, his firm sought to concentrate production in a central workshop. The experiment ‘proved a failure’ for the outworkers ‘do not like the restrictions. They did not receive my offer with any favour as to the building of workshops on the spot.’³ Another manufacturer stated that in the area around Raunds the men ‘prefer to work at their own homes in the villages, as it is more convenient to themselves.’⁴ In London it was said in 1889 that:

the men themselves, especially the finishers, would be most adverse to indoor labour, because they objected to the necessary restriction of factory hours, and also because many of them now utilised some members of their family to help them in their work.⁵

Although in Bristol numerous employers had, by 1893, ample accommodation for their employees, many, observed a correspondent of the *Record*, ‘prefer to work at their time and choice in their own homes.’⁶

In understanding this preference it is well to recall, not only the advantages enjoyed by the outworker, but that the rather lurid descriptions of domestic labour prominent at the time were far from typical. The Bristol branch of the Union, asked in 1888 whether the ‘Sweating System’ prevailed in the town, confessed that ‘in searching for evidence we cannot be supplied

¹ *Boot and Shoe Trades Chronicle*, 2 April 1877, p. 46.

² R.A. Church, ‘Labour Supply and Innovation 1800-1860’, *Business History*, xxii (1970), 37.

³ *S.C. on Sweating*, 1st Report, Qs. 10,150-151.

⁴ *Ibid.*, 2nd Report, Q. 11,299.

⁵ *Record*, 30 November 1889, p. 621.

⁶ *Ibid.*, 13 January 1893, p. 78.

with any direct facts which could be classed under the heading "Sweating."¹ Even in London, where conditions were worst, Schloss found that 'the standard of comfort' amongst women domestic closers 'is by no means low.'²

Worker hostility to factory employment was another element inimical to the centralisation of production, since it raised the difficulty and cost of labour recruitment, and increased the uncertainty attached to the change. So while the trend towards factory production was clear, the movement was not a rapid one. But a new factor now entered the scene.

With the emergence of machine processes there developed a trade union representing those engaged upon them. The National Union of Boot and Shoe Riveters and Finishers was formed in 1873, later becoming the National Union of Boot and Shoe Operatives. Its growth was initially slow. There were around 4,000 members in 1878, which left over 17,000 riveters and finishers outside the Union.³ Eleven years later Union membership had increased to 13,760, about one-third of its target recruitment and less than ten per cent. of the wholesale trade's labour force.⁴ Yet the Union was strongest in the new centralised factories, where it carried weight with the larger employers. As the Union's historian Alan Fox remarks:

the most powerful factor making for increased membership was neither the Union's record nor the organising campaigns, but technical change. In laying down more machinery and bringing more men into the factories, employers were bringing more recruits into the Union net.⁵

By itself, factory unionism discouraged indoor working because of the costs and disruption it brought with it. As T. Lilley, of Lilley and Skinner, complained in 1888: 'When the manufacturers get the men into the workshop the Trades Union very often interferes with them, and that makes the manufacturers very averse to having the whole of their work done in

¹ National Union of Boot and Shoe Operatives, *Monthly Report*, May 1888, p. 4.

² Schloss, 'Bootmaking', p. 93.

³ Fox, *Shoe Operatives*, p. 53.

⁴ Brunner, 'Industrial Peace', 250.

⁵ Fox, *Shoe Operatives*, p. 97.

their factories.’¹ But it was apparent to the Union that so long as production remained scattered throughout the homes and villages of the workpeople its strength would be minimal. ‘The system of home working by the Finishers,’ said the Union’s *Monthly Report* in 1881:

makes communication with them at all times a most difficult matter. The Finisher...has none of the facilities for obtaining information respecting the Union that the Rivetter has, when the latter works in the factory. To this fact may be fairly attributed the small number of Finishers who are now...members.²

Enforcement of uniform conditions in workers’ homes was well nigh impossible. Bargaining individually with the employer, the outworker could offer, or be pressed into accepting, terms contrary to the Union’s standard and no other worker need be the wiser. The same was true with hours of work. Such outcomes were all the more likely in that the outworker, relatively independent of peer pressure, was more likely to exhibit an individualistic ethos. In an 1893 speech the Union leader John Judge stated that ‘at present they had no guarantee that any statement of wage would be paid correctly unless the men were working together (applause) - and checkmated each other with respect to the work they did (Hear, Hear).’ When Secretary of the Leeds branch ‘he had had hundreds of cases brought before him where men working outside with no one to look after them cared nought as to the wage they got. Their only consideration was "Let me have enough work, the price I get for it is only a secondary consideration."' With the help of boy assistants ‘the outdoor workers sometimes did labour which was sufficient for 12 men, and thus 10 men were thrown idle.’³

With outworkers prepared to subvert negotiated conditions the position of factory unionists was weakened. As the Northampton branch complained: ‘The employers tell their men if they don’t like the wage they offer, they can send their work into the country to get it done.’⁴ Union attempts to control the supply of effort were frustrated both by their inability to restrict

¹ *S.C. on Sweating*, 1st Report, Q. 10,214.

² *Monthly Report*, November 1881, p. 4.

³ *Ibid.*, May 1893.

⁴ *Ibid.*, December 1882, p. 8.

the intensity and hours of labour of outworkers, and the ease of entry into the trade. Because of home work the industry was, in the words of the Union's President, 'flooded' with boy labour and 'men from all sorts of callings and professions - clerks, soldiers &c.'¹

Only through the widespread adoption of factory production could the Union hope to overcome these weaknesses. Yet centralisation proceeded slowly. As the Union's General Secretary observed in 1891, 'the use of machinery was not rapidly on the increase in Leicester, and could not be relied upon to bring about indoor labour in any general degree.'² The evolution of the industry had therefore to be forced. 'The adoption of indoor workshops,' wrote John Day, editor of the *Shoe and Leather Record*,

is urged by the Union chiefly on moral grounds...but it cannot be denied that...a greater incentive to bring about factory workshops was that it was the best means for more complete organisation of the workmen themselves. With indoor labour the men have joined the Union almost to a man.³

Although the President confessed to the Union's conference in 1888 that 'there are many working at our trade who are quite as anxious as the employer is for them to make workshops of their own homes,'⁴ from the mid 1880s the Union commenced a campaign to undermine outwork. 'We decided,' Inskip told the Royal Commission on Labour, 'to spend all our funds in an attempt to compel employers to find room for their workpeople to work on the premises, thus sweeping away the middleman or sweater.'⁵

The campaign began in London in 1889, where investigations into the sweating system provided additional moral weight. Initially the district leadership proposed to boycott employers using garret-masters, the aim being, said the London Secretary Charles Freak, 'to make every man an independent and complete workmen, working direct from the factory.'⁶ However a

¹ *Record*, 2 January 1891, p. 28; Fox, *Shoe Operatives*, p. 55.

² *Record*, 2 January 1891, p. 28.

³ *Ibid.*, 8 May 1891, p. 1,062.

⁴ *Report of the Eighth Conference*, p. 3.

⁵ *R.C. on Labour*, C, Vol. III., Q. 16,003.

⁶ Cited *Record*, 19 October 1889, p. 450.

mass meeting of unionists demanded instead an end to all outdoor working within six months. The employers, whilst accepting the 'principle' of indoor working, sought to delay its implementation. Consequently upon the arrival of the deadline a strike began which was eventually settled by an agreement between the Union and the London Employers' Association, according to which the manufacturers promised to provide workshops by the 'earliest possible date.'¹ Unfortunately for the Union this success had been achieved in the one centre where the advantages to the employer of outwork were most pronounced, its culture was most firmly established amongst the operatives, and where control of the labour supply was most difficult. Many London employers were soon reporting themselves unable:

to obtain workmen, notably finishers, to do the work for which the customers are impatiently waiting. The fact is, that a considerable number of finishers, single men, have left London rather than work indoors.²

Pressure for a return to outwork mounted. Moves by Jewish employers to re-establish putting-out were blocked by the Employers' Association, members of which resolved at a meeting to:

continue to support and enforce the policy of indoor workshops for the men, and that a conference of influential gentlemen be invited to take steps to bring pressure to bear upon those members of the trade who are refusing to comply with the agreement...³

However with the arrival of bad trade in October 1891 'every effort' was made by employers 'to break away from the compact made for indoor working.'⁴ By 1894 Day was commenting that the London trade had returned to the 'bad old channels from which it was hoped it had escaped for ever.'⁵ Not until 1906 did agitation against outdoor working recommence in London, with comparable results.⁶

Simultaneous with the London campaign began the pressure for indoor working in

¹ Fox, *Shoe Operatives*, pp. 115-16.

² *Record*, 3 May 1890.

³ *Monthly Report*, August 1891, p. 2.

⁴ *Ibid.*, October 1891, p. 3.

⁵ *Record*, 20 April 1894, p. 869.

⁶ Fox, *Shoe Operatives*, pp. 453-5.

Leicester which was to have a far greater impact upon the trade. Being the centre of factory production, Leicester was the stronghold of the Union.¹ Equally significant, there were a number of large and powerful employers. Together these two groups forced through indoor working against the opposition of numerous outdoor workers and small employers. Factory employers were keen to see the smaller producers eliminated, regarding their competition as 'illegitimate,' since they were not subject to the Factory Acts or Union pressure on wages and conditions. The *Boot and Shoe Trades Journal* expressed their interests: 'indoor labour was necessary in Leicester for competition in that town has been exceedingly keen, and much of it has been due to the system of home work.'² In family workshops 'a father, mother, brothers, and sisters work all the hours they please, and under what conditions they like, to the detriment of the trade.'³ 'Unwholesome competition' was the result. 'Uprooting such workshops,' it said, 'will largely benefit legitimate manufacturers.' Thanks were therefore due to the Union for forcing factory work, especially since opposition from the men to such a move would otherwise have been expected.⁴

The Union began by pressuring employers to stop sending work into the country. Green & Sons and Stead & Simpson both discontinued the practice under threat of strike action. When Smith & Faire refused a similar request, a strike followed and the company was forced to see that all machine-sewn work was made in Leicester.⁵ At the beginning of 1891 the Union submitted a demand for complete indoor working. The 'largest and most important manufacturers' quickly agreed to the proposal - to the annoyance of Day:

¹ Inskip, the General Secretary, estimated in 1892 that 75 per cent. of adult males in the Leicester shoe trade were Union members.[Head, 'Industrial Organisation in Leicester', p. 351.]

² *Boot and Shoe Trades Journal*, 4 July 1891, p. 2.

³ *Ibid.*, 27 June 1891, p. 662.

⁴ *Ibid.*, p. 2.

⁵ *Drafts of a History of Leicester Boot Manufacturers' Association; Monthly Report*, February 1890, p. 2.

We quite fail to see why one section of boot manufacturers, even though they be in the majority, should compel another section to go to the expense of providing factory accommodation for men who do not really wish to work in a factory.¹

The *Record's* Leicester correspondent claimed that '90 per cent. of manufacturers' are utterly opposed to the Union's demand, especially since:

there was not the slightest evidence of any spontaneous demand for the provision on the part of the men. A very large percentage, if not an actual majority, of those already working in their own shops at home would prefer to continue under those conditions, as being more remunerative, much healthier, and better suited to their long acquired ways and habits.²

It was, Fox admits, 'an assertion which contained enough truth to be a source of embarrassment to national leaders during the ensuing years.'³ The firm of Bradshaw & Payne balloted its employees to ascertain their opinions, the 'great majority' voting to continue outdoor working.⁴

But the forces against these disorganised groups proved too strong. In March 1891 the Leicester Boot Manufacturers' Association agreed to provide workshops and most working materials free of charge.⁵ By March 1892 the Union could declare that, in every instance in which it had withdrawn men in Leicester to enforce indoor working, it had 'succeeded in causing the employers to adopt this beneficent system of working.'⁶ According to the Union, less than five per cent. of the labour force was working out of doors in the town of Leicester.⁷

Events at Northampton followed a similar course. The Union's demand for indoor working was submitted in late 1892. The local Employers' Association assented to the 'principle' but raised detailed objections, while outworkers were apathetic or hostile to the move.

¹ *Record*, 16 January 1891, p. 127.

² *Ibid.*, 23 January 1891, p. 212.

³ Fox, *Shoe Operatives*, p. 143.

⁴ *Record*, 29 May 1891, p. 1,252.

⁵ The Leicester Boot Manufacturers' Association had been founded in 1871 by 21 firms. By 1897 121, out of approximately 200 local firms, were members.[Head, 'Industrial Organisation in Leicester', p. 345.]

⁶ *Monthly Report*, March 1892, p. 1.

⁷ Head, 'Industrial Organisation in Leicester', p. 148. Though as Head remarks, this was probably an exaggeration.

When an attempt was made to ascertain the views of the men, indifference rendered the returns unreliable, indicating, said the *Boot and Shoe Trades Journal*, that the demand issued primarily from Union officials.¹ The *Record's* correspondent claimed that although most outworkers opposed the change, they 'daren't admit it' for fear of the unionists and because factory work was considered 'morally' preferable. Yet the strength of the Northampton Union meant that by 1894 most employers had provided workshops. Those who had not were interviewed by the Union, some being struck and picketed. Where workers wished to continue home work, the Union issued a permit, specifying that only one assistant be employed and that the operative could work for only one shop - conditions which greatly diminished outwork's attractiveness.²

The Union warned would-be outworkers that:

it would be well for them to consider their own position with due deliberation...the masters maintain that they must look after the men inside first, therefore it follows that those who imagine that their wiser course is to remain outside must be prepared for disappointment.³

In this light must be read the Union's declaration of pride in the Northampton men, who had proved their loyalty to the Union 'by cheerfully accepting the inevitable, and although it may seem hard for a number of them for a time, we are confident the time is not far distant when they will endorse the view taken by the Leicester and London men that it is the best thing that was ever done for them.'⁴

Notices to provide workshops in Bristol and Leeds was served in 1893, and in Stafford in 1896 - in each case with the broadly desired results. In smaller country centres, where the Union was weak and attachment to home-working stronger, the system survived longer. Although an indoor working order had been served at Rushden in December 1892, Griffin Ward, President of the Employers' Association, declared in 1895 that 'there was more work done

¹ *Boot Trades Journal*, 3 December 1892, p. 668.

² *Record*, 5 January 1894, p. 8.

³ *Monthly Report*, January 1894, p. 8.

⁴ *Ibid.*, February 1894, p. 2.

outside at Rushden than there ever was in the old times.’¹ At Kettering almost 90 per cent. of rivetters and finishers worked in their own homes in 1892.² When the issue of workshops was discussed at a local Union meeting 326 voted for workshops and 262 against, but since non-unionists at Kettering were ‘considerably in the majority’ the Union decided not to press the issue.³ As late as 1907, of the more than 900 shoemakers in the industry in the Northamptonshire town of Desborough, only 27 were in the Union.⁴ In such places outwork continued into the inter-war period and even later.

Nevertheless, these exceptions should not be permitted to obscure the decisive change in the industry’s organisation which occurred in the early 1890s. By 1895 factory production was dominant in all the major centres - excepting London and Norwich. This was a victory not simply for the Union, but for the emerging corporatism within the industry, since without the co-operation of the leading employers in the Manufacturers’ Association the transformation would not have been anywhere near so rapid or complete.

¹ Boot and Shoe Manufacturers’ Association, *Boot and Shoe Trade* (1895), p. 8.

² Conference of the Employers’ Federation and Union of Boot and Shoe Operatives, Leicester (1892).

³ *Boot Trades Journal*, December 1892, p. 669; Fox, *Shoe Operatives*, p. 203.

⁴ *Monthly Report*, December 1907, p. 387.

Chapter 12

The Problem of Effort Intensity Within the Factory

Prior to the centralisation of production the effort problem for the employer (with some exceptions, notably clicking) did not arise. With the forced and hasty move indoors it did, finding employers unprepared and unable to respond.

Remuneration by piece-rates was a natural continuation from payment systems in domestic production, and soon became entrenched in the early shoe factories. Operatives looked upon piece work as natural and fair. Whilst day-wages, said the Secretary of the Boot Manufacturers' Association in 1888, would be acceptable to the employers:

I am afraid the men would not agree to it...They would be afraid that the masters were taking advantage of them...They would suppose that the master would want them to do a larger amount of work than it was for their advantage to do.¹

Piece prices were embodied in long and complicated statements which had to accommodate, even within each centre, a wide diversity of materials, styles, qualities, and trimmings. For instance, a Revised Statement for machine work in Stafford took, in 1879, four months of negotiations between employers and the Union, and contained 23 separate rates for each of the operations of putting-up and finishing women's shoes, with an additional 30 rates for 'extras' in both operations.² When, in 1889, the London branch sought to compile a uniform statement, its appointed delegates resigned 'in consequence of the impossibility of accomplishing the task imposed upon them.'³

Under such a cumbrous system, adjustments to written statements were infrequent, being

¹ *S.C. on Sweating*, 1st Report, Qs. 10,077-011.

² Staffordshire Shoe Manufacturers' Association, *Minute Book*, 1879.

³ Webb Trade Union Collection, Section A vol. xxiv, *Leather Trades*, p. 131.

chiefly a response to changes in material conditions - such as the introduction of a new style or machine. Even then controversy often followed. 'During the present season,' complained Day in 1886,

almost any trifling wage dispute...has sprung either from the introduction of a new material and from some misunderstanding regarding the complex classification under which the boot must come. We want something plainer and more elastic than the present arrangement.¹

Compounding the wage system's rigidity was the desire of the Union, and also some local Employer Associations, for a Uniform Statement covering all firms in an area. Leeds gained such a statement in 1873, Leicester in 1878. With all firms having to pay a standard piece-price, there was little scope for flexible and detailed adjustment of rates at firm level with the purpose of stimulating effort. Instead, when new products or processes were introduced samples were submitted to the local Board, which classified them and attached an appropriate piece-price.²

Since mechanisation had proceeded to only a limited extent, and the number of managerial and administrative staff was small, overhead costs were comparatively low. Until the early 20th century, productive wages made up about a third of the factory selling price, while materials varied between 55 and 60 per cent., leaving other charges, including profit, at only about 7 to 12 per cent.³ In this context employers were concerned not so much with intensifying effort, as securing a reasonably stable and predictable effort level from workers new to factory employment. Only recently self-employed, the shoe worker was accustomed to balancing effort against the claims of leisure, and this at a frequently low point. Discipline was therefore a serious problem. 'To many workers,' comments Head, 'one of the most disconcerting features of the introduction of a genuine "factory system" was the regular hours this necessarily implied.'⁴ At a conference with the Union in 1892, employers complained that having adopted

¹ *Record*, 19 June 1886, p. 56.

² Head, 'Industrial Organisation in Leicester', p. 359.

³ J.T. Day, 'Boot and Shoe Trade', in H. Cox ed., *British Industries under Free Trade* (1904), p. 248; *Record*, 22 August 1919, p. 8. See also below, p. 272.

⁴ Head, 'Industrial Organisation in Leicester', p. 220.

workshop production:

we find a grave difficulty in keeping order in our various establishments, the men having been used to working in their own homes, at their own pleasure, in their own way, and doing what they like in their own workshops, have grown up in habits which are perhaps somewhat difficult to eradicate.¹

With the labour market tight, said the Leicester correspondent of the *Record* in June 1886, it would:

be very pleasant...were it possible to say that all the workmen took full advantage of the harvest they might now reap. But many...are too fond of displaying a spirit of independence. A large batch, or...perhaps a whole staff of workmen will throw down their tools and go out 'for fresh air.' And they continue this taking of 'air' for several days, to the manifest inconvenience of the employer.²

In similar circumstances, the Leeds correspondent reported that inconvenience was caused by:

the irregular manner in which the men employ their time. 'Saint' Monday is kept up in spite of the many orders awaiting execution, and one firm of manufacturers last Saturday only paid £28 in wages to 34 riveters!³

As late as 1896 a large number of operatives at Kettering left work, 'against the express wish of their employer,' to attend a football match. Finding, the next day, that their services were no longer required, they were 'highly indignant and felt themselves hard done by.'⁴ Indeed new diversions sometimes intruded:

One manufacturer had some orders he wanted to get away on Monday, and requested some of his men not to go electioneering, but to stay at work, but these free and independent electors must needs ignore his request, and go to canvass for the men of their choice.⁵

Here employers faced a dilemma. Whilst piece-work seemed necessary to induce any effort at all, by continuing to permit workers to calculate the gains and losses from additional effort, the supply of effort remained highly variable. This had been the case under outwork, but then the manner of working of the outworker was of little consequence to the employer.

¹ *Draft History*.

² *Record*, 5 June 1886, p. 9.

³ *Record*, 30 August 1890, p. 276; these figures suggest an absenteeism rate of over 30 per cent.

⁴ *Boot Trades Journal*, 3 October 1896, p. 413.

⁵ *Ibid.*, 7 November 1896, p. 546.

However the piece-worker formed part of an integrated productive unit, and employers could no longer remain indifferent to his pattern of work. As Day commented in 1890:

While outdoor labour was permissible employers were at liberty, at any moment, to put on additional hands to meet their requirements, but that is no longer possible. The workshop accommodation in every factory is based on the amount of trade to be done, therefore Saint Mondays and idle Tuesdays, or other self-appointed holidays...involve far greater inconvenience and loss of business than heretofore.¹

This irregular application of piece-workers proved an important factor behind the subsequent moves towards day-work; already by 1891 trade journals were pointing to its advantages:

With complete systems of machinery it is indispensable that there should be regularity throughout the factory, and as piece-hands are as erratic in their attendance at work as an English climate, it is almost imperative that day hands should be employed where much machinery is used.²

The Union's position was awkward. Having forced indoor working, it was in a sense responsible for the ensuing difficulties - as employers were not slow in pointing out. Yet it was anxious to avoid antagonising its members, not least because this would stiffen their resistance to indoor working.³ So the Union, avoiding any direct involvement in enforcing discipline, confined itself to expressions of disapproval. When piece-workers at a London firm left work in opposition to attempts to enforce stricter time-keeping, the Union's London President stated that the 'men had done wrong' and suggested they 'ought to resume work at once.'⁴ In 1898 the Union's President warned that it was the practice of 'staying away from work on Monday, Tuesday, and Wednesday, and trying to get a week's work in the last three days' which 'compelled employers' to introduce machinery.⁵

Over time the discipline of shoe hands improved, largely owing to a greater familiarity

¹ *Record*, 26 July 1890, p. 98.

² *Boot Trades Journal*, 28 February 1891, p. 230.

³ Fox, *Shoe Operatives*, p. 150.

⁴ *Record*, 9 January 1891, p. 79.

⁵ *Ibid.*, 9 January 1898, p. 1,289. Price is thus incorrect to attribute lax timekeeping to the 'restrictive traditions of workplace unionism;' it was rather a legacy from the old domestic organisation of the industry. (Price, *British Society*, p. 110).

with factory employment. As the freedom they had enjoyed as independent workers receded from memory, with it lapsed the propensity to work only when they felt inclined. The claims of the factory clock became pre-eminent. Employers were not passive in this transformation, taking steps to punish irregular attendance. In 1892 the firm of Walker, Kempson & Stevens began locking its workers indoors, not permitting them to go in and out of the shop at will.¹ A Leeds firm in 1893 started fining employees absent for more than three hours a week. Unhappy with this arrangement, the Union secured, as a substitute for the fine, the words 'shall be liable to instant dismissal.'² Northampton manufacturers, exploiting their 1895 victory over the Union, drew up a set of factory rules, including the provision that any piece-worker leaving his work for 24 hours was liable to have it taken away. Manufacturers also began locking gates during standard working hours. 'Freedom of action in the management of factories has now been secured,' wrote the *Record's* correspondent.³ With the move to day work during the 1890s employers became still more intolerant of irregularity, whilst employees lost the ability to finely adjust effort and earnings.

However the key factor disturbing relations between workers and employers, and that which brought the problem of labour effort to the fore, was technical change. The rapid development of machine processes rendered existing piece-work statements redundant. Overhead costs also increased with the introduction of machinery. This, together with intensifying competition within the industry, and the threat of imports from America, made employers more conscious of the problem of effort and the benefits from increasing it.

Employers installing machinery took advantage of the disturbance to introduce new effort enforcement mechanisms. Instead of re-negotiating piece-rates, firms opted for day-work, attempting to enforce effort through increased supervision and the threat of dismissal. This represented, in part, a desire to avoid the complex and troublesome negotiations necessary in

¹ *Boot Trades Journal*, 6 February 1892, p. 202.

² *Record*, 17 February 1893, p. 420.

³ *Ibid.*, 17 May 1895, p. 1,164.

drawing up any new statement. It was believed that day-work would smooth the process of mechanisation.¹ Indeed, with rapid technical change no statement could long survive, as Day remarked:

Each season brings with it a huge batch of changes which cannot possibly be foreseen, and which cannot therefore be provided for even in the most comprehensive statement of wages that can be conceived. A statement compiled to-day is only good for to-day.²

Employers feared, moreover, that the Union would not permit piece-rates to fall sufficiently to render machinery profitable. The *Boot Trades Journal* argued that if the Union were prepared to give machinery its full scope, and negotiate a 'reasonable' scale of piece-wages, they would find:

many manufacturers preferring piece-wages...But the prejudice there is against machinery, leads the men to demand such high piece-wages, that if paid, manufacturers, instead of deriving benefit from the machinery, would lose considerably by its use.³

Connected with this, the 'real capacity of the machines' was as yet unknown, making employers reluctant to commit themselves to excessively generous statements.⁴ Lastly, with the industry in a transitional state, employers were using different machines and to a widely varying extent. To be workable, a piece-rate scheme would have to be confined to a particular plant. This the Union, with its attachment to uniform statements, could not accept. It was therefore prepared to sacrifice piece-work in the cause of uniformity, for, as Fox comments, it frequently appeared 'safer to fix a uniform day-wage which could serve as a defence line for all the workers of the district...'⁵

But it seems that employers wished, not simply to reduce piece-rates on machinery so as to ensure an unchanged reward to effort, but to reduce the value paid per unit of effort. This,

¹ C.f. *Boot Trades Journal*, 24 January 1891; *Boot Trades Chronicle*, 15 August 1885, p. 14.

² *Record*, 28 September 1889, p. 356.

³ *Boot Trades Journal*, December 1891, p. 615.

⁴ *Ibid.*, 11 January 1896, p.30.

⁵ Fox, *Shoe Operatives*, p. 135.

at least, was the view of many operatives, and has been repeated since. Brunner, for instance, writes that with the industry subject to continual technical change 'it was easy for the workers to be driven until they were doing more and more work for the same payment.'¹ Under day-work, said the Leicester Branch in 1881:

The system...is to give a certain sum per week to commence with, and the work done has to be a stipulated quantity, and also the commoner kinds. Gradually, however, the first scale of wages becomes reduced and at the same time the quantity of work to be done increases in amount, and also better in class; the result of which is that in a short time the workman finds himself doing an amount of work, which if paid for at the statement prices, would mean from 5s. to 12s. per week more added to his so-called weekly wages.²

At a Union meeting in Leeds in the same year it was resolved to oppose day-work since, wherever it had been introduced, manufacturers 'had reckoned up the amount of labour performed by the day-workers, who were expected to do more work for the same money than they would have to do by working piece-work, which, it was contended, was equivalent to a reduction in wages.'³

Similar complaints were raised by a Rushden delegate to the Union's conference in 1894. In his district machinery was fast superseding hand-labour, and they wanted to secure a fair return for their labour - which day-work failed to provide. The employers had a kind of statement, and the operators were expected to do so many pairs for the money they got. The men now earned less than on Statement prices 'but they had to work like white slaves.'⁴ These views were reaffirmed by an 1893 investigation by the Leicester branch into the effect of machinery on earnings. In the lasting section, 79 witnesses were examined, four of whom were on piece-work and 75 on day-work. Of the day-workers, one claimed to be earning more than he would on Statement, 12 the same amount, and 62 declared they were working for less.⁵

¹ Brunner, 'Industrial Peace', 251.

² *Monthly Report*, May 1881.

³ *Ibid.*, November 1881, p. 4.

⁴ *Boot Trades Journal*, 26 May 1894, p. 588.

⁵ *Ibid.*, 20 January 1894, p. 49; *Record*, 26 January 1894, p. 180.

However it is unclear whether the accusation was that the men were earning less than if Statement prices had been applied to machine work - which is hardly surprising - or that the amount received for a given amount of effort had declined. This confusion beset the Union in its dealings with machinery.

The accusation that employers, when introducing day-work, sought to reduce the price paid per unit of effort cannot be substantiated because, amongst other things, the *type* of effort involved in operating a machine was different from that in working by hand techniques. Nevertheless, assuming such to be the case, the difficulty was that, first, employers failed to go through rigorously with their scheme; and second, by the early 1890s the Union had become an important force in the major centres.

There is little doubt that from the beginning of the 1890s local branches of the Union unofficially encouraged workers to limit their production. One of the first specific allegations came in the *Boot Trades Journal* of 13 June 1891. An editorial noted that although, when machinery was introduced, it was natural to work it with the old hand worker, this was unsatisfactory since he would tend to limit the machine's output to that achieved by hand methods. Substituting unskilled for skilled labour was therefore recommended. In August 1891 came a complaint from Stafford that the first concern of boot-makers appeared to be 'to prevent their employer's fortunes being made too fast, to which end they will worry themselves and waste much time inventing technical restrictions, which...are ridiculous, and only tend to hinder business.'¹ Henceforward allegations of output restriction mounted rapidly. It formed a chief point of controversy in the evidence of the shoe-trade to the Labour Commission in 1892.² At the 1893 National Joint Conference, the leader of the employers' delegation, Griffin Ward, stated that:

¹ *Ibid.*, 28 August 1891, p. 501.

² C.f. the evidence of W. Ingle, Secretary of the Leeds Boot Manufacturers' Association.

We find that there is - or it is reported to us that there is - on the part of the Union in Leicester an organised interference with the men who are working these machines; that is to say, that a committee sits, and that men are instructed that they are not to do above a certain portion of work.¹

The trade journals of the early 1890s were replete with such accusations. 'There is no doubt,' said the *Record* in 1893, 'that the present policy of the Union is the limitation or restriction of production, and they intend to use their power to the utmost to accomplish this end.'² The paper's Leicester correspondent complained that the output on lasting machines had fallen 20 per cent. compared to the levels attained when first introduced; when asked why, the men 'say they have been told that they must not do more than a certain quantity of work.' At one factory where six magnetic trackers were in use, the 'pullers over' had reduced their output from 12 dozen per day to 11 and eventually 10.³

Contemporaries believed that the Union was endeavouring to halt the introduction of machinery by refusing to ensure that the machines worked to capacity. 'Years ago,' wrote the *Shoe Manufacturers' Monthly* in 1904, Union members:

openly declared against machinery, and tried to stop its introduction. To-day such opposition is no longer formally expressed, but its substance remains...If ever the history of the National Union...is impartially written it will reveal an opposition of a most shameless character to the introduction of every labour-saving appliance.⁴

In a letter to the Labour Commission, the Leeds Boot Manufacturers' Association stated that:

The progress of the boot trade in this district is seriously impeded by the conditions imposed by the Trades Union on the employment of labour-saving machinery, and the restriction of the quantity of work turned out by such machinery; and a large quantity of valuable machinery is at present idle on this account.⁵

John Day was vociferous in his attacks on this score:

¹ *Monthly Report*, July 1893, p. 88.

² *Record*, 24 November 1893, p. 1,162.

³ *Ibid.*, 8 December 1893, p. 1,271.

⁴ *Shoe Manufacturers' Monthly*, June 1904, p. 52.

⁵ *R.C. on Labour*, C, Vol. II., Q. 15,665.

There exists among workmen what amounts to a tacit understanding that only so much work shall be done within a certain time, and no matter what machines are introduced, the men conspire to prevent any saving being effected by their aid...The Unions are engaged in a gigantic conspiracy to hinder and retard the development of labour saving appliances in this country.¹

As Peter Head has summarised:

There is much to be said for the employers' point of view that, although the Union did not openly refuse to work with machines, it was opposed to them, and used more subtle methods of belittling them and making their use as expensive as hand labour, only to retain public sympathy.²

This was certainly one aspect of events. The Union's President, E. Kell, effectively admitted as much to a Conference in 1888:

There is one duty which should guide us on the introduction of these machines, and this can best be carried out where men are well organised, that is to make fair conditions for our members. So far as the success it has attained in our trade up to the present, setting aside a few machines, it has been anything but remunerative to many employers.³

But there was more involved than this, for the Union was concerned to limit the production of *all* members, including those on hand processes. A good example was their attempt to control the output of clickers - which remained a hand process. Discussing the suitable method of payment of clickers, the Union Report for London in June 1883 noted that 'it should be our duty to see that he [the employer] does not play the quick ones against the others to the detriment of the slow ones, but rather to say what amount of work shall be done for a given amount of wages.'⁴ By 1894 a piece-work statement for clickers had been drawn up for Leicester. Griffin Ward, at a conference that year, was critical of Union attempts to apply the Statement to clickers on day-work - which had not been envisaged. Inskip replied that:

¹ *Record*, 19 February 1892, p. 441.

² Head, 'Industrial Organisation in Leicester', p. 370.

³ *Report of the Eighth Conference*, 1888, pp. 2-3.

⁴ *Monthly Report*, June 1883, p. 8.

The primary object of the piece-work statement brought about for the clickers was for the purpose of being able to form a test whether men earned their money or not so as to be exempt from certain lectures to which they have to listen when they are fetched into the office.¹

The Union was clearly concerned to enforce a standard rate of payment for the effort of clickers, a fact highlighted by a correspondence in the *Leicester Daily Post* in 1903. When a letter complained that the Union had fined clickers 5s. on grounds of 'earning too much money,' another writer protested:

Clickers may have been fined for doing too much work for the money they receive but not for receiving too much money. If 'Shoehand' is a clicker he knows that there is a statement in force, and if a day-worker does more work than his wages call for, he is no more than a blackleg and should be treated as such.²

However the Union seems to have gone further, connecting a unit of effort with a certain quantity of output - though some confusion appears to have existed amongst operatives on this matter. We noted such in the Leicester Report on lasting machinery. Similarly, at a meeting of the Co-operative Wholesale Society called to discuss allegations of output restriction, a speaker said the men were wise in limiting output since 'employers, by introducing this machinery, wished to get twice as much work out of them for the same wage, and he thought that it was desirable that a keen watch be kept on the output.'³ Again it is unclear whether the speaker is referring to output or effort. Another instance was the Union's opposition to the hand team system. This was simply a more rigorous utilisation of the division of labour, with groups of approximately six men working in a 'team,' continually serviced with materials.⁴ By its means output could be increased without necessarily requiring more effort from each worker. The Union's attitude to the innovation was clear. 'Members working on day or piece-work in teams,' said the Union Council, 'will be considered to be working against the interests of the

¹ *Draft History*.

² Cited in the *Record*, 11 December 1903, p. 1,232.

³ *Boot Trades Journal*, 16 July 1892, p. 80.

⁴ *S.C. on Sweating*, 1st Report, Qs. 10,049-050; *Monthly Report*, February 1894, p. 36.

Union and liable to a fine or expulsion.’¹ In April 1893 the team system with day labour was introduced at Lilley and Skinner’s Bristol factory. On 5 May the *Record* reported that the experiment was working smoothly; yet by 16 June it had been stopped by the Union.² In 1894 the dispute came before the National Conference of employers and the Union. As the Webbs observed, instead of arguing that the move to day labour on the team system involved an increase in effort per worker, the Union ‘claimed that unless the day wage was so fixed that the *cost of each boot to the employer* remained no less than before, the alteration should be regarded as a reduction of wages.’³ Notwithstanding that wages had increased, if the employer got 11 dozen of work done at the price of 10 dozen provided by the Statement, ‘that involved a reduction of wages.’ Charles Freak, leader of the London Union, remarked unambiguously: ‘I think there is no argument in favour of the team system if it is done to cheapen production.’⁴

As the case of the hand team system demonstrates, the Union attached chief importance to the value received per unit of effort, which it in turn linked to the performance of a certain quantity of work. In practice this policy amounted to an attempt to hold constant the labour cost per unit of output. In accounting for the Union’s attitude four factors appear relevant.

(i) An individual worker, behaving in isolation, will not be directly concerned with the possible variability of the value of effort. Taking the value of effort as given, he will tend, at the margin, to increase effort intensity per hour if the perceived cost is less than the perceived benefit. But the union, regarding itself as the sole, or certainly a large, supplier of effort to the firm (or industry) will be conscious of the downward sloping demand curve for effort (itself a reflection of the downward sloping demand curve for the finished product). If all workers increase output, the price per unit of effort the firm will be willing to pay will decline. Assuming that the union wishes to maximise the net value benefit from the supply of effort of

¹ *Draft History*.

² *Record*, 16 June 1893, p. 1,479.

³ Webb, *Industrial Democracy*, p. 404.

⁴ *Conference Report*, 6 February 1894, p. 56.

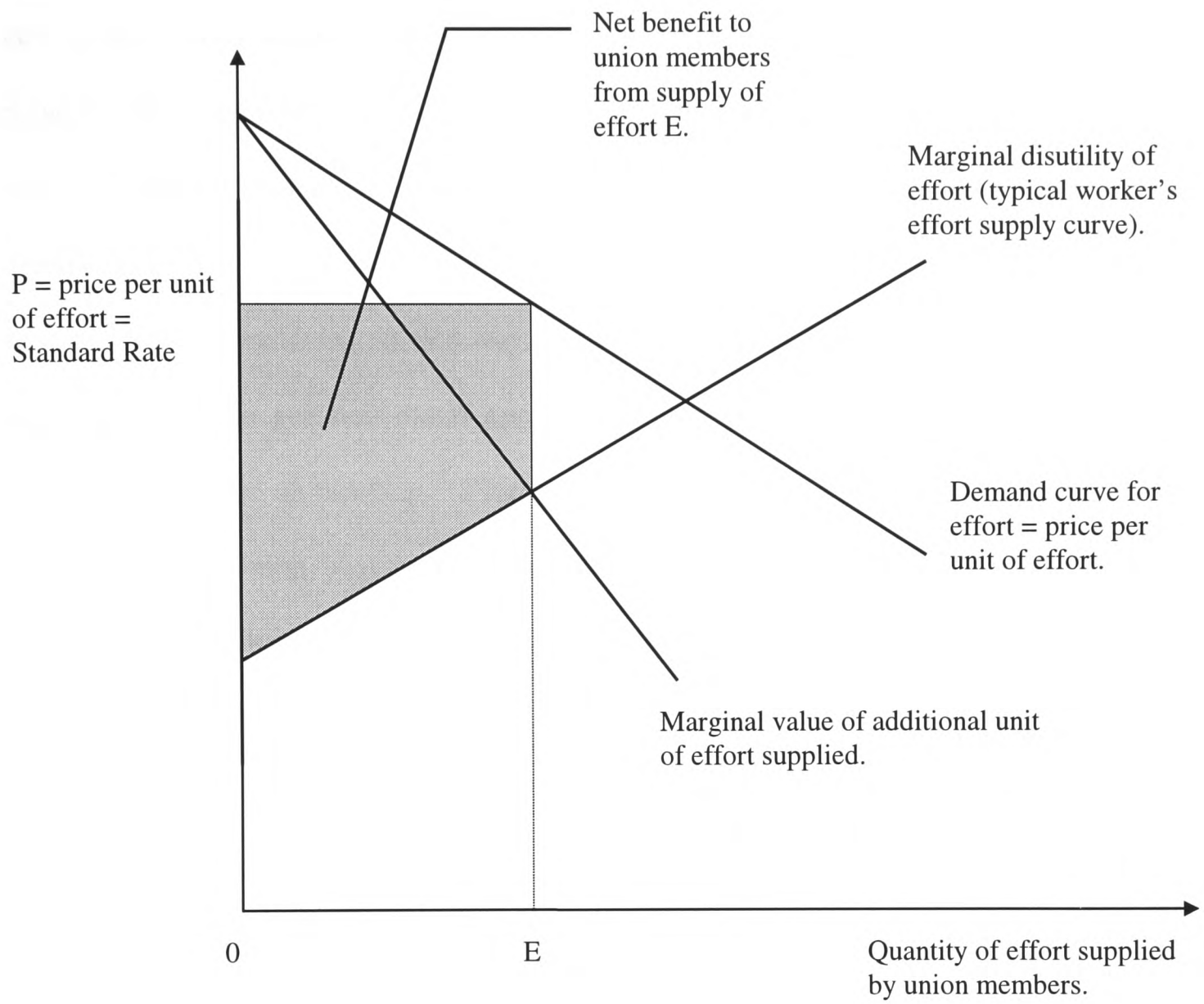


Figure 1.

its members, it will restrict the supply of effort to that point 'E' where the marginal value from an additional unit of effort per hour is equal to the marginal dis-utility to the typical member of that effort unit (see figure one). The price of effort will then be P, and this is the Standard Rate which - as the Webbs stressed - the union will be particularly concerned to maintain. At this point the benefit received by an individual worker for an additional amount of effort will exceed his marginal disutility, and it is in his interest to supply more effort. Such conduct will undermine the Union's controls over the supply of labour, and it could therefore be expected to prevent the workers behaving in this way. This the Shoe Union certainly did. Within the workshop it sought to generate moral opprobrium towards the subverting worker, who was denounced as a traitor or blackleg. Fines were imposed,¹ and persistent offenders could be dismissed from the Union, making continuance at a workplace intolerable or impossible, and greatly reducing the chances of re-employment elsewhere.

(ii) The above effects were exaggerated by the inelastic price elasticity of demand for shoes. Prior to World War One approximately 90 per cent. of shoe output was sold on a home market which, although large, grew only slowly with rising incomes and population; responsiveness of demand to price was low. 'A pair of boots,' said a Union speaker in 1894, 'is not like a box of matches, there will not be a single pair more bought because you can produce them a penny a pair less.'² Silverman notes that the introduction of cheap footwear during the 1930s, whilst increasing the demand for poor quality goods, 'did not very greatly increase the amount of boots and shoes in current use.'³ On the other hand, the shoe trade was competitive, with large numbers of producers each with a small market share. The demand curve facing an individual firm was therefore significantly more elastic than that for the industry as a whole. It likewise followed that the demand curve for the effort of employees of a

¹ C.f. *Boot Trades Journal*, 23 February 1895, p. 263; Manufacturers' Association, *Boot and Shoe Trade*, pp. 11-12; Head, 'Industrial Organisation in Leicester', p. 370.

² *Draft History*.

³ H.A. Silverman, 'Boot and Shoe Industry', in H.A. Silverman ed., *Studies in Industrial Organisation* (1946), pp. 199-200.

particular firm was more elastic than that for shoe workers in total. Now it was the *industry* effort demand curve which primarily concerned the Union, making it far more conscious of the diminishing value returns to effort than the workers of each firm, and strengthening the importance it placed on limiting the output of all workers.

(iii) The emphasis attached by the Union to payment per unit of effort, and the need to restrict the supply of effort, therefore makes sense. Less understandable was its habit of associating a certain amount of effort with the production of a given quantity of output. We noted that this was the Union's practice in regard to hand-work. Still less comprehensible was its attempt to proceed in the same manner when machinery was introduced - machinery whose very purpose was to increase output from a given amount of effort. The Union sought to apply the old statement prices for hand-work to the work produced on machines, thereby maintaining the labour cost of production.¹ This policy culminated in the unofficial Leicester piece-work statement, drawn up by the local branch in 1893. Starting from the old piece-work statement for hand lasting and finishing, an amount was deducted from each price to secure to the employer a return equal to the prevailing interest rate on his machine investment. When, in April 1893, a Leicester operative was dismissed for insufficient output, he protested that 'he shouldn't do any more than he had done, as the officials had given instructions that they were not to earn the manufacturers more than five per cent. upon the cost of the machines.'² Since the employer was only to recoup the cost of his investment, he would enjoy no nett gain from introducing machinery. And since the cost per unit was maintained constant, the consumer would gain nothing either. The sole beneficiary from the introduction of machinery was to be the shoe-worker, who would receive more money per unit of effort expended. As a Leicester employer complained in 1895:

¹ C.f. Brunner, 'Industrial Peace', 253; Inglis, evidence to *R. C. on Labour*, C, Vol. II., Qs. 14,026-033; W.B. Hoffman, 'The Late Boot War', *Economic Journal*, v (1895), 266.

² *Record*, 14 April 1893, p. 903.

The aim of the union has been to make boots cost as much per pair to produce with machinery as by hand labour. The officials of the Union have drawn up a piece-work statement of wages to be paid when machinery is used which equals the old hand-work statement in cost per pair.¹

What accounted for the Union's wish to maintain the labour cost of production? Two explanations seem plausible. First, that the Union was seeking to gain for its members all the benefits from machinery. This was the view of the Webbs, who believed shoe-operatives were attempting to disguise their demand for an increase in the Standard Rate 'in an assumption that any departure from the old "Statement" is to be resisted as a positive reduction.'² As a description of the actions of the Leicester branch this view is probably just. The Leicester militants, led by T.F. Richards, were far from innocent of these possibilities - as the precision of their piece-work statement indicates. Moreover, they were imbued, in Hoffmann's words, 'with the anti-commercial spirit of the new socialistic religion.'³ But this 'conspiracy theory' does not account for the manifest confusion in the minds of many workers between output and effort, and the extent to which the bulk of Unionists sought to use machinery to raise the Standard Rate may be doubted. It seems that, more generally, the desire to maintain the labour cost of production was an anachronism from the days of the independent shoe producer. Accustomed, from his time as an outworker, to placing first importance on the price he was offered for a certain quantity of work, he continued, in the factory, to reason in those terms. Instead of weighing his weekly wage packet against his effort expended, he persisted in attaching significance to the payment per unit of output. The Webbs, somewhat inconsistently, advance this view also:

The feeling of the workmen in this matter is a superstition from the era of individual production. The operative boot-maker has inherited a rooted belief that the legitimate reward of labour is the entire commodity produced, or its price in the market.⁴

¹ Cited *Boot Trades Journal*, 5 January 1895, p. 13.

² Webb, *Industrial Democracy*, p. 406. See also Head, 'Industrial Organisation in Leicester', p. 375.

³ Hoffman, 'Boot War', 269.

⁴ Webb, *Industrial Democracy*, p. 402.

As the Union itself explained in 1876:

We are not fighting against natural laws, nor do we derange trade, when we ask for a fair day's wage for a fair day's work, or when we ask that our wages shall be upon a just ratio with the selling price of the article or articles we produce.¹

Possibly reflecting such considerations, the Stafford Boot Manufacturers' Association, in communication with London manufacturers in 1880, noted that many local producers had recently raised their prices owing to an increase in price of materials, but asked that this be kept confidential, for if the Trade Unionists were to find out, they would 'soon be up in arms for a rise of wages.'² Day was probably correct in claiming that:

the men have failed to grasp the true meaning of that simple word, 'wages,' which is supposed to be their chiefest study. The men say that wages means a certain price paid to them for making a pair of boots or for doing a certain portion of the work appertaining thereto, regardless of the organisation and appliances which may be supplied to them by the manufacture.³

(iv) The last factor favouring a policy of output restriction was fear of unemployment.

This operated powerfully upon the shoe maker. The relatively unskilled nature of the trade meant that the labour market was rarely tight, while the seasonal fluctuations in demand - which Union leaders thought were growing in extent - rendered continuity of employment uncertain. These general concerns were exacerbated by mechanisation, which appeared to threaten the jobs of key groups of workers (particularly, by the early 1890s, the influential lasters and finishers), and certainly provided firms with the opportunity to substitute youths for more expensive adult labour.⁴ The labour-saving implications of such machines as the Goodyear welt-sewer, which was 54 times faster than sewing on the sole by awl and thread, and a machine for rolling leather, which accomplished in one minute what had previously taken one-and-a-half hours to do by hammer, were difficult to ignore.⁵ There emerged from this context, as Day noted in 1894, 'a

¹ *Monthly Report*, January 1876.

² Staffordshire Shoe Manufacturers' Association, *Minute Book*, 1880.

³ *Record*, 25 August 1893, p. 395.

⁴ Fox, *Shoe Operatives*, pp. 164, 206-7.

⁵ Head, 'Industrial Organisation in Leicester', p. 30.

strong disposition on the part of workmen to spread out the available employment, so that it shall afford occupation for the largest possible number of men.’¹

The Union encouraged several measures in an attempt to maintain employment. One was to call on employers to put workers on short-time during recessions, rather than discharging some and employing the rest full time. Another was to press for overtime to be paid for at a rate of time and a quarter - with the intention of discouraging its use and thus, in the words of the *Monthly Report* for 1898, ‘secure more continuous employment to our members.’ Third, from the turn of the century the demand was raised for a reduction in working hours to eight per day so as to ‘absorb some of the victims of machinery.’²

Besides these official initiatives, most of which only began to be actively pursued from the late 1890s, the idea had arisen amongst the operatives, and was taken up by militants in a number of districts, that limiting output per machine would, in the words of Fox, ‘protect employment opportunities, either by making more machines necessary for a given amount of work or by making the machine uneconomic from the employer’s viewpoint.’³ The result in several of the major centres was a policy of output restriction encouraged by local branch leaders. Leicester, where mechanisation had proceeded furthest by the early 1890s, was to the fore in this respect, and one intention of the branch’s 1893 machinery piece-work statement was almost certainly to hinder the introduction of machines by rendering them unprofitable.⁴ In 1902 T.F. Richards proposed to the Leicester branch that:

¹ *Record*, 25 May 1894, p. 1,198.

² FOX, *Shoe Operatives*, p. 278.

³ *Ibid.*, p. 207.

⁴ *Ibid.*, pp. 207, 214.

owing to the large number of men kept walking about whilst others are more fully employed, this Branch hereby declares that all members of the No.1 Branch working in any one department shall make the same time as each other.¹

Output restriction on these grounds continued after the War. The failure of hourly output in Leicester to respond to a reduction in hours in 1919 was attributed to the men's fear that if they all worked to their limit it would produce unemployment.²

The Union leadership was embarrassed by this policy. Inskip, the General Secretary, broadly accepted the inevitability of mechanisation, and there is little doubt that, as Fox has argued, Socialist militants in Leicester, led by Richards, were seizing upon popular discontent with technical change as part of a wider attempt to wrest initiative from the more moderate Executive Council. On the other hand, Inskip did not want to play into the militants' hands by antagonising the membership over an issue which they regarded as vitally affecting their interests. In any case, he was himself opposed to seeing the men sweating and 'driving their fellows' on the machines. Further, there remained amongst the national leadership, through at least until 1896, sympathy toward the doctrine of the 'lump of labour,' it being believed that if individual operatives sought to maximise their production, total employment would fall.³

Employers were maddened by this policy. 'The stupid notion,' said Ward, 'has been drilled into the workmen that the way to obtain work for all is for each man to do as little as possible, for as much money as possible.'⁴ Day attacked the 'mediaeval idea' that 'it is wicked to increase the output per man,' as arising from a 'false conception of economic truths.' 'The spirit of comradeship is carried to a ridiculous extent.'⁵ However the men's strategy was not wholly misplaced - at least in the short run. With an inelastic demand for shoes and a Union policy of maintaining real wage rates, a rapid increase in output would have hastened the decline

¹ *Record*, 7 November 1902, p. 840.

² *Shoe and Leather News*, 29 May 1919, p. 470.

³ Fox, *Shoe Operatives*, pp. 208, 265-6.

⁴ Manufacturers' Association, *Boot and Shoe Trade*, p. 12.

⁵ *Record*, 19 February 1892, p. 442; 24 August 1900, p. 324.

in the industry's labour force which had already begun by 1891.¹ Silverman notes that, in the context of a substantial rise in productivity, shoe-trade employment fell 5 per cent. between 1924 and 1939. The *Record* itself recognised the potentially damaging effect upon employment of accelerated production: 'if, under a piece-work statement, every man was allowed to work up to his full capacity...there would not be more than three months regular employment during the year for at least half [the Union's] members.'² In the long run, however, the Union's policy was probably self-defeating, encouraging employers to substitute machines for labour and rendering the industry vulnerable to foreign competition.

Thus the employer's policy of the early 1890s was guaranteed to provoke Union opposition. Not only were they replacing piece with day-work, to which the Union had long been hostile, but they were believed to be seeking to reduce the labour cost per unit of output and the price per unit of effort. The Union therefore put up much resistance to the employers policies: striking against the introduction of team work and day-labour; demanding dismissal of foremen on grounds of 'driving' etc.; issuing instructions to machine operators to limit output; opposing the sending of work into the country; and introducing uneconomic piece-work statements. Antagonism between the two sides steadily mounted, and in late 1894 employers issued their 'Seven Commandments,' which included the demands that every employer be entitled to the 'fullest control over the management of his factory' and to make such regulations as were necessary for time-keeping and good order; that he could pay either day or piece wages; that any future piece-work statement be based on the 'average wages earned on day-work, and the time fairly occupied in each operation;' and that there should be no attempt to restrict the output of machine or hand labour.³ Cutting at the heart of its effort controlling strategy, the Union could not accept such terms. Employers responded, in early 1895, by locking-out all operatives in the Federated centres.

¹ Brunner, 'Industrial Peace', 250.

² *Record*, 13 December 1901, p. 1,300.

³ Fox, *Shoe Operatives*, pp. 221-2.

This stoppage, which, says Head, concerned fundamentally 'the conditions under which machinery and the factory system were to be operated,' affected at its peak 100,000 workers. After six weeks the Union was defeated. Employers were able to enforce their 'Commandments,' securing, in particular, the concession that they themselves could choose to adopt either the piece or day wage systems, and that any future piece-work statement be based on the 'actual capacity of an average workman' - not on the cost of production under hand-work.¹ The Terms of Settlement also helped to secure more stable industrial relations within the trade. Local arbitration boards were confined to the consideration of points of detail, while questions of principle were to be passed to a National Conference of employers and workmen meeting twice yearly. No further national disputes were to occur in the industry.²

However in passing from a paper to a real victory in matters relating to the conduct of their factories the success of the employers was less complete. Commentators often miss this point. Price, for instance, argues that not until the lock-out did employers 'secure the freedom and flexibility they needed.'³ That they enjoyed more freedom and flexibility cannot be doubted; but there is little evidence that they had the free-hand they wanted. In Leicester, Head observes, the 'relations between the Union and manufacturers...were far from amicable and feeling was bitter for a long time yet.'⁴ Certainly, attempts by employers to speed-up production on day-work appear to have remained largely ineffective. Complaints of output restriction soon reappeared. As early as January 1896 Day warned that those 'who think that the recent lock-out finally disposed of the determination of the men to limit the output of machinery are woefully mistaken. It exists as firmly as ever...'⁵ At Leeds in October 1896 manufacturers were complaining of the 'tardiness' with which employees were 'fulfilling their

¹ Hoffman, 'Boot War', 268.

² Head, 'Industrial Organisation in Leicester', p. 378.

³ Price, *British Society*, p. 101.

⁴ Head, 'Industrial Organisation in Leicester', pp. 378-9.

⁵ *Record*, 24 January 1896, p. 179.

engagements.’ One firm reported that the aggregate wages of its 40 rivetters for one week were £43, ‘which, in what I may term the busiest week of the year, is simply absurd. It would have been quite an easy task for those 40 "tappers" to have drawn £60 in wages.’¹ Another local firm reported that its 32 rivetters earned in successive weeks in September £33, £35, and £32. These accusations attracted some notoriety in Leeds, forcing local Union officials to pressure the men to increase output - which they duly did.² From Bristol it was commented in 1897 that: ‘It is true some improvement is noticeable since the big fight, but the principle of restricting a workman’s output is still recognised as orthodox in Union circles.’³ Two special meetings of the Leicester Manufacturers’ Association were held in 1897, members citing serious reductions in the amount of work done on machinery as indicative of ‘a systematic and concerted action on the part of the workmen to restrict the output contrary to the spirit of the terms of Settlement.’⁴ Accusations of this character reached, in the late 1890s, a pitch comparable to that of the earlier part of the decade. In 1900 Day began a campaign to have the Union prosecuted for inducing workers to break their contracts. The operative, he said, agrees to do his best for a certain wage, but the Union interferes to prevent the man fulfilling his contract. Day believed the Union could be held responsible for substantial damages:

For every £1,000 paid in wages in certain departments it could be shown that not more than £500 worth of honest work was done...an enormous sum would thus pass from the custody of the Union to the employers, who have been systematically robbed by the deliberate slackness of their workmen instigated by Union agents.⁵

In 1904 a Leicester firm commenced proceedings on these very grounds, alleging that its day-workers on edge-setting machines, who had previously produced at a rate of 3.5 pence per dozen, were instructed by the local Union to restrict output and bring their rate of payment up

¹ *Ibid.*, 2 October 1896, p. 737.

² *Ibid.*, 16 October 1896, p. 849.

³ *Ibid.*, 20 August 1897, p. 469.

⁴ *Summary of Association Reports*, p. 3.

⁵ *Record*, 21 September 1900, p. 560.

to the town average of 4.5 pence.

At the Annual Meeting of the Manufacturers' Federation in 1900 restriction of output was declared to be 'a very serious matter, and the art of measuring up to a nicety the quantity of work to be done is universally practised by the operatives...and is a grave menace to the future progress of the trade.' Restriction was alleged to be 'carried on in every factory in Leicester *without exception*.'¹ By the turn of the century, employers were coming to admit the failure of their endeavour to intensify effort on day wages. Ironically, the need for a piece-work statement on machinery was increasingly canvassed - by, amongst others, John Day:

The time would seem to have arrived when the compilation of piece-work statements for machinery should be taken energetically in hand. Until this task is accomplished the ingenuity of the men and their leaders will be constantly exercised to decrease the output.²

He stated in 1902 that payment by results 'is always the sound principle, and in the shoe factories at the present time it is the only way to check the systematic restriction of the output of machinery.'³ Still more paradoxically, the Union leadership had meanwhile come to favour day-work.⁴ There was logic in this position, in that the Union could more easily control effort if the individual worker was denied the direct temptation to cheat on effort restraints that existed under piece-work. Interestingly, Inskip had, shortly before the 1895 dispute, spoken of his personal support for day-work on the grounds of 'the great number that piece-work would displace.' By 1896 this had become, according to the Union's President, the majority view on the Executive Council.⁵

The system which emerged out of these opposing principles was a compromise placing only moderate emphasis on enhanced effort levels. Each area was to draw up a 'Quantity Statement,' under which a basic day-wage was agreed. To this wage there corresponded a

¹ *Ibid*, 7 November 1902, p. 1,062.

² *Ibid.*, 26 November 1897, p. 1,370.

³ *Ibid.*, 17 October 1902, p. 791.

⁴ Fox, *Shoe Operatives*, p. 266.

⁵ *Ibid.*

minimum output, and hence a piece-price per unit. If the worker performed his basic output he would receive the standard wage. If he produced less a deduction would be made according to the piece-price; but if he produced more he would be paid for each additional unit at the standard price. So the Quantity Statement could be regarded either as a day-work system with fixed output, or a piece-work system with varying output.

The workers of each district were accorded the liberty of treating the statement in either of these two ways. Leicester, whose first statement for machine finishers was drawn up in 1904, chose to regard it as a piece-work statement and thus permit operatives to pursue higher earnings by increasing output.¹ But this was not the usual interpretation. Most Union leaders, including those at national level, were anxious for workers to earn their day wages and no more.² Northampton long remained hostile to piece-work, and fearing a Quantity Statement would tend in that direction refused to draw one up, confident of their ability to resist any employer attempting to reduce the standard rate. As a local Union leader later explained:

in Northampton...we don't want to go the pace, and are not desirous of killing ourselves. We have been opposed to piece-work rates, and we know full well what it will mean to our men when it is universally adopted...We should have had numbers unemployed, whilst others would have received more than under the old system.³

Stafford, Bristol, and Kingswood were equally slow to draw up statements.

Employers objected to the Union's propensity to regard the Quantity Statement as an output limiting device. The *Record's* Northampton correspondent voiced the exasperation of manufacturers who had 'for long suffered under the restriction of output...One would have thought after the principle of full pay for extra output had been so fully affirmed, there would have been some improvement, but apparently there has been none.'⁴

It was the central achievement of the Quantity Statement to remove much of the

¹ Even then, according to Head, the Union continued to operate output controls through until 1914. [Head, 'Industrial Organisation in Leicester', p. 380.]

² Fox, *Shoe Operatives*, p. 268.

³ Cited *ibid.*, p. 269.

⁴ *Record*, 21 November 1913, p. 6.

contention which had previously surrounded the subject of remuneration. Although profound differences remained between the two sides over the question of labour effort, a basic stabilisation had been achieved - which was itself a significant accomplishment in view of the transformation in productive techniques which the industry had experienced. What permitted some measure of compromise before, and during, World War One, according to Fox, was the industry's prosperity and the diminution in unemployment. In these circumstances 'the Union could afford to relax its attempts to restrain the expansion of output.'¹ When 1920 saw a return to depressed trade conditions, pressure for output limitation to spread employment increased. The Union's Council, split on the issue, took a ballot of the membership in late 1920. Voting revealed a strong current of opposition to piece-work in Northampton, Bristol, Norwich, Glasgow, Leeds, and Street (Somerset); a majority of 11,000 to 3,000 voted in favour 'of a day-work system of working with quantity statements, with a limited output and wages.'²

¹ Fox, *Shoe Operatives*, p. 273.

² *Ibid.*, p. 415; *Manufacturers' Monthly*, January 1921, p. 407.

Chapter 13

The Effectiveness Of Effort Inducement

The boot and shoe industry registered several important achievements in the late 19th and early 20th centuries. Most significantly, the transition from small workshop production utilising traditional hand techniques to modern factory manufacture was completed within the space of less than two decades. This transformation in production methods was opportune, for it lay the basis for the future development of an industry which would otherwise have been unlikely to survive given the adoption of new machine techniques elsewhere - notably in the United States.¹

Some indication of the potential threat facing the British shoe industry in the late 19th century is provided by an *Economist* article of 3 May 1913 announcing the 'Victory of British Boots.' It was noted that between 1890 and 1903 imports of ladies' footwear from France and Austria, and mens' boots from the U.S., trebled in value, whereas British footwear exports actually declined slightly. Shipments from the U.S., £532 in 1890, had grown to £472,822 in 1903. Underlying these inroads into the domestic market were improvements in the design, appearance, and finish of foreign-made boots, in comparison with which British boots appeared 'poorly finished and unattractive.' Stirred from their lethargy, said the *Economist*, British firms sought to improve the shape and appearance of their products, and this was soon reflected in an improved trading position. Imports fell in value 10 per cent. between 1903 and 1912, and exports more than doubled.

This 'victory of British boots,' although attributed by the article to qualitative changes in the product, reflected also the move to factory manufacture which had occurred in the

¹ Head, 'Industrial Organisation in Leicester', p. 162.

previous decade. As Head observes, the fundamental reason for the shoe trade's capacity to meet the challenge from overseas was that:

a considerable change in the organisation of the industry had largely been completed by the early years of this century. Various factors had combined to speed the change to centralised production, which enabled closer supervision of the various processes of manufacture and permitted a rudimentary quality control, and to speed the change also to the adoption and efficient use of machinery, which made for lower costs of production and a cheaper product.¹

Traditional outwork techniques, while adequate to the production of simple, serviceable, footwear, were little suited to the manufacture of more sophisticated styles adapting to the evolving tastes of fashion. Centralising production gave employers greater control over the quality and uniformity of design, as well as eliminating much of the waste and inefficiency attendant upon distributing work to houses and out-shops and awaiting its return. According to Broadberry, labour productivity in the British shoe industry increased 10.7 per cent. between 1907 and 1924.² From this perspective it may, with justice, be claimed that, by hastening the end of outwork, the shoe trade Union played a crucial part in the survival of the industry.

However, as we have also seen, the rapid move to factory production, combined with the on-going process of mechanisation, brought directly before employers the problem of securing sufficient output on the new machines to justify the costs and risk of their introduction. It was in the physical productivity obtained with the new technology that weaknesses in the performance of the British shoe industry are notable, certainly in comparison with the results obtained in the United States. This contrast is important for analysing the contribution of factors other than technology to productivity differentials, since the machinery used in British factories was developed and often manufactured in the United States. It was marketed in Britain by a number of American firms, including the Union Boot and Shoe Company, the American Special Machine Co. Ltd., and the United Shoe Machinery Company of America. In 1899 these various enterprises merged to form the British United Shoe Machinery Company, which, though

¹ Head, 'Boots and Shoes', p. 172.

² Broadberry, *The Productivity Race*, p. 263.

undertaking the production of machines in Leicester, continued to be controlled from America. By 1900 around two-thirds of British footwear was made on its machinery.¹

It was a frequent complaint of contemporaries in the 1890s that the labour cost of shoe production was higher in Britain than in the U.S., notwithstanding the latter's significantly higher wages. According to Day, who had made several trips to the U.S., while the American boot operative in 1890 was earning £3 per week against the British workman's 30 shillings, the labour cost per dozen was often 50 per cent. less. He made a similar claim in 1900.² Such figures are surely an exaggeration: to hold, output per head would have had to have been four times higher in the U.S. The manager of the large Wearsheaf works found, on a visit to an American factory in 1899, wages 50 per cent. above British levels, but the labour cost per pair was actually less, indicating a per-capita output advantage in excess of 50 per cent. - a far more realistic estimate.³

Official output-data collected for the two countries indeed suggests the existence of a significant productivity differential, and one which persisted into the 20th century after the transition to factory production in the British shoe trade. In 1905 an estimated 242 million pairs of boots, shoes, and slippers were produced in America by approximately 160,000 workers; in Britain in 1907 the comparable figures were just under 98 million pairs produced by 126,564 workers. Physical output per head in Britain, at 772, was only 51 per cent. of the U.S. figure of 1,512.⁴ This differential appears to have continued. In 1919 output per worker in the U.S. was 1,600, whereas in Britain in 1924 it was 793 - again, 50 per cent. of the United States figure.⁵ Similarly, Rostas judged the output of mens' shoes per man hour to have been 87 per

¹ Head, 'Industrial Organisation in Leicester', p. 46.

² Day, 'Boot and Shoe Trade', p. 240; *Record*, 21 September 1900, p. 560.

³ *Manufacturers' Monthly*, September 1905, pp. 133-4.

⁴ *Ibid.*, August 1907; *Final Report of the First Census of Production* (1907).

⁵ *Final Report of the Third Census of Production* (1924), pp. 272-75; *Manufacturers' Monthly*, June 1921, p. 35.

cent. higher in the U.S. than in the U.K. in 1935.¹ A 1950s study by D. Paige and G. Bombach put the output differential per worker in the U.S. at 71 per cent. above the U.K. figure.²

Recent calculations by Broadberry, Crafts, and Fremdling support this picture. Comparing physical output of boots and shoes per worker in the U.S. and U.K. in 1907-09, Broadberry found the U.K. figure to be 59 per cent. of the American.³ Earlier estimates by Broadberry and Crafts placed U.K. output per operative at 67 per cent. of the U.S. level in 1924-5.⁴ The productivity differential, though falling between 1907-9 and 1924-5, thus remained significant. Broadberry and Fremdling have also sought to make quantitative comparisons between the U.K. and German boot and shoe industries. The earliest year for which they are able to present data is 1930, when physical output per worker in the U.K. was 78 per cent. of that in Germany. However a cyclical element appears to be present in this figure; in 1935-7 the U.K per capita output had increased to 83 per cent. of the German level.⁵

Numerous factors accounted for Anglo-American productivity differentials. The American shoe factory was equipped with more and better machinery; the organisation and flow of work was superior, which tended both to raise the efficiency of a unit of effort and permit the willing operative to work hard without delays. E. Gare, of the British United Shoe Machinery Company, estimated in 1923 that with improved management practices the output of a British shoe factory could have been raised at least 20 per cent.⁶ Yet the effort of shoe makers was undoubtedly one factor in this differential. A foreman who had worked in both British and

¹ L. Rostas, *Comparative Productivity in British and American Industry* (1948), p. 187.

² D. Paige and G. Bombach, *A Comparison of National Output and Productivity of the U.K. and the U.S.* (1959), p. 143.

³ S. Broadberry, 'Comparative Productivity in British and American Manufacturing during the 19th Century', *Explorations in Economic History*, xxxi (1994), 524.

⁴ S. Broadberry and N.F.R. Crafts, 'Explaining Anglo-American Productivity Differentials in the mid 20th Century', *Oxford Bulletin of Economics and Statistics*, 52 (1990), 378.

⁵ S. Broadberry and R. Fremdling, 'Comparative Productivity in British and German Industry 1907-37', *Oxford Bulletin of Economics and Statistics*, 52 (1990), 378.

⁶ *Manufacturers' Monthly*, December 1923, p. 251.

American shoe factories found that upon arriving in the U.S. the British worker:

soon becomes a quicker worker, because he finds greater speed is general about him, and he soon finds he can keep up with it by an extra effort, and this becomes his natural speed because he is not held back by fear of being regarded as a scab for driving a machine at its utmost capacity.¹

The *Boot Trades Journal* contended that the American operative looked:

upon his machine more as a friend...saying to himself: 'The more I can get out of this machine the better it will be for me,' whereas the English mechanic rather looks upon his machine as an enemy, and thinks the less he does the better for him and the more there will be for others.²

Inskip, the Union's General Secretary, declared during a visit to America in 1899 that 'under no circumstances should we, as a Union, nor would the men as individuals, I think, tolerate the rush and white slavery of American conditions.'³ Seeking to explain differences in productivity, the Anglo-American Productivity Footwear Team, consisting of unionists and employers, which visited the U.S. shortly after 1945, concluded that although they played their part:

To introduce similar materials, equipment, and methods throughout our own industry would not, *ipso facto*, result in similar productivity achievements, unless an atmosphere of activity and an attitude towards production by both management and worker comparable with that we found in America were also fostered.⁴

Those reasons for this failure to induce effort which are specific to the shoe industry may be traced to its history and development in the second half of the 19th century, and the attitudes and institutions characterising capital and labour. Let us consider the techniques used by employers to ensure effort and their practical effectiveness.

¹ *Ibid.*, December 1906, p. 262.

² *Boot Trades Journal*, 12 September 1896, pp. 323-4.

³ *Record*, 7 April 1899, p. 725.

⁴ Anglo-American Council on Productivity, *Productivity Team Report on the Footwear Industry* (1951), p. 5.

(i) Financial Incentives to Exertion

(a) *Promotion Systems and Wage Hierarchies*

These were, within the typical shoe factory, comparatively little developed, and exhibited slight evidence of having been drawn up with their incentive aspects in view. Wage differences for adult males within a given department were narrow. For instance, at the Desborough Shoe Company in 1912 we find that in each department the highest paid worker was the foreman, and his wage was generally about 30 per cent. higher than the average weekly wage. All other workers could not therefore hope to gain, through extra exertion and consequent promotion, a premium of even this much.¹ Further, differential payments appear to have been closely linked to length of service, and it is doubtful if this was directly associated with effort levels. Indeed, as a worker became older his effort capacity would probably diminish - though the *nature* of his effort would change, becoming more skilled.

The only effective means of advancement was to become a foreman. Each department had one (or occasionally two) foreman, and his place was often filled by promotion from within the department. Comparing the Desborough workforce of 1920 with that in 1912 - a period favourable to mobility since it encompassed the First World War - we find a new foreman in charge of the closing room in 1920, and this person had not been employed in 1912, making an internal promotion less likely. In the clicking room one of two foremen had been replaced, and that by a promoted clicker. In the press, preparing, and stock room two new foremen were appointed, both from within the department. There were no new foremen in the lasting and finishing departments. At the Wellingborough Boot Company, of the two new foremen appointed between 1934 and 1940, both were internal promotions. Whilst generalisation from such a limited sample is unsafe, it seems likely that most foremen's positions would have been filled internally. This made sense for the employer, since he would have greater knowledge of the capabilities of his own workers, it would provide an incentive to diligent working, and would

¹ Desborough Shoe Company, *Wage Book*, 1912.

reduce the friction likely from an outside placement.¹

Merit was undoubtedly an important factor in promotion to foreman, and hard work an aspect of merit. Yet the incentive to effort from this source must have been limited. First, the average ratio of foremen to operatives was approximately 1 to 30, so the probability of advancement was not high: only once or twice in a generation was a foreman's position likely to fall vacant. Second, the wage premium paid to foremen was insubstantial. Employers were often criticised for failing to reward foremen more amply, and since a worker could expect to wait 10 or 20 years to become a foreman, the discounted value of this differential would have appeared of little account. On the other hand, foremen usually received a fixed weekly wage throughout the year, and may have enjoyed social prestige.

In one sense the incentive from promotion probably declined with the fall in the number of small workshops. As we saw, a worker in East London had a good chance of becoming a small master. The capital of character was more important than money, and hard-work a means to augment both. This was true of other centres; a feature of Kettering in 1877 was said to be 'the frequency with which the operatives set up in business for themselves, renting or building large workshops, and employing numerous hands.'² By the turn of the century such opportunities were fast disappearing. 'Year by year,' noted a Factory Inspector in 1902,

it becomes plainly evident that the days of the small manufacturer in the Shoe Trade are numbered. The continued introduction of labour saving machinery and the consequent sub-division of labour is slowly but surely directing the trade into the hands of the large employers...and with these the little man has but very slight chances of successfully competing...³

Of course this period also witnessed the rise of a managerial class, opening new prospects for advancement. But there was, typically, only one manager to each factory,⁴ and such opportunities were unlikely to compensate for the loss of other forms of mobility.

¹ Though of course it might perpetuate complacency and lead to excessive familiarity between foreman and staff.

² *Boot Trades Chronicle*, 1 January 1877.

³ Cited in *Draft History*.

⁴ This was true of such firms as Freeman, Hardy, and Willis; the Wellingborough Boot Company; and the Desborough Shoe Company.

In one area firms could exert an incentive to application: with seasonal fluctuations in employment, a firm might promise to retain throughout the year its most eager or steady workers. There is some evidence that this occurred. Reference is often made to the practice of firms in slack periods of retaining day-workers and laying-off piece-workers.¹ Firms may have considered their day-workers more trustworthy and hard-working. An editorial in the *Record* for June 1900 indicates that this was so. When employers began to introduce machinery, existing piece-workers refused to co-operate; new workers were accordingly engaged on day-wages. During slack trade it was natural that old-fashioned piece-workers should be turned adrift - 'that is why piece-workers suffer to-day.'² More directly, the Union's *Monthly Report* for April 1904 complained that under the system of mechanisation 'a man is simply a cog in the wheel, and the instant he weakens the machine gets out of gear...That means that none but the strongest and most expert men stand a chance of getting a decent job in the slack season.'³ The threat of periodic unemployment could have been expected to stimulate a worker to higher effort levels. This was perhaps one reason why the Union was anxious to even out employment over the year, calling upon employers to share work amongst their employees in slack seasons.⁴

Did firms adjust day-rates of pay according to a worker's effort level? Direct evidence is again hard to come by. Firms certainly took into account a workers effort level when continuing or offering employment. Older workers suffered in consequence. It was stated in 1905 that 'to-day a fairly skilled workman in the shoe trade, if over 40 years of age, finds it difficult to obtain a situation.'⁵ From Stafford came the complaint in 1909 that 'the increased quantities that are being constantly urged upon our members makes it increasingly difficult for

¹ *Monthly Report*, December 1881, p. 8.

² *Record*, 15 June 1900, p. 1,128.

³ *Ibid.*, April 1904, pp. 113-14.

⁴ Fox, *Shoe Operatives*, p. 277.

⁵ *Monthly Report*, July 1906, p. 255.

men to hold their position after they have passed the meridian of life.’¹ But such dismissals of older workers betokened an *inflexibility* of daily wages. Employers frequently protested that they would have retained older workers if they had been able to reduce their wages commensurably to their diminished product, but that the Union - anxious to maintain the Standard Rate - blocked such moves. For instance, the Stafford firm of Bostock, finding that four men were failing to turn out sufficient output, offered to continue employing them at reduced wages. The Union objected and a dispute resulted.² Union obstruction prevented other attempts to adjust wages to effort. When riveters at the firm of Burrows, Leeds, failing to produce an amount their employer considered acceptable, had their wages cut by three to four shillings per week, the Union withdrew the men.³ Similarly, when the output of lasters on day-wages at a Leicester firm fell in 1898 (allegedly at Union instigation), the firm reduced their wages. A dispute resulted, and the Leicester Arbitration Board declared that the employer had acted wrongly. ‘The effect,’ said Day, ‘is that the weekly wages system in the lasting and finishing departments is doomed.’⁴

Yet it would be unfair to imply that a flexible wage policy tied to effort levels was frustrated merely by Union opposition. Employers liked to convey the impression that they were only too willing to reward a hard-working day-worker. Day wrote in 1903 that: ‘Some men are faster and more skilful than others. Let them prove this and apply for higher wages, and in most cases the appeal will not fall on deaf ears.’⁵ It is, however, questionable whether a worker would have been wise to increase his effort level on the chance that this would be recognised by his employer and rewarded proportionately. Wage differentials within departments were narrow, and the potential benefits to increased exertion limited. Besides, few firms possessed the

¹ *Ibid.*, February 1909, p. 116.

² *Record*, 21 October 1898, p. 958.

³ *Monthly Report*, March 1885, p. 7.

⁴ *Record*, 31 March 1898, p. 654; 28 April 1898, p. 900.

⁵ *Ibid.*, 11 December 1903, p. 1,232.

institutional machinery to closely monitor each worker's performance and adjust his reward accordingly. With only one foreman overseeing all aspects of production in a department employing 20, 30, or more workers, and often working himself, the likelihood that extra exertion would have gone unrewarded was probably sufficient to dissuade even the most eager of workers.

(b) *Profit Sharing*

Profit sharing was little used in the boot industry during this period. The Third Report on Profit Sharing lists only three schemes as having existed before 1920, two of which had been abandoned - although this is probably an underestimate.¹ However the effectiveness of profit sharing as an effort inducing mechanism seems doubtful. The smallness of most manufacturing concerns, whilst making more direct the individual's influence upon the prosperity of the enterprise, meant that profits were unpredictable and could easily become losses though effort remained unchanged. Out of the 117 boot and shoe manufacturers in Leicester in 1870, 40 had ceased to trade within seven years.² Similarly, of the 110 firms listed in the 1885 Northampton Town Directory, only 12 survived in 1939.³ At an 1892 conference, a Unionist stated that 'Some firms in Leicester are like mushrooms, they spring up every morning,' to which Griffin Ward added: 'And like mushrooms they die every evening.'⁴ When asked by the Labour Commission whether profit sharing would be feasible in the shoe business, a leading Unionist replied: 'I do not think it would be possible, owing to the manufacturers, or a large number of them, being merely men of straw, being so small.'⁵ Schloss described in 1894 how the only profit sharing scheme in the shoe trade, commenced in 1887, ended with the firm's failure in

¹ *Third Report on Profit Sharing*, pp. 162, 170, 182.

² Head, 'Industrial Organisation in Leicester', p. 199.

³ Hillmann, 'Size of Firms', 299

⁴ Cited *Draft History*.

⁵ *R.C. on Labour*, C, Vol. II., Q. 12,098.

1891, without ever having paid a bonus.¹

The trade press was generally sceptical. Day was consistently unenthusiastic, while the *Boot Trades Journal* hinted at dark consequences:

What we think is, that the men should be paid full, fair, and honest wages for what they do...they are not entitled and should not be taught to expect anything further. Misguided benevolence is responsible for a great deal, and careless charity runs very close to the border which divides blunder from crime.²

Profit sharing was not an important issue for the Union, though it was apparently opposed to the idea, the *Shoe Manufacturers' Monthly* interpreting this as evidence that it could foresee the time when the worker would 'take on the character of an employer and not of a unionist.'³ The industry's most developed profit sharing scheme was ended at the request of the employees, who had recently joined the Union.⁴

Nevertheless, profit sharing schemes were established from time to time. During the 1895 lock-out, the firm of W. & E. Turner proposed to establish a scheme by which a 'proportion of profits shall be allocated to the workpeople in ratio to wages received.'⁵ In 1919 the Premier Boot Company announced the first scheme of profit-sharing in Rushden, according to which each employee would receive a bonus equal to 2.5 per cent. of their annual wage.⁶ A Desborough firm intended, in 1920, to form a limited liability company incorporating their workpeople, and the same year Lewis's of Northampton introduced profit sharing, the dividend being added to a fund for old age and sickness. What became of these schemes is unclear, since the publicity accorded to their commencement was not maintained. A trade journal's interpretation of the silence surrounding similar schemes was cynical but probably not unfair: as we hear nothing of the results of the introduction of profit sharing from the few firms who

¹ Schloss, *Profit Sharing*, p. 69.

² *Boot Trades Journal*, 8 March 1890, p. 234.

³ *Manufacturers' Monthly*, January 1920, p. 283.

⁴ *Third Report on Profit sharing*, p. 113.

⁵ *Draft History*.

⁶ *Shoe and Leather News*, 1 December 1919.

adopted it 'we presume that, so far as our trade is concerned, the scheme has been a dead letter.'¹ Certainly, Turner's gave up manufacturing in 1904.² While they may have reduced staff turnover and encouraged better capital-labour relations (the ending of Gilbert Brothers scheme in 1912 was followed a year later by a strike), it is unlikely that profit sharing did much to stimulate effort. The Premier Boot Company's planned bonus of 2.5 per cent. on wages was clearly not a strong inducement, and the same can be said of Lewis's old age and sickness fund.

Experiments in co-operation, favoured by the small size of producing units, were more frequently attempted. Of the 72 productive associations of workers registered in 1918, 19 were found in the shoe industry.³ These also had a chequered history. B. Jones noted in 1894 that of the seven societies registered in the boot trade between 1862 and 1880, all had failed by the end of 1880.⁴ There were some successes. The Self-Help Boot Society, founded in 1895 by eight employees with a capital of £15, had by 1904 a capital of £8,350, and continued producing until the 1960s.⁵ Though describing co-operative production as the 'highest form of Trade Unionism,' the Union did little to bring it about. Some branches set up collective enterprises, but as Fox comments, most 'were ephemeral affairs which maintained only a shaky existence for a few years before going out of existence.'⁶ Accounting in 1924 for approximately 1.5 per cent. of total boot production in value, it is clear that co-operative producing societies did not exert a significant impact on the effort problem during this period.⁷

One area where profit sharing was widely used as an incentive was in the remuneration of managers, for whom a percentage out of profits often made a significant contribution to their

¹ *Boot Trades Journal*, 26 May 1894, p. 583.

² W. and E. Turner, *Directors' Minutes*, 1904.

³ *Third Report on Profit Sharing*, p. 133.

⁴ B. Jones, *Co-operative Production* (1894), p. 401.

⁵ *Some Facts about the Leicester Self-Help Boot Society* (1904).

⁶ Fox, *Shoe Operatives*, p. 184.

⁷ *Manufacturers' Monthly*, October 1924, p. 202; *Census of Production* (1924), p. 272.

salary. Freeman, Hardy, and Willis engaged all their managers at a fixed salary with a bonus dependent on nett profits, their first manager receiving in 1879 £150 per annum plus 10 per cent. of nett profits.¹ The Wellingborough Boot Company employed a manager in 1890 at £2 per week and one-eighth of nett profits; another in 1912 received £4 per week and one-eighth of profits.² These dividends were often paid in shares, and managers could become partners in the firm. The manager at Wellingborough in the 1920s went on to become a director and later chairman of the company.

(c) *Bonus Schemes*

There was some experimentation with bonus schemes in the years leading up to 1914. On the whole, wrote Day in 1904, 'good, we are convinced, would result from the adoption in the shoe trade of a well thought out [premium bonus] scheme.'³ But bonus schemes never attained the vogue they enjoyed in engineering. Their potential development was stifled by the Union: '*We are opposed to bonus...*' it declared in 1912.⁴ Any attempt to introduce such a scheme generally met with hostility and strike action. This was the fate of G. Palmer of Anstey's selective bonus scheme in 1910, according to which a certain number of men producing more than a set quantity were to receive a bonus.⁵

Opposition to bonus schemes may have been stronger amongst Union leaders than the men themselves. This was certainly the case with the most prominent of bonus schemes: that of the Lewis works at Northampton. In 1910 the firm's clickers, offered a choice between the conditions obtaining at the firm and working to the Statement, chose the former. By producing a standard quantity they could earn a basic wage of 30s., but by producing more a bonus would

¹ Freeman, Hardy, and Willis, *Directors' Minutes*, 1879.

² Wellingborough Boot Company, *Directors' Minutes*.

³ *Record*, 4 March 1904, p. 453.

⁴ *Monthly Report*, June 1912, p. 302.

⁵ *Ibid.*, December 1910, p. 570.

be paid, often amounting to five or seven shillings per week.¹ However a portion of the clickers - said to be those who rarely exceeded the standard wage - objected to the system, and in this they were joined by officials of the Union. The branch secretary criticised the scheme as 'a method of speeding up, prejudicial to the health of the men,' and said it was better for them to earn a regular wage of 32s. a week than a variable one - even if it reached 37s. In May 1912 50 clickers struck against the scheme. But the amount of genuine opposition was not large. 30 clickers remained at work, satisfied with the system 'owing to the extra few shillings it gave them.'² Lewis claimed that over the previous two years no clicker had been discharged or had left owing to dissatisfaction with the scheme; and on 12 May Lewis's lasters, finishers, and stitchers voted by 209 against 184 in favour of its extension to all male workers.³

Some foremen received bonus payments. For example a Leeds firm paid the head of its clicking department a bonus if more than the expected number of pieces were produced from a quantity of leather.⁴ Yet these bonuses could be capricious. The directors of Freeman, Hardy, and Willis voted 'small bonuses' out of profits to its foremen in 1904. Bonuses of £10 to each of the 11 foremen were paid in 1917, and in January 1922 the manager was asked to supply a list of foremen to whom bonuses should be paid.⁵

(d) *Piece-Work*

This was the essential effort securing device. Its potency in this respect was occasionally demonstrated. 'The men, when working to a price, always do fully 20 per cent. more than when working by day...' declared the *Shoe Manufacturers' Monthly* in 1909. Introducing the

¹ *Manufacturers' Monthly*, 12 May 1912, p. 7.

² *Monthly Report*, May 1912, p. 266.

³ *Record*, 17 May 1912, p. 4.

⁴ *R.C. on Labour*, C, Vol. II., Q. 15,677-680.

⁵ Freeman, Hardy, and Willis, *Directors' Minutes*, 26 January 1922; 29 March 1917; January 1922.

Quantities Statement in 1904, a Leicester firm reported a 22 per cent. increase in output.¹ A Northampton firm, establishing a piece-wage scheme for army work in 1915, claimed to have increased output by 50 per cent.² A Report of the Boot and Allied Trades Research Association after World War Two, analysing the output of 12 shoe factories, concluded that 'the productivity of day-workers is almost invariably lower than that of piece-workers and sometimes the difference is startling,' although this was mainly attributed to better organisation of piece-work production.³

Nevertheless, as we have seen, the usefulness of piece-work in the shoe trade as a means of increasing effort was limited and it was not consistently used for this purpose. Its role was primarily a stabilising one, enabling effort to be maintained at a given level with a minimum of supervision. This use of monetary incentives as a substitute for supervision was reflected in the practice of charging employees for 'grindery' - i.e. rivets, threads etc., it being clear, to the *Shoe and Leather Record*, that 'the only effective way to prevent waste is to make the worker responsible for the materials given out.'⁴ Waste could, alternatively, have been reduced by intensifying supervision. Further, it was precisely when overhead costs rose with the introduction of machinery that firms chose to seek to intensify production under day-wages. In 1906, according to a Board of Trade survey, only 23 per cent. of workers in the ready-made boot industry were paid piece-wages.

However the failure to develop piece-work on machinery highlights an important fact: much of the ineffectiveness of piece-work can be traced to the attitude of the Union. First, the latter's desire for a uniform statement precluded flexibility in piece-prices and the possibility of adjusting them to the idiosyncrasies of particular firms. When an Ipswich employer in 1905 sought to place his workers on his own piece-work scheme, the Union threatened strike action

¹ *Record*, 1 July, p. 6.

² *Ibid.*, 19 February 1915, p. 21.

³ Anglo-American Council, *Report on Footwear*, pp. 11-12.

⁴ *Record*, 8 January 1909, p. 46.

and the firm backed down.¹ The following year a Norwich firm attempted the same thing; a strike resulted.² Second, the Union was unwilling to see piece-rates on machinery fall sufficiently to take account of increased productivity. Third, the collectivist ideology of the Union was antithetical to the full play of piece-work. In 1921 the mover of a successful resolution before the Union conference that piece-work is ‘contrary to the best interests of the operatives’ complained that, whilst some men earned £6 to £8 per week, others were unable to do this, and this was promoting ‘selfishness;’ faster workers should agree to limit their output.³

Also frustrated by the Union were attempts to run day and piece-work systems in parallel. This practice had proved effective in other industries; for instance Zeitlin has shown that in printing it divided workers and stimulated piece-workers to extra exertion whenever work was provided.⁴ Aware of this, the Union fought this development consistently and successfully. In 1883 the Leicester firm of Simpson put a number of men on day-work and, according to the Union, having thus provided against emergencies he ‘could manipulate his other workmen as he chose.’ A strike was called and the firm forced to return all workers to piece-work.⁵ That year Union delegates met to consider the problem. Working dual systems, it was said, ‘caused serious friction amongst our members as very often when work ran short, those on day-work would be fully employed, while those on piece-work had very little to do.’⁶ Only one system, therefore, was to be permitted in each department. Action was taken to enforce this ruling. When Bostock & Sons employed riveters on a mixed day and piece-work system a strike took place.⁷ A dispute occurred in 1891 when a Stafford firm sought to employ finishers on both

¹ *Monthly Report*, March 1905, p. 99.

² *Ibid.*, November 1906, p. 351.

³ *Manufacturers’ Monthly*, June 1921, p. 35.

⁴ Zeitlin, ‘Engineers and Compositors’.

⁵ *Monthly Report*, December 1883, pp. 4-5.

⁶ *Ibid.*, January 1889.

⁷ *Boot Trades Chronicle*, 29 January 1887, p. 64.

systems. This veto against dual systems was incorporated in the 1895 Terms of Settlement. An employer had to put all his workers on one system or the other.¹

Though accusations of rate-cutting were less common than in, say, engineering, they were not entirely absent. At the 1894 Union conference a speaker pointed to a Leeds factory where the employer, finding his piece-workers were taking home £2 or more, reduced their rates by 25 per cent. on two successive occasions.² T.F. Richards complained that it was common for employers to fail to reward increased output on machines at rates previously agreed, the workmen consequently being ‘absolutely discouraged from doing their best.’³ Support for these accusations came from Day, who acknowledged in 1904 that there could ‘be no question but that shoe operators in English centres have very often in the past been unwilling to put forth their full energies, owing to the fear that such action might increase the stint demanded of them.’⁴ The fact that such criticisms were not more widespread appears to reflect the customary bounds within which piece-wages were conducted. Employers had become accustomed to paying wages of around 30 shillings a week, and workmen tailored their production accordingly. As the *Manufacturers’ Monthly* acknowledged in 1909:

the Northampton clickers are [not to be] blamed for not expending their last ounce of energy for the wages they have hitherto received; it could not reasonably be expected that they should do so; they have done about what they thought was fair for the money they got, and upon the whole they have acted justly.⁵

There are instances of foremen being paid by some form of piece-work. Schloss cites a foreman in a London workshop who, agreeing to last boots at a set price, took as his remuneration the difference between that price and the actual cost of labour employed. Workmen at Street complained in 1889 of the system of paying overseers according to the

¹ Fox, *Shoe Operatives*, p. 231.

² *Report of the Eleventh Conference*, May 1894, p. 72.

³ *Record*, 10 January 1902, p. 81.

⁴ *Ibid.*, 20 May 1904, p. 960.

⁵ *Manufacturers’ Monthly*, September 1909, p. 119.

amount produced, saying that this 'tends to "sweating," the foreman grinding as much work out of the men as he can for his own profit.'¹ A quarter of a century later the same complaints issued from Northampton, where there existed in many factories:

a cursed system...under which they paid a foreman or overlooker a miserable wage, and then told him they expected him to get a certain return for, say, £100 of wages. If he did it for £90 he had half of the £10 saved. They placed a foreman in the position that to make up his wages he had to sweat workmen.²

Generally, however, foremen were paid fixed time wages. Although the prospect of stable earnings may have acted as a spur to promotion, by themselves day-wages reduced the direct incentive for foremen to supervise effectively.

Failure to exploit the potentialities of piece-work has been identified as a significant factor in the productivity differential with America, where all work, including that of machines and in the hand-team system, was paid for by the piece.³ After World War Two, 95 per cent. of U.S. shoe employees were on incentive payment systems, compared to 50 per cent. in Britain. The Anglo-American Council Footwear Report in 1951 concluded that 'perhaps the most important factor of the U.S. higher productivity was the high percentage of workers on piece-work.'⁴ Particular importance was attached to the lack of uniformity in a British shoe factory: whilst some workers were on piece-work, others, especially those in intermediary jobs, were not. The latter, lacking any direct incentive, tended not to efficiently serve the piece-worker, and a general atmosphere of slackness settled over the plant.

(ii) Supervision and Dismissal

It is curious that whilst the shoe industry was ideally suited to piece-work as a technique of inducing effort - as the United States demonstrated - and whilst few attempts were made to render the structure of the industry suited to intense supervision, employers had an implicit faith

¹ *Record*, 23 November 1889, p. 593.

² *Ibid.*, 14 February 1913, p. 9.

³ Webb, *Industrial Democracy*, Ch. 8.

⁴ Anglo-American Council, *Report on Footwear*, p. 12.

a 'bell horse.' A more experienced worker was employed as team leader at a higher wage, his job being to set a pace for other workers to follow.¹ Yet utilisation of this method was limited not only by Union opposition to the hand-team system, but also to pace-setting as such. Workers at a Stafford firm, for instance, went on strike in 1896, objecting to the employment of an alleged 'pacemaker.'²

(c) *Tightened Supervision*

More intensive supervision, coupled with threats of dismissal, is often referred to as the method used to increase effort levels in the shoe trade - especially after 1895. This was, presumably, the technique to which employers looked when deciding to substitute day for piece-work.

Evidence that a tightening of supervision was capable of raising effort levels is provided by the Wellingborough Boot Company. Founded in the late 1880s by local businessmen, an old chapel being used as a closing room, as output grew a new factory became necessary, which was commenced in 1890.³ Expansion continued throughout the 1890s and by 1900 annual turnover was approximately £20,000. Affairs remained healthy to 1907, the dividend on capital being a steady 10-12 per cent. each year. However in 1908 it dipped to 6 per cent., a figure repeated in 1909. In the second half of 1909 a loss of over £500 was made.⁴ To investigate the reasons for this deterioration, a Northampton accountant named Roberts was brought in. His report, submitted in May 1910, concluded that 'the principal cause of the shortage appears to be in the high cost of labour in proportion to the number of pairs produced...The great weakness of the business is the turnover is altogether too small for the capacity and expenses of the concern.' In Roberts' estimation, the excess of labour cost was particularly marked in four departments:

¹ Head, 'Boots and Shoes', p. 179.

² *Record*, 8 May 1896, p. 1,073.

³ Wellingborough Boot Company, *Directors' Minutes*, July 1890.

⁴ *Ibid.*, 14 January 1910.

Department	Excess Cost (pence per pair)
Clicking Room	1 3/8
Rough Stuff Room	1 1/4
Making Room	1/2
Finishing Room	3/4

Total excess cost in these four departments was therefore nearly 4 pence per pair; or, on an output of approximately 12,720 pairs per year, an excess cost of £212, equivalent to around 15 per cent. on the wage bill. To reduce costs Roberts called for a more rigorous supervisory regime:

Clicking Room: That there be more stringent supervision, and that the foreman in charge have weekly results placed before him and any shortage in output thoroughly inquired into.

Rough Stuff Room: That there be a complete change in the supervision; the man in charge to be displaced by someone who will keep men under him at full pressure. That at least one man be discharged, because I am of opinion that the room is overstaffed.

Finishing Room: Here there must be more stringent supervision...

On 18 January 1911 Roberts presented his trading account for the second half of 1910. The situation was still bad: a loss of £291 was made; turnover was still too small; wages 'were at least 20 per cent. too high for the boots manufactured.' The directors felt that the manager, whilst successful when the firm was small, was not up to the task, and replaced him with a Mr. Ward. In March 1911 Ward reported that the closing-room foreman had had his salary reduced from 40s. to 35s. per week, and the foreman in the finishing room, which was still unsatisfactory, was leaving the firm. These changes notwithstanding, the Annual Report of August 1911 revealed a loss of £673 - although share-holders were assured that the 'cost of production has been greatly reduced, and the Establishment Expenses brought down to the lowest

minimum.¹ On 7 November 1911 Roberts, in a trading report for the four months ending 1 October, announced some success in his endeavour to raise productivity by intensifying effort. For that period in the preceding year the value of output had been £5,017 and the total wages £1,368. In 1911 the equivalent figures were £5,056 and £1,255. Labour as a share of total cost had fallen from 27.3 to 24.8 per cent. A brief return to the black was recorded in the second half of the year, but for the year ending June 1912 an overall loss of £125 was made. During the second half of 1912 this climbed to £945. Not until the financial year ending June 1914 was a profit made (£249). The First World War saved the Wellingborough Boot Company. Dividends, which in the three years up to 1914 had been zero, reached 6 per cent. by 1916, and between 1917 and 1925 averaged 13 per cent.

Four points emerge from this example. First, that a failure to ensure adequate effort levels could persist within a plant until exposed by deteriorating company finances. Second, that by overhauling methods of effort enforcement and dismissing inadequate supervisors, effort per worker could be increased and the labour cost of production reduced. Third, by themselves these measures were not sufficient to restore company profitability. Fourth, there was a bias toward cutting the cost of labour. We noted the 5s. cut in the weekly wage of the closing room foreman. More generally although, between 1910 and 1911, the value of the firm's output increased slightly, the total wage bill fell.

Many firms did indeed embark on a policy of dismissing workers who failed to meet output targets on day-work. In 1893 the Union reported that a Leicester firm was seeking to enforce the task system, those not doing so many dozens per week being sacked.² At Leeds in 1894 several clickers were dismissed by a firm for failing to earn the minimum weekly wage of 25s. Reports of this practice were most frequent in the late 1890s. Nine machine operators at Leicester were discharged in September 1895 for insufficient output. Although not immediately

¹ Wellingborough Boot Company, *Annual Report*, 23 August 1911.

² *Monthly Report*, October 1893, p. 3.

replaced, output fell by only five pairs.¹ When workers at a Leicester firm in 1897 decided, at the Union's instigation, to reduce weekly production by 15 per cent., the firm dismissed a number and sent work into the country.² That year the Union complained to the Leicester Arbitration Board that men were being discharged for refusing to do a set quantity of work. At Leeds, according to the local Union, the men 'were continually being told that they had not earned their money, and would be required to do more, or they would be discharged.'³ Prior to the Leicester piece-work statement, said the Union in 1900, the men were 'constantly driven, and either discharged or threatened with it, if they did not do more work.'⁴ However the extent to which this technique was practised and its effectiveness are difficult to measure. Three factors should be considered.

(1) The localisation of the shoe industry meant that a worker dismissed from one firm could hope to gain employment at another. In 1882 the *Boot Trades Chronicle* estimated that there were 120 shoe manufactories in Northampton, 200 in Leicester, upwards of 40 in Bristol and 100 in Leeds.⁵ Further, redundant workers often moved from one centre to another. Such possibilities diminished the potency of the dismissal threat. A Northampton writer regretfully recalled in 1880 that:

Thirty years ago men were more tractable and humble; in fact they were frightened at the very thought of losing their work. To-day men migrate from one part of the country to another in crowds. The cause of the sound workmanship of that day was the difficulty of moving about. 'Scamping' his work would have been ruin to any man. To-day thousands of men spoil their work wilfully, and if the employer dares to remonstrate, he is quickly told to get his work done better if he can.⁶

Periods of busy trade caused special problems. While accelerated production was needed to fulfil

¹ *Boot Trades Journal*, 7 September 1895, p. 262.

² *Record*, 15 October 1897, p. 1,022.

³ *Monthly Report*, May 1898, p. 2.

⁴ *Record*, 9 November 1900, p. 896.

⁵ In 1891 the boot and shoe industry employed 40 per cent. of all industrial workers in Leicester. [Head, 'Industrial Organisation in Leicester', p. 5.]

⁶ *Boot Trades Chronicle*, 1 September 1880, p. 33.

orders, workers often limited output, conscious of the employer's weak bargaining position: if the worker is discharged, said the *Record*, 'it is practically impossible to fill his place.'¹

Firms made some attempt to counteract this flexibility enjoyed by workers through the use of character notes. Such a scheme was introduced by London employers in 1875, while the Stafford Boot Manufacturers Association resolved in 1896 that any member employing a worker 'without first getting a certificate of character on the prescribed form from the last employer shall be fined the sum of 2s. 6d.'² But the disorganised nature of the industry probably rendered such notes ineffective. It was reported from Northampton in 1896 that several manufacturers were, 'to put it mildly,' evading or ignoring the conditions attached to a character note system.³ The fact that in April 1915 Stafford employers were again voting to establish a character note scheme suggests the earlier one had by this time failed. They also faced Union resistance. When employers at Mansfield combined to prevent workmen withdrawn by the Union from one shop obtaining work elsewhere, the Union blocked all further recruitment in the town.⁴ Certainly, the Union appears to have been able to re-employ workers dismissed for militancy. In May 1888 a strike began at a Leeds firm in opposition to demands for increased output; by July, 30 of the strikers had found work elsewhere.⁵

(2) Although writers like Price have argued that the 'defeat of the workmen in 1895...allowed employers to install "more exact methods of supervision" as part of a thorough reorganisation of production that stretched into the 20th century,' concrete evidence that the level of supervision within the industry increased is lacking.⁶ Conventionally there was a ratio of one foreman to each factory department, which averaged out in the late 19th century at about 1

¹ *Record*, 23 March 1900, p. 552.

² Stafford Boot Manufacturers' Association, *Minutes*.

³ *Boot Trades Journal*, 7 March 1896, p. 299.

⁴ *Monthly Report*, October 1885.

⁵ *Ibid.*, May 1888; July 1888.

⁶ Price, *British Society*, p. 110.

foreman to every 30 operatives. Little suggests this ratio changed significantly over the period. The 1921 Census of Population attempted a break-down of the 195,237 persons employed in the shoe, boot, and slipper industry in England and Wales. Foremen and overlookers numbered 3,451 and operatives 181,908, yielding a ratio of 53 operatives to each foreman. This figure broadly conforms to what we would expect if the one foreman per department rule held. Census of Production figures give a better guide to the situation within the factory sector, but unfortunately comparable breakdowns are not provided. For 1907 employment in factories and workshops is given at 126,826, of whom 117,565 were wage earners and 9,261 salaried staff, yielding 13 wage earners per salaried person. Foremen are likely to be included amongst salaried staff, but so are managers, clerks, designers etc., who probably outnumbered the foremen, producing a ratio for the latter of about 1 to 25 or 30.

The wage books of Whitney and Westley, Northampton, confirm this picture. In 1908 there were 199 operatives employed indoors and six foremen - one to each department - or one foreman to 33 workers. By 1912 the number of operatives had increased to 283, and the number of foremen to eight, maintaining the ratio at one foreman to 35 workers. After the war the number of operatives per foreman fell to less than 20, but this mainly reflected a 40 per cent decline in operatives employed.¹ The *Record* reported in 1909 the views of a New England manufacturer upon visiting several English shoe factories: 'What struck me very forcibly,' he said, 'is the lack of efficient superintendents and foremen in English factories.'² Indeed, by itself growth in factory size diminished the intensity of supervision, and this for two reasons. 'The small manufacturer,' noted the *Shoe Manufacturers' Monthly*, 'had a deep personal knowledge of his trade and kept a close contact with each department of his workshop, and even each employee, and could thereby control the quantity and quality of output.'³ Further, employers frequently thought in terms of the ratio of foremen to departments rather than the ratio

¹ Whitney and Westley Company, *Wage Books*, 1908; 1912; 1920.

² *Record*, 1 October 1909, p. 595.

³ *Manufacturers' Monthly*, May 1920, p. 34.

of foremen to operatives. Hence, as the number of operatives expanded relative to the number of departments, the number of operatives per foreman increased. Thus in the clicking room of Stead & Simpson's Leicester factory 150 hands were employed in 1879, 110 of whom were on day-wages; yet there was still only one foreman.¹ The same phenomenon was manifested over the trade-cycle, when the number of operatives fluctuated whilst the number of foremen remained constant - as the case of Whitney and Westley illustrates.

On the other hand, the frequency with which workers complained of 'excessive' supervision and 'driving' undoubtedly increased over the period. Typical are an operative's allegations to the Leeds press 'that employers are striving to force the operatives to undue exertion in order to bring out the true capabilities of the machines.'² A Leicester delegate to the Union's 1894 conference spoke satirically on this theme:

Now they were fed by boys, and were urged to get the work out as quickly as possible, and a man standing behind them with a big whip...The little boys are given cigarettes. They said, 'Go on, this six pairs are wanted; we want them to go off by the next train,' and give the men a tap on the back with a stick.³

The attempt to speed up workers on day-wages, said the Union in 1906, is a practice we hear of nearly every week.⁴ And we noted previously the growth in reports of dismissal for inadequate output in the late 1890s.

Care must be used in interpreting these complaints. Partly they can be attributed to the spread of day-work, supervision levels remaining unchanged. Another factor was the strength of the Union prior to 1895 and again from the late 1890s, which gave workers the confidence and institutions for expressing their grievances. There may also have been an enhanced sensitivity amongst workers to supervision. It would, however, be foolish to discount the role of more intense supervision. Over time factories became better planned; division of labour was

¹ *Boot Trades' Chronicle*, 1 August 1879, p. 20.

² *Record*, 8 March 1895, p. 561.

³ *Report of the Eleventh Conference*, pp. 72-3.

⁴ *Monthly Report*, November 1906, p. 350.

extended and tasks more narrowly specified;¹ skilled labour was replaced by less skilled machine processes easier to supervise; time keeping was regularised; the strategic function of foremen became more widely recognised:

When factories expanded towards the present-day size it became necessary for the employer to have expert control in each department...This necessity has produced departmental managers and foremen of a type which is a credit to the industry.²

In short, the discipline of factory life increased. Yet, considering effort enforcement in isolation, the changes were not so marked. The shoe industry remained characterised by a comparatively low level of supervision and management. Hillmann notes that whilst, in most industries, there was a significant increase in management relative to operative personnel in the years after 1918, in the shoe industry this ratio remained constant between 1907 and 1930.³ It is hard to believe that the shoe-trade had already attained its management optimum by 1907. Employers failed to fully appreciate the importance of good supervision, many foremen continuing to combine overseeing with manual work.⁴ Foremen, wrote the *Shoe Manufacturers' Monthly*, 'seem to have realised their special function quicker than their employers, and there is a frequent complaint that they were not consulted sufficiently for the good of the factory.'⁵ Employer priorities were reflected in the poor reward foremen received. The *New Englander* quoted above continued by arguing that if 'there were more of your foremen earning 30, 40, and 50 dollars a week, their employers would be relieved of a large proportion of the responsibility they now carry' and would not 'have to give their personal attention to detail which they now deem necessary.' But as Day added: 'The British employer, as a rule, has a very strong objection to

¹ Price notes that in the past lasters had performed a variety of jobs besides actual lasting; with mechanisation these were separated off. (*British Society*, p. 110.)

² *Manufacturers' Monthly*, May 1920, p. 34.

³ Hillmann, 'Size of Firms', 277.

⁴ Granger, *History of the Boot and Shoe Industry in Leicester*, p. 12.

⁵ *Manufacturers' Monthly*, May 1920, p. 34.

a change which entails the enlargement of his wages list.’¹

(3) The policy of dismissal as a spur to effort was undermined in three ways by the Union. From its commencement travelling expenses were paid to unemployed members seeking work.² These ‘tramping allowances’ persisted until 1910. By increasing mobility, they reduced the cost of dismissal. Second, compensation grants were made to members who lost employment as a result of Union militancy, and at the turn of the century these were extended to include workers generally unemployed. Some branches began their own benefit schemes, and in 1906 one for all Union members was instituted.³ Such developments again reduced the cost of unemployment.

Most important, dismissal of workers for inadequate effort frequently resulted in strikes, rendering the policy risky and uneconomic. When, in 1894, a Bristol firm sought to discharge a finisher for failing to put in a ‘fair proportionate amount of work,’ the rest of the finishers went on strike.⁴ Attempts by a Leeds employer to increase the speed of work were met by objections from employees; when two men were discharged the others responded with strike action.⁵ At Pickard’s of Leicester in 1903 two girls in the closing department were sacked for slackness of work. A strike of all employees was the result.⁶ Manfield of Northampton was hit by two strikes on this issue in 1912: 200 men struck in April in protest at the dismissal of an employee; in September 400 women in the closing department went on strike after one was discharged for disobedience.⁷ 80 women at the Cooperative Wholesale Society Works withdrew

¹ *Record*, 1 October 1909, p. 595. At this time the average foreman earned around £2 per week, equivalent to 9-10 dollars.

² Fox, *Shoe Operatives*, p. 33.

³ *Ibid.*, pp. 298-9.

⁴ *Record*, 4 May 1894, p. 997.

⁵ *Monthly Report*, March 1898, pp. 1-2.

⁶ *Record*, 27 November 1903, p. 1,171.

⁷ *Ibid.*, 19 April 1912, p. 6; 27 September 1912, p. 7.

their labour in March 1913 when one was sacked for ‘not doing enough.’¹ What is more, the Union often blocked the recruitment of new workers to replace those displaced.

More broadly, operatives increasingly opposed the policy of effort enforcement through discipline in the years before World War One. Disputes alleging ‘high handedness’ and ‘tyrannical’ behaviour by foremen occurred prior to the lock-out. An ‘obnoxious’ foreman at a Liverpool firm prompted a strike lasting two weeks before the ‘wolf and tyrant’ was removed.² Two strikes demanding the dismissal of objectionable foremen were reported from Stafford in 1891.³ Workers at the Leicester Cooperative Wholesale Works in 1892 called for the discharge of a foreman; he was eventually moved to another department.⁴ A strike at Northampton in 1894 resulted in a foreman’s dismissal: ‘another foreman, who suited his employer, has been sacrificed to the demands of those under him’ wrote the *Record*.⁵ Responding to the mounting pressure to which they were subject, an Association of Managers and Foremen was founded in that year.⁶

However it was from 1906 that disputes of this nature became frequent. Eighty Leicester finishers went on strike in July 1906, alleging their foreman had been too exacting in his demands.⁷ A strike lasting two weeks at a Northampton firm in 1908 ended with the foreman’s resignation after 12 years service. As a trade journal commented:

¹ *Monthly Report*, March 1913, p. 185.

² *Ibid.*, January 1882.

³ *Record*, 4 September 1891, p. 554; *Boot Trades Journal*, 28 March 1891, p. 340

⁴ *Ibid.*, 12 March 1892, p. 342.

⁵ *Record*, 28 September 1894, p. 702.

⁶ *Boot Trades Journal*, 31 March 1894, p. 35.

⁷ *Record*, 20 July 1906, p. 161.

in other words, a man whose only fault seems to have been too great a zeal in his employer's interests, has again had to be sacrificed to the clamour of a few discontented operatives.¹

Workmen at a Leicester factory were more ambitious, leaving work to demand the dismissal of the general manager. They returned under threat of legal action.² Women at the Advanced Shoe Company went on strike in 1910 against a new forewoman. Strikes against foremen peaked in 1912, the *Record* reporting at least 5 for that year. Nine disputes came before the Leicester Arbitration Board, of which the majority were concerned with 'issues affecting the right of the employers to maintain discipline in the factories and their freedom in relation to organisation and management and the employment and discharge of workpeople.'³ In January 1913 the Boot Manufacturers' Federation addressed an open letter to the Union, protesting at output limitation and interference in factory discipline, citing in evidence of the latter 'the cases which have recently occurred at Northampton, Kettering, and Leicester, where many of the strikes...were entered into with the object of removing or intimidating foremen and managers...'⁴

As noted previously, the spate of accusations of excessive discipline partly reflected attempts by firms to intensify supervision. But it is likely that a more important influence was the increasing sensitivity of workers to supervision, due to such factors as improved education, rising incomes, and heightened 'political awareness.' A Leicester unionist complained in 1908 that the employers 'when looking out for a manager or foreman...pick out the biggest bully they could find.'⁵ If true, this was unlikely to have been an innovation. At a meeting of managers and foremen, a speaker acknowledged that in the past foremen 'have been called "nigger drivers."⁶ The conduct of foremen had surely changed less than the preparedness of operatives

¹ *Manufacturers' Monthly*, February 1908, p. 335.

² *Ibid.*, June 1909, p. 33.

³ *Summary of Leicester Association Reports* (1912), pp. 16-17.

⁴ *Record*, 31 January 1913.

⁵ *Ibid.*, 12 June 1908, p. 1,175.

⁶ *Manufacturers' Monthly*, November 1911, p. 228.

to tolerate it.

(iii) Changing Attitudes: Paternalism

Paternalism and propaganda were used to influence effort to a limited extent, but one which ought to be noticed. The most important case was the early treatment of clickers. In the initial days of the wholesale trade they enjoyed an 'aristocratic' reputation. Clicking occupied a strategic position: careful use of leather was vital on grounds of economy and they were the only workers in daily contact with the employer. 'There subsisted between them,' said the *Record*, 'a union better than a trades' union, viz., a union of feelings and interest...They knew that the interests of both were identical, and no other employees gave such little trouble to their employers than clickers...'¹ As a consequence, clickers were cosseted - paid a higher wage and treated favourably. Of the firm of Kootch, Northampton, it was said in the 1840s that, whilst lasters and finishers worked in poor conditions, clickers 'were petted and feasted by the firm like a lot of overgrown school boys home for a holiday.' They were given a pint of milk every morning, on Friday's supper was provided, and on Saturday a lunch with ale.²

As production became more centralised the clicker's privileged position faded. Clicking departments expanded, apprenticeship rules were relaxed, and the employer became a more distant figure. By the late 1880s clickers were poorly paid and subject to the same supervision as other workers. Indicative of this reversal, Union membership took hold. By 1891 2,000 Leicester clickers were in the Union and 800 in Northampton.

Clarks of Street are often cited as an example of paternalism in the shoe trade. Their distinctiveness in this respect should not be exaggerated. The Company's historian advances as evidence of a 'paternalistic labour policy' the firm's practice of selling land to employees, with the provision of loans to help them build; and the construction of 'Crispin Hall,' containing a

¹ *Record*, 23 March 1889.

² *Boot Trades Chronicle*, 1 September 1880, p. 32.

lecture room, library, museum, and gymnasium.¹ This was paternalism on a small scale. The influence of such public spirited behaviour on day to day effort levels must be considered slight. Although the prospect of losing a company loan would have raised the cost of dismissal, the isolation of Street's workforce would have been a more potent factor. Sutton also remarks that 'union membership was absolutely forbidden' for most of the 19th century. Wages remained substantially below national levels until the 1920s, 'and around the turn of the century a good deal of migration occurred from Street to the coalfields of South Wales.'²

Other employers took steps to promote good-will amongst their workforce. J. Kavanagh of Colchester gave his 250 workers a dinner at the end of 1886 to celebrate the firm's success; R. Ashley of Kingswood held a new-year's eve dinner for his workpeople.³ The Progressive Factory, Northampton, celebrated the marriage of a junior member in 1897 by conveying the whole workforce to Liverpool for the day in a chartered train.⁴ After the war the *Shoe and Leather News* reported that some firms had:

been making praiseworthy efforts to improve the lot of their workpeople...They have opened rest-rooms in the works, engaged welfare superintendents and drill instructors in physical exercise...Some have also contributed to the enjoyment of the leisure of their workers by the provision of excellent sports grounds.⁵

But our judgement of the impact of such measures in the case of Clark's stands here also: paternalism made only a slight difference to effort levels in the shoe trade before 1920, and it is likely that, with the decline of the paternalism of the early clicking rooms and small firms, its contribution was less at the end of the period than at its commencement.

¹ G.B. Sutton, *History of Shoe-Making in Street, Somerset* (1979), pp. 158-9.

² *Ibid.*, p. 159.

³ *Shoe and Leather Trades Chronicle*, 14 January 1886, pp. 20-21.

⁴ *Record*, 17 September 1897, p. 776.

⁵ *Shoe and Leather News*, 25 September 1919, p. 810; see also Fox, *Shoe Operatives*, p. 399.

Chapter 14

Conclusion

The problem of inducing worker effort was not effectively tackled in the shoe trade prior to 1920. Partly this represented a failure of management. Of the array of effort inducing techniques available, only a few were employed and these half-heartedly. Employers, torn between the carrot and the stick, failed to pursue either rigorously.

Piece-work had been the conventional device for securing effort. But when machinery was introduced employers, rather adapting piece-work to the new conditions, dispensed with it altogether. So for most of the 1890s - the crucial decade of the industry's history - no significant incentive to effort existed. Day observed in 1903 that the men 'seem to think that if they did more they would get no more pay,' which he could only consider 'a poor tribute to the power of their Union.'¹ Employers seemed unaware that this was a problem, possessing a naive faith that a worker would voluntarily put forth an amount of effort deemed reasonable. 'They supposed,' said the President of the Employers' Federation in 1895, 'when they fixed a minimum [day] wage they were going to get...a fair and honest day's work out of them for the wages agreed to.'² That effort meant, at the margin, disutility to the worker, employers but dimly perceived. To quote Ward again:

The manufacturers...say that a reduction of wages means that the individual wage earners receive less money than previously, and...by his arrangement in turning out more work than could otherwise be done, the result to the workman, if he receives the same wage, is certainly not a reduction.³

True, it was often protested that if operatives were prepared to work harder, employers would

¹ Day, 'Boot and Shoe Trade', p. 241.

² Manufacturers' Association, *Boot and Shoe Trade*, p. 8.

³ *Monthly Report*, 1894, p. 36.

reward them accordingly. Day declared in 1895 that:

It seems incredible, but it is nevertheless true, that the employers who use machinery are prepared to double the present earnings of their men provided the latter will only work at the same speed as their American brethren of the craft. But they won't do it...¹

Six years later he argued similarly that 'far from desiring to restrict wages, enlightened employers in English shoe centres would be willing to pay 50 per cent. higher wages tomorrow if their workpeople were prepared to co-operate with them...'² Higher wages were always offered tomorrow - never to-day. It continued to be assumed that the onus rested with the workers, even when this assumption was clearly not being vindicated. Besides, the sincerity of such statements is doubtful. Employers in the shoe trade at no time demonstrated a willingness to pay high wages; rather were they keen, whenever possible, to reduce the wage bill. The Union complained in 1882 that when workmen had been:

provident and abstemious, and thereby kept themselves, their wives and families in a manner that society terms respectable, this is considered by some ample proof that the wages received were too high. If on the other hand they have been improvident and indulged somewhat freely in the luxuries...of life this is considered by some a sure sign that the wages earned have led to evil habits and therefore to curtail them becomes a moral virtue and necessity.³

Day himself, in more sombre mood, spoke of 'the old prejudice of the manufacturers against paying high wages...'⁴ In 1896 another employers' journal echoed the Union's arguments. Manufacturers, it remarked, need:

¹ *Record*, 22 March 1895, p. 663.

² *Ibid.*, 29 November 1918, p. 36.

³ *Monthly Report*, January 1882.

⁴ *Ibid.*, 29 November 1918, p. 36.

more skilful and expert workmen, yet they object to pay a higher wage for their labour than they did in years gone by...High wages, the Americans have shown us, do not mean a higher but lower costs of production...We have said the trade and the workmen are changing, but the one is changing faster than the other, and the reason is that employers, while encouraging the one by the purchase of new factories, are unwisely cheeseparing upon that part upon which success or failure of both depend.¹

Low wages, it continued later in the year, would never produce skilled operatives.

Most employers think that 28s. per week is a good wage for an operative. Just think of it, and see what sort of comfort a man with a family can get out of that paltry pittance: can his surroundings be such as to make him a thoughtful, clever, and vigorous man?

In this context the productive potential of piece-work was also undermined.

We are told we are to have a statement of wages for machinery workers. How is it to be compiled? The figures will be based upon what men now paid 28s. or 30s. per week are able to do on the machines...The method is wrong, and the capacity of machines can never be tested until the best and most costly labour has been engaged upon them.²

Having elected to rely upon supervision to enforce effort, employers failed to organise their factories in the way necessary for its success. We noted the difficulties employers faced in securing output on machinery before 1895. They had still not learnt their lesson by the late 1890s. Following the Terms of Settlement, moves began in Leicester to draw up piece-work statements for machinery. Many employers delayed, however, hoping to speed-up their operatives and thus secure lower piece-prices. In fact, according to Day, in the period leading up to the lasting statement of 1898 the 'exact contrary occurred. In July, 1898, the men were doing less work for the same money than at the time of the lock-out...' The prices thus fixed for about three years were about 50 per cent. too high. 'What incredible folly!'³

The level of supervision and management was generally considered inadequate. An 1896 editorial in the *Boot Trades Journal* reflected that, though the previous five years had seen great progress in the scientific method of making shoes, there remained, in the organisation of work,

¹ *Boot Trades Journal*, 25 January 1896, p. 78.

² *Ibid.*, 14 November 1896, p. 576.

³ *Record*, 16 November 1900, p. 982.

much to be done:

If our factories from an architectural standpoint are perfect; if our machinery is of the latest and best, if wages are in keeping with those paid in other countries, if our workmanship is of the most stable kind...we are still without the prime attribute to success - the organisation of our factories, while the skilful subdivision of labour shows serious and appalling deficiency.

In the manipulation of workmens' services 'there is an ugly gap.'

We are destitute almost of efficient factory super-intendents; not men whose duty is that of a task-master, to extract so much labour from a given number of hands in a specified time, for they are plentiful enough; but clever inventive minds who can organise the labour of the operators, and manipulate materials so that the most economic results are always obtained. These men we lack.¹

The reward foremen received showed little appreciation of the important job they performed. Most employers, said the *Manufacturers' Monthly*, are only prepared to pay a foreman a few extra shillings and expect him to work as well as supervise. They get men of poor quality and have a high turnover.² This weakness became ever more debilitating, not merely because of the changed technical environment of the factory, but because, as we have seen, operatives became less willing to tolerate traditional methods of foremanship.

With factory production only taking hold in the second half of the 19th century, and capital requirements remaining modest (especially because of the widespread practice of renting rather than purchasing machines), most shoe firms were established by small businessmen of humble origins.³ Head has shown how few in Leicester had a background in large-scale manufacturing. Some came from other local trades, such as hat making, while others had formerly been warehousemen, foremen, and operatives - in particular clickers. 'During the last three decades of the century,' says Head, 'small men with either insufficient capital or knowledge of the industry or with little entrepreneurial ability, flitted quickly across the industrial scene.'⁴ Many shoe-trade employers were thus inexperienced in factory management - 'new capitalists

¹ *Boot Trades Journal*, 17 October 1896, pp. 461-2.

² *Manufacturers' Monthly*, May 1906, p. 7.

³ Head, 'Industrial Organisation in Leicester', p. 184.

⁴ *Ibid.*, pp. 184-5, 199.

without traditions' as the Webbs referred to them - and little appreciated the need to co-operate with their workers to enhance effort levels for their mutual benefit. A them-and-us atmosphere prevailed at odds with the encouragement of hard work. 'Workmen know not their employers, nor their employers them, and neither care' regretted the *Shoe and Leather Record* in 1888.¹ Indeed, it is not clear that employers truly recognised the benefits to be had from increasing worker effort. Manufacturers are apt, said the *Boot Trades' Journal*, to give excessive attention to saving material costs, 'and allow the question of labour to look after itself; and it is very probable that many of them spend a shilling in labour in order to save three-penny worth of material.'² And in their obsession with the output of machine workers, employers may have overlooked that of workers on hand processes. In 1902 the *Record* cited, as an example of Union action to 'restrict and hinder the use of labour-saving devices,' the effect experienced by a firm in putting in a pulling-over machine. To get the machine thrown aside, the Union 'undertook to speed up their men so that hand labour should cost no more than machine-aided labour.'³ The wider implications of the Union's ability to speed-up hand workers appear to have gone unnoticed.

Yet in fairness to the employers, two considerations ought to be noted.

1. Overhead costs in the shoe industry remained comparatively low, reducing thereby the incentive to increase effort - at least with constant labour cost per unit, as would have been the case under rigid piece-work schemes. In 1913 the average overhead costs of 35 shoe firms whose details were submitted to the Balfour Committee on Industry and Trade was 8.6 per cent. of total costs, compared to an average for the 42 different industries surveyed of 14 per cent.⁴ The foundation of the British United Shoe Machinery Company in 1899, which leased, rather than sold, machinery to shoe companies, eliminated many of the economies normally associated

¹ *Record*, 4 February 1888.

² *Boot Trades Journal*, 8 April 1893, p. 440.

³ *Record*, 26 September 1902, p. 640.

⁴ Committee on Industry and Trade, *Survey of Industries 1927-28*, Part 11., *Further Factors in Industrial and Commercial Efficiency* (1928), pp. 78-9, 149.

with intensified machine use. Already in 1900 two-thirds of British footwear was made on the Company's machines; by the 1940s 90 per cent.¹ What is more, the royalties charged by the Company were assessed at a fixed sum per 1,000 turns performed by each machine. Machine costs were variable, not fixed.² This leasing policy reduced the benefits from increasing worker effort and intensifying machine use, and may assist in explaining the decline in employer complaints on this score as the 20th century proceeded. It helps explain, also, employer reticence in paying higher wages. G. Shultz found for an American factory in 1947 that 85 per cent. of all shoe costs were variable. With the price of leather given by the market, this, he argued, meant competitive pressure fell largely on labour charges per unit.³ Low labour costs, rather than high output, were what preoccupied employers.

2. An important factor shaping the problem of effort, and possible responses of employers to it, was the attitude of the operatives and the Shoe-makers' Union. It was the Union that, by forcing work indoors, brought the problem of effort to the fore. Yet in tackling it employers had to come to terms with employee preferences. These included the desire to maintain hand piece-prices on machinery; to limit output under day-work; to restrict production on the new machines as a means of protecting employment; to resist the hand-team system; and to oppose intensified supervision and the dismissal of slower workers. The effort problem in the British shoe industry cannot be considered independently of the preferences of its employees and their expression in the policies of the Union of Boot and Shoe Operatives.

¹ Silverman, 'Boot and Shoe Industry', p. 218.

² Hillmann, 'Size of Firms', 282.

³ G.P. Shultz, *Pressures on Wage Decisions* (1951), p. 14.

Part. III

Worker Effort in the Flint Glass Trade

Chapter 15

Production and Payment Systems

By the second half of the 19th century there were four main branches of glass manufacture, these being: (i) plate glass; (ii) crown and sheet glass; (iii) flint glass; and (iv) bottle glass. 'Not only,' remarked J. White in 1865, 'do the kinds of glass, but also the nature and system of employment to which they give occasion, vary greatly, and they will in several cases require separate notice, as much as if they were entirely distinct manufactures.'¹ In the production of plate glass, molten glass was poured onto a table and then rolled flat by machinery - a process far removed from that found in the making of bottles or glass ornaments. We shall accordingly concentrate on the table, ornamental, and flint-bottle trades, which shared a fundamental characteristic of production - namely, the blowing and shaping of glass - and a similar work culture.

In 1851 total employment in glass manufacture in Great Britain was 12,005. Owing to rapidly rising demand, that number stood at 22,101 in 1871, 32,519 in 1901, and 35,003 in 1911. Glass bottle making employed in 1901, the first year for which figures are given separately, 12,360, and in 1911 16,073. Comparable figures are not available for flint glass making, but membership of the Flint Glass Society - which dominated labour organisation - serves as a guide. The latter had in 1855 1,060 members. A correspondent to the Union's *Quarterly Magazine* in that year put the Society's potential membership at 1,500.² To this must be added apprentices, who were ineligible for Union membership. With an apprentice to

¹ Childrens' Employment Commission, *Fourth Report* (1865), p. 181.

² *Flint Glass Makers' Quarterly Magazine*, No. 26 (1855), p. 317.

journeyman ratio of one to four, we arrive at a figure for total employment close to 2,000, which coincides with an 1868 estimate by the Union's Secretary.¹ Over most of our period flint trade employment exhibited a slight upward tendency. Union membership, near its peak in July 1898, stood at 2,336. However, of this number 643 were unemployed or retired. On the other hand, if apprentices and non-Union labour are included the true figure would be closer to 2,500.²

In contrast to the shoe-trade, glass making had been centralised for several centuries, reflecting the continuous production process and the need for special facilities for founding the metal and cooling completed articles. At the commencement of our period the glass-house consisted of a large brick cone, open to the sky, which served as a place of work and a chimney. At its centre was a coal-fired furnace, upon which the raw materials were melted down in clay pots to form the 'metal'. However in bottle-houses from the 1860s the Siemens gas furnace began to displace coal firing, and the glass works was built around a conventional chimney.³

Yet the small workshop, and even domestic production, retained a foothold throughout the 19th century in the form of 'cribs', with a small number of workers producing glass from a furnace erected in a shed.⁴ There could be as few three operatives, though the average was closer to six men assisted by three or four boys.⁵ Forming a crib was easy; a French *Inquiry* of 1861 reported how:

A master assembles several hands, sometimes he is his own chief workman. He constructs a furnace...the first materials he buys on credit; a few moulds are ordered...and thus he makes the crystal in ordinary use with scarcely any other expenses than the price of fuel, the first materials and the labour.⁶

Broken glass was melted down over night in small pots and then worked out during a shift of about 12 hours. The goods turned out were smaller and inferior types of glassware, such as

¹ *R.C. on Trade Unions*, 10th Report, Q. 18,640.

² *Magazine*, July 1898.

³ *Childrens' Employment, Fourth Report*, p. 186.

⁴ D.R. Guttery, *From Broad Glass to Cut Crystal* (1956), p. 133.

⁵ *Childrens' Employment, Fourth Report*, p. 234.

⁶ Cited Guttery, *Broad Glass*, p. 133.

cruets and perfume and ink bottles. With the expansion of the glass trade following the removal of Excise Duty in 1845 the number of cribs increased significantly. They were found in Birmingham, Stourbridge, Manchester, and, above all, London, where there were, in 1865, an estimated 50 cribs employing around 200 workmen.¹

Glass grinding and cutting usually occurred in a building adjacent to the works. But the passing of glass to out-working cutters was not uncommon. Small decorating shops obtained blanks from local manufacturers and sometimes abroad.² In London, said a manufacturer in 1865, glass cutting 'is a trade often carried on in the homes of the workers, on small wheels worked by treadle, or in small separate premises where power can be hired.'³ Glass cutters in Birmingham shortly before the First World War were working for silversmiths, often in workshops rented on the room and power system.⁴ The Flint Glass Cutters' Society resisted such sub-contracting. In 1857 the Wordsley branch complained of the:

Middle Men or Small Masters, standing between the Manufacturer and the Workman in our Trade, more especially in this District; the men have suffered most severely from this state of things and we consider it our bounden duty to put an end to such a ruinous system.⁵

The Cutting Union reported, in 1864, that it had spent over £800 'defending the trade,' identifying as the chief cause of disputes the sub-letting and outwork systems.⁶ In 1865 a strike at Wordsley against this system lasted five months before the men were beaten, while in Birmingham employers locked-out 200 glass-cutters after a threatened strike directed at firms supplying two out-masters with work.⁷ Homework was still common in London and

¹ Childrens' Employment, *Fourth Report*, p 266; Webb Trade Union Collection, Section A, Vol XLIII, *Glass Makers*, p. 257.

² H.J. Haden, *Stourbridge Glass Industry in the 19th Century* (1971), p. 32.

³ Childrens' Employment, *Fourth Report*, p. 234.

⁴ *Pottery and Glass Trades Gazette*, January 1913, p. 92.

⁵ Guttery, *Broad Glass*, p. 136.

⁶ Webb Collection, *Glass Makers*, p. 353.

⁷ *Ibid.*, p. 354.

Birmingham in the 1890s, though at Wordsley and Dudley employers were said to have desisted from the practice after several small producers had so expanded as to compete with their old employers.¹

The constituents of flint glass were first melted down in clay pots and then left to stand for eight to ten hours before work commenced. A glass-house generally contained 10 or 12 pots, and at every couple of pots there worked a group of four operatives referred to as a 'chair'. Each member of a chair occupied a distinct position, and according to the skill and importance involved in the task, so was his status and remuneration determined.

First the 'footmaker' gathered molten glass onto a blowing iron, which he then rolled into cylindrical shape on an iron slab known as a 'marver', blowing down the tube to make the glass hollow. The iron was then handed to the 'servitor', next in importance in the chair, who blew the glass to the required size and gave it an approximate shape. For table glass a stem was drawn out and a foot attached.² From the servitor the glass passed to the 'workman' (or 'finisher'), who was the head of the chair. He sat on a wooden chair with two parallel rails upon which the blowing iron was rolled until the bowl of the glass assumed the form desired.³ The glass was then snapped from the iron and passed to a boy, known as a 'taker-in', who carried it to an annealing kiln, where it cooled slowly.

Apparent is the organic nature of the chair. If one member were absent, or performed his task poorly, the whole making process was undermined. Adult glass makers were employed directly by the firm. However there were, in the late 19th century, some moves, in the manufacture of inferior glass, to have the finisher distribute a lump-sum payment between his chair. Also boys were usually paid by finishers - indeed were often their own sons.

Flint-bottle manufacture exhibited some distinguishing features. A chair consisted of two

¹ *Ibid.*, p. 396.

² Childrens' Employment, *Fourth Report*, p. 266; *Gazette*, January 1900, p. 60.

³ D.N. Sandilands, 'History of the Midland Glass Industry' (Birmingham Univ. M.Comm. thesis 1927), p. 41; *Gazette*, January 1900, p. 60.

blowers, each of whom gathered molten metal, blew it into a mould, and cut it off into a tray beside the finisher. He would then hold the bottle in a 'gadget', re-heat the neck in a small furnace called a 'glory hole', and shape it with a tool. It was then carried to the kiln.¹ A feature of bottle making was the use of moulds. This reflected the more standardised nature of production and helped render bottle making a less skilful trade than ornamental or table glass.

How irksome was glass-house work? The most careful account was provided by White in 1865. 'It is not the case,' he wrote, 'that glass houses are uniformly hot places to work. The amount of air is always very ample, and the general temperature of a house, i.e. at a little distance from the furnaces, is often moderate.'² However, the older cone-shaped houses 'are certainly very hot, especially in hot weather.' Smoke and dust often filled the air. This was not the case with the newer factories, where smoke from the furnace went straight up the chimney; they were 'not only light, but cool and pleasant.'³

Although White observed that the men performed best in cool and well ventilated glass houses, it was the opinion of masters and workmen that glass making did not make excessive physical demands. 'The work,' said one manufacturer, 'is not laborious; the men never leave exhausted.'⁴ Emphasis was rather placed on the concentration demanded - especially by ornamental work. The Birmingham Secretary of the Flint Union commented in 1876 that 'we have not a great deal of hard work, but it is the close confinement and the heat, and the continued fixed attention that is required on the part of the blower and the maker...'⁵ Glass workers generally enjoyed good health, many continuing at the trade to 60 or more years of age. Illness was more frequently attributable to intemperance than excessive labour.⁶ So while the

¹ E. Farmer, 'Comparison of different Shift Systems in the Glass Trade', *Industrial Fatigue Research Board*, Report 24 (1924), 2.

² *Childrens' Employment*, Fourth Report, p. 186.

³ *Ibid.*

⁴ *Ibid.*, p. 269.

⁵ *Royal Commission into Working of the Factory and Workshop Acts* (1876), Q. 11,553.

⁶ *Children's Employment*, Fourth Report, p. 210; evidence of W. Davies, Surgeon to Chance Bros, Birmingham.

circumstances necessary for the manufacture of glass set certain limits to productivity, we cannot say these had been approached in the late 19th century.

Shifts in flint houses were known as 'turns', each of which was nominally six hours in length. Two chairs of men worked each pot alternately. The first would come on at, say, 6am Monday and work until noon, when the second took over, continuing till 6pm, to be relieved by the first chair. This succession of turns continued until the metal was exhausted.¹ Each chair commonly completed eight or nine turns per week, so labour would cease, for the first chair, at midnight Thursday or noon Friday - a week of 48 or 54 hours. When asked why this peculiar split-shift system was necessary, those engaged in the industry stressed the delicate nature of flint glass work and the need for levels of concentration which could not be maintained in the heat of the glass house over a 12 hour stretch. The Chairman of the Midland Association of Flint Glass Manufacturers stated in 1876 that:

The work in the flint glass trade...is of a very high class, requiring a great deal of very fixed attention; it is very delicate work, and we know this from experience, that when supposing a man is away ill or anything, one man volunteers to do the work of the other man in his turn, the work of that turn over is not half as well made as it is in the other turn, because their attention flags; they cannot keep up the fixed attention enough in making the extra fine class of work.²

This argument was less applicable to more standardised work. Trade conservatism was also a factor. Matsumura suggests operatives were keen to maintain six-hour shifts as a barrier to entry into the trade, increasing its irksomeness - as well as, one suspects, its air of 'mystery.'³

Although nominally six hours, a 'turn' represented a standard quantity of work, itself defined by a number of 'moves'. A move was a fixed amount of work, measured in articles, and a number of moves (generally two) constituted a turn's work. So two moves was a turn was a shift. To the completion of a turn was attached a basic wage. It was thus a kind of task-work system. Dividing the basic wage per turn by the number of articles expected gave a piece-price

¹ Allen, *Industrial Development*, p. 134; *R.C. on Trade Unions*, 10th Report, Q. 18,328.

² *R.C. on Factory Acts*, Q. 6,914.

³ T. Matsumura, *Labour Aristocracy Revisited* (1983), p. 38.

per article. In this it was similar to the compromise payment system which emerged in the shoe trade.

Once the basic number of moves was completed the worker considered himself free to leave-off. This often occurred, especially in the earlier part of the period. Numbers and working patterns had evolved such that a standard turn's work might be completed in four and a half hours. Major J. Walker, glass manufacturer, stated in 1876 that although a shift was nominally six hours:

they come after the time, and they leave off before the time. They work almost invariably upon piece-work, and they can make their work in a very much shorter time than six hours as a rule...the real time they work is not above five hours...¹

Weekly hours, inclusive of snatched breaks for meals, could be as low as 36.

Alternatively, the chair might produce additional articles paid for as 'overplus', in which case it could make 2.5, 3, or more, moves in a turn. The disparity between moves expected and moves worked would then become substantial. At Beatson and Clark's, flint bottle makers, in the week ending 6 February 1914, of the nine chairs listed, each with a standard weekly number of moves of 14, the average number of moves 'over' was 8.5 per chair.² When men at Blunn's sought in 1876 to restrict weekly output to the nominal 'number' they were prosecuted by their employers. The latter contended that overwork was compulsory, in order that all the metal in the pots be worked out. The magistrates found in their favour, principally because they did not think it reasonable that six hours should constitute a day's work.³

Glass cutting was conducted on very different lines. A standard shift was worked which, at mid-century, was 10 to 12 hours in length, representing a working week of 60 or more hours. Union agitation led to a diminution of hours to 54 in 1872, but in the late 1870s employers pushed them back towards 60. Not until the 1890s did a nine hour day or 54 hour week become

¹ *R.C. on Factory Acts*, Qs. 6,908, 6,900.

² Beatson and Clark, *Wage Book* 1912.

³ *Magazine*, August 1876, pp. 811-12.

typical.¹ Payment usually took the form of time wages, though this had not always been the case and was not universal. The Glass Cutters' Society recorded in the 1890s that:

Wages used to be generally piece-work...But the piece-work system was a very troublesome one, always giving rise to disputes as to the price of new work etc., and has been gradually supplanted by time-work. On the whole the men prefer time-work, chiefly because it does save so much friction.²

Manchester provided the chief exception to the rule of day-work, cutters being paid piece-wages at a gross rate from which employers made a deduction for tools, machinery, and other expenses. Indeed, at Manchester an older, more informal, pattern of work survived. The local branch of the Union reported to the Webbs that:

The men have greater freedom in their shops. Can go in and out when they choose, smoke while at work, and generally do what they like. If however any member abuses these privileges, the employer will complain to the branch committee who censure the man, and warn him against overdoing it...³

Where piece-work did prevail, the initiative for establishing rates resided with the men. When a new piece of work was introduced a bell would be rung and the men gathered round to propose a price based on the time estimated necessary to make it. If the employer disagreed with the suggestion the matter was referred to a shop committee, which would then rule upon the price.⁴ With piece-work on such terms, employer moves towards time wages are not difficult to understand.

¹ Webb Collection, *Glass Makers*, pp. 361, 389.

² *Ibid.*, p. 377.

³ *Ibid.*, p. 395.

⁴ *Ibid.*, p. 382.

Chapter 16

Worker Effort as a Problem in the Flint Glass Trade

(i) *The Flint Glass Makers' Friendly Society*

The history of flint glass manufacture for the greater part of the period 1850 to 1920 is inseparable from that of the Flint Glass Makers' Society, founded in 1849. Connecting the two was the nature of the work itself. In the making of much flint glass considerable skill and experience were necessary. A Birmingham manufacturer described glass making as 'very peculiar work,' requiring 'probably more individual skill than any other general manufacture.'¹

The leader of the Flint Union similarly contended that glass makers were:

the highest skilled class of artisans in the country; for the skill required to be a first class flint glass maker can only be acquired by long and laborious practice...not one out of every 500 workmen can be reckoned proficient in seven years.²

True, less skill was required in the manufacture of common products and flint bottles. This was still more the case with pressed glass, whereby flint ware was made with the assistance of machines, which formed the glass to a mould.³ But for more artistic work, such as dominated the industry's Midland heartland, expertise was essential. There is, said W.H. Packwood, the Union's Central Secretary in 1876, 'a kind of sensitive touch belonging to every glass that we handle, and that it is only got by education and generally being brought up to it. It takes years to learn to be proficient workmen, such workmen that the employers can with confidence put work into their hands.'⁴

¹ *Childrens' Employment*, Fourth Report, p. 229.

² *Magazine*, December 1866, p. 855.

³ *Childrens' Employment*, Fourth Report, p. 181; Farmer, 'Shift Systems', 3.

⁴ *R.C. on the Factory Acts*, Q. 11,557.

This meant that labour could not be brought from other trades; it had to be nurtured within the industry. 'No man,' commented the employer Dr Lloyd, 'could possibly come into the flint glass trade after he had passed the years of youth, or say the age of 15 or 16, and acquire it; he must begin very young.'¹ Responsibility for undertaking this training necessarily fell to the existing labour force. It was administered through a seven year apprenticeship, which the Union vigilantly enforced, followed by the slow ascent of the hierarchy of skills making up the chair.

The position occupied by the existing labour force was potentially strong. This the Friendly Society sought to exploit. Its watchword was: limitation of the supply of labour. As the *Quarterly Magazine* declared:

Now that we understand the principle of supply and demand, it is our duty as a body, to go thoroughly to work and regulate that supply, so that the amount of skilled labour in our trade shall never exceed demand.²

A comprehensive system of controls over labour inputs was evolved by the Union. First, control over the admittance of apprentices. A ratio of one apprentice to every five journeymen was maintained.³ The Society was not bashful of its purpose. Its Central Secretary in 1864 wrote to the Chairman of the Midland Employers' Association that:

I need hardly remind you that the object of the Apprentice Rule is to keep down, as much as possible, a surplus of labour; and if the present scarcity of footmakers can be attributed to the working of the rule, I think the promoters of the rule will feel much pleased that their anticipated expectations have been so far realised.⁴

Second, control over appointments. No employer could take on any workman he wished to fill a vacancy, and no Unionist could apply directly for work. Instead a 'roll' of unemployed workmen was kept by the Society for each district. If an employer wished to recruit an employee he had first to inform the factory secretary, who would in turn apply to the district

¹ *R.C. on Trade Unions*, 10th Report, Q. 18,430.

² *Magazine*, No. 3 (1850), p. 66.

³ Matsumura, *Labour Aristocracy*, p. 59.

⁴ *Magazine*, March 1864, p. 132.

secretary, who would then send the man who had been longest unemployed and deemed competent to fill the position.¹

Third, control over labour deployment. Employees could not be shifted between chairs to make up for absences, special requirements, and so forth. Lastly, controls over output. The Union kept as low as possible the number of articles which constituted a move, and limited the number of moves per turn.

The freedom of action of employers was thus severely limited by an organisation described by its Central Committee as 'one of the most powerful in existence.'² The masters, said the *Glasgow Herald* in 1866, are as completely under the control of the Society 'as the slaves of South Carolina were under the rule of the planters before the war.'³

In its stress upon the supply and demand for labour, the Flint Union was of a 'new model type.'⁴ Yet a more fundamental current in its ideology arose from attitudes more characteristic of the craft guild. The Society aimed at not 'merely the keeping up of wages,' but also 'the keeping up of a high standard of excellence and maintaining the honour and dignity of one of the most ancient arts known to mankind.'⁵ Glass making was considered to have features uniquely distinctive, around which clung an atmosphere of 'mystery.' Knowledge of manufacturing technique was jealously guarded; the glass industry of the early 19th century was said to have existed under the 'blissful delusion' that 'the arts and methods were secrets known only to themselves...'⁶ Glass making skills passed predominantly from father to son, and production methods had altered little for decades. The peculiar shift pattern meant that glass making filled the lives of its practitioners, isolating them from other workmen. They constituted

¹ *R.C. on Trade Unions*, 10th Report, Qs. 18,662-3.

² *Magazine*, February 1889, p. 228.

³ *Ibid.*, December 1866, p. 848.

⁴ In elaborating their notion of a 'new model union' the Webbs frequently referred to the policies of the Flint Glass Union. C.f. *History of Trade Unionism* (New edn., 1920), pp. 197-202.

⁵ Executive Committee, in *Magazine*, January 1897, p. 95.

⁶ *Pottery and Glass Record*, September 1919, p. 403.

a class by themselves.

Within this context, goals other than profit maximisation activated the workmen. Stress was placed on service, artistry, discipline, and duty. The hierarchy and subordination of the chair reflected this. Having served his apprenticeship, the glass maker could anticipate spending several years as a footmaker, before graduating to the position of servitor, and eventually - though this was not always the case - to the place of finisher; a process occupying 10, 20, or more, years.¹ There was also a hierarchy *between* chairs, according to the class of work in which they specialised. An emphasis upon stability and a longer time perspective therefore prevailed.

These notions derived additional strength from the character of firms. Employment in each glass house was quite small, with even substantial works employing only about 200 persons in total, of whom approximately one-half were makers.² Relations between employer and employed were essentially paternalistic, with customarily defined rights and duties. Employers shared the artistic interests of the labour force, and many had themselves practised as workmen - several even remaining Union members.

(ii) *Restrictions on Output*

In these circumstances limitation of output appeared natural and was easy of implementation. The number of articles constituting a move, and hence the number expected from a turn, was set by the Union such that nearly all workmen could make the basic quantities in a six hour shift. While 'experienced and quick' workmen could accomplish substantially more than, say, the two moves in each turn, no workman was permitted to make more than this.³ In the first issue of its *Quarterly Magazine* in 1849 the Union announced, as one of its objectives, the establishment

¹ *Childrens' Employment*, Fourth Report, p 199; Matsumura, *Labour Aristocracy*, p. 68.

² Allen, *Industrial Development*, p. 134.

³ *R.C. on Trade Unions*, 10th Report, Q. 18,620; *Childrens' Employment*, Fourth Report, p. 194.

of a general rule of 'two moves per turn.'¹ Any workman exceeding this limit was liable to a penalty.² The effect of this was to check disparities in output and earnings arising from variations in worker effort, and reduce thereby overall production. Limitation of output, commented Dr Lloyd:

is a manifest injury to the workman because it reduces the skilled and industrious man down to the level of the less skilled and idle...the superior and highest of all are hampered and impeded in producing what they otherwise might do in order that they may be put upon the same level with the inferior men.³

Upon completing his two moves a man idled his time away, or went home altogether. A heightened characterisation of these arrangements described how the glass blowers of England:

work in a rather peculiar way. The employer shows them an article, asks them their price; they say, 'We'll make so many in "a turn"'...Suppose they say six dozen. The master agrees, but when they come to make it they find they can make the six dozen in two hours; but the master does not ask them to reduce their price - i.e. agree to make nine dozen in the turn - for he knows it would be useless; only he says, 'Well, you make nine dozen in the turn, and I will pay you for a turn and a half.' What do they reply? They say 'No; our Society won't allow us;' so the master's pots, furnaces, fires, working expenses, rent, taxes, &c., are all going on, utterly to waste, for two hours out of the four.⁴

What motivated workmen to behave in this way?

(a) First, a desire to restrict the supply of labour to the trade. If effort were increased, it was held, average prices would go down and most glass workers would be worse off. A glass maker of York identified the propensity of the men to make too much work as a 'great and grievous evil' of the trade. What, he asked, was the consequence of the men producing so much in a turn? Why, 'the manufacturer must seek to sell his article for anything he can get.'

¹ *Magazine*, Issue 1 (1849), p. 3.

² *R.C. on Trade Unions*, 10th Report, Q. 18,387.

³ *Ibid.*, Qs. 18,390, 8,394.

⁴ G. Wildman in *Gazette*, December 1897, p. 1,520.

Now, if men will only look at this, they would come to the conclusion that making so much work is a bad plan, and that the two move system must be established throughout the trade...What is it that has made employers take advantage of the employed so much as they have done? Why the proof is plain, that it is through the men making so much work...Men have been so selfish and greedy, and never content with a reasonable thing; but drive and tear away, and never consider the danger they are in.¹

Individuals exploiting opportunities for additional earnings were held up for scorn. It is the duty, said one glass maker:

of every man in the trade to kick against those persons who not only rob their fellow tradesmen of their sustenance, but place themselves and their shopmates in the power of their employers, for by their making so much work per turn they overstock the market...²

These more skilled and vigorous men, by responding to incentives, undermined the majority.

A correspondent to the *Quarterly Magazine* asserted in 1878 that:

If the object of wishing to break through our present mode of working is to get men, of the highest ability and quickness, to make great numbers, and then settle the number per move accordingly, the duty of glassmakers will clearly be to oppose, with all the force possible, so unjust a step.³

Associated with these concerns was a fear of intensified competition between firms. If men at one firm agreed to increase output per shift, firms making similar items would pressurise their workmen to do likewise. 'We think,' said the Union's first Central Secretary,

that it requires very little looking at to convince any man...that if we restrict ourselves to two moves per turn, it will deprive the bad employer of the chance of underselling the honest employer, and thus ruining our trade...⁴

Without such limitation prices would be driven down, and with them the average return to an input of labour.

(b) Allied to this was a belief that increased output per worker would reduce total employment. A contributor to the *Quarterly Magazine* in 1878 urged the Midland District, then contemplating raising the limit on production to 2.5 moves, to:

¹ *Magazine*, December 1850, p. 41.

² *Ibid.*, p. 69.

³ *Ibid.*, February 1878, p. 364.

⁴ *Ibid.*, Issue 1 1849, p. 3.

consider how many men it will throw on our funds, and how many homes it will destroy...I for one should say, that those are the ones that are going backwards which make their two and a half, because eight chairs by the two and a half moves make just the same as ten chairs by the two moves, thus helping to keep two chairs out of work.¹

Attitudes of this sort, though increasingly disowned by the union leadership, long persisted amongst the workforce. According to the *Pottery Gazette* of August 1919, 'some firms record that their men are not working as well as formerly, that there is a falling off in the amount of work produced, the men apparently acting on the idea that if they reduce production work will be found for more men.'²

The stagnation of the flint glass trade after 1850, coupled with periodic fluctuations in demand, reinforced fears of unemployment. No matter, said a manufacturer in 1907, what facilities you grant a man he will not endeavour to earn more than 9s. 3d. per day 'because they think that some men earning 15s. would reduce the number of men employed, and others would be out of work. It is all the result of bad trade.'³

(c) Third, a sense of the organic connexions between workmen, founded upon a customary order. Inequality was inevitable. 'It is our duty,' said the Union in 1874, 'to try to get good wages, but it is well to remember that all cannot be paid alike...'⁴ The veteran glass worker (and Parliamentarian) Joseph Leicester drew a picturesque analogy:

If you take a cartload of potatoes through the street it is remarkable how soon the littlest ones get to the bottom, and by the process of natural gravitation, men always find their level in the glass house.⁵

But that inequality only was countenanced which arose from length of service and skill: 'where employers are paying over and above the standard for extra ability we do not interfere

¹ *Ibid.*, May 1878, p. 531.

² *Gazette*, August 1919, p. 858.

³ Evidence of A. Dodds, *Tariff Commission*, vi 'Glass Industry' (1907), p. 74.

⁴ *Magazine*, November 1874, p. 7.

⁵ *R.C. on Trade Unions*, 10th Report, Q. 18,797.

with, extra ability always did, and always will, command a better and higher price.’¹ The Union took every effort to preserve the differentials of the chair, withstanding pressure from both employers and workmen frustrated by its rigidity. Yet seeking higher earnings through hurry and scurry, pursuing financial gain - this was considered contemptible. The making of 2.5 moves per turn was referred to as the ‘tear-away’ system, fit perhaps, claimed one unionist:

for the press and bottle districts, and for that class of work intended to cope with ‘Foreign Competition’...but, certainly, unfit for those districts where glass makers are expected to be artists.²

For another it had ‘a tendency to make the men selfish, and they will not put themselves out of the way in the least, to make convenience for their fellow workmen.’³ Glass workers also exhibited a preference for predictable earnings, believing they would be better secured by limited production than unlimited piece-work.⁴

(d) Lastly, emphasis was placed on product quality. The glass maker wished to be responsible for ware betokening craftsmanship. Visiting an exhibition of cheap foreign glass, the Society’s Central Secretary reflected that:

Such a collection of worthless rubbish it was never my ill-fortune to see, and to think that this was the sort of rivalry we were taught to dread. My uppermost thought after seeing them was to feel proud that no English workman would disgrace himself by putting his hands to such trash...⁵

Yet it was widely believed also that the making of best work was the one sure way of retaining trade. Only ‘our workmanship and finish,’ declared a glass maker, can counteract ‘the extreme cheapness of foreign productions.’⁶

Increasing output in a shift would compromise standards and threaten, therefore, to sacrifice the future of the trade to transitory gain. Fast work was rushed work was poor work.

¹ Executive Council Address, *Magazine*, October 1895, p. 437.

² *Ibid.*, 18 March 1878, p. 364.

³ *Ibid.*, November 1877, p. 257.

⁴ C.f. *ibid.*, May 1888, p. 283.

⁵ *Ibid.*, January 1897, pp. 97-8.

⁶ *Ibid.*, August 1888, pp. 383-4.

As a Manchester correspondent to the *Quarterly Magazine* asserted:

It stands to reason that the ‘tear-away’ system has a great tendency to cause bad work to be made, for we might be sure, that if time and care is taken in making work, it will be much better than that which is made in a hurry.¹

Employers, especially in the earlier part of our period, tacitly sympathised with several of these motives for restricting output. Increasing output by each firm would, many agreed, generate vicious competition, over-stocking the market and driving prices downwards. To the extent to which the Union prevented this its influence was benign. Dr Lloyd, one of the more prominent and perceptive of employers, conceded a degree of truth to Society claims to act as a check on over-production.² An erstwhile glass manufacturer, looking back to Union output restrictions in the 1880s, admitted there was ‘no doubt that some of the manufacturers encouraged this. They thought prices could be maintained to last their time, and they do not seem to have thought much of what would follow.’³ Indeed when in the 1850s one employer sought to discard established payment systems and under-cut his rivals, the Union disclosed:

We have had overtures from employers, offering us all the assistance that lies in their power, either by employing his men, or by subscribing a weekly sum to assist us in doing our best to drive him from the trade.⁴

Employers, too, saw the maintenance of quality as important for the well-being of the industry, and this constrained their pursuit of increased production. So argued the Union’s Central Secretary in 1865:

I may...say that there are more than two or three employers that object to having more than two moves made in the six hours journey, because they say that hurrying the work deteriorates the quality of the articles produced.⁵

John Murray, the former Chairman of the Employers’ Association, acknowledged to the Tariff Commission that a ‘turn is supposed to be six hours, but if we get five hours we are perfectly

¹ *Ibid.*, November 1877, pp. 257-8.

² *Childrens’ Employment*, Fourth Report, p. 227.

³ *Gazette*, September 1906, p. 1,040.

⁴ *Magazine*, Issue No. 11, 1852, p. 226.

⁵ *R.C on Trade Unions*, 10th Report, Q. 18,706.

satisfied, and do not always get it.’¹

(iii) *Drunkness and Absenteeism*

A factor exerting an important influence on levels of worker effort was the fondness of glassmakers for ale. Haden talks of glassworkers as possessing ‘an almost insatiable thirst.’² ‘There are,’ said one manufacturer, ‘very few teetotallers amongst them, fewer than in any class, I should say.’³ Recounting his first involvement with the trade, a London employer described the men as being ‘of a most dissolute character, drunken and extremely immoral, and the terror of the neighbourhood.’⁴ The workmen’s own *Magazine* admitted that ‘the name of a Glass-Maker used to be synonymous with Ignorance and Drunkenness...’⁵ White described how ‘in visiting glass houses I have been repeatedly been asked, more or less directly, for money for "drink," a request which has never been suggested to me in work of any other kinds.’⁶

However, as White went on to remark, working in hot surroundings, where men perspired freely, the temptation to drink was strong. Indeed the workmen believed extensive consumption of ‘spirituous or malt liquors’ was necessary for the performance of their calling.⁷ Drinking had been, and to some extent remained, a custom of the trade. When engaged in the strenuous task of installing new pots the men were rewarded with beer - or money expressly to be used for this purpose. Likewise, men making the largest and heaviest glass-ware customarily received drink or drink money.⁸

¹ *Tariff Commission*, vi ‘Glass Industry’, para 85.

² Haden, *Stourbridge Glass Industry*, p. 27.

³ *Childrens’ Employment*, Fourth Report, p. 249.

⁴ *Childrens’ Employment*, Second Report, p. f148.

⁵ *Magazine*, Issue 2, 1850, p. 34.

⁶ *Childrens’ Employment*, Fourth Report, p. 200.

⁷ *Childrens’ Employment*, Second Report, p. F24.

⁸ *Magazine*, September 1862, pp. 22-3.

The negative affects of drinking on work performance were widely noted. Employers complained that sending out for beer wasted time and added to costs.¹ When at Wood Brothers of Barnsley, on 4 May 1890, Herbert Waller reported for work intoxicated he left-off an hour early; he ‘was very talkative, and said they were nothing but white slaves.’² More damaging was the failure to turn up for work at all. The co-operative nature of glass-making meant that, with one member absent, a whole chair would often have to be laid-off. The result, as captured in the Personnel Records of Wood Brothers, may fairly be described as chaotic.³

Oct. 1889	J. Dudley off work through having beer. Cautioned.
Jan. 16, 1890	Four men cautioned for neglecting work, but not fined.
Jan. 27, 1890	Worker fined 2/6 for neglecting work.
June 23, 1890	J. Mach neglected his work. Was in beer. Said he had been to his brother’s wedding.
June 28, 1890	Mr. Taylor neglected his work through beer and was fined 5/- A. Hobson neglected his work through beer. Fined 5/-.
July 14, 1890	A. Linley neglected his work through beer and was fined 2/6.
Aug. 13, 1890	Mr. Taylor neglected his work through beer.
Aug, 18, 1890	Mr. Law neglected his work through beer and was cautioned.
Sept. 15, 1890	J. Mach neglected his work.
Dec. 29, 1890	Three men neglected work all week.
March 30, 1891	Five men neglected work two days. Three men each neglected one day.
June 22, 1891	J. Leasely neglected work through beer.
June 29, 1891	C. Mach neglected work through beer.
July 20, 1891	A. Linley neglected his work all week.
Oct. 12, 1891	D. Briggs neglected his work...

It is not stated how many chairs were rendered inoperative by such absenteeism. That it was a significant number may be gauged from some further records relating to another year in the 1890s. For the month of August 30 chairs were separately listed as being off work for a part of a day or more owing to the incapacity or absence of at least one of their members. On 1 August five chairs - one-quarter of the total number employed - failed either to start or complete

¹ *Gazette*, September 1897, p. 1,174.

² Wood Brothers, *Personnel Records*.

³ *Ibid.*

their shift.¹

Absenteeism was not wholly attributable to intoxicating drink. For one thing, glass makers continued to observe Saint Monday through into the 20th century. At Walker's Stourbridge works it was the practice in 1876 to commence work on Tuesday's 'because a great many of the workmen will have the Monday whether we give it them or not...'² Glass cutters were especially forward in this respect. One such said of the 1840s that 'Saint Monday was honoured; yes, and sometimes Saint Tuesday.'³ The *Pottery Gazette* found that amongst Birmingham glass cutters in 1899 'Saint Monday is not without its worshippers...'⁴

If a chair worked 'shorthanded' the Union insisted upon significantly reduced output standards. At Birmingham and Stourbridge in 1877 for the absence of a 'taker-in' expected output was curtailed 13 per cent.; for a footmaker by 25 per cent; for a finisher by one-half; and for a servitor by 38 per cent. at Birmingham and 50 per cent. at Stourbridge.⁵ Manufacturers found such reductions unreasonable. In a letter to *The Times* a Midlands' employer complained that:

In some instances the trade rule decrees that the absence of even one man from the chair must reduce the output to one-half, while the wages paid for this product of one-half are two-thirds of that paid for the whole. There are also incidental losses, such as the inferior quality of the work made, the loss of the pot's share of the fuel consumed, and a proportionate allotment of the dead charges.⁶

The Society certainly did not countenance heavy drinking. Addressing the trade for the first time the Executive Council earnestly advised the men to 'to educate, get intelligence, instead of alcohol - it is sweeter and more lasting.'⁷ The leadership often found itself compromised by

¹ *Ibid.*

² *R.C. on the Factory Acts*, Q. 6,911.

³ *Gazette*, August 1898, p. 961.

⁴ *Ibid.*, July 1899, p. 835.

⁵ *Ibid.*, September 1887, p. 884.

⁶ *Ibid.*, May 1902, p. 504.

⁷ *Magazine*, Issue 1, 1850, p. 2.

the men's intemperance. The Central Secretary reported in 1875 that the complaints he had received concerning drunkenness were 'something fearful in their aspect.' District officers state that a whole week's work has been 'spoilt' through drink. More serious were the complaints of employers; one such wrote:

Annexed I hand you a list of names and statements of work lost during the last six months by Glassmakers in my employ, the principal cause I am confident is drinking, or illness produced by that habit...I cannot any longer submit to the loss and annoyance, and think it better to place the matter before your Society, before resorting to unpleasant measures.

An aggregate of 198 moves had been lost by the firm.¹ We hope, said a Central Secretary more than a score of years later, 'men will in future see the folly of this abuse, and not give the employers room for complaint on that account.'²

Nevertheless, the Union exacerbated the problem drunkenness posed in three ways. By hindering the movement of workmen between chairs, and insisting upon reductions in numbers when a member was unavailable, it increased the loss in output from an absent workmen. Second, it discouraged an employer from dismissing a drunken worker by preventing his immediate replacement with a man of his own choosing, and by maintaining general conditions of labour scarcity. Lastly, it supported unemployed members with benefit. True, a worker dismissed through 'drinking or misconduct' was not entitled to benefit over a period of between eight weeks and the duration of unemployment - according to whether the offence was his first, second, or third.³ But due to tight labour conditions a negligent workman would frequently only be discarded in an economic down-turn, rendering his redundancy attributable to poor trading conditions. Benefit would then be paid.⁴

The means available to employers for reducing alcoholism and absenteeism were limited. Most commonly employed were fines and suspension from work. The records of Wood Brothers

¹ *Ibid.*, October 1875, pp. 443-4.

² Cited *Gazette*, September 1897, p. 1,174.

³ Rule xix of the Flint Glass Makers' Society, 1867.

⁴ *Magazine*, March 1866, p. 657.

show fines of 2s. 6d. and 5s. being imposed - equivalent to between six and twelve per cent. of average weekly earnings. One employer testified to the effectiveness of suspension:

If they come drunk to work we send them home, and allow them to play for a week, and by that time they are quite sober; it is the best cure for drunkenness we know, and they are rarely drunk at their work...'¹

Some firms sought to create a more disciplined ethos, in which sobriety and prompt attendance were emphasised. The manager of the Stock Glass Works claimed to have made most of his men sober by forbidding drinking on the premises.² Employees of the Newcastle Flint Glass Works were entertained to tea by the firm at a local church, the event marking the formation of a 'Total Abstinence Union.' Over 80 of those present pledged to abstain from intoxicating drinks.³ Less faith in human nature was displayed by Webb's of Stourbridge. They promised, in 1900, a bonus of 10 days' wages at the end of the year to all workmen who made full time without any unaccountable absences. Pleasure was expressed at the result of the experiment, which some described as 'kill Saint Monday!'⁴

Ultimately the employer possessed the threat of dismissal. We noted above that difficulties attended its deployment. Another factor counselling caution was the threat of labour unrest. In January 1914 a 24 hour strike was held by glass workers at P.T. Turner, bottle manufacturers, demanding the re-instatement of a workman who had been declared drunk and sent home. Following a meeting, the employer acceded to the men's request.⁵ But more than this it appears that employers acquiesced, to some extent, in a culture in which heavy drinking was an accepted feature. Although condemned when it impinged upon work performance, the fundamental attitude of employers was indulgent. A correspondent of the *Pottery Gazette* recollected of the trade at mid-century that liquor was consumed while work was carried on, and

¹ *Childrens' Employment*, Second Report, p. b55.

² *Childrens' Employment*, Fourth Report, p. 276.

³ *Magazine*, February 1876, p. 584.

⁴ *Gazette*, May 1901, p. 523.

⁵ Turner & Co, *Minute Book*, January 1914.

sometimes a 'chair' was broken up through one of the party having imbibed too freely. 'Such an incident, though regretted by the manager, was not regarded with severity, and seldom led to dismissal...'¹ Remarking of the 1870s, John Murray said it was a 'common thing' on Monday 'to see an employer in the smoke-room of a public house, and the men in the bar.'²

Intemperance and absenteeism, notwithstanding the lack of concerted measures against them, did diminish over time. The General Secretary of the Flint Bottle Makers' Union was proud to convey to his members the words of an employer that 'the character and moral tone of the men had improved, and that there was less loss of work for neglect and drink than before...'³ Saint Monday became a less conspicuous institution. Murray noted the change: by 1907 not two of his 200 strong workforce stayed away from work on Monday morning.⁴ This reflected broad changes in English culture to which not even glassmakers were immune, as well as a greater employer emphasis upon ordered production, which was, in turn, only one aspect of an economic realism forced upon worker and master alike by the deteriorating position of the trade.

(iv) *Foreign Competition*

The removal of protective duties in the 1840s and 1850s exposed the quaint and contented world of British flint glass manufacture to foreign competition which grew continually in intensity. First came Belgian tumblers and wine glasses; then, from the mid 1880s, Austrian and German glass.⁵ Between 1875-9 and 1901-5, average annual imports of flint glass increased in value by 220 per cent.⁶ Competition was strongest at the cheaper 'common goods' end of the market.

¹ *Gazette*, September 1917, p. 900.

² *Ibid.*, November 1907, p. 1,318.

³ *National Glass Bottle Makers' Magazine*, December 1908, p. 247.

⁴ *Gazette*, November 1907, p. 1318.

⁵ Sandilands, 'Midland Glass Industry', pp. 95-6; Clapham, *History of Modern Britain*, III. 129.

⁶ *Tariff Commission*, p. 42.

Yet this was just where demand was growing most. As a consequence the industry ceased to expand after 1875. While imports increased, exports declined. The number of glass-houses in the Stourbridge district began to contract.¹

Employers perceived the threat foreign competition posed. As early as 1863 the Chairman of the Midland Manufacturers' Association was writing to the Union's Central that:

the number of articles which are produced more cheaply by foreign houses is almost daily increasing; and, in some instances, British glass is entirely excluded, owing to the greater cost of production, and the manufacture of many articles has been lost by British houses.²

They stressed the low wages, long working hours, and high output of continental workmen. Glass-blowers in Belgium were said in 1881 to work 12 hours per day for six days in the week, and their production was unlimited.³ It was presented in evidence to the Tariff Commission that the Belgian glassmaker received half the wages of his English counterpart; the Parisian worker sixty per cent; and the German seventy per cent.⁴ A bottle manufacturer complained that:

Our trade suffers considerably from the difference in wages, in hours of labour, and in our men limiting production. Wages of the foreigners are one-third less than our men with ten hours per week longer hours than our men...⁵

To meet this challenge employers called upon workmen to increase output. 'The restrictive rules of the blowers' Union,' declared the *Pottery Gazette*,

are simply killing the trade. What is wanted is such an alteration in the system of glass blowers' working, as shall restore freedom to each workman to make the best use of his time and ability, and enable the manufacturers to run their works on the best lines likely to enable them to secure the markets for their products.⁶

It seemed incredible that 'in these go ahead days...any such restriction as this should be tolerated, and it is one that cannot continue very much longer without serious detriment to the

¹ Allen, *Industrial Development*, p. 221.

² *Magazine*, March 1864, p. 130.

³ *Gazette*, October 1881, p. 866.

⁴ *Tariff Commission*, vi 'Glass Industry', p. 58.

⁵ *Ibid.*, p. 138.

⁶ *Gazette*, November 1881, p. 960.

trade.’¹ The need for increased production, and the belief that workmen could deliver it, was reiterated throughout the period. Dr Lloyd described output restriction as:

a very considerable impediment in the production of the manufactory, and also in the way of meeting the competition which we are experiencing now from the foreign introduction of cheaper glass;...if we were allowed to make as much as could be produced in the ordinary hours of labour, we should be upon very much better terms to meet that competition.²

Almost forty years later the flint glass correspondent of the *Pottery Gazette* found things little altered:

No one acquainted with the ordinary routine of what we may term the standard glass-house...will venture to say with truth that the men are overworked. On the contrary, in the case of many articles...the quantity turned out is considerably below what would be produced if the men were not fettered by the rules of the Trade Union...and the difference between that production and what might be is sufficient (say the employers) in the case of common goods, to let in the foreigner and shut out the manufacturer and the workmen.³

Attention was drawn by employers to the fixed costs of glass manufacture. Though labour was the chief item of expense, constituting two-thirds of variable costs, overhead charges seem to have been significant, accounting, in practice, for around half of unit costs.⁴ Spreading these charges over a larger number of articles was considered essential. It was the small make of the glass-blower, intimated ‘One Who Knows’ in 1899, that caused dead expenses to become an important item per unit.⁵ At an 1882 conference with Union leaders, the Chairman of the Manufacturers’ Association drove home this point with vigour. The ‘more you can produce the more we can sell, because we can sell them cheaper.’ Taking, as an example, overhead expenses of 24s. for each turn of two moves:

¹ *Ibid.*, July 1887, p. 686.

² *R.C. on Trade Unions*, 10th Report, Q. 18,388.

³ *Gazette*, May 1902, p. 487.

⁴ *Tariff Commission*, vi ‘Glass Industry’, p. 90; *Magazine*, November 1886, p. 9.

⁵ *Gazette*, April 1899, p. 429.

Don't you see clearly that if two and a half moves are made that the working expenses are spread over the larger number, this reduces to that extent the 24s. one-fourth, because no more expense is required for the greater number than the less. But, if three moves are made, then the working expense is reduced to one-third, the 24s. becomes only 16s.; or, in other words, 24s. is spread over three moves instead of two...I don't care a straw about wages; not one atom. The wages are nothing in the scale; it is the cost of working expenses which is crippling us.

This, he warned, could not

go on for ever; there must come an end of it soon. The very destruction of your organisation is as certain as I stand before you. Do, for God's sake, let us stand shoulder to shoulder and make one determined and united effort to save our trade from utter ruin.¹

We shall now consider some of the techniques utilised within the flint-glass house to ensure, and even increase, worker production.

¹ *Magazine*, February 1882, pp. 132-3.

Chapter 17

Measures Adopted by Employers for Maintaining and Intensifying Effort Levels

(i) *Promotion and Wage Hierarchy*

Wage differences inside the glass-house were marked, being founded upon hierarchies within and between chairs. This ensured a close connection between an employee's wage and his status, both at work and in the local community. The desire for promotion was consequently strong.

Take, first, the basic wage of chair members. At a conference of masters and men in 1859 minimum wages for an 11 move week were set at 22s. for the finisher; 16s. 6d. for the servitor; and 12s. for the footmaker. The servitor thus earned three-quarters of the finisher's wage; the footmaker one-half. These ratios remained constant throughout the rest of the century.¹ Servitors in London in 1861 had a basic wage three-fourths that of that of the finisher's.² An observer in 1899 noted that, in a chair making 'wine glasses &c.,' the servitor earned three-quarters the amount per move received by the finisher, the footmaker two-thirds that of the servitor, and the boy, a separate small sum per move.³

Differentials also existed according to the type of work upon which a chair was engaged.

At the summit, says Guttery, came the castor-hole chair:

then in descending order, the second or 'cutting' chair, the wine glass chair and the phial chair; here again the wage diminished on the descent, the fourth chair getting less than two-thirds of the top rate.⁴

In London in the early 1860s finishers in the castor chair received a basic weekly wage of 36s.

¹ *Childrens' Employment*, Fourth Report, p. 199.

² *Magazine*, iv, No.2, p. 96.

³ *Gazette*, July 1899, p. 813.

⁴ Guttery, *Broad Glass*, p. 117.

and servitors 27s. - compared with standard London rates of 32s. and 24s.¹ A flint-bottle house manager estimated, in 1843, the weekly earnings of different classes of journeymen as follows.²

Table 5. Wages of Various Classes of Glass Bottle Makers, 1843

	£. s. d.		£. s. d.
1st Class Finisher	2. 0. 0.	1st Class Blower	1. 8. 0.
2nd Class Finisher	1. 14. 0.	2nd Class Blower	1. 1. 0.
3rd Class Finisher	1. 8. 0.	3rd Class Blower	0. 18. 0.
		Gatherers	0. 9. 0.

Source: *Childrens' Employment Commission*, Second Report, p. b55.

Excepting these last figures, all the above refer to the minimum wage for completing the basic number of moves. But as we saw earlier, significantly more moves were actually made, and 'overplus' too was distributed unequally between chair members. Data for London shows finishers earning 3s. per move over to the servitors 2s. 3d. per move. This ratio of 75 per cent. corresponds with that for the basic wage. However on the castor chair differentials on overwork were greater, the servitor being paid only two-thirds of the finisher's rate per move.³ Figures provided by a York bottle worker suggest that blowers received 88 per cent. of the basic wage of bottle finishers, and 85 per cent. of their payment for overwork.⁴

Final disparities in the weekly income of glass-makers could therefore be substantial. At Beatson & Clark, flint bottle makers, in January 1856 the top-paid finisher was the head of the castor chair; he earned an average wage of 50s. Next best was another finisher, in receipt of 45s. The average for the 12 finishers employed was 43s. per week. Taking the average of

¹ *Magazine*, iv, No.2, p. 96.

² *Childrens' Employment*, Second Report, p. b55.

³ *Magazine*, iv, No.2, p. 96.

⁴ *Bottle Makers' Magazine*, December 1907, p. 462.

the adult bottle blowers we find this to be 28s. per week - 65 per cent. of the finishers' wage.¹ By 1879 a slight narrowing in differentials had occurred, but bottle blowers were still earning only three-fourths of the finisher's wage. Worse placed was the footmaker. Hopkins notes that in Stourbridge in the 1890s, whereas the finisher could earn around £3. 10s. per week and the servitor £2. 6s., the footmaker commonly made less than £1.² However, the footmaker was frequently an apprentice, and each glass-maker expected at the commencement of his career to ascend the steep stairs of the wage structure: 'it is only,' remarked the Union's Central Secretary, 'when men have passed through the gradations and come to be skilled workmen that they get creditable wages.'³ The desire for promotion was therefore strong. As a footmaker complained to the *Quarterly Magazine*:

After serving an apprenticeship to the act of glassmaking for four or five years, when he comes out he gets 16s. or 17s. for making 11 moves. This is not a fair day's wage for a fair day's work. Why do we wish to be advanced? It is that we may be able to get more money.⁴

Yet money was not the only motive. Each gradation within the glass-house was associated with differing levels of authority and status. A skilled finisher was respected not only by his workmates, but also by his employer. He was the lynch-pin of the manufacturing process, and only rarely would he be made unemployed. One bottle maker went so far as to claim for these considerations the first place amongst blowers seeking preferment:

¹ Beatson & Clark, *Wage Books*.

² Hopkins, 'Small Town Aristocrats of Labour and their Standard of Living', *Economic History Review*, xxviii (1975), 234-5.

³ *R.C on the Factory Acts*, Q 11,576.

⁴ *Magazine*, May 1886, p. 246.

When I was striving to attain ability for the position of bottle maker, the question of wage never entered my mind, and neither does it affect the aspirants for the position to-day. The point with me was to excel, to attain the highest position to fit myself to do the work of making...It is a slander upon the aspirations of our bottle blowers to-day, to say that those who are making the same efforts that I did are doing it only for the extra wage...It is my opinion, that if the wages were reversed and the maker was still considered the head of the chair, that there would be the same desire to be the bottle maker as there is at present...'¹

Worker effort was a factor in promotion decisions, with manufacturers keen to promote skilful and energetic employees.² One of the advantages of a system of free-labour, said a member of the Stourbridge firm Stevens & Williams, was that he 'was now able to promote individual workmen according to merit, and he was doing it with advantage to himself as well as to the men.'³

But the actions of most employers were circumscribed by stringent Union controls over promotion. Every appointment of a worker had first to be cleared with the Society. 'In most trades,' reflected the *Pottery Gazette*,

if a manufacturer requires workmen he advertises for them, and from the applicants selects whom he thinks will best suit his purpose. Not so in the glass trade. The men have a very powerful Society, and...if a manufacturer requires a workman, he can only have one by applying to the Society.⁴

The employer had first to inform the Union's factory representative of his requirements. He, in turn, transmitted this information to the District Secretary, who sought to fill the vacancy with a locally unemployed worker of the same grade. As the Union's leader explained, 'if there is a servitor required...and we have several men competent to fill that situation walking about doing nothing, we consider that a man has a right to that situation before a boy is put into it.'⁵ If such were unavailable, the District Secretary contacted the Central Secretary, who paid the travel

¹ *Bottle Makers' Magazine*, March 1908, p. 16.

² C.f. *Gazette*, March 1902, p. 261.

³ *Ibid.*, April 1897, p. 481.

⁴ *Ibid.*, October 1896, p. 814.

⁵ *R.C. on Trade Unions*, Q. 18,738.

expenses of an unemployed member in some other part of the country.¹ Although not bound to take this nominee, if rejected by the employer the Union would send another, and another, until an acceptable candidate arrived. In the meantime the chair would remain broken or inoperative. On October 13 1905, for instance, the works manager at Beatson & Clark sent for Damms, the Union's Factory Secretary, to inform him of the intention to commence an additional chair, and requesting applications for the finisher's position. Three days later Damms was asked if he had got any applicants. He replied that he had not yet written to the District Secretary. Damms finally gave the name of Walter Morgan on 20 October. However the Company Chairman, E.B. Clark, regarded Morgan as unsuitable owing to his earlier dismissal by the firm on grounds of poor health. The following Monday Damms returned with the name of Walter Saxton, who was subsequently taken on.²

Delays of a more fundamental kind were also entailed. This the Union's Central Secretary did not deny:

It may frequently happen that the Central Secretary *cannot* supply the man wanted in a week or two, especially if it be footmaker or servitor. What then? Shall you fill up the places at once? *Assuredly not!* It is our bounden duty to keep open these places, *especially footmakers*, until men can be obtained, otherwise we shall be overloading and overstocking our labour market...³

Some indication of the waiting customary is provided by a letter from Dr Lloyd, Chairman of the Manufacturers' Association, to the Union, asking how long the latter considered it reasonable to expect a chair to remain broken. Lloyd answered his own question thus: 'It appears to me that this should not exceed one month.'⁴

Even when an appointment was made, the worker's acceptability frequently owed much to the attrition of the employer's more selective requirements by the delays of the Union's placement system. Said a contributor to the *Pottery Gazette*:

¹ Rules and Regulations of the Flint Glass Makers' Society, Rule v, 1867.

² *Works Diary* of Winterbottom, Manager, Beatson & Clark; *Wage Books*.

³ *Magazine*, September 1857, p. 47.

⁴ *Ibid.*, March 1864, p. 134.

if you apply to put a better and quicker man on (who is perhaps only a servitor in your employ), you are told that there are two, three, four (or perhaps more) men out of employment, and you have to try all these, and find them unsuitable (a matter of three or four weeks each man), before you can start the man you wish; and before you have got through the list, you are perhaps so weary of changing, that you abandon your original intention, and accept a man you are not satisfied with, and perhaps lose a really good one.¹

By insisting upon priority for unemployed members, opportunities for a footmaker or servitor to achieve promotion were reduced. Matsumura shows that in the 1860s an average of 9.3 per cent. of footmakers became servitors each year. However 'the promotion to workman was extremely difficult; in any one year a servitor had only a 2.2 per cent. chance of becoming a workman.'² Figures for Beatson and Clark show that, for any ten year period between 1856 and 1914, there was but a one in five chance of a blower being advanced to a finishers' position. The limited prospect of advancement dampened this stimulus to exertion. Manufacturers, wrote the *Gazette*:

want to encourage ability and industry amongst their employees - the Union will not let them. A manufacturer cannot promote a capable and intelligent youth, so long as there is an unemployed member of the Union. This is a disadvantage to the workers as well as to the manufacturers, and is crippling the trade.³

Winterbottom's *Works Diary* provides an example of how a wished for promotion was foreclosed. A deputation of Damms and Milnes was told in October 1909 that the firm intended to put on another chair, and it was suggested that a finisher be made up from one of the blowers. Milnes objected, stating that there were good men out of work at Barnsley 'and no doubt the men would prefer the firm employing one of these, in preference to promoting a blower.' The week following Winterbottom was informed that a meeting of the men had indeed agreed that a man currently unemployed be put on.⁴

The incentive of promotion was further diminished by the fact that the link between effort and advancement within the glass-house was broken. A worker could expect to be

¹ *Gazette*, June 1886, p. 689.

² Matsumura, *Labour Aristocracy*, p. 62.

³ *Gazette*, March 1902, p. 261.

⁴ Beatson & Clark, *Works Diary*, 18 October 1909; 25 October 1909.

promoted, but that would usually be overseen by the Union, and frequently involved transference to another firm. The worker had less reason to please his immediate employer, who was, in such matters, relatively powerless. When authorising a promotion, length of service was the essential qualification. Unless good reasons to the contrary existed, advancement should go to the man who had waited longest. Movement through the chair was restrained, commented the Chairman of the Manufacturers Association in 1865:

not according to the ability of the aspirant young man but according to the policy in accordance with which the Union think it necessary to direct their affairs; so that a young man must, let him be ever so skilful, wait his turn until it is thought right that he should assume the higher rank...¹

The age-profile of glass-workers reflected this policy. 92 per cent. of finishers were aged over 30, and nearly half were more than 40. Amongst servitors, 70 per cent. were in the age group 25 to 39, and only 24 per cent. were over 40. 80 per cent. of footmakers were less than 30 years of age.² To the stratification of grade corresponded that of age, again undermining any straightforward connection between merit and preferment. We have here another instance of the Society's rejection of commercial individualism as a guiding principle of industrial organisation. There was no simple meritocracy in the glass-house. Not that the Union thought of itself as denying the claims of merit in the distribution of rewards. Rather, its conception of merit encompassed, besides economic usefulness, a man's craftsmanship and artistry; his years of dutiful service; his patience and capacity for self-sacrifice. Merit was an ethical judgement, not an economic calculation.

Illustrative of these attitudes are some 'Thoughts on Promotion' communicated to the *Quarterly Magazine* in 1875. Their author's purpose was to argue that 'practical fitness' was as legitimate a condition for promotion as 'seniority'. Yet qualifications more than submerged this theme. He quickly conceded that a system of 'personal fitness' would create a spirit of rivalry among aspirants.

¹ R. C. on *Trade Unions*, 10th Report, Q. 18,398.

² Matsumura, *Labour Aristocracy*, p. 65.

Now we have no desire to originate or bring such a system into existence, nor should we like to see our young members being disposed to take situations by storm...We do not believe in the system of candidates for promotion being put up for *competition*, and those that happen to turn out the best work, to receive the favour; such a method is devoid of principle...'¹

Practised to any extent it would 'injure our older workmen, who should be made as comfortable as possible in their declining years.' What policy

can be more pregnant with disappointment and trouble, and appear more dishonest to the patient, plodding, careful servitor, than to see some selfish member - having no thought for others, no respect for the trade, his only aim in life, self - before he is half qualified for the situation he holds, is trying to out-strip his fellow worker by 'skipping it'.²

The conclusion arrived at bore no obvious relation to the initial premise: 'the success of our Society can only be maintained by the subordination of our individual desires to the general weal; and in many cases by the actual abnegation of ourselves.'³

Not that all promotions proceeded by rule. This was the accusation of 'Justice' in 1889, who pointed to Birmingham and Edinburgh as notably offending districts. When a Union nominee arrived to fill a vacancy, his 'fellow Unionists wait like a lot of hungry wolves for a possible chance of his downfall so that some excuse can be made for a promotion.'⁴

Maintenance of controls depended upon the vigilance of Unionists at firm level. An insight into this otherwise obscure world of industrial politics is given by Winterbottom. Damms was called to the manager's office on Friday 7 June 1907, and instructed that the firm had arranged for W.H. Winterbottom to go up to finishing, commencing next Monday. At a meeting of the men the day following it was resolved that Winterbottom's promotion was against *their* rule: 'the oldest man in the list of applicants should have the vacancy if capable.' A deputation raised the matter on Monday. After 'much discussion' it was resolved that:

¹ *Magazine*, February 1875, pp. 96, 99.

² *Ibid.*, p. 99.

³ *Ibid.*, p. 100.

⁴ *Ibid.*, May 1889, p. 257.

W. Brunt (which the men say, should have the first chance) be allowed to start on trial next Monday for one week, and if his work is satisfactory, in every way, he is to have the place, and no more trials of other men to be made; but at the end of the week, if his work is unsatisfactory, he must go back to blowing, and F. Damms be allowed a week's trial, to be followed by W.H. Winterbottom having a week's trial also, and at the end of these two trials, the firm to select what they consider the most satisfactory maker of the two, Damms or Winterbottom...the said trials to be in the same chair, with the same two blowers.

An elaborate settlement of a problem from which, as the names of the participants suggest, personal considerations were unlikely to be absent! In the event it appears that the trials were unnecessary. For Brunt, the men's choice, is listed in 1909 as a finisher, with, ironically, Damms as his servitor. Winterbottom also remained a servitor.

Ultimately a firm contravening promotion restrictions faced industrial action. The threat of this alone seems to have been sufficient, since disputes over this issue were very rare. An exception occurred at Stourbridge in 1895. A vacancy for a servitor arising, the District Secretary promoted the eldest footmaker in the house, with which the chair and factory concurred. However the employer, desiring to promote another footmaker 'whose efficiency and general good character he wished to recognise,' dismissed the rest of the chair.¹ The Union responded by threatening to limit the output of the remaining chairs; the employer then backed down.²

Over time, the incentive from promotion fell for two additional reasons. First, wage differentials diminished. Matsumura calculates that the wage of the average servitor in the Stourbridge district reached, in the years 1850-54, the historically low point of 64 per cent. of that of the finisher. Thereafter it rose: in 1860-62, the servitor's wage was 77 per cent. of the finishers.³ Union policy, reflecting pressure from footmakers and servitors - whose expectations of promotion became less sanguine - reinforced this process. In 1900 the Flint Society submitted proposals for an across the board increase of 2s. in the standard rates for all grades of worker.

¹ *Gazette*, November 1895, p. 851.

² *Magazine*, July 1895, p. 330.

³ Matsumura, *Labour Aristocracy*, Table 3.2 (c), p. 54.

As the employee's wage was lower, so the percentage increases were greater. For example, whereas on best chairs the initial wage of servitors was 72 per cent. that of finishers, and of footmakers 53 per cent.; after the increase these ratios became 74 per cent. and 55 per cent. respectively.¹

A narrowing of differentials was more apparent in bottle making. The table below shows how wage disparities contracted at Beatson and Clark from 1850 onwards.

Table 6. Wages of Glass Blowers as a Per-centage of the Wages of Finishers, Beatson & Clark, 1850 to 1912

1850	66	1884	70
1856	65	1893	73
1866	69	1901	82
1879	72	1912	89

Source: *Wage Books*, Beatson & Clark

The lower levels of skill required for glass bottle making caused the hierarchy of the chair to be less firmly established, and the views of lower grades exerted a greater influence upon the flint bottle Union, which emerged after 1902. In 1913 conference delegates went so far as to recommend that the same wages be paid to bottle finishers and blowers alike; though it was eventually agreed with employers that blowers receive 94 per cent. of the finisher's wage.²

Second, stagnation of the flint glass trade from the 1870s reduced promotional opportunities. The lists of Union members without work grew ever longer. In 1887

¹ *Magazine*, January 1900, p. 112.

² *Bottle Makers' Magazine*, September 1913, p. 197; December 1913.

unemployment stood at 361, equivalent to 25 per cent. of those in work.¹ Almost a decade later, over 30 per cent. of the Society's membership was receiving unemployment or superannuation benefit.² Most fatal to the prospects of lower grades was the emergence of unemployed finishers. With these available to fill positions, movement through the carefully maintained gradations seized-up. 'Promotions in our trade,' wrote a Unionist in 1886,

are rather slow. Why should young men, after serving their apprenticeship to the trade, be Gatherers or Footmakers all their life?...It is not because they have not the ability for anything higher. No, it is simply because there is someone who has had a chance, not only once, twice, or more, and has failed.³

A Birmingham workman remarked in 1901 that 'there is no chance for servitors for they cannot be promoted so long as there are workmen [finishers] on the funds; and the prospect for really clever servitors, to say nothing of the ordinary and inferior sort, is a dismal one.'⁴ This rendered inoperative an important stimulus to betterment and exertion. A delegate to a Union conference of 1890 claimed that twenty years previous 'members showing either genius or ability were made servitors or workmen; but this was no longer the case, for no matter how capable a man might be he was debarred from being promoted while there was a man out of a situation.'⁵ According to a contributor to the *Gazette*, the majority of glassmakers in 1906 had lost 'the energy, the earnestness, and the desire to be the skilled workmen their forefathers were...' This he attributed to an idea which had settled among them: "'What is the use of trying? None of us can come to anything. There is little or no chance of us being promoted.'"⁶ The Union itself confessed that:

¹ *Magazine*, November 1887, p. 31.

² *Ibid.*, July 1896.

³ *Ibid.*, May 1886, p. 245.

⁴ *Gazette*, March 1901, p. 291.

⁵ *Ibid.*, p. 260.

⁶ *Ibid.*, September 1906, p. 1,036.

if there is not something placed before the young men to compensate for the energy displayed in their efforts to succeed they will not put forth that energy which is necessary to make a mark or position in life.¹

The costs of this situation were borne chiefly by footmakers. Customarily these had been young men. Wages were low, but the footmaker rarely had dependents, and could anticipate becoming a servitor in the near future. As this move became more difficult the average age of footmakers rose, bringing, in many cases, family responsibilities. In the Stourbridge of 1861 their average age was 28, and nearly three-quarters were married.² With few opportunities of promotion, the lowness of wages began to chafe.

I don't know of a single trade excepting our own where a man who having completed his apprenticeship earns less than £1 a week...What encouragement has a footmaker...to do his best? He gets nothing extra for it. No matter how clever or industrious he may be, he is paid only 16s. or 17s. for a week's work, and 1s. 5 1/2d. or 1s. 6 1/2d. a move over.³

Another footmaker said of the fellow occupants of this position:

By being so badly paid, they are not only kept bare at home, and hindered from rising to any position in our Society, but they have no chance whatever of rising in the social scale generally.⁴

At a Union conference in 1890 a motion was moved to raise the minimum wage of footmakers to £1 per week. It was defeated. Amongst senior operatives there persisted a commitment to wage differentials, and a belief that the footmaker should patiently await promotion. Furthermore, it was feared that if footmakers' wages were increased employers would be tempted to substitute apprentices, expanding thereby the supply of labour.⁵

Finding no obvious prospect of advancement - and sometimes even employment - within the glass-house, many servitors and footmakers set up 'cribs'. Here there were no Union controls. Intensity and hours of work were greater, but so too were perceived opportunities.

¹ *Magazine*, July 1896, p. 326.

² Matsumura, *Labour Aristocracy*, p. 57.

³ *Magazine*, February 1886, p. 112.

⁴ *Ibid.*, November 1881, p. 21.

⁵ *Gazette*, March 1890, p. 260.

'I know,' said one Unionist, 'small place masters, who, not long ago, were paupers, now they are riding about London like gentlemen...'¹ Another, questioning whether the Union could offer these crib-men promotion, answered:

No, we can only offer them an unemployed roll which is numbered by the hundreds and little prospect of ever becoming anything but a footmaker in our large houses...whereas if they remain in their non-Union shops they are pushed up as rapidly as possible.²

Only gradually did the Union adjust its policies into some degree of conformity with the industry's stagnation. The Executive Committee admitted in 1899 that:

Promotion cannot possibly be a remedy for the underpay of a journeyman footmaker, as a footmaker. It is a distinct position, and may be held for a lifetime, there being no certainty of promotion.³

But the Union refused to weaken its grip upon the deployment of labour, for two reasons. First, there remained a desire to reduce unemployment and the supply of labour generally. Second, a continuing attachment to hierarchy, service, and patience. What the Union was slow in perceiving was that the conditions which ultimately justified these qualities in the eyes of the workers - namely that forbearance *would* be rewarded - increasingly failed to hold.

(ii) *Profit Sharing, Bonus, and Co-Operation*

References to profit-sharing in the glass trade are few. In 1864, the firm of Spence & Wilson became a limited liability company, under the title The York Flint Glass Company. Shares valued at £3,000 were placed to the credit of their workmen. They were informed that they might expect £300 per annum as their part of the profits, divided yearly in proportion to their wages. The Union welcomed this initiative: 'If such was done by all manufacturers allowing their workforce to have a brick in the cone of the establishment, there would soon be a diminution of strikes.'⁴ There is, unfortunately, no reference to the subsequent progress of the

¹ *Magazine*, No. 36, 1858, p. 200.

² *Ibid.*, January 1896, pp. 75-6.

³ *Ibid.*, January 1899, p. 95.

⁴ *Ibid.*, September 1864, p. 296.

scheme.

The most conspicuous experiment in profit sharing was undertaken two years later at the Birmingham works of Dr Lloyd. The Lloyd and Summerfield Co-Partnership was instituted with the:

primary design of associating and harmonising the interests of employers and employed in an industrial partnership, for mutual benefit, upon the basis of an equal division of surplus profits, after payment of 10 per cent. upon share capital, between labour and capital.¹

Lloyd was governing director, other directors being made up from the foremen of the various manufacturing departments. Also included was a committee of seven to represent the workmen, two being elected for each department and one from the general charges department. Every person employed was to hold at least one share, to the value of £5, and be entitled to attend general meetings.² The scheme enjoyed the blessing of Thomas Hughes. During a speech to celebrate its commencement, he declared that 'a more admirable and liberal set of rules he had never seen put together for the management of an industrial partnership of that kind.'³ He called upon the workforce to 'live beyond the old ideas in which they had been educated' and see that in future what was good for Dr Lloyd would be good for them also. It was necessary, for the honour of England, that this industrial co-partnership be well carried out.

It had been said by some, and every day it appeared more apparent, that the mechanics of England were no longer what they formerly were, and that it was more difficult to get a fair day's work for a fair day's wage...Whether such an accusation were true or not...he trusted that in an industrial partnership like that, good and righteous work should be given for fair pay...they were entering on a new career, and he hoped that henceforth they would all find peace in their workshops instead of war, and that they would all partake of the benefits.⁴

This vision of honour and harmony restored was rudely confounded by the collapse of the scheme within a matter of weeks. Details are unclear, but it appears that an attempt by Lloyd to raise numbers per move was resisted by his employees, issuing in a strike or lock-out.

¹ *Ibid*, December 1866, p. 861.

² *Ibid.*, pp. 861-62.

³ *Ibid.*

⁴ *Ibid.*, p. 864.

Sarcastic reference to these events was made by the Union's Central Secretary:

An increase in unemployment has occurred in the Birmingham district, where Dr Lloyd, the philanthropist and promoter of industrial co-partnerships, stopped his works when he could not induce the men to advance the rates of members, and told them there was no hope of industrial partnership with such men. The doctor's system of industrial co-partnership is to give the men five per cent. and raise numbers 25 per cent., or to give them six pence and make them do two shillings and six pence more work.¹

The general paucity of profit-sharing schemes in the flint glass trade must be considered a failure of management. Paternalism, and an atmosphere of co-operation and shared concern between employer and employed, were instrumental in creating an ethos within the glass-house which promoted effort. Yet these features of the trade came under increasing pressure as the century proceeded, reflecting the more competitive economic environment and the critical attitudes to industrial organisation developing within the industry. Profit sharing, particularly of the participatory sort envisaged by Lloyd, offered a means of adjusting traditional relations to these new tendencies and ensuring they continued to contribute to labour effort. The limited size of glass-houses rendered the trade ideally suited to sharing profits. True, it was prone to cyclical fluctuations which would have made dividends uncertain. But this was understood by the men, and the trade's intimacy would have promoted an atmosphere during downturns of shared suffering to be patiently borne. The Society was the reverse of hostile to profit-sharing: it welcomed both schemes outlined above. Failure to develop the system's potentialities must be attributed to the conservatism of employers; in particular, a general indifference to new techniques of management and of motivating labour.

Bonus schemes, of the sort being developed in other industries at the turn of the century, were nowhere employed in the glass trade. The only reference to bonus payments occurs in connexion with the need to reward consistent attendance.²

Co-operation was more talked about than practised. The Union sympathised with the co-

¹ *Ibid.*, June 1867, p. 1,058.

² See above, p. 244. This is not quite accurate. At a Birmingham works in 1899 'every man making more than more than a certain number per turn, was given the price of a glass of whisky!'; *Gazette*, March 1899, p. 331.

operative ideal, and frequently urged its adoption. 'Our great aim,' said the Central Secretary,

has always been to do all in our power to elevate the position of the workman both intellectually and socially; and, as far as our light goes, we do not see a better method than by inducing him to take a greater interest in the trade from which he gains his daily bread.¹

However it regarded co-operation as something workmen should organise for themselves, and was reluctant to engage any of its funds for the purpose. This attitude was shared by the Glass Cutters' Union, whose Executive became embroiled in a dispute with the Wordsley branch when the latter, during an 1865 strike, sought to establish a co-operative shop. The Executive permitted them to borrow £100, but forbade the use of Union funds. Unable to raise this sum, the branch used £45 of the Society's money. The Executive demanded re-payment. To further complicate matters, the co-operative shop was a failure.²

Proposals for co-operative works were periodically put forward, though little came of them. A contributor to the *Magazine* called for eight men to work a glass house under the Limited Liability Act. Shares were to be £50 each. There is no evidence that the scheme got off the ground. In 1868 the 'Stourbridge Co-Operative Flint Glass Manufacturers' commenced business at the Parkfield Glass Works; but the venture was short lived.³

In 1886 the Union overcame its resistance to financial involvement. As unemployment and out-of-work payments grew, the notion of putting unemployed members to work became increasingly attractive. Barnes, the Central Secretary, championed the idea. Reflecting in May 1882 that during the last quarter £585 had been paid in benefits, he suggested that funds be used to establish two glass-houses. Expenses would be small, profits large, and employment given to 80 men. 'The plan is easy of adoption; the difficulties to be overcome - few.'⁴ A year later Barnes reported that the question of a co-operative glass-house was making 'rapid progress.' Meetings had been held in several districts, and local secretaries reported in favour of the

¹ *Magazine*, February 1883, p. 84.

² Webb Collection, *Glass Makers*, pp. 355-56.

³ Haden, *Stourbridge Glass Industry*, p. 32.

⁴ *Magazine*, May 1882, p. 230.

scheme.¹

Not till 1886 did the proposal come to fruition. A bottle works became available at Castleford, the purchase and re-fitting of which would require £500. The Union sought to raise the sum *via* individual subscriptions. However only 200 shares were taken, the Society being left with an equal number. After a ballot of members it was resolved that Union funds be employed in the scheme. Formation of the Company was announced in August 1886. Confidence was expressed by the Central Committee: 'We have the men and the capital, and with a good manager, which may be procured, success is assured.'² It was still anticipated that Society members would purchase shares, though this seems to have occurred only to a limited degree. What *is* clear is that the operatives themselves were not shareholders - hardly surprising, given that they were previously unemployed - and had no say in the management. It was rather a Union owned factory than a genuine co-operative enterprise.³ Operations commenced in September 1887 with, in the Central Secretary's words, 'a good house, furnace, and splendid set of tools.'⁴ Yet within a year the Union was reporting that financial affairs had 'come to a deplorable state.' It called upon the 'trade and other shareholders' to take some action to see if it were possible to recoup losses.⁵ Going ever more into the red, the firm had, by January 1889, a deficit of £980. To stop further losses the Union closed the firm.⁶ Thus burned, the Society returned to sympathetic, but inactive, espousal of the co-operative cause.

¹ *Ibid.*, February 1883, p. 81.

² *Ibid.*, August 1886, p. 377.

³ *Ibid.*, November 1888, p. 17.

⁴ *Ibid.*, August 1887, p. 415.

⁵ *Ibid.*, August 1888, p. 486.

⁶ *Ibid.*, November 1888, p. 118.

(iii) *Piece Work*

This was the chief effort securing device. Founded upon the move, turn, and overplus systems, it was similar to the compromise method of payment which emerged in the shoe industry. To a basic wage there corresponded a standard quantity of work. Dividing the latter into the former generated a price per piece, which in turn became the basis for a straightforward piece-work system.¹

It could, theoretically, have operated as a comprehensible and potent stimulus to effort. This is not to say weaknesses were absent. Until the 1870s over-plus payments per piece were *below* the piece-price on standard quantities. Once the basic quantity had been made, the incentive to additional output fell. The Central Secretary remarked that ‘it seems a ridiculous system for men to be paid less for work they make at the latter part of the week than the former, and the more so as the work becomes more laborious and difficult with the metal getting done.’² By agitating to remove this anomaly at the end of 1873 the Union promoted heightened effort levels within the trade.

Next, wage variations within the chair caused workers to have differing incentives to exert themselves at the margin. Whereas a finisher earned three shillings for an extra move’s production, the footmaker received half this sum. This was a serious weakness, since the interdependent nature of glass work ensured that the chair could not produce faster than its slowest member. Furthermore, though rewarded least, the ‘task of gathering the molten metal glass from the pot,’ noted Farmer, ‘is undoubtedly the most exhausting process, and yet the rate of production is entirely dependent on the worker who performs this operation.’³

A third factor compromising piece-work as an incentive was the practice of paying workmen on credit when output did not reach the standard quantity. If, for reasons such as poor metal or illness, a worker failed to complete the moves corresponding to his basic wage, he was

¹ C.f. *Childrens’ Employment*, Fourth Report, p. 266.

² Matsumura, *Labour Aristocracy*, p. 50.

³ Farmer, ‘Shift Systems’, 17.

credited with this number and paid the wage. This advance the workman undertook to repay out of subsequent over-plus earnings. Amounts owing could be substantial. At Wood Brothers on 13 April 1891, Jodd owed the firm 11 moves, Allen 4.5, and Steele 7.25. On 4 July Seeds was listed as owing 17.25 moves; on the 20th Rowbottom was indebted to the number of 14.75 moves and Simpson 16.25. A total of £30 was owed by 10 men on 14 November 1891, which averaged at more than a week's wages per man.¹ Once a debt had accumulated the worker never received the full piece-price on overwork. Under the terms of an agreement between the Yorkshire Flint Glass Bottle Manufacturers' Association and the Bottle Makers' Society in 1912, an operative owing work to a firm would repay half of all moves made over the standard number of 14, and all moves made over 18.² Such repayments reduced his motive for exertion. If he worked harder he would, in large part, merely be paying off his debts.

Lastly, many firms refused to pay for work which was broken or rejected. Since the likelihood of such rejection increased with speed, this discouraged accelerated production. In addition, the refusal of payment extended to all chair members, whether or not they were responsible for the inadequate work. Such a capricious distribution of costs had a dampening affect upon morale.

However the main factor undermining the effort stimulating potential of the glass-house payment system was the fact that the Society limited output. Only rarely was there unrestricted production in response to incentives. At first the number of moves permitted in each turn was 2.5, though most workers produced under a district limit of 2. According to Rule 48 of the Society, any member making more than 2.5 moves 'shall pay the surplus into the local funds of the district, and be fined, two shillings and sixpence for every time he does so.'³ Employers maintained pressure, which intensified over the century, to see the number of moves increased. Whilst the highly organised centres of Stourbridge, Birmingham, and Dudley stood firm for 2

¹ Wood Brothers, *Personnel Records*.

² *Terms of Working Agreement for 1912*, p. 3.

³ *Magazine*, May 1877, p. 13.

moves, in Manchester, the North East, Yorkshire, and London, the number of moves tended to increase, reaching 2.5, 3, or even more. In these areas more common glasswork and flint bottles were produced. The skills of the glass-workers were less and their attachment to craft customs weaker. Also, the trade being less concentrated in these districts, the cohesion amongst workmen was not so strong as in the Midlands.

Manchester was particularly lax. From the beginning the Union had difficulty restricting the moves worked per turn. According to a compromise of 1850, the men were to make over the week an *average* of 2.5 moves per turn. During 1851 attempts were made to implement a blanket limit of 2.5 moves, but this held for a month only. Most workmen, reported the Manchester District, were unable to appreciate the long term benefit of output restriction 'when they was going home with two or three moves less on the Saturday.'¹ By the 1860s Manchester had begun using five hands to a chair, which, it was claimed, accelerated production more than proportionately.² With the aid of this system the average Manchester chair manufactured three moves in a turn.³ In London, also, in 1877 the making of 2.5 moves was general.⁴

Until the 1880s 2 moves per turn continued standard in the Midlands. Resenting their anomalous position, local employers called for more moves to be worked. The Union leadership also became steadily more embarrassed by the situation, and began to press Birmingham and Stourbridge to consider making 2.5 moves. Faced with the deteriorating condition of the trade, Union leaders relinquished any attachment to the 'lump-of-labour' theory. The Central Secretary confessed in 1877 that the Union had been accused of encouraging the idea that it was to the workmen's advantage 'to do as little as they can for their wages, and thereby increase the number of workers to be employed.' However correct this charge may have been,

¹ *Ibid.*, No.10, 1852, pp. 213-215.

² *Ibid.*, June 1867, p. 994.

³ *Ibid.*, pp. 1003-004.

⁴ *Ibid.*, November 1877, p. 244.

it finds no favour at the present, and should not be repeated, as our present system of working...We know that too much hampering of trade runs up the price of commodities, and if steadily persisted in, that branch of industry will lose her foreign trade, and wages will, sooner or later, fall.¹

On 12 October 1877 a meeting took place between the Midland Employers' Association and delegates of the Midland Districts of the Union. Major Walker, Chairman of the employers, stressed the necessity of reducing costs, and identified three means of doing this: (i) increasing the number made in a given time; (ii) reducing wages; and (iii) introducing the 2.5 move system. Limitation of production put Midlands employers at a disadvantage with those 'who are under no heavier expenses and yet get a greater amount of work produced.'² Union delegates agreed to put these propositions before the local districts. The response was negative. Dudley 'respectfully and unanimously records its votes against all three.' Birmingham believed it 'unwise to take into consideration the two and a half move system until there be a district catalogue of numbers properly drawn up.' For Stourbridge the 2.5 system could not be entertained 'until the subject has been fully discussed in the pages of the *Magazine*.'³

In 1881 the question of disparities in make between districts was again raised by employers. As a compromise the Central Secretary suggested that districts wishing to adopt unlimited production should be free to do so. In consequence Birmingham conceded an increase in moves per turn from 2 to 2.25.⁴ Stourbridge, however, held out even against this. Nor was its opposition groundless. Stourbridge produced the highest quality flint-glass in the country. By maintaining a tradition for craftsmanship it had maintained, also, a significant share of the market for best ware. In so far as accelerated production compromised artistry, so would it threaten Stourbridge's relatively secure position. This was the argument made by W.H. Packwood, the Union's Central Secretary and an employee of a Stourbridge glass house, at the 1881 conference. At Birmingham and Stourbridge, he noted,

¹ *Ibid.*, February 1877, p. 930.

² *Ibid.*, November 1877, p. 241.

³ *Ibid.*, pp. 247-8.

⁴ *Ibid.*, November 1882, p. 76.

where restriction is practised, employment has remained constant over the last few years, and our class of work is extending and continually improving in artistic finish. By contrast, districts where the two and a half move system, or the unlimited system, are in operation, such as Manchester, London, and Newcastle, employment has fallen since 1878.¹

Indicative of the continuing bias towards restriction was a resolution of the Birmingham District in 1899. Although, nominally, the number of moves constituting a turn had been increased to 2.25, those making common ware had been completing more than this, whilst skilled workmen continued to produce only 2. To this the latter objected, complaining that excessive production by common workers was exhausting the metal in the pots, and that some less-skilled men were drawing larger wages than themselves. A meeting of the Birmingham District unanimously agreed, not to raise the number of moves worked by skilled men, but to re-introduce a limit of 2.25 moves on common goods.²

The situation as regards output restriction may be summarised as follows. A few districts, of which Manchester was chief, had practically unlimited production. The greater part of the trade continued under a system of output control, with the number of moves to be made per turn set at between 2.25 and 3. At Stourbridge, the most prominent district in numbers and influence, output on many articles continued to be restricted to 2 moves per turn.

Employers did not seek merely to increase numbers of moves per turn; they endeavoured also to end working by move altogether and put in its place unlimited production, with payment by the dozen, hundred, or gross. This was the form piece-work assumed in glass-cutting, and it was proposed by the Manufacturers' Association in 1881 to extend it to glass-blowing.

Elaborating his ideas in the local press, Major Walker wrote:

I propose simply to ascertain what, at the present price paid per turn, will be the price per dozen of the various articles, and to let them be paid for at these rates, abolish the restrictions as to the number to be made in a turn,... and leave the workman free to use every means available to him for turning out the largest amount of work in the best manner during the time he is employed.³

¹ *Ibid.*, May 1882, pp. 312-13.

² *Gazette*, March 1899, pp. 330-31.

³ Cited *ibid.*, September 1882, p. 838.

Perceiving that this would weaken the regulation of production which reckoning by the move did much to maintain, the Union successfully opposed this innovation in the hand-blown flint trade. An exception was the Birmingham works of Stone, Fawdry, & Stone. In 1882 J.B. Stone called upon the trade to sweep away restriction and introduce payment by the hundred. Having himself done this with one chair, the results 'demonstrated clearly the advantages to be derived from the system.'¹ Owing to Union disapproval, when Stone extended this mode of working in 1884 the glass-house was established on non-Society lines, with the assistance of workmen brought over from Sweden.² The Union condemned this move: 'The system we are fighting against at Mr Stone's factory is the hundred system'.³ What is more, prices per article were 20 per cent. below district rates. It was anticipated that failure would befall the experiment, and a number of men were indeed prevailed upon to cease work.⁴ Though Stone himself left the trade, the works weathered these early difficulties, a description of 1888 noting that the men were 'paid by the hundred, and there is no restriction as to the number of articles they turn out, and consequently no limit to the wages they may earn.'⁵

A more extensive encroachment by the hundred system occurred in the Newcastle pressed-glass trade. In the late 1840s the employer Samuel Nevil introduced payment by the hundred, and within five years ten furnaces in the area had adopted the system. Assisted by the region's poor labour organisation and low wages, these firms were soon underselling competitors.⁶ This 'Nevilonian System' the Union bitterly opposed, labelling Nevil an 'upstart of a parish apprentice' bent on ruining the trade by making quantity, not quality, the object. 'Are we,' asked the Union,

¹ *Ibid.*, March 1882, p. 253.

² *Ibid.*, May 1888, p. 429.

³ *Magazine*, November 1884, p. 83.

⁴ *Ibid.*, February 1885, p. 173.

⁵ *Gazette*, May 1888, pp. 429-30.

⁶ *Magazine*, No.9, 1859, pp. 201-2.

as operatives, to suffer him to perpetuate a system, whereby the beautiful trade of glass-making should be brought as low as nail-making?...we should say 10,000 times 'No', and we have a hope that not the operatives alone will say no, but that employers will assist us to say no...self-defence will compel some of the employers to assist us in stopping the suicide in his career.¹

Unless halted, the hundred system would be introduced for blown work, and 'experience tells us that the change will be for the worse for the workmen.' The Union claimed to have had overtures from employers 'offering us all the assistance that lies in their power, either by employing his men, or subscribing a weekly sum to assist us in doing our best to drive him from the trade.'²

This the Union never did. Pressed-glass was the product of technical change which greatly reduced the skills required in manufacture. Coupled with the Flint Union's long-standing weakness in the North East - at Newcastle in 1853 less than half of flint glass makers were unionists - the Society was unable to exert any marked influence on the conduct of local firms. In 1881 Newcastle was still working upon the hundred system with unrestricted labour.³ However the Union did prevent comparable systems spreading into other districts and sections of the trade. During the 1850s in the Yorkshire bottle trade there began a method of calculating wages by the gross. The District took the question up and, after some 'considerable agitation,' it was agreed at a meeting with employers in 1858 to work in future 'to the *move system*...Thus ended the *gross system*, never, we hope, to rise again.'⁴ Lancashire pressed-glass manufacturers demanded in 1881 a 50 per cent. increase in numbers per move. When the Union rejected this a lock-out was declared. After almost a month employers substituted, for their initial demand, either an advance of numbers of 33 per cent. or the introduction of payment by the hundred. Both concessions were refused by the Union, which offered an increase in numbers of 25 per

¹ *Ibid.*, No.11, p. 225.

² *Ibid.*, p. 226.

³ *Ibid.*, February 1881, p. 94.

⁴ *Ibid.*, No.36, 1858, p. 274.

cent. coupled with a 10 per cent. rise in wages; which terms were accepted by employers.¹

It was, in fact, over numbers that real battle was joined. The Union complained that a 'great source of annoyance is the continual agitation for higher numbers and upon articles that are already high and reducing wages whenever opportunity occurs.'² The Central Committee reported in 1883 'a continued agitation in some parts of our trade, caused by employers desiring to raise numbers, as they say "to meet the demands of the times"...', while the Committee of the Birmingham District:

scarcely have a sitting but what there is a demand or application from one or other of the glass manufacturers for a rise of numbers, invariably accompanied with an ominous threat of discharge of one, two, or three chairs or else to close their place.³

The issue was serious for the Union, which saw that the object of the employers was 'to press on the men to make more work without a corresponding wage equivalent.'⁴

Pressure was chiefly exerted at glass-house level. Here it was that agreement over numbers was generally reached between employers and Union representatives - though the latter were sometimes guided by district-wide standards. When a new article was introduced the men would determine the number of articles they could be expected to complete in a move. Thus at Beatson & Clark's in 1909, when the making of 18oz 'Globes' was discussed, Winterbottom notes that a deputation of the men said they could not put a number on them - being such a difficult bottle to make &c. 'If they had them to make, they would do their level best at odd - say about 140 or 150 speed.'⁵ As a rule a new pattern was, according to Dr Lloyd:

¹ *Ibid.*, February 1881, pp. 89-92.

² *Ibid.*, November 1878, p. 738.

³ *Ibid.*, February 1883, pp. 160, 99.

⁴ *Ibid.*, August 1884, p. 330.

⁵ Beatson & Clark, *Works Diary*, 25 October, 1909.

received unfavourably, and it is generally considered that fewer articles of it can be produced; that is to say, when the question is put, 'How many can you make of these?' the disposition is to prevent the introduction of the new pattern rather than to encourage it.¹

Manufacturers resented this need to negotiate with their workmen. 'It is,' said the *Gazette*, 'a sore point with the employers that before they can give a quotation for any new pattern they are obliged to first consult their workmen as to the number they can or will make in a "move" - a system not followed in any other trade.'²

Sometimes employers endeavoured to circumvent the vigilance of factory organisation, approaching an individual directly: 'he is a fortunate man,' considered one glassmaker, 'who can escape a week without his employer nagging at him for a rise in numbers on the quiet.'³

Unfortunate consequences could sometimes be entailed:

This kind of agitation persisted in unsettles the minds of the workmen, and in many cases drives them to drink, and leaves them in a state of mind that they do not care whether they work or not.⁴

Resistance to enhanced numbers was correspondingly local. Employees often took industrial action in response to attempts to raise numbers. Five out of every six disputes, estimated the Central Committee in 1891, occurred over numbers.⁵ It was a failed strike over numbers in 1848 which caused the dissolution of the forerunner to the Flint Makers' Union.⁶ Such opposition could be successful. At the Hunslet works of Wood & Dyle in 1861 the men declined to start work on Monday, objecting to the employer's having raised numbers without consultation. The master instigated court proceedings, but the judge dismissed the complaint, denying the firm's right to unilaterally alter wage rates.⁷ In 1875 the Central Committee

¹ *R.C. on Trade Unions*, 10th Report, Q. 18,406.

² *Gazette*, July 1887, p. 686.

³ *Magazine*, May 1887, p. 198.

⁴ *Ibid.*, August 1884, p. 330.

⁵ *Ibid.*, November 1891, p. 72.

⁶ Webb Collection, *Glass Makers*, p. 238.

⁷ *Magazine*, No.6, p. 398.

congratulated the men at Webb's, Manchester, on their resistance to an advance upon tumblers, for which numbers were 'already sufficiently high.'¹ Workmen at another Manchester factory gave notice in 1882 when an employer sought to increase numbers; for the Union the dispute had a 'satisfactory issue.'² Employees of the Stourbridge firm of Smart Brothers were locked-out in 1887 through resisting an advance in numbers per move. Seven blowers at the Milnes Platting Bottle Works, Manchester, were discharged after refusing to make at raised numbers, three Union deputations having previously been sent.³ But the Union was not forever on the defensive over numbers. Men at Dudley, a district known for high numbers, secured a reduction in 1863, as did strikers at Bolton in 1865.⁴

In many cases, however, employers achieved their objective - or at least movement towards it. We noted earlier how the Lancashire District granted concessions in numbers of 25 per cent. following a lock-out by pressed-glass employers. A correspondent to the *Quarterly Magazine* complained that with the introduction of moulds for blowing tumblers numbers each move had risen 50 per cent. - to the detriment of the worker, who could now make two moves in a turn instead of the previous three.⁵ And all the while was occurring the fundamentally more significant encroachment of numbers 'on the quiet.'⁶

Concessions on numbers were largely piece-meal. First one set of workmen gave way; a nearby employer would seek a like advance; manufacturers in other regions, aggrieved at the inequality - and the Union admitted in 1889 that differences in numbers between districts were 'astounding' - would call for equal favour. By this means a local concession would become national, being incorporated in standard Society price lists. The Union found this process

¹ *Ibid.*, February 1875, p. 203.

² *Ibid.*, May 1882, p. 327.

³ *Ibid.*, November 1886, p. 79.

⁴ *Ibid.*, January 1864, p. 123; June 1865, p. 530.

⁵ *Ibid.*, May 1887, pp. 199-200.

⁶ *Ibid.*, May 1888, p. 275.

difficult to withstand, especially in the bottle section of the trade, where union membership was fragmented. In 1903 flint-bottle makers at Thornhill Lees were turned out *en bloc*, with employers insistent upon considerable increases in numbers to bring them level with rates paid to members of the Yorkshire Glass Bottle Makers' Society. The General Secretary of the Flint Bottle Union, consulting catalogues of the London and Yorkshire Societies, found indeed that, in London, numbers on bottles up to 6 oz's weight were 30 to 40 per move in excess of theirs; whilst in Yorkshire all bottles of more than 6 oz's were paid for at prices 4d. to 1s. 1 1/2d. per gross less than their catalogue price. This prompted him to wonder:

where we are and how long we shall be able to retain our position...The few doing well, the majority doing badly, and little by little the economic principle is in operation and we are put to work only upon goods that cannot be made in any other way but ours.¹

Numbers of articles constituting a move, and hence the amount produced during a shift for a given wage, increased significantly over the second half of the century. According to the Union in 1887 numbers on hundreds of articles had risen 50 per cent. over the previous 20 years; and eight years later the Executive Committee claimed 35 per cent. more was made for a given wage compared with two decades earlier.²

Employer's thus benefited from a reduced remuneration per unit of effort. As a corollary, however, it followed that rate cutting was frequent. This was partly a consequence of Union output controls. Unable to increase moves per turn, the only way to increase production was to raise the number of articles comprising a move. It was hoped that workmen would seek to maintain earnings by increasing effort levels, an assumption broadly justified. With labour costs a substantial element in expenses, their diminution was an obvious means of improving competitiveness. What employers failed to grasp was that this practice of reducing rates was itself an important factor in the workmen's policy of output limitation. Indeed where the hundred system was introduced in the 1880s, the employers propensity to cut piece-rates

¹ *Bottle Magazine*, January 1904, p. 215.

² *Magazine*, February 1887, p. 172; October 1894, p. 104.

contributed to the disrepute with which it was regarded by the Union.¹ As the Executive Committee commented in 1896, the manufacturers' remedies of reducing wages and raising numbers 'are the things that stop all enterprise and push.'²

To prevent inter-firm competition on prices and arrest the downward drift of piece-rates the Union looked to the establishment of a general catalogue of numbers for standard articles. This, said the Central Committee in 1857, would be:

the best thing that could be done, as it puts a final stop to the rise of numbers (unless by general consent), and it puts an effectual barrier against the encroachments of the unprincipled employer, and at the same time secures to one who is honest and just his fair share of profit and business...The reason of a master's attempting encroachment on his workmen, generally, is a desire to occupy an equal position with his neighbour, and not...from a natural pleasure in *extorting* what he believes to be wrong, for we believe few have descended in the moral scale so low.³

In this it was only partially successful. There was never a standard price-list for the flint-glass trade as a whole. The variety and complexity of table and ornamental ware meant that any general price list would have been long, cumbersome, and difficult to enforce. And this became increasingly the case as the more uniform common trade shrunk in the face of foreign competition.

Efforts were, however, made to draw-up district-wide agreements, especially in the more standardised bottle trade. A short strike by bottle makers in Rotherham, Hunslet, Catcliffe, Kilnhurst, and Manchester in 1864 resulted in an advance of wages and employer acceptance of a catalogue drawn up by the men.⁴ The year following bottle makers at Bolton struck in pursuit of, amongst other things, a district catalogue, and appear to have been successful.⁵ A catalogue existed in the bottle-making centre of Castleford in 1889 and at Warrington in 1891.⁶ Inequality

¹ Sandilands, 'Midland Glass Industry', p. 109.

² *Ibid.*, July 1896, p. 326.

³ *Ibid.*, No.33, 1857, p. 44.

⁴ *Ibid.*, June 1864, p. 273.

⁵ *Ibid.*, June 1865, p. 530.

⁶ *Ibid.*, August 1889, p. 468; December 1890, pp. 131-2.

of numbers was notably pronounced in the Yorkshire flint-bottle trade: 'whilst one firm is working to a catalogue number, his next door neighbour is making 20 more per move...'¹ The local Union submitted a catalogue to employers in 1891, but this was rejected upon the grounds that the numbers were too low. Employers were, nevertheless, keen to end the competition and disruption associated with the unregulated system of production, and in April 1894 a committee of workmen and manufacturers drew up a district catalogue, which was put in place in 1895. By putting a stop to 'reckless and dishonest competition' it was anticipated that the highest point in numbers had been reached.² Five years later the General Secretary was able to report that:

The Yorkshire Catalogue changed the face of the industry, and led it into a state of prosperity it had not previously known. And it abolished that cut-throat competition between employers, which too often proves ruinous to industries; and above all, it abolishes that competition between man and man for their livelihood.³

But such local arrangements could not provide a complete solution to the problem, as the Union acknowledged: 'No patchwork principle will do any good...We want an equal minimum standard for the trade.'⁴ Continued disparities in numbers *between* districts meant that some employers were always at a disadvantage, and could request that numbers be increased, so perpetuating an upward tendency. And it should be remembered that catalogues were confined to bottle making, being absent from ornamental and table glass manufacture.

Union concessions upon output were forthcoming in respect to common goods. The decline of this part of the trade alarmed the Union, not least since it caused a pool of unemployed glassmakers to emerge insufficiently skilled to fill places in the making of high-quality glassware.⁵ To rejuvenate the manufacture of common items it was suggested, in 1880, that unemployed workmen - known as 'Surplus Labour Men' - be offered to employers as free

¹ *Ibid.*, November 1891, p. 78.

² *Ibid.*, April 1895, pp. 223-25.

³ *Ibid.*, July 1900, p. 229.

⁴ *Ibid.*

⁵ *Ibid.*, August 1889, p. 384.

to work under any arrangement, including payment by the hundred, and with no restrictions on their output. As an experiment two chairs were established, one being paid so much per hundred, the other according to the moveage system with unlimited output. Both were said to have done well.¹ In November 1880 a meeting was arranged with the Midland Employers' Association. Reports were made of the trials, and employers urged to adopt the system as a means of 'repelling foreign competition and employing surplus labour.'² Yet the Union emphasised that this liberalisation was confined to the making of certain common products. The new system, Barnes told the employers, 'has nothing whatever to do with the present mode of work by those who are employed upon *skilled* labour.'³

Notwithstanding Society optimism as to the capacity of the reform to turnaround the tendency of the preceding years, employers were lukewarm in their response. A meeting of Midland Manufacturers on 8 November 1880, although resolving to adopt the system, objected that the articles mentioned embraced few of those affected by foreign competition, and called for the general adoption of payment by the hundred.⁴ Many regarded the common trade as a losing one and, having moved into more artistic items, were no longer well placed to take-up the production of cheap, standardised goods. For employers the concession was inadequate and too long delayed. In response to the accusation that manufacturers were ignoring common work, the Chairman of the Midland Association declared in 1882 that:

The *only* reason why common work is not being made in large quantities by every firm belonging to this Association, is because the Flint Glass Makers' Society have persistently refused to remove the restrictions to freedom of production, and thereby prevented it being produced at prices at which it could be sold...⁵

The importance of developing the common type of glass, if necessary through alteration in

¹ *Ibid.*, August 1880, p. 358.

² *Ibid.*, November 1880, p. 11.

³ *Ibid.*, pp. 10, 14.

⁴ *Ibid.*, pp. 16-17.

⁵ *Ibid.*, November 1882, p. 65.

working practices, was again raised by the Union in 1889.¹ This failure of the common trade to revive, even when the Union was most compliant, suggests that factors additional to Union policy were responsible for the decline of the flint glass industry.

Most firms remained attached to piece-work throughout the period. As the Unionist J. Husselbee commented, there was one fatal objection to day-work: 'many employers will not trust their men to do their duty under such conditions.'² The Flint Union shared this sympathy for piece-work. Husselbee feared that under time-work the position of slower workers would be compromised, there being no number check upon quick men.³ When, at an International Congress of Glass Workers in 1892, a motion was advanced recommending the abolition of piece-work, all eleven opposition votes were British.⁴

Some equivocation was discernable on both sides. The merits of day-work were discussed in the *Quarterly Magazine* in the late 1880s. A correspondent asserted that a man who knew for certain his weekly wage would produce more and better work than one labouring under uncertainty:

But whilst the employers...doubt the honesty of the workman...so long will the case be a hopeless one. We must be prepared to trust one another to do their duty, not as at the present, look upon the glassmaker as a man who, if he had the opportunity, would prefer to idle away his time, to working honestly for that he would be certain to receive...⁵

Day-work was advocated and condemned within a year by the General Secretary of the Flint Bottle Union. He pointed, in June 1906, to the frequency with which employers rejected goods as 'faulty', and attributed this, together with a general indifference to enhanced productivity, to the fact that they paid only for acceptable articles. Under day-work:

¹ *Ibid.*, August 1889, p. 384.

² *Ibid.*, November 1887, p. 39.

³ *Ibid.*

⁴ *Gazette*, August 1892, p. 733.

⁵ *Magazine*, May 1888, p. 283.

employers would see to it that every facility for the most production per hour was introduced. This would certainly be an encouragement for better facilities and would stop the foolish restriction of production by breaking work down...All the friction and strife that has taken place, and will take place, over numbers for new patterns and violation of price lists would be a thing of the past.

Payment by the hour promised to '*expand and encourage more trade.*'¹ However, by March 1907 further study had convinced Milnes that day-work represented 'nothing but trouble.' It would 'hold the man most steady and industrious down to the level of the careless and indifferent, and would also burn out the man getting into years.'²

Day-work was occasionally introduced by employers. A St. Helens firm re-started its bottle-works in 1897 on a system of hourly wages, with specified output targets.³ Workmen engaged upon articles particularly delicate or unique were often paid a weekly wage, and time wages were common in glass-cutting. Yet on balance employers were perhaps wise to perceive that a regime of day work would require a very different system of production, with far more active control and supervision. Given the skilled workforce, powerful Union, and long-standing customs of the flint trade, a vigorous imagination was required even to conceive of such an alteration; to realise it would entail disruption, conflict, and possible destruction to an innovating firm - all for a benefit at best uncertain. For successful flint glass manufacture a nice harmony between employer and labour force was imperative; and this was intolerant of departure from established methods of production.

(iv) *Human and Machine Pacing*

There was hardly scope for machine pacing in the flint-glass trade, but human pacing could have been practised, in view of the interconnected structure of the chair. The finisher occupied a pivotal role; by his conduct he did much to determine the manner and speed of work of his chair. A good, steady, finisher, observed the Central Secretary, seldom had an unsteady chair. Being

¹ *Bottle Makers' Magazine*, June 1906, p. 6.

² *Ibid.*, March 1907, p. 236.

³ *Magazine*, October 1897, pp. 433-4.

‘the acknowledged head of the chair, he can almost mould his assistants to his own habits, be they good or otherwise...’¹ But there was little prospect of their fulfilling any such role as company ‘Bell Horse’. Occupancy of the finisher’s position owed more to skill and experience than employer preferment. They, of all workers, were most imbued with trade customs and constituted the back-bone of the Union. Certainly, no complaints of pace-setting are discoverable in the pages of the *Quarterly Magazine*.

A degree of effort monitoring and enforcement did, however, take place amongst chair-members. Each worker’s earnings depended upon the output of the chair as a whole, and pressure could be applied to a slow operative, with requests even made for his removal. Winterbottom received, in May 1908, a deputation of hands from G. Morgan’s chair. The usual gatherer being absent, Tom Wright had been brought in to fill his place.

They stated quite plainly that Tom Wright could not blow his proper share of the work, E. Perkins stating, he was too thick headed. The deputation was told that Tom Wright was put there to fill the chair up because they had refused to work over...This was not denied...after to-day, they are willing to work over, in preference to T. Wright.²

Workers thus acted to maintain a certain customary level of effort, being motivated by pecuniary considerations as well as a desire to preserve a reputation for dutiful labour, which was important if the Union were to justify its relative autonomy from management control. In an 1866 editorial entitled ‘The Evils of Neglecting Work,’ the Union counselled that such conduct:

not only affects the individual and his employer, but also the interests of the chair or fellowship of which the defaulter is a member, and the interest of the Flint Glass Makers’ Society is sacrificed to a large extent by the misconduct of one unsteady man.³

¹ *Magazine*, March 1866, p. 659.

² Beatson & Clark, *Works Diary*, 2 May 1908.

³ *Magazine*, March 1866, p. 657.

(v) *Supervision and Dismissal*

Supervision in the flint-glass house was never strict. The complexities and subtleties of glass manufacture insulated its practitioners from overly tight monitoring. Each firm had a works manager, who oversaw the organisation of production, and was in receipt of a fixed salary; which, at Beatson & Clark in 1850, was approximately five and a half pounds per week - two and three-quarters times the average male wage.¹ Rarely were there foremen. Discipline was chiefly entrusted to the finisher. He, however, was first and foremost a worker, and did not conceive himself an agent of the company. Any leadership he exerted rested upon ability and experience, rather than delegated authority. His power more moral than official, he had continually to elicit the compliance of other chair members, such deference being not always forthcoming. A Midlands employer attributed the failure of several finishers to discharge their responsibilities to the fact that:

some footmakers and some servitors are so unteachable, and so unreasonable, that if the workman attempts to exercise that responsibility, which an employer expects him to exercise - if he points out a fault, or if he throws away a glass - he gets, sometimes, abused by other parts of the chair.²

Finishers were not known for paying close attention to effort levels. Indeed, they were themselves prone to be somewhat lax, with alcohol a common weakness.

There can be little doubt that glass-houses were under-managed. An American, visiting Europe in 1892, found little to learn from English bottle factories: 'they are crude in method, and have not the discipline nor the intelligent oversight of German factories.'³ At some works, remarked a workman in 1899, the employer is not seen in the glass house for a week at a time. This was a mistake. His employer visited the glass-house daily, chatting with the men about their work; they consequently took a greater interest in what they did, and the employer benefited from the men's suggestions.⁴ A 1914 correspondent to the *Pottery Gazette* doubted

¹ Beatson & Clark, *Wage Books*.

² *Magazine*, November 1877, p. 238.

³ *Gazette*, July 1892, p. 615.

⁴ *Ibid.*, May 1899, p. 580.

whether English glass-houses were manned by 'capable managers.'

There has been more than one place gone under through incompetent management. No workman can, in my opinion, compare with the English workman; let us see to it that our managers are of the best also.¹

The employment regime within most flint works was relaxed. We noted earlier the problems associated with workplace drinking. On 10 August 1914 management at the firm of P.T. Turner called a meeting with workmen to discuss certain grievances, such as 'gambling on the premises, drinking with consequential neglect, teazers neglect of furnace, &c....'² A manufacturer of both china and glass ware observed that, though able to forbid smoking within his pottery works, no comparable prohibition had proven enforceable in the glass-house.³ Instructive are a workman's reminiscences of trade customs in a flint-cutting shop of the 1840s. Discipline was slight. The cutting room was visited by the proprietors three or four times a year; the 'visits of the works manager were equally few and far between.' Great reliance was placed upon Peter, the head foreman. Piece-work being general, there was significant freedom permitted in hours of labour -and this generally ran in a 'bibulous direction.' Occasionally:

a lazy feeling, most perceptible when the weather was congenial and nature looking her best, would pervade the entire shop, and Peter, not unwilling to be hoodwinked, having been got out of the way, men and lads would each seize his frame-strap running over the shaft pulleys, and by united action bring the wheezy old engine to a stand.

Engineers would be sent for, the cutters using the stoppage to enjoy a country walk or drink beer.⁴ It remained a custom amongst Stourbridge glass cutters of the 1890s to fetch beer from a neighbouring tavern, or stay there and drink it. When an employer sought to prevent this by locking the doors during working hours much unpleasant feeling was generated.⁵

That management was insufficiently rigorous was the view also of a number of trade-

¹ *Ibid.*, August 1914, p. 951.

² P.T. Turner, *Directors' Minutes*, 2 September, 1914.

³ *Childrens' Employment*, Fourth Report, p. 255.

⁴ *Gazette*, August 1898, p. 96.

⁵ *Ibid.*, May 1899, p. 591.

unionists. Bad management, said one, had done more to hinder output than any Society restrictions. The first half hour in a turn was usually lost before production commenced, 'and then, in most instances, it is to find the Workman at one side of the factory and the servitor at the other.'¹ Another also referred to waste consequent upon poor organisation. We are, he said, supposed to start work at 7am on Monday. But what do we find?

The stoppers have not been taken down, and the furnace is made hot and the proofs want taking, and the irons are rusty and other things which we have to use have been thrown about so much you are lucky if you start work at 8 o'clock. There are other ways time is wasted - such as giving orders out on time for the men to start work, and there is a waste of time and labour when we ought to be making glass...In the U.S. they have none of this to contend with, they go in and start work straight away, everything is got ready for them to start.²

An exception to this atmosphere of relatively remote management was provided by the Yorkshire flint bottle trade, where there had evolved a system of 'working managers.' Particular employees were given special responsibilities of overseeing production, being rewarded with premium wage payments. This practice was resented by the Union: it increased management interference in the workshop and prompted men to seek the favour of their employer. The existence of working managers, it was said at a meeting in 1877:

seems to have produced much of the petty jealousy and want of confidence in each other, which has so thoroughly undermined Society principles in the Districts...Some men in the Districts we refer to, seem ready, at any time, to make a sacrifice of their Society, and also of their fellow workmen, if only a chance presents itself of aspiring to the honourable...position of a working manager.³

That the concept of 'working manager' had secured a foothold in the bottle trade reflected the less tightly organised nature of this section of the industry; while the conduct it promoted further weakened worker cohesion. The very grounds upon which the Union objected lead us to infer that the system of 'working managers' heightened effort levels within Yorkshire glass-houses.

Management involvement in the manufacturing process was thus generally slight. A

¹ *Magazine*, May 1887, p. 201.

² *Ibid.*, November 1887, p. 6.

³ *Ibid.*, May 1877, p. 36; August 1878, p. 548.

chair was left to perform its work under the finisher's guidance. But if the chair's working was little monitored, its output was. Glass-ware sent to the Lehr was checked, and work deemed of insufficient quality rejected. If a significant amount of bad work came from one chair, the causes were investigated. Responsibility primarily fell upon the finisher who permitted the work to go forward. Discipline could take the form of warnings, followed by threats of demotion, and ultimately dismissal. Winterbottom's Diary records how work performance was maintained. On 12 April 1907 Winterbottom sent for Damms and Milnes, informing them that the firm could not have, after the previous fortnight's sample of his work, J. Wright as a blower, and that he could never be entertained as a regular hand. The attendance of Damms and Hamilton was requested on 25 May 1907 to discuss the unsatisfactory work of J. Wilkey's chair. It was decided to give him another week's trial. An entry for 16 November 1907 records that Winterbottom:

Had in office Dawson, Sutherland, Thorpe and Bunting, since this chair's working is of such a character, i.e. 19doz[?] picked out for bad work, that we have decided to give the chair a week's notice, as we could not go on any longer at this rate.

A meeting was held, which called for the notices to be withdrawn. In response, Thorpe, Bunting, and Sutherland were informed that their notices no longer stood, but that of Dawson, the finisher, was to remain, and Thorpe was instructed to apply for a replacement. On 24 June 1908 the castor chair of Harrison, Dugdale, and Grundy, was sent for:

It was pointed out to them the large quantity of their work that was bad. The chair was told we could not go on any longer in this manner. Harrison held responsible for passing and making bad work, instead of rejecting it. Harrison told that after trouble lately, and little or no improvement since they were in the office last time, he was considered not qualified to hold place of Workman any longer, and would be demoted to servitor. This he objected to, but eventually said he would go back to serve.

Two days later a Union deputation arrived, headed by its Central Secretary, Husselbee. He claimed not to be able to supply a good finisher as a replacement, and acting upon Husselbee's advice it was resolved, on 3 July, to re-commence the chair under Harrison and hope for an

improvement. Harrison in fact continued as head of the castor chair till at least 1917.¹

The high earnings enjoyed by finishers ensured that the threat of dismissal was especially painful. Demotion to servitor would reduce his wages by a third. If dismissed altogether, with his skill specific to glass-manufacture and in his middle or late working years, alternative earnings were likely to be low. Even if able to secure employment in a relatively skilled trade, a significant fall in income was inevitable. It was noted in the *Pottery Gazette* that whereas a potter earned 25 to 30s. per week, a finisher could make 50 or more shillings weekly.² In the Castleford building trades in 1905 bricklayers earned 42s., carpenters, masons, plumbers, and plasterers around 32-39s.; all which compared with the 44s. average wage of finishers at the Rotherham works of Beatson & Clark.³

Dismissals on grounds of insufficient quantity appear to have been far fewer than those for poor quality. We noted earlier how chair members could draw attention to a workfellow whose weakness threatened to compromise their earnings.⁴ The company secretary at Turner's informed the Directors in June 1914 that it had proven necessary to stop an apprentice owing to the inadequacy of his work 'both as regards quantity and quality.'⁵ The infrequency of such dismissals may simply reflect the Union's success in establishing output standards comfortably attainable by the majority of glass-hands. And, in view of the premium placed by the workforce upon craftsmanship, dismissal on these grounds was considered more just than on grounds of quantity.

Dismissal of inadequate workers was a feature of economic downturns. 'The trade is fully aware,' observed the Union in 1877, 'that during the present depression employers have,

¹ Beatson & Clark, *Diary; Wage Books*.

² *Gazette*, June 1900, p. 681.

³ D. Brundage, 'Glass Bottle Makers of Yorkshire' (Warwick University M.A. thesis 1976), p. 28; Beatson & Clark, *Wage Books*, 1901.

⁴ See above p. 333.

⁵ Turner, *Directors' Minutes*.

generally, discharged such as their men, as from age and abilities, they could do best without...'¹ A writer in the *Magazine* complained that:

When a man gets to be 40 years of age, and then comes to be out of work for one or two years, that man is not so good in his next situation as he was in his last, so he does not give satisfaction to his employer, and he is at once selected to be the man that must be discharged when the first touch of slackness comes.²

Due to bad trade, Beatson & Clark decided, in January 1910, to close the New Flint House and lay-off five chairs, viz., those of Jones, Whalley, Hamilton, Powis, and Walker. To a Union deputation the grounds for selection were given as follows:

H. Walker, certainly, was an old hand, but he was no use now for small work, only for the class of work he was now doing. Hamilton left the firm and came back and he was not a qualified maker generally, and as for Powis, he was a very dissatisfied sort of chap, in fact the place is not large enough for him, and he had much better be out of it.

Only Whalley was considered a 'good maker,' competent in all kinds of work.³ The generally inferior quality of its unemployed members gave the Union difficulty when seeking to place them. For this reason alone it urged its members to acquire that enhanced ability 'which can only be attained by increased attention, perseverance, steadiness, and respectability, with a better education suited to the trade's peculiarities and interest...'⁴

So employers sought to use the threat of demotion and dismissal - and in particular the prospect of redundancy during poor trade - to maintain output standards. Not surprisingly the Society resisted employer attempts to exert control in this way. Direct opposition, occasionally backed-up with industrial action, was made to the threat of dismissals. Above we saw how Husselbee dissuaded Beatson & Clark from demoting Harrison to servitor; and employee protests at the dismissal of a whole chair caused only the finisher to lose his place. Actual strikes arising out of dismissals were, however, very rare.⁵ Firms could, if they especially desired it, dispense

¹ *Magazine*, April 1877, p. 1,023.

² *Ibid.*, November 1888, pp. 23-4.

³ Beatson & Clark, *Works Diary*, 17 January 1910.

⁴ *Magazine*, 9 April 1877, p. 1,024.

⁵ For an example, see *Gazette*, September 1896, p. 714.

with a particular worker. It was three more general characteristics of the trade, themselves traceable to Union policy, which weakened the effectiveness of supervision and dismissal as means to maintain work discipline.

(i) First, there was a persistent shortage of skilled labour. If a worker were dismissed a replacement would be required, and there were few flint-glass workers not in the Union. In 1857 Birmingham had 269 Union members and 47 non-Society men. Stourbridge had only 5 non-Unionists, compared to a Union membership of 263. Non-Society men numbered 5 at York also. At Manchester, one of the Society's weakest districts, there were 34 non-members and 112 members.¹ By 1891 Birmingham had only 15 workmen outside the Union; Stourbridge and Leeds 20 apiece.² Still fewer non-unionists were proficient in higher-quality work. 'One thing,' said the Central Committee, 'we may assert, that there are no men of either character or ability in the trade but are members of our Society.'³ Dr Lloyd recounted the employers predicament to the Trade Union Commission of 1868:

Q 18,525: ...is it open to you to employ non-unionists?'

A: They are not in being.

Q 18,527: But it is perfectly open to you to employ any other people that you think fit?

A: If I were to exclude in my own long-established manufactory all Union men, and determined to have none but non-Union men, I could not maintain my manufactory.

Q 18,528: Why not?

A: Because there are not the non-Union men in existence. There are some in other manufactories, but they would not come to me unless I offered them an extravagant inducement to come to me.

Almost inevitably, therefore, did the firm have recourse to the Union for a skilled worker. Costly delays were attendant upon this, and the employer would be called upon to show reasonable cause for discharging the previous hand.⁴ Even then there was no guarantee a suitable man would be sent. The Union's Central Secretary confessed in 1877 that from 60

¹ *Magazine*, No. 36, 1857, p. 228.

² Webb Collection, *Glass Makers*, pp. 239, 246.

³ *Magazine*, iv, No. 8, p. 521.

⁴ *Gazette*, November 1881, p. 949.

workmen on the unemployed role, not one could fill the position of a best wine finisher.¹ Another Central Secretary discovered in 1890 that there was not a single first-class finisher available for employment. An employer asserted in 1868 that over the preceding three years he had been unable to secure a full complement of hands, while it was reported from Stourbridge in September 1891 that one manufacturer had been endeavouring for several weeks to obtain a 'chair' for table glass.²

Such difficulties dissuaded an employer from making workmen redundant, diminishing, thereby, the disciplinary measures hanging over the workforce. It was the view of one flint-glass employer that:

men of indolent and bad habits, men not diligent or ambitious to make progress in the trade, practically rely on the support that is behind them, and manifest a degree of indifference with regard to the character of their work or the opinion of their employers; and we only retain such men because if we dismissed them there would be great difficulty in obtaining others, and it is the choice of the least of two evils.³

Certainly, it was the Union's experience in 1865 that as footmakers became scarce so did the effectiveness of the stick of supervision decline:

The scarcity of footmakers has, we are sorry to say, not improved the conduct and character of a number of footmakers in the trade. There is scarcely a week passes that the Central Secretary does not receive letters complaining of their conduct to their workmen, and their neglect of work. In some places, we are told, there is no speaking to them, and they care nothing for being discharged...as there is always a demand for footmakers, and they need not be a day idle.⁴

Attempts were occasionally made to circumvent Union controls upon the supply of labour by utilising non-Society, and even foreign, workmen. Their effectiveness was indifferent. In an 1848 strike over numbers at Birmingham, the employer, Rice Harris, brought over French, Belgian, and German workmen. But, recalled the Union's Central Secretary, they knew nothing of the English system of working: there were differences in method and style, and the quality

¹ *Magazine*, April 1877, p. 1023.

² *Gazette*, September 1891, p. 823; *R.C. on Trade Unions*, 10th Report, Q. 18,594.

³ *Ibid.*, Q. 18,806.

⁴ *Magazine*, June 1865, p. 531.

of the work was poor. Harris ultimately declared bankrupt.¹ This experiment stood 'as a warning to other manufacturers, young and strong headed, who believe it an easy matter to utilise foreign labour to break down our customs.'² Difficulties were equally prominent when the firm of Stone, Fawdry, & Stone, attempting in 1884 to become a non-Society shop, engaged a number of Swedish glass workers.

First of all great expense was incurred in bringing the men over and with them their families, even grandparents, and then there was the language difficulty. Not a soul knew English, and no one in the works could talk to the men and make themselves understood. The consequence was whenever fresh orders had to be given out the men concerned were marched to the offices of the consul for Sweden, who acted as interpreter. No wonder Sir Benjamin [Stone] gave up the experiment, got rid of his Swedes, and sold his establishment to another manufacturer.³

More successful was the firm of Sowerby's in Gateshead, manufacturers of pressed-glass ware. In 1892, consequent upon a dispute, they obtained a supply of workmen from Germany.⁴ Fifteen years later three of their blowers were German.⁵

Individual firms tried periodically to establish their glass-houses on a non-Society basis. Sarsons of Birmingham, for instance, turned their establishment into a non-Union one in 1894.⁶ But others found the transition far from easy. A Warrington firm, engaged in a dispute with its workmen over numbers, advertised in 1891 for non-Society men. Unable, however, to obtain respectable workmen, the firm backed down and acquiesced in the Union's demands.⁷ The *Gazette* reported in July 1894 that the firm of Woodall had replaced its striking hands with non-Unionists. Yet these were subsequently discharged and the old hands reinstated.⁸ Indeed firms

¹ *Ibid.*, May 1886, pp. 183-4; rumour had it that 'his son is only too glad to receive from some old friend a small coin to help him in his struggle for existence.'

² *Ibid.*

³ *Gazette*, November 1915, p. 1,243.

⁴ *Magazine*, September 1892, p. 80.

⁵ *Tariff Commission*, vi 'Glass Industry', evidence of A. Dodds, Para. 71 and 73.

⁶ *Magazine.*, September 1894, p. 760.

⁷ *Ibid.*, December 1891, pp. 131-3.

⁸ *Gazette*, July 1894, p. 604; January 1895, p. 54.

conducted on a non-Union basis were occasionally led, by the difficulties of their situation, to become Society shops; this was the case with the Pendleton Flint Glass Company of Manchester in 1888, and a Birmingham firm in 1889, which attributed its decision to the superior skill of Union members.

(ii) The Union sought to find alternative employment for all dismissed workers, and was usually successful. Securing places for unemployed members was, as we earlier described, at the centre of the Society's regulation of the labour market. Furthermore, priority was given to those whose redundancy was attributable to industrial action. Within two months of the closure of Webb's following a dispute, the Union announced 'that nearly all the men are at work in other places.'¹ Reviewing the previous year, the Central Secretary noted that all those locked-out at Stourbridge early in 1888 had since been sent to work elsewhere.² Assisting the Union was the regional concentration of the trade, which ensured that alternative employment was not far to seek. Forty per cent. of the nation's flint glass operatives worked in the West Midlands in the 1870s.³ Stourbridge, Dudley, and Birmingham boasted, between them, around 24 glass-houses in 1868.⁴ When significant travel was required the Union paid rail-fares and an allowance of five shillings per day.⁵ And until 1880 there were emigration grants worth £8. 10s. to those seeking work in America.⁶

Opportunities of alternative employment reduced the costs of redundancy. Firms sought to off-set this by the use of character notes. It was specified in the rules of the Midland Manufacturer's Association, drawn up in 1858, that no member 'shall take into his employ a

¹ *Magazine*, October 1864, pp. 340-41.

² *Ibid.*, August 1888, p. 367.

³ Matsumura, *Labour Aristocracy*, p. 19.

⁴ *R.C. on Trade Unions*, 10th Report, Q. 18,437.

⁵ Webb Collection, *Glass Makers*, p. 28.

⁶ *Ibid.*, p. 28; *Magazine*, No. 20, 1854, pp. 1-3.

new hand in any capacity, as a glassblower, without a written character from his last employer.’¹ Little suggests this rule was rigorously employed, and by 1868 it was no longer in force.² Even here Union interference was not absent. When, in 1883, an employee of the Manchester firm Percival Vicars, having been discharged through slack trade, was sent to a place at Stourbridge, he was refused the job owing to an adverse character reference. The Union blocked further recruitment at Percival until the note was withdrawn. A strike eventually resulted, which was resolved after ten weeks when Percival agreed to take back the unemployed man.³

(iii) Society provision for the out-of-work was quite generous. According to Rule 11, amended in 1867, unemployed finishers and servitors received 12s. for each of their first 13 weeks without work, followed by 10s. for 13 weeks, 8s. for 26 weeks, 6s. for 26 weeks, 5s. for a final 13 weeks, and superannuation benefit thereafter.⁴ Footmakers were entitled to two-thirds of these figures. It was intended that these payments should put a stop to the custom of ‘tramping’ between glass-houses in search of work which had undermined the position of those in work:

All that a manufacturer had to do in those days, if he had a man who resisted his oppression more resolutely than his fellow workmen, was to discharge him and stand at his gate any morning, and would be sure to see some fellow coming trudging up for his relief...’⁵

With unemployment pay, the income forgone through dismissal was diminished; a fact to which one manufacturer traced part of a decline in standards of workplace conduct:

¹ G. Lushington, ‘Account of the Strike of the Flint Glass Makers, 1858-59’ in National Association for the Promotion of Social Science, *Report of Committee on Trades’ Societies* (1860), p. 108.

² *R.C. on Trade Unions*, 10th Report, Q. 18,383.

³ *Magazine*, May 1883, pp. 257-8, 342.

⁴ Matsumura, *Labour Aristocracy*, p. 101.

⁵ *Magazine*, Issue 2, 1850, p. 34.

the action of the Union...has also, generally speaking, as regards some portion of the men, a deteriorating influence in this respect, that the men of less steady habits and diligent disposition are more indifferent as to the style and character of their work and the desire to do it well than they would be if they did not feel as I am persuaded they do, that, come what may, they have the Union to fall back upon to secure them a certain rate of wages or pay in the event of their being out of work.¹

The pages of the *Quarterly Magazine* contain a few references to oppressive managers. At Stroud's Birmingham factory the men were 'humbled and treated in a most disgraceful manner' by a manager named Worrall, who endeavoured to raise numbers, lower wages, and 'tyrannise' the operatives. When the men gave 14 days notice of a strike Worrall resigned. Stroud promised to replace him with a manager who would satisfy the men and do justice to himself.² J. Redpath of Castleford, a one-time Union official, proved an apostate upon assuming a manager's position: 'Not only will he oppress the men, but ignores and disregards the rules of our Society, and has declared he will have as many apprentices as he likes.'³ In November 1894 a dispute arose at a Knottingley firm relative to numbers, methods of working, and the 'base treatment of the men by those who managed their departments.'⁴ An employee of the York Glass Company claimed, in 1913, that the firm was 'under an autocratic government, with an abundance of managers with large screws.'⁵ But such protestations, and any strikes they precipitated, were infrequent, especially compared with the shoe trade. Essentially firms trusted their men to respond to financial incentives and uphold the duties of their craft.

¹ *R.C. on Trade Unions*, 10th Report, Q. 18,625.

² *Magazine*, March 1866, p. 707.

³ *Ibid.*, May 1881, p. 277.

⁴ *Ibid.*, April 1895, p. 228.

⁵ *Bottle Makers' Magazine*, June 1913, p. 104.

(vi) *Mutual Responsibilities of the Craft*

With piece-work, the reciprocal duties of master and servant were the most important factor determining effort levels. In flint-glass houses, wrote the Whitechapel manufacturer H.J. Powell in 1923, 'the relationship between employers and employed has been somewhat patriarchal, son succeeding to father in the management, and fathers, sons, and grandsons working together in the furnace.'¹ The absence of disruptive changes in technique and scale of production helped preserve these features of the trade. Characterising Beatson & Clark in 1910, the firm's historian remarks that:

The attitude of the Directors to the workpeople at that time (and particularly of the Chairman, who had joined the firm in 1865) has been described as paternal, leaning to the relationship of the stern parent to the small boy; the latter was supposed to know his place. But the employees in those days were few in nature and there was a degree of intimacy which is difficult to maintain in a larger concern.²

It was said of Rotherham in 1913 that factory life altered slowly. 'The sympathetic interest of the employers with the workmen and the youths...is spoken of with admiration.'³

Most firms had at least one partner trained in glass-making, and employer and workman shared an attachment to standards of quality. Friendly relations were reflected and enhanced in a variety of ways. A common feature were celebratory dinners. When a dispute between J. Webb and his Stourbridge workforce was resolved in April 1858, both sides 'sat down to a first-rate dinner, to which Webb liberally subscribed.'⁴ On 11 October 1862, 200 members of the Union's Birmingham district attended a social gathering with the purpose of promoting a friendly feeling between employers and employed. Four employers were present, one of whom expressed his belief that 'the trade would not have been so good as it is, had it not been for the Glass Makers' Union, and I am sure I feel as much a society-man now as ever I did in my life.'⁵

¹ H.J. Powell, *Glass Making in England* (1923), p. 136.

² Beatson, Clark, and Co., *The Glass Works. Rotherham 1751-1951* (1952), p. 31.

³ *Bottle Makers' Magazine*, June 1913, p. 103.

⁴ *Magazine*, ii. No. 34, 1858, p. 186.

⁵ *Ibid.*, No. 8, 1862, pp. 563-4.

Christmas dinners were a regular event at the British Union Flint Glass Works, Manchester. The proprietor, J. Derbyshire, used these occasions to stress the need for co-operation between those engaged in the firm. In 1862 he spoke of his appreciation of the Union, which he had himself belonged to in his working days, while in 1863 he talked 'at some length on the unity that ought to be between master and man, and how they ought to study each other's interests...'¹ Employees at Wood Brothers, Barnsley, upon accomplishing certain quality targets, were each rewarded with a Christmas bonus of £5. They responded by organising a dinner for their employers. Answering the toast to 'Wood Bros.', Wood remarked that 'in these days of keen competition it was absolutely necessary to keep down all unnecessary expenses, and to produce as much as possible at as little cost as possible.' He was pleased that the men had shown a willingness to make improvements, 'and had further made it known that they would always be willing to try and keep at any rate on a level with the best makers in the trade.'²

Summer outings were another shared diversion. Foremost in organising such events was the Dennis Glass Works of Thomas Webb, Birmingham. On 18 August, 1906, their employees enjoyed a trip to Tewkesbury, many thanks being accorded the firm for its generosity.³ An outing the following year culminated in a dinner, at which the Vice-Chairman proposed a toast to the 'Firm', acknowledging that their success largely reflected 'the hearty co-operation of every member of staff.'⁴ In 1911 the Company inaugurated a 'Holiday Club' which, through regular contributions, would permit employees to take an annual week's holiday - the firm itself contributing a substantial bonus.⁵

Good-will between workman and employer was further manifested in the giving of gifts. Derbyshire received from his workpeople in 1860 a clock inscribed: 'Industry merits reward -

¹ *Ibid.*, March 1864, p. 174.

² *Ibid.*, November 1886, p. 13.

³ *Gazette*, September 1906, p. 1,038.

⁴ *Ibid.*, March 1908, p. 339.

⁵ *Ibid.*, September 1911, p. 1,024.

Testimonial presented by the workpeople of the British Union Flint Glass Works...to their worthy employer, Mr. J. Derbyshire, as a token of their respect for him...'¹ Upon the marriage of T. Webb in 1864, operatives presented him with a key, one of their Society's emblems. Webb professed himself proud that such a feeling existed: 'the interests of masters and men were identical and he was very glad that glass-makers were beginning to see it.'² Workmen at Powell's, Whitefriars, gave a silver tea and coffee set to the works manager in recognition of his 37 years service.³ In 1886 some of the longest serving hands at Wood Brothers organised a dinner for their employer, at which copies of the Union's emblem were presented to each of the directors. J. Tomlinson, speaking on behalf of his father-in-law G. Wright, thought that they 'still worked together more like a band of brothers than as employers and workmen'; 'if,' he continued,

the employers would try to consider that their workmen were flesh and blood like themselves, that they had the feelings of men, if employers would act to their workpeople as Wood Bros & Co. did, instead of being despots and tyrannising over them, grinding them down as they did in many cases, it would be much better for the trade of England than going on in the present course.

Wright, who was received with applause and 'three cheers for the grand old man,' declared that he had been a unionist for 43 years 'and was a trade unionist yet.'⁴ When, in 1919, C.B. Clark, Chairman of Beatson & Clark since 1865, announced his retirement, employees and staff combined to present a silver rose-bowl.⁵ Another long-time employer, Williams-Thomas, on making a visit to his glass-works after a period of illness, was welcomed by his workmen, who hoisted a flag over the works: an incident which, in the words of the *Gazette*, marked the happy relations existing between the firm and their employees.⁶

¹ *Magazine*, July 1860, p. 712.

² *Ibid.*, December 1864, p. 372.

³ *Ibid.*, May 1875, p. 266.

⁴ *Ibid.*, November 1886, pp. 12-15.

⁵ Beatson, Clark, & Co., *The Glass Works*, p. 34.

⁶ *Gazette*, January 1920, p. 810.

At both board-room and shop-floor levels there was a continuity of engagement in the trade which contributed to its atmosphere of mutual dependency. Sons followed fathers and grandfathers into the glass-house. For Stourbridge in 1861, Matsumura calculates that 30 per cent. of takers-in or apprentices were sons of glass-makers, and 42 per cent. had a parent occupying some position in the glass trade.¹ At Beatson & Clark in 1871 two out of twenty chairs were constituted wholly by members of the Morgan family; four other families - the Hills, Cormacks, Seftons, and Guests - provided between three and four workers. Of the 62 workmen and apprentices employed by the firm, 53 per cent. shared their employment with at least one other family member.² In January 1914 the figure was 42 per cent.

Further strengthening the role of sentiment was the fact that glass-making was a trade for life; and this often implied a lifetime of service at one firm. In 1934 Beatson & Clark drew up a list showing the date at which each of their 20 finishers commenced working for the firm. Ten had been taken-on prior to 1900, three having joined the firm by 1890 - the oldest commencing in 1875.³ T. Cartwright completed, in 1913, sixty years at Stevens & Williams; to mark the event he was presented by firm and employees with an armchair.⁴ When an employee had such a record of service it was less obvious that he should be regarded as a unit of labour from which something ought to be maximised. It was the sad duty of the works secretary at Turner's to inform the Directors, in July 1915, of the sudden death of 'an old and valued servant of the company,' John Wilkinson, who had been employed for over 25 years and whose services had always been appreciated. A letter of condolence was sent to his widow, and a wreath on behalf of the company. The works closed at 1pm on the day of the funeral, with most employees in attendance.⁵

¹ Matsumura, *Labour aristocracy*, p. 74.

² Beatson & Clark, *Wage Books*.

³ Beatson & Clark, List of Glass Makers, 5 March 1934.

⁴ *Gazette*, May 1913, p. 572; one wonders if he took the hint.

⁵ Turner, *Directors' Minutes*.

Within this context employment relations evolved less rapidly in the flint glass trade than in industrial life as a whole. We do not find that degree of class antagonism as prevailed, for instance, in shoe-making; nor the eclipse of custom by *laissez-faire* principles in wage bargaining and effort determination which Hobsbawm has described.¹ Although often obstinate for their perceived interests, both sides expressed awareness of common concerns and a desire to benefit the other. The Midland Manufacturers' Association declared itself desirous of working with the men's Society in a cordial manner, and 'not in any spirit of antagonism.'² Several employers had been, or remained, Union members. One held it an honour to have been involved with the Society since its commencement and believed 'the Society to be a protection to masters as well as men, and he heartily wished it prosperity.'³ Strong conceptions of duty and honour prevailed within the glass-house, and there were frequent reflections upon the responsibilities of a workman to his employer and *vice versa*. The Union's Central Secretary in 1877 acknowledged that both capitalist and workman engaged in trade, first and foremost, for profit. Yet in so doing each served and benefited the other. When workmen laboured honestly and steadily, and capitalists humanely and honourably co-operated, they laid each other under great obligations.

It was desirable:

that the working class should have respect for the employers, some confidence in them, some kindly feeling, some hearty affection for them; and in order to do this, they should be made to see and feel that their employers have some degree of respect for them, some confidence and pride in them...

With employers did the onus of initiation reside:

You are the highest, the most polite, and the best educated, and can make approaches to your workpeople without difficulty or danger, whilst your workmen would regard it as presumption to make advances to you. To show some interest in the welfare of your workers is especially easy to employers, and is sure of grateful return in time when distress and danger are approaching.⁴

A more detailed exposition of respective duties had been given three years previous. It

¹ Hobsbawm, 'Custom, Wages and Workload'.

² *Magazine*, February 1875, p. 100.

³ *Ibid.*, No. 36, 1858, p. 289.

⁴ *Ibid.*, May 1877, pp. 4-6.

industry. We accordingly find that, as commercial difficulties increased, so was there forced upon the glass trade, albeit belatedly and less than full-bloodily, something of the ideology of 'Cash Payment as the sole nexus between man and man.'

Employers could no longer rest content with customary output levels, and sought to raise the number of articles constituting a move and the number of moves constituting a turn. By so doing they endangered the mutual trust which did much to conciliate the potentially disturbed relations between a master and men jealous of their skills and professing a creative attachment to their work. In the pressure for increased numbers, claimed the Central Secretary in 1883, the selfishness of human nature was apparent.

There is but one continual harass, insomuch that men who have a love of their trade are so affected by it that they cannot work as they should, feeling alike uncomfortable in mind and body. Surely it is hard enough to continue a producer, after 30 or 40 years of incessant work, without this worry for rise of numbers, which must tend to weaken him for his duty, to prevent him earning a proper livelihood...and finally to shorten and embitter the closing days of his life.

Such conduct threatened:

to destroy all harmonious action between the employer and the employed, and to loosen those strong ties of good feeling which existed in days gone by, and enabled master and man to say - the one to the other - 'Your interest is ours'.¹

Any compromise upon quality was especially resented, and again it was commerce that appeared the canker:

bad work is the result of the teaching of modern political economy...Bad work is wholly the fault of the masters...shoddy pays them best for the moment, and they manufacture shoddy; the men make up just what the masters tell them, they have no other choice.²

Another matter of concern was the behaviour of employers towards their long-serving employees. 'Those whose memories can carry them back,' said the Central Secretary in 1880, 'will remember the time when workmen who had passed their valuable lives in the services of

¹ *Magazine*, February 1883, p. 165.

² *Ibid.*, 1877, p. 324.

employers, were recognised by them in some little pecuniary aid, but now they are discharged.’¹

The Union alerted its members to the altered regime within the glass-house:

Young men - Beware! in the glass trade, servitude is a thing of the past. We are told it is business. It is not a question whether you have worked for a firm 30 weeks or 30 years, should nature in any way begin to fail, and your work not be quite so good, you get it - not a pension, but 14 days’ notice to leave your employment.²

It was described earlier how Beatson & Clark laid-off, in 1910, five chairs as a result of poor trade. A delegation from the flint-bottle Union, headed by F. Swann, sought to avert the move, citing the willingness of other employees to spread more thinly the available work. Whilst acknowledging the firm’s right to dismiss the men, Swann was bitter that ‘men who had served their time here and had been brought up here, were practically thrown on the street...’³

Decisions by employers of this sort, whether it be dispensing with the services of no longer productive hands or seeking to raise customary effort levels, undermined that impetus to exertion which had hitherto derived from the allied concepts of status and duty.

¹ *Ibid.*, May 1880, p. 184.

² *Ibid.*, October 1896, p. 472.

³ Beatson & Clark, *Works Diary*, 12 February 1910, p. 73.

Chapter 18

A Review of the Effectiveness of these Measures

Endeavours by employers in the flint glass trade to raise effort levels in the second half of the 19th century were not without success. Numbers per move rose, and the number of moves completed in a week increased; absenteeism declined; and Saint Monday ceased to be so widely observed. How much this was attributable to employer initiative, and how much to a growing worker awareness of the unsustainability of practices prevailing in the 1850s, is difficult to say.

Meaningful comparisons of effort, or even productivity, between different countries are not possible. Few figures exist for this period, and what estimates there are generally encompass the whole of glass output, or of glass-bottle production - rarely is the quantity of glass manufactured by flint methods isolated. The glassware made in the flint section of the trade was diverse. Many products had a limited production run; styles were ever shifting; and on more standard items there were often subtle yet significant variations in form and process of manufacture. Artistry being at the heart of the trade, any simple counting of units would be hopelessly crude. Value measures provide only a limited solution to this problem, for there was no straightforward connexion between effort, artistry, and value, and no reason to assume that such relations would be stable over time or similar between countries.

Contrasts were most frequently drawn between the British and American glass-hand. It was a repeated theme of the *Pottery Gazette* that the latter worked longer and harder. A writer in that paper said he was informed that although American operatives received more wages 'they have to make considerably more goods for the money; not only have they to make more goods per hour, but working very much longer hours.'¹ Whereas an ordinary working week in an

¹ *Gazette*, September 1880, p. 573.

English glass-house was 48 hours, in the U.S. it consisted of 55 hours. What is more, this was all work: no commencing quarter of an hour late and leaving quarter of an hour before time.¹

Over two decades later it was still held that:

The American workman works harder than the English worker does. I understand glass makers work day shifts of ten hours, and work harder than our men in addition. English glassmakers seem incapable of altering their short turns, slow movement, and small output.²

The experience of an American manufacturer of pressed-glass machinery supported this view:

It is true we pay much higher wages than are paid in England, but what of that! Our men work, and we get all out of them willingly that they can produce. This is the difference, and I may say that with one machine I make one man attend to several machines; but when I send the machine to England I find one man is employed to each machine, and although he might be able to attend to ten machines, the rules of his society prevent him attending to more than one.³

The flint-bottle Union conceded the existence of a productivity gap: take, said its General Secretary in 1909, almost any pattern you are making, and they turn out nearly double the quantity in the same time.⁴ This differential it attributed to advantages in the American system of production. The absence of fixed distinctions between blowers and finishers allowed the more fatiguing operation of blowing to be shared, while boys performed all the unskilled jobs. The whole productive organisation was more efficient:

They have accomplished the making of the best Flint glass out of tanks, and every facility is provided by way of perfect tools and appliances. All moulds, tools, and everything is ready for them to start straightaway...⁵

That the American glass-worker was more productive, in value terms, than his British counterpart is probable. The available data refers to all glass production, including plate and standard bottle glass. It shows that in 1909 the value of U.S. glass output was £19,186,501, and

¹ *Ibid.*, November 1881, p. 949.

² *Ibid.*, July 1904, p. 787.

³ *Ibid.*, January 1901, p. 69.

⁴ *Bottle Makers' Magazine*, June 1909, p. 408.

⁵ *Ibid.*, p. 409.

the industry employed 72,573 persons, yielding an annual output per person of £264.¹ For Britain in 1905 comparable figures were £4,899,000 and 31,000 respectively, equivalent to a per capita output of £158, or 60 per cent. of the U.S. level.² Estimates by Broadberry and Crafts of the physical output per worker of glass containers (bottles, jars, etc.) in the U.K. and U.S. in 1924-5 show the U.K. output to be only 50 per cent. of the American.³ However the U.S. had, by the late 19th century, a large lead over Britain in the manufacture of pressed glass. The productivity differential in hand-blown glass was certainly less, though the absence of American data prevents any precise comparison.⁴ Further, it is also likely that the American system of manufacture was more technically efficient, with greater use of wooden and coated paste-moulds.⁵ The degree to which differences in effort contributed to differentials in productivity must therefore remain undecided. A Unionist who emigrated to the U.S., and worked there beside French and Germans, felt he could:

honestly say that where the British glass maker came thus to be placed on a fair footing with the same means of production as the French and the Germans, he not only produced as much, but he produced it with a much better finish...I know from this actual experience that, with the same number at a shop, or chair, or other details, the English glass-maker is more than a match for the much dreaded foreigner.⁶

In France, which of continental countries was the one with whom comparisons were most frequently made, flint-glass manufacture was again significantly more sub-divided than in Britain and wooden moulds were used extensively. Approximately eight persons worked in a chair, and

¹ *Gazette*, January 1914, p. 41.

² T.C. Barker, 'Glass Industry', in D.H. Aldcroft ed., *British Industry and Foreign Competition*, p. 308. Rostas calculated that, in the late 1930s, physical output of glass bottles per operative was 2.7 times higher in America than in Britain; in terms of output per man hour, the American figure was 3.6 times as high. [Rostas, *Comparative Productivity*, p. 165.]

³ Broadberry and Crafts, 'Explaining Anglo-American Productivity Differences', 378.

⁴ P. Davis, *Development of the American Glass Industry* (1949), pp. 151, 161-4.

⁵ C.f. Farmer, 'Shift Systems', 16; Davis, *Development of the American Glass Industry*, p. 230.

⁶ *Magazine*, May 1887, p. 182. It should be noted that American flint makers also endeavoured - and with a fair amount of success - to limit output, enforcing, for instance, a one-and-a-half month annual cessation of production. In the 1880s lamp-chimney producers restricted output to 11 turns (or five and one-half days) a week and prohibited overtime. C.f. Davis, *Development of the American Glass Industry*, ch. 7.

since each task in itself required less skill many boys were employed.¹ Although more hands were employed in France, output did not increase proportionately. An estimate of 1880 put the make of a French chair at 50 per cent. above the British.² And it was generally believed that the English glass-hand worked harder than his French counterpart. 'I verily believe,' said a writer in the *Gazette*, 'that the Frenchman does not work so hard to produce these [quantities] as the Englishman does to produce the smaller number.'³ The point was that the French chair, through paying its skilled men less and utilising boys to a greater extent, received in wages only 25 per cent. more than the British chair, thus rendering its unit costs lower.⁴

Despite action by employers to raise effort levels prior to the turn of the century, there remained significant scope for output to be increased. 'It is well known,' said a Dudley employer in 1877, 'that many men can make more articles per turn, than is being made at the present time...As a general rule, nearly every article made in a glass-house can be produced in greater numbers.'⁵ This, after all, is what Union controls upon output meant. The Executive Council of the Union itself acknowledged in 1895 that the young men in the cribs made 'a good class of work, and a great deal more in a given time than we do in our big houses.'⁶

Why did manufacturers fail to secure higher levels of output from their workforce? In the first place, when confronted with foreign competition in cheaper goods, employers tended to withdraw into the more sheltered realm of high quality ware. There was, said Wood to his employees in 1889, only one way to respond to foreign competition:

¹ *Magazine*, August 1882, pp. 385-87; *Gazette*, August 1880, p. 502.

² *Ibid.*, August 1880, p. 502; see also *R.C. on Trade Unions*, Qs. 18,785-788.

³ *Gazette*, August 1880, p. 502.

⁴ *Ibid.*

⁵ *Magazine*, November 1877, p. 243.

⁶ *Ibid.*, October 1895, p. 441.

They must maintain their superiority in prices by good quality and workmanship. If they could go into the market with an article nobody could touch in point of quality, he thought it was the only way to obtain better prices, and meet competition in a proper way.¹

J. Walker, Chairman of the Manufacturers' Association, conceded that 'we find we have a great deal of competition from the foreigners as far as prices are concerned,' but added: 'we never hope to compete with them in price; but we beat them a long way in quality.'² Emphasis was placed increasingly on the production of fancy and coloured glass, consisting of such things as flower-vases, bowls, and chandeliers. Demand for products of this variety was inelastic, confirming employers in their essentially static view of economic life. What methods, asked the General Secretary of the Flint Bottle Union in 1906, did producers employ to meet the threat of foreign competition?

Their motto appears to be - 'a high class article for a high class price' - and instead of the markets creating the demand, they endeavour to make the demand in order to fit the supply that suits their purpose...quality and a minimum in quantity seem to be their methods.³

Much of the enhanced effort of the second part of the century accordingly went towards raising the quality of the average article produced.

To this tendency the Union was, at one level, hostile, since higher quality meant more effort. 'The best work,' wrote the Secretary of the Flint Bottle Union, 'commands ability, skill, and fitness, the same number of hours as the common, with an extra strain upon the mind...'⁴ Adapting to the demands of manufacturing 'novelties' was said by the Flint Union to be 'making old men of some of our best workmen long before their time.'⁵ This effort was rarely proportionately recompensed in the prevailing catalogues. A writer to the *Quarterly Magazine* complained that in the endeavour to enhance the beauty, utility, or curiosity of glass in response

¹ *Ibid.*, November 1889, p. 479.

² *R.C. on the Factory Acts*, Q. 6,915.

³ *Bottle Makers' Magazine*, June 1906, p. 5.

⁴ *Ibid.*, March 1907, p. 234.

⁵ *Magazine*, August 1884, p. 330.

to foreign competition, 'we increase the labour of the producer at least four-fold, without a corresponding remuneration... unfortunately, in feeding the eye we are starving the body, making ourselves victims of our own mad folly.'¹ In addition, the relative decline of trade in common goods caused workmen of less skill to be displaced, yet it was first-rate hands who were in demand. Unemployment consequently became a more stubborn problem for the Union.

On a more essential level, the Society concurred with employers in believing that it was through quality manufacture that the future of the trade could be secured; a view fitting happily with that reverence for the artistry which defined their craft.

We know that in the long-run it is quality, and not cheapness, that holds the market; we know that we have only to work well and produce goods that we are not ashamed of for customers to deal with us and stick with us.²

There was a collective bias within the trade toward work of a high standard. It was to this that the chairman of the Employers' Association directed his appeal in 1877:

Everyone should desire to turn out his work in a workmanlike manner, and so bring honour to himself, honour to his Society, and also to the employer; and so, by the superiority of his work, to allow the foreigner no chance to compete with us in the higher branches of our trade.³

Second, owing to Union regulations employers enjoyed minimal flexibility in the conduct of their works. Whether it be a question of appointing or promoting a worker; of reforming the wage structure; altering the rate of production or its quality; or of discharging an inadequate hand: reference had continually to be made to the Union. Attempts to circumvent Union restrictions were usually unsuccessful and always costly. Employers, not unexpectedly, resented operating under such constraints. One identified as the chief reason for the 'deplorable' state of the glass-trade:

¹ *Ibid.*, August 1878, p. 363.

² Address of Executive Council, *ibid.*, January 1897, p. 97.

³ *Ibid.*, November 1877, p. 240.

the solid and unyielding combination of the operatives. As a Union they are indeed practically masters of the trade...Strong financially, and determined to maintain their ground at all costs, the operative glassmakers render it absolutely impossible for English makers to compete successfully with the products of continental workmen.¹

The workforce, said another, control everything in the trade but the capital: 'this is allowed to be found by the master.'² According to its Chairman, the need for a Manufacturers' Association 'developed from the fact that the unreasonable interference of the men's leaders with the management of the capitalist's business reached a point that was essentially un-English.'³ The crux of the glass-trade's problem, wrote the *Pottery Gazette* in 1903, 'has been the assumption by the Society officers of the management of the work.'⁴ A Newcastle employer suggested that the Flint Glass Union be renamed the Glass Makers' Political Society for the Coercion of their Employers.⁵

Why, then, did employers, though frequently lamenting the Society's influence, fail to take more active steps to end it? Why, in other words, did masters acquiesce for so long in the ascendancy of the Union?

In some senses they did not. Individual firms challenged Union controls, on occasion successfully. In 1858 disputes at two Stourbridge firms led to the formation of the Midland Association of Flint Glass Manufacturers, which claimed 20 members.⁶ The dispute centred around Union limitation of apprentices, and by 7 December five Stourbridge employers had locked-out their workers. Producers in other districts expressed an interest in joining with the Association, and in early 1859 the lock-out spread to Birmingham, Manchester, St. Helens, Glasgow, and Edinburgh. At one point employers demanded that their workforce sign, before

¹ *Gazette*, June 1891, p. 540.

² *Ibid.*, August 1901, p. 839.

³ *Ibid.*, April 1897, p. 477.

⁴ *Ibid.*, February 1903, p. 155.

⁵ *Magazine*, September 1863, p. 20.

⁶ Haden, *Stourbridge Glass Industry*, p. 30; Matsumura, *Labour Aristocracy*, p. 133.

recommencing work, a document renouncing the Union and interference in the management of the glass-house.

However the men stood firm. Only six Stourbridge Unionists returned to work, twenty-one in Birmingham.¹ This discipline ensured the confrontation was indecisive. After six months each side had exhausted the other, and a settlement was reached on 4 April 1859. Notwithstanding some concessions - notably over apprentice numbers - the dispute affirmed the Union's power. A lock-out of half a year had been weathered; most of its controls upon the conduct of glass-making remained in place; and employers had been made to see that henceforward it would be an important actor in the trade.

This compromise prefigured the subsequent conciliatory pattern of events. For almost half-a-century there was no major dispute in the trade. Foremost in accounting for this was the strength secured to the Union by its control over the supply of labour. Any firm challenging the Union would be confronted with a withdrawal of labour and the difficulty of securing replacements from outside the Union. And this problem held equally for all employers taken together. The Unionists were therefore confident that, if they could hold out long enough, employers would be forced to re-employ them on their own terms; and the events of 1858-9 seemed to justify this assumption.

Here an important factor was the Union's monetary reserve. The significant weekly contributions of members took the funds to over £10,000 in the 1870s. In per capita terms the Society was the richest in the country.² These resources enabled the Union to support indefinitely local industrial action. During the 1858-9 lock-out, a total of £1,337 was forwarded in monthly grants to the Stourbridge district.³ Equally important, frequent references to financial well being gave self-confidence to Society members, whilst simultaneously intimidating employers.

¹ *Ibid.*, p. 140.

² *Ibid.*, pp. 97-8.

³ E. Hopkins, 'Anatomy of Strikes in the Stourbridge Glass Industry 1850-1914', *Midland History*, ii (1973-4) 23.

But a general move against the Union was hardly ever in prospect. No national association of employers existed prior to 1914. The Midland Association, which helped coordinate Stourbridge and Birmingham employers at the time of the lock-out, gradually lost authority. In 1887 the flint-glass correspondent of the *Gazette* found it remarkable that whereas the men 'have an organisation as perfect as the Birmingham Caucus in its palmy days,' employers were only partially organised. Although all Stourbridge firms were members of the Association, this was true of only four or five Birmingham firms.¹ Upon its dissolution in 1903, the Association had but eight members.²

This lack of cohesion reflected, in part, perceived short-term interest. An employer could anticipate benefiting from a stoppage at a neighbour's works. According to the Union's Central Secretary, employers:

never can possibly combine together as working men. Their interests, in times like these, are immensely different. Being of a mixed and ambitious class, they have infinitely more to gain and more to lose. The well-to-do and well-established employer will well consider before he rushes into such hazardous risks, and the aspiring employer will *not* close his works because the voluntary famine of trade on the one side, proves to be his harvest on the other.³

Disparities in numbers and conditions meant that whilst some firms were keen to see uniformity prevail, others, whose numbers were relatively high, or whose working practices were more favourable, were less ill-disposed towards the *status quo*.

Employers were themselves imbued with the idiosyncrasies attendant upon so specialised and skilled a trade. That the Employers' Association was conducted in the interests of makers of Stourbridge fancy glass was the chief reason cited by Birmingham manufacturers for their failure to join. More generally, carrying on a family concern, producing articles for a small and distinctive class of customers, and enjoying a unique relationship with his own workforce, a master would be reluctant to become embroiled in a dispute with reference to the somewhat

¹ *Gazette*, July 1887, p. 686.

² *Ibid.*, June 1903, p. 579.

³ *Magazine*, February 1877, p. 937.

obscure concept of the industry's 'general good.' There was, said Dr Lloyd, Chairman of the Manufacturers' Association in 1865, an unwillingness amongst masters 'to associate for the same objects that the men have in view.' His own firm had been reticent about joining an association for purely defensive purposes:

and we should have abstained from it if there had been any other means of persuading the men to abandon the hostile position that they had taken, rather than imitate them in forming an, in some respects, equally objectionable association of masters.¹

This suggests a further point. For all their disagreements, master and workman had a good deal in common. Many employers had served in the trade as apprentices and craftsmen. They were often as steeped in the industry's traditions as the workmen. There was a shared reverence for quality, and a belief that in this alone did the security of the trade reside. And to neither did the concept of change come easily. In short, employer and Union were complimentary constituents of the trade. The Union regulated the supply of labour, oversaw its training, resisted the intrusion of new producers, ensured that men of requisite skill were provided to each firm, sought to give its members discipline and moral guidance, and supplied a structure for complex negotiations over numbers, prices, and quality. The Society offered, above all, stability and predictability, both of which were essential to the employers preferred policy of concentrating on high quality, artistic ware. Major Walker, Chairman of the Manufacturers' Association, remarked at a meeting with Unionists in 1877 that he was:

glad you have a Society, and I trust you will always have a good one...because, by its existence, I have someone to correspond and act with, and without it everything would be chaos.²

A glass-house was, in a real sense, an organic entity, and master and men each recognised the necessity for the other's existence. To attack the Union was to attack the most visible embodiment of that spirit of the glass trade which generations of employers and workmen had evolved.

¹ *R.C. on Trade Unions*, 10th Report, Qs. 18,451-453.

² *Magazine*, November 1877, p. 239.

Chapter 19

Defeat of the Union and Subsequent Developments

Against this background imports of flint-glass continued to mount, increasing in value between 1900-04 and 1905-09 by 20 per cent.¹ There were, in March 1897, 142 finishers and servitors employed in Birmingham, compared with 209 in 1890. Unemployment grew steadily; in 1895, of a Society membership of 2,153, only 1,400 were in work.² This created a source of black-leg labour and placed a strain upon funds. The crib system was said in the late 1890s to be 'flourishing,' and a number of shops established themselves outside of Union control.³ Manufacturers even began purchasing glass from non-union and overseas sources, merely decorating it before selling. As the condition of the trade deteriorated, so did the Union's ability to control it. It was estimated by the executive in 1896 that Stourbridge alone had 270 non-Union hands. These it saw as a great danger, citing the example of an employer who had defeated his striking workforce by engaging unorganised labour.⁴

The reckoning was not long delayed. In August 1901 the Manufacturers' Association requested a meeting with the Union to discuss the adoption of a system of unlimited output and a relaxation of controls upon promotion. This the Union declined to do. Shortly afterwards there appeared, in *The Times*, a strong attack by Pratt on the restrictive practices of the Flint Glass Society which stirred employers to a more resolute response to the problem.⁵ A dispute

¹ Barker, 'Glass Industry', p. 310.

² *Magazine*, January 1895, p. 101.

³ *Gazette*, January 1897, p. 100; December 1896, p. 1,083.

⁴ *Magazine*, October 1896, p. 472.

⁵ *Gazette*, July 1903, p. 687; January 1902, p. 45; Pratt, *Trade Unionism*.

developed in March 1902 at Webb's Dennis Glassworks. After finding the promotion of a footmaker to servitor blocked, the firm dismissed its Unionists and re-opened with non-union hands.¹ Other firms assisted Webb's by supplying them with glass. To this the Union objected, and by September 1902 half the glass-houses in Stourbridge were on strike or operated by non-Society men.² It was acknowledged by the *Gazette* that manufacturers could not do *as well* without their old hands, but it was 'true to say that they *can* do without them, because they are working without them.'³ Paradoxically, this move by employers coincided with the demise of the Manufacturers' Association. The developing crisis in the trade highlighted the contradictory attitudes of employers. The majority of Midlands manufacturers called upon the rest to join them in confronting the Union if a negotiated settlement proved impossible. However the Association's chairman, John Murray, favoured a more conciliatory policy, and offered to meet the workmen themselves in Stourbridge Town Hall, hoping, thereby, to circumvent the Union leadership. When the latter refused this approach the Association dissolved.⁴ Association and Union fell together.

The Union crumbled surprisingly rapidly. Out-of-work pay began to drain the reserve fund, upon which so much importance had been placed. Weekly allowances to those idle were reduced in October 1902.⁵ Even where Unionists remained at work, concessions were forthcoming on output and conditions. For instance in June 1902 the Birmingham district offered an increase of five per cent. on numbers of certain articles made in a turn.⁶ Employers were prepared to take back old hands who renounced Society rules, and faced with declining benefits

¹ Hopkins, 'Anatomy of Strikes', 26.

² *Gazette*, September 1902, p. 912.

³ *Ibid.*, January 1903, p. 47.

⁴ *Tariff Commission*, vi 'Glass Industry', evidence of J. Murray, para. 84; *Gazette*, June 1902, p. 573.

⁵ *Gazette*, November 1902, p. 1093.

⁶ *Ibid.*, July 1902, p. 698.

and little other prospect of employment, a number acquiesced in these terms.¹ In November 1902 the *Pottery Gazette* felt able to declare that ‘manufacturers are now absolutely independent of the members of the Flint Glass Makers’ Society...’²

Worse still for the battered Society, a schism was precipitated. Flint bottle workers had long considered themselves neglected by a Union dominated by makers of table and fancy ware. Unaffected by the dispute, they resolved in late 1902 to form their own bottle Union. By this act alone membership of the old Flint Union fell a further 800. The number of men owing allegiance to the Union, which in July stood at 2,388, had declined by October 1904 to 1,170, of whom only 639 were actually employed.³ And there was to be no easy reversal of fortune. In 1911 the Society could claim a membership of but 889.⁴

With its numbers and funds depleted, and unable to prevent the growth of non-Society shops, the Flint Union no longer occupied the vital place in the industry which it had during the preceding half-century. ‘For trade purposes,’ said the *Gazette* in 1904, ‘the Society is practically powerless.’ Even in Stourbridge there were more glassmakers outside the Society than in it.⁵ For us, also, this outcome may be considered unfortunate. A first casualty of the Union’s declining finances was its *Quarterly Magazine*. Thus do we part company with the chief source of information on the flint glass trade and one of the labour movement’s most remarkable literary products.

According to employers, the immediate consequence of the weakening of the Union on effort levels was positive. It was reported from Stourbridge in 1903 that:

¹ *Ibid.*, April 1903, p. 367.

² *Ibid.*, p. 1,093.

³ *Ibid.*, October 1904, p. 1,097.

⁴ Glass Bottle Makers of Yorkshire Trade Protection Society, *Quarterly Report*, September 1911, p. 156.

⁵ *Gazette*, February 1904, p. 192.

The effort successfully made here to rescue the higher branches of the flint glass trade from the domination of [the Union] is having a good effect, the workers continuing to earn satisfactory wages; and those managers who have shaken themselves free being at liberty to manage their works on broad and sympathetic lines, and so extend their respective businesses.¹

Congreve Jackson, managing director of the Dennis Glass Works, where the dispute began, claimed that his firm's wage bill in 1905 was £6,000 more than it had been in 1901, the last full year worked with Society men. This increase was:

partly made up through our men having availed themselves of the liberty they now enjoy of making 'overwork' (i.e. articles made in excess of the fixed number per turn), the money thus earned amounting to about £125, not one penny of which, under the rules of the Society as they existed three years ago, would they have been allowed to earn or receive.²

Also, during the last five years bonuses worth £400 had been distributed to glassmakers.³ There is, indeed, some indication that the decline of the table-glass trade may have slowed in the years prior to 1914. Flint glass imports, having increased rapidly since 1875-9, remained virtually stable between 1905-09 and 1910-14, and exports, which had declined almost continually from 1880-84, grew 20 per cent. over these years.⁴

But more fundamentally, there was no turnaround in the trade's fortunes. As Barker notes, in the five years before 1914 the annual average excess of retained imports of flint glass over exports was more than £900,000.⁵ Decline, it seems, had gone on too long and was attributable to factors besides employee hindrances to production. The *Glasgow Herald's* review of the flint-glass trade struck, in 1909, a familiar note. Reports from manufacturers showed trade to be very depressed, and the outlook not encouraging; the trade was almost altogether in the hands of foreigners, and it was doubtful if it would ever recover its former position.⁶

¹ *Ibid.*, September 1903, p. 914.

² *Ibid.*, January 1906, p. 92.

³ *Ibid.*

⁴ Barker, 'Glass Industry', p. 310.

⁵ *Ibid.*

⁶ *Gazette*, February 1909, p. 195.

Murray had in 1903 cautioned employers against exaggerating the benefits from a weakening of the Society:

I certainly do not agree with those employers who place the whole of the blame on the workpeople for the condition of the English trade to-day. If the workmen did all that was required of them by some of the employers, I feel sure, with regard to foreign competition, the position would not be materially improved.¹

Besides, much remained unaltered. Employer attitudes continued rooted in the past, and the workforce retained a strength traceable to its special skills. The Union itself was far from impotent, though its power is difficult to gauge. According to the *Gazette* in January 1907 the bad effects of its regulations were still felt by the trade, albeit in a less pronounced way.² In 1927 it remained the case that a flint-glass employer had to apply to the Union if a place became vacant.³ Hilton recorded in 1935 that amongst firms specialising in hand-made glass several were definite 'that output is restricted by the refusal of their workers to abandon obsolete traditions and customs.'⁴ Numbers per turn were still described as 'ridiculously low,' but these restrictions existed in both Union and non-Union shops, suggesting they reflected primarily the craftsman's adherence to past traditions. The six hour shift, always more strongly favoured by the men than the masters, was not generally abandoned in Stourbridge until shortly before the Second World War.⁵

Organisation in the flint-bottle trade was more effectively maintained. Upon its foundation in 1903 the National Glass Bottle Makers' Society had approximately 800 members; by March 1914 this had increased to 1,037.⁶ The flint bottle industry, declared F. Wood of Wood Brothers in 1916, was dominated by trade unions.⁷ And the existence of a Society

¹ *Ibid.*, February 1903, p. 149.

² *Ibid.*, January 1907, p. 93.

³ Sandilands, 'Midland Glass Industry', p. 218.

⁴ Hilton, *Unions Obstructive?*, p. 198.

⁵ Matsumura, *Labour Aristocracy*, p. 38.

⁶ *Bottle Makers' Magazine*, March 1914.

⁷ *Gazette*, August 1916, p. 840.

Magazine permits a more detailed description of developments after 1903.

In the policies and attitudes of the Bottle Makers' Society much continuity with the Flint Union is discernable. Promotion continued subject to Society rules. No advancement was permitted when capable men were out of work.¹ Despite opposition both from employers and blowers desirous of being made up to finishers, this restriction received re-statement in 1911.² Wage differentials had long been narrower in flint bottle making than in table ware, and had been diminishing more rapidly. This trend continued. Basic weekly wages of bottle finishers were 33s. 3d. in 1908, those of blowers 29s. 6d. In 1912 the figures were 34s. and 32s.³

Piece-work remained the basis of wage payment, and again we find employers pressing for enhanced numbers per turn. In August 1906 they requested a 20 per cent. increase in catalogue numbers on bottles up to 2oz; 10 per cent. on bottles between 2 and 10oz; 7.5 per cent. on bottles of 12-16oz; and 5 per cent. on all others.⁴ These demands were resisted by the Union, apparently successfully. Six years later employers protested at the damaging competition they were experiencing from a Newcastle firm, whose numbers per move were 25 per cent. above the trade standard. The Union responded by endeavouring to organise the men at the works. When more than half the workforce had complied the employer gave all his hands seven days notice. The outcome of this dispute is not clear, but its occurrence reflects the continuing bias within the trade towards restriction.⁵ There was, however, more discussion than previous respecting the possible advantages of day-work. After some vacillation the General Secretary in 1906, W. Milnes, recommended the introduction of a basic minimum wage coupled with a standard output of four moves per turn. Any workman incapable of making the latter would,

¹ *Bottle Makers' Magazine*, December 1906, p. 166; we saw earlier how promotion was regulated at the flint-bottle works of Beatson & Clark.

² *Ibid.*, September 1911, p. 161.

³ *Ibid.*, December 1908, p. 253; December 1911, p. 244.

⁴ *Ibid.*, June 1906, p. 9.

⁵ *Ibid.*, December 1911, p. 239.

he said, be better-off on the office staff.¹ Another General Secretary took up the demand for day-work in 1916. Under such a system, an employer would have an incentive to maximise output per hour, and bad working conditions, poor management, and careless men would all ‘disappear like magic with everything else that was an hindrance to production.’² He acknowledged that some men could not be trusted to exert honest effort on day-work, but:

As a rule the men working on day-work are selected men, and the results prove the wisdom of the selections made. Shirkers are not to be found there. Yet it is a real pleasure to know and to be able to say to the employer that there is a very large majority of our members not working day-work that are equally reliable as those that are...³

The Union membership voted in 1909 by a small majority against piece-work. One correspondent regretted the result had not been more decisive, for in the absence of the piece-work incentive:

Our men would not go in for record breaking as they are doing nowadays, they would be content to live and give others a chance by taking them off the unemployed roll, and then they would not be so nearly fatigued as they must be by the grey-hound method, a method which shows others that are watching, what a human machine really can do.⁴

His motives for favouring day-work, though very different from those articulated by the Union’s leadership, may well have been more representative of rank-and-file opinion.

Interest in day-work was not confined to the Union. As the General Secretary’s remarks of 1916 indicate, workmen making articles that were unique or of special quality were already engaged on day-wages. An offer was reportedly made by one of Yorkshire’s largest employers to pay every man 50s. per week if the Society would permit them to go onto day-work.⁵

A new development during this period was the formation, in 1910, of a price maintenance agreement amongst domestic and continental bottle manufacturers. By limiting

¹ *Ibid.*, March 1907, pp. 236-7.

² *Ibid.*, September 1916, p. 5.

³ *Ibid.*

⁴ *Ibid.*, June 1911, p. 92.

⁵ *Ibid.*, March 1907, p. 234.

output and restricting competition, the agreement had the effect of diminishing employer pressure for lowered piece-rates and heightened effort levels. It accordingly enjoyed Union support.¹

In one respect the establishment of the Flint Bottle Union brought a marked break in policy. Whereas the first issue of the *Quarterly Magazine* had declared it a Society objective to enforce a uniform make of two moves per turn, the same number of the *Bottle Makers' Magazine* called upon members to lift restrictions on the amount of bottles produced in a shift. Acknowledging that output limitation had been undertaken from the creditable motive of keeping as many men at work at a reasonable wage as possible, results had proved, said the General Secretary J. Beighton, that this was a 'suicidal policy.' With output held back, expenses per bottle, and hence prices, were increased: 'instead of men being kept at work the unemployed ranks are being augmented.' 'We are convinced,' he continued, 'that in times of bad trade we must, to keep going at all, make our work as cheaply as it is possible, and any legitimate demand that may be made upon us we must respond to.'²

A reduced make in the bottle trade was known as a 'tantum,' and one of the earliest acts of the Union's leadership was to ballot members as to whether this should be retained. Voting yielded a majority of 376 over 243 for retaining the tantum, indicating that rank-and-file attitudes had undergone less of an alteration.³ It was nonetheless resolved by the Executive Committee, on the grounds that in only two districts did the tantum actually operate, that henceforward it would be abolished.⁴ Whether the break was as decisive, even amongst the leadership, as this resolution would suggest is less clear. Writing of a loss of trade from the flint bottle industry to the common bottle sector, the General Secretary remarked that an increase in numbers per move of 20 per cent. would have retained the work and admitted that existing facilities were 'favourable to a much larger production;' yet the concession was not granted for a 'disastrous'

¹ *Ibid.*, March 1910, pp. 7-9; March 1913, pp. 25-6.

² *Ibid.*, April 1903, pp. 3-4.

³ *Ibid.*, July 1903, p. 69.

⁴ *Ibid.*

principle would thereby be established.¹ Clearly workmen were assumed to be producing well within their limits. And it is likely that the custom of restricting output continued to exert its hold within the glass-house. Glass-blowers at Beatson & Clark were summoned to a meeting in November 1917, at which the management expressed itself certain that 'there was still a tantum of six moves in operation' and 'explained that this tantum was an extremely serious matter.'² After the War there was some reference to glass hands deliberately restricting output in pursuance of a "ca' canny" policy, but these complaints never had the prominence they assumed in other trades.

¹ *Ibid.*, March 1912, p. 325.

² Beatson & Clark, *Works Diary*.

Chapter 20

Concluding Remarks

Even less true was it of the flint-glass trade than of other industries that it existed primarily for the returns it generated to the owners of capital or labour inputs. The glass-house was a world in its own right, and much that occurred within was an end in itself. The industry resided largely in the skills of its practitioners; to undertake flint-glass manufacture, a skilled workforce was the overriding requisite. As the *Pottery and Glass Record* remarked in 1919, the conditions of the industry were exceptional since 'the personality of each workman, and his individuality and skill' dominated production.¹ Employees were not independent of providers of capital, and the interests of the employer could not be ignored. But neither did they occupy first place. Employers were comparatively tangential. They, and their agents, were not closely involved with the production process, except in so far as they had themselves been trained within the craft. Significant autonomy was enjoyed by the skilled workman, and this was accepted by providers of other inputs. 'With our beautiful industry, requiring such elaborate skill,' said the Union in 1897, 'it is our fault if we suffer from injustice; the mastery of the situation should be ours...'²

Employers, like all those engaged in the industry, were integrated into a broad system of trade regulation based upon custom. The pattern of shifts, method of wage payment, distribution of authority, relations between footmaker, servitor, and finisher - all were fixed by tradition. And this was true also of the level and *form* of effort. An employer could be confident that a certain amount of work of a particular quality would be performed. However,

¹ *Pottery and Glass Record*, September 1919, p. 402.

² *Magazine*, July 1897, p. 228.

much of the responsibility for establishing these standards resided with the men, and they were not easily alterable by the employer. The concept of effort in the flint-glass trade was itself complex, owing to the premium placed upon the artistry of the glass produced. By emphasising *this* aspect of effort, the workforce did much to shape the development of the trade, further encouraging employers to pursue quality at the expense of quantity. This had the additional implications of strengthening the position of skilled labour and making the monitoring and control of effort still more difficult: the more elaborate the final product, the less adequate were quantitative evaluations of worker performance and the greater the scope for worker discretion over the pace of operations.

Of interest is the role of the Flint Makers' Society. That it profoundly influenced the trade is beyond doubt. Yet the mechanisms through which it accomplished this were not evolved by the Society, but inherited from established craft practice. It organised around these existing regulations, serving, thereby, to defend and sustain them. When in 1850, for instance, the Union declared its support for the system of making two moves per turn, it was merely endorsing existing practice, as the Central Secretary explained in 1868:

the old custom of the trade, independently of the Union, before the Union came into existence, in a great measure brings about the two moves or journey system, and it regulated a certain amount of produce per turn, that is according to a given time.¹

In fact, Union leaders quite soon became disillusioned with the policy of output limitation; it was the membership in the Midlands heartland who were most attached to the custom. And in certain glass-houses output continued to be restricted long after the scope of Union jurisdiction had receded. This absorption of the Society in the broader life of the trade helps explain why employers took few decisive steps towards challenging the Union's ascendancy: the Society epitomised a world which employers themselves inhabited.

Like the earlier guilds, which it in many respects resembled, this system not only maintained a high quality of glass-ware, but guarded the interests of the producer. Those

¹ *R.C. on Trade Unions*, 10th Report, Q. 18,706.

engaged in the glass-trade do seem to have derived genuine pride from the fact, finding glass-house life rewarding on a number of levels, individual and social. It provided a stable and secure environment in which men could anticipate spending their lives developing a high level of artistic skill. The workplace was friendly, and there issued forth glass renowned for quality. Only Bohemian glass matched that of Britain. These characteristics of the glass-house found reflection in the Flint Glass Society. Notable for its allegiance to the traditional order of the glass trade, the organisation sought to inculcate in its members the virtues of discipline and responsibility. Its guiding ethos was one of individual progress within an established framework productive of self-confidence. The *Quarterly Magazine*, with its long articles on all aspects of trade life, testifies to the interest the men took in their work.

In the second half of the 19th century the social arrangements of the flint-glass trade were subject to increasing overseas competition, which forced employers to adopt a more critical attitude towards output levels. Yet this new commercial imperative operated within the context of the old order, which continued to exert its hold. Employers themselves, however conscious of mounting difficulties, remained products of a skilled and antique trade. Their attitude to change was ambivalent. They did not conceive of new ways of arranging production; nothing approaching 'scientific management' was taken up by any flint-glass employer. In a letter to the *Daily News*, Chiozza Money attributed the unhealthy state of the glass trade to poor management: manufacturers were 'content to make glass by the rule of thumb,' being engaged in the futile occupation of 'stoking the furnaces of a by-gone age.'¹ A significant charge is that they failed to develop those characteristics of the trade which would have assisted in stimulating worker effort. As we noted earlier, profit-sharing was well suited to a glass-house, but this potential was hardly exploited. Similarly, the interconnected labour of the chair may have caused a more equitable distribution of piece-earnings to be more productive than that which prevailed, where workers were remunerated at significantly different rates, with the strategically important footmaker in receipt of the lowest reward per unit.

¹ Cited *Gazette*, November 1909, p. 1,278.

Besides, owing to their comparatively detached position *vis-a-vis* the manufacturing process, employers had to exert an influence on production *via* established modes of working. There existed, for instance, the potential of using the wage and status differentials of the glass-house to encourage effort by advancing individuals who exhibited noteworthy exertion or enterprise. In practice, promotion was regulated by the Union, which maintained a system founded upon principles of seniority and craftsmanship. More significant, the dual determination of wages and production through the move and turn system implied, if output were to be increased, either raising the number of moves in a turn, or the number of articles in a move. Though pressure was exerted at both levels, moveage was more easily controlled by the Union and resistance to enhanced moves more stubborn. Increased output was consequently primarily achieved by raising numbers per move. Yet these gains reduced the reward to effort and generated a resentment which favoured output limitation. Means used to raise effort levels were therefore crude, and undermined much of that good-will so important to successful flint-glass manufacture.

Indeed, the loss of trust and good-will resulting from employer strategies was perhaps their most damaging and counter-productive aspect during this period. Reciprocal trust was crucial to the manufacture of high-class ware. On the one side, flint-glass making was difficult to monitor and employers had necessarily to depend upon the skill and initiative of the operative. On the other, the worker invested many years in developing his skills - skills which often had a large firm-specific element and during the attainment of which he received relatively low wages. Each party thus relied on the trustworthy conduct of the other. This, together with the craft characteristics of the trade and the diversified nature of its product, gave to flint glass manufacture important elements of what has come in recent years to be categorised as flexible production.

In a 1985 article, C. Sabel and J. Zeitlin argued that mass factory production of standardised commodities, of the sort pioneered in the British cotton industry and perfected in the U.S., was not the only feasible path to modern economic development. They drew attention,

instead, to another tradition, characterised by the use of flexible equipment by skilled workers to make specialised goods in short production runs.¹ These flexible production systems were often regionally concentrated in 'industrial districts' in which numerous small firms and workshops interacted to provide specialist services and inputs, and sub-contract work from other producers. As examples of this alternative mode of industrial organisation Sabel and Zeitlin cited:

Silks in Lyon; ribbons, hard-ware and speciality steel in neighbouring Saint-Etienne; edge-tools, cutlery and speciality steels in Solingen, Remscheid and Sheffield; calicoes in Alsace; woollens in Roubaix; cottons in Pawtucket, Rhode Island; textiles of all kinds in Philadelphia...

The long-term technological dynamism of these 'industrial districts,' and their 'flexible and innovative response to the demands of changing markets,' suggested 'there was a craft alternative to mass production as a model of technological advance.'²

A number of studies have focused in more detail upon the historical development of certain of these industries and regions.³ C. Poni, for instance, has drawn attention to the prosperity of the Lyons silk industry in the 18th century, which he attributes to such factors as a rich economic infrastructure within the local region; the creative capacities, tastes, and imagination of employers and workers; rapid decision making; and the active use of the Jacquard loom.⁴ A. Cottureau carries the story into the 19th century, contrasting the continued success of the Lyons industry, with its outwork and workshop production of high quality, diversified, commodities made to order, with the decline of London's Spitalfields silk trade, which sought to mass produce items along the lines of the cotton industry model.⁵

¹ C. Sabel and J. Zeitlin, 'Historical Alternatives to Mass Production: Politics, Markets and Technology in 19th Century Industrialisation', *Past and Present*, 108 (1985); see also Tolliday and Zeitlin, 'Employers and Industrial Relations between Theory and History', pp. 15-18.

² *Ibid.*, p. 142; J. Zeitlin, 'Local Industrial Strategies: Introduction', *Economy and Society*, xviii (1989), p. 367.

³ C.f. C. Sabel and J. Zeitlin eds., *World of Possibilities: Flexibility and Mass Production in Western Industrialisation* (1997).

⁴ C. Poni, 'Fashion as Flexible Production: the Strategies of the Lyons Silk Merchants in the 18th Century', in Sabel and Zeitlin eds., *World of Possibilities*.

⁵ A. Cottureau, 'The Fate of Collective Manufactures in the Industrial World: the Silk Industries of Lyons and London 1800-1850', in Sabel and Zeitlin, *ibid.*

The concept of flexible production sheds valuable light on the characteristics and potential patterns of development of the flint glass trade. Those areas within which it was geographically concentrated present some of the features of an industrial district. The culture of glass making permeated the villages around Stourbridge and Brierly Hill, with the sons of makers being familiarised from an early age to the distinctive rhythms of glass house life, and often following their fathers into the trade. Glass firms which did not do their own cutting put-out items to workshops specialising in this branch of work; local firms also manufactured the clay pots within the molten glass was prepared. Yet the network of horizontal and vertical linkages was not so extensive as we find described in the classic industrial regions of Lyons, Solingen, and Sheffield. Glass making was a continuous and comparatively self-contained process, each firm overseeing all the stages in the manufacture of its own product.

More readily applicable to the glass trade is the concept of flexible production. As we have noted, glass houses were small and showed little tendency to grow over the period. Both employer and worker were steeped in the skills of glass manufacture, the practice of which required extensive experience and artistic sensibility. The operatives, in particular, were zealous in the maintenance of their craft skills, and the pages of the *Quarterly Magazine* testify to an interest in the aesthetic dimensions of the trade comparable to that of the Lyons weavers.¹ The market for the best flint ware was variegated, often entailing the making of unique products to order in small batches, while the fancy glass trade, which grew in importance in the late Victorian period, required continual adaption to the shifting tastes of fashion.

As the 19th century proceeded flint glass houses did develop, to a significant extent, those aspects of the trade characterised by the skilled making of specialised products. As we have observed, employers responded to the mounting competition in cheaper goods by seeking-out niche markets for products in which their skill and traditions still provided them with a comparative advantage. In this strategy they were supported by the workforce, which shared the commitment to quality ware and the contempt for cheap, poorly finished, products.

¹ Poni, 'Fashion as Flexible Production', p. 109.

But although flint glass manufacture entailed, in practice, the sustained cooperation of employer and worker, there was not that open collaboration and blurring of distinctions between the two which has been regarded as central to the long-term success of flexible production strategies. Throughout the concepts of 'them' and 'us' permeated industrial relations, producing an atmosphere of suspicion and defensiveness which spilled-over into two major disputes in 1857 and 1903.

It was here that employer preoccupations with effort levels proved so counter-productive. The move and turn system, and the output limitation it embodied, constituted a running grievance for employers throughout the second part of the 19th century. Yet the operatives were not only hostile to the speeding-up of work as such; they regarded the regulation of moves and turns as essential to that maintenance of quality production which defined their craft and, they believed, would best ensure the future of the trade.

In this the workmen probably exhibited greater judgement. There is little to suggest that increased effort levels, by themselves, would reverse the flint glass industry's decline. Indeed this decline continued after the defeat of the Union in 1903, when most employers secured greater freedom in the conduct of their works. With the hand-manufacture of flint glass coming under pressure from the mass-production of simpler but serviceable pressed-glass, it was apparent that if it were to survive it would be by catering to the demand for specialist, artistic, and luxury products. This employers realised. But their conflictual approach to industrial relations and the labour process hindered the development of a more cooperative and symbiotic relationship which, as experience from other industrial districts suggests, is an important element in the success of flexible production. A good example is technical change. Accounts of the conduct of flexible production in areas like Lyons and Solingen emphasise the technical dynamism of artisanal production, as workers cooperated in the introduction of new methods and suggested technical changes themselves. By contrast, flint hands were suspicious of the few innovations attempted in the method of manufacture, resisting the introduction of wooden moulds to assist in glass-blowing and opposing attempts to alter the idiosyncratic shift-system.

It cannot, however, be assumed that a fuller acceptance of the principle of flexible production would have guaranteed the future of the British flint glass trade. Other glass making centres in Europe, such as Bohemia, were catering for similar markets. They had long traditions of glass manufacture, and their operatives were as equally skilled as those in Britain and prepared to work for lower wages. Further, the market for high quality and fancy glass was small and exhibited little prospect of growth as income inequalities diminished and popular taste shifted away from elaborate Victorian styles. And as the decline of such manufacturing centres as Solingen and Sheffield illustrates, flexible production within the context of a supportive industrial region was not, in itself, a sufficient condition of continued prosperity.

The weaknesses of the flint glass trade were exposed by foreign competition. All those engaged in the trade partook of its culture, and the failure to respond to the changing situation was correspondingly collective. 'There seems,' said an 1896 review of the glass-trade, 'to have been a want of concerted action between the manufacturers and the various sections of the workers for the supply of cheaper glass.'¹ The Union failed to take the threat of overseas competition sufficiently seriously until it was too late. In 1881 the Central Secretary, observing that English glass was superior to most continental products, was optimistic that it would 'in the long-run give the public greater satisfaction than those which may be termed "cheap and nasty;"' he was confident that the time was coming 'when the public will not buy this "ginger-bread" stuff, but will demand a good and substantial article.'² By 1898 the Society acknowledged that 'We have, in many instances, been content to work as our grandfathers did, and while we have been doing so, the foreigner has been marching with the times.'³ Those mechanisms which could have encouraged enhanced effort levels had evolved in ways reflecting other pre-occupations and requirements of glass-house life, and were not, in any case, under the direct control of employers. The need for new techniques was but dimly perceived by either masters

¹ *Gazette*, June 1896, p. 443.

² *Magazine*, May 1881, p. 280.

³ *Ibid.*, April 1898, p. 101.

or men. Instead there was a consensus for withdrawing into the more artistic and idiosyncratic parts of the trade, where traditional ways remained unequivocal strengths, and some of the destruction of overseas competition could be escaped.

Conclusion

It is apparent that in both shoe-making and flint-glass manufacture, and indeed in most of British industry in the late 19th and early 20th centuries, workmen had the capacity to vary the intensity of labour. Output was not solely determined by human physiology or machine technology. In the shoe industry of the inter-war period, for example, by which time mechanisation had made significant inroads, more time was spent between jobs and setting machines than in actually performing them, and the speed of operation was itself subject to employee discretion.¹ The 'human factor' thus remained important in accounting for the productivity of individuals, firms, industries - and nations. This politicians and administrators were forced to acknowledge during World War One, when it was found necessary to explicitly incorporate measures relating to workshop practice and union regulation into attempts to raise productivity in the munitions industries.²

The motivation to effort is one element of this 'human factor' and has formed the chief focus of this thesis. Approaches to the understanding of work motivation differ. However, by developing upon the expectancy theory outlined in Chapter One, it is possible to construct a framework within which an individual's effort decision may be conveniently analysed.

The strength of the motivation to perform some act is determined, first, by the expectation that the effort expended will result in the intended performance; and second, by the valence of the outcomes associated with that performance - that is to say, its perceived desirability. This latter is a product of its extrinsic and intrinsic consequences. What light, then, does this expectancy theory, in conjunction with our industrial studies, throw upon the motivation

¹ See above, p. 254; see also p. 49.

² C.f. H. Wolfe, *Labour Supply and Regulation* (1923); G.D.H. Cole, *Labour in War Time* (1915); G.D.H. Cole, *Trade Unionism and Munitions* (1923); S.J. Hurwitz, *State Intervention in Great Britain* (1949).

to work in the late 19th century? Let us consider an individual contemplating whether to seek to increase his average weekly level of output.

1. *The Effort-Performance Link*

Would effort result in performance? It is difficult, at this distance, to generalise about how far effort resulted in performance since, in most cases, we have no evidence of the expenditure of effort independent of the output it produced. We do not know how much effort was simply wasted, misdirected, or used inefficiently.

It was, of course, a contention of Scientific Management and time and motion study that much effort was not being efficiently deployed. Employees did occasionally complain that poor factory organisation hindered production. We have noted Alfred Williams's frustration at the unthinking methods of foreman and managers. The loose organisation of many factories probably induced a cynical and fatalistic attitude amongst some employees: why try to produce more when the result might be a shortage of materials or a piling-up of semi-finished items? The President of the Institute of Mechanical Engineers acknowledged, in 1917, the persistence of organisational deficiencies in the engineering trade:

Except in a few cases, workshop organisation here has not received the attention given it in America or Germany. There are still shops without definite planning of the progress of work, without adequate equipment of jigs and gauges, and without standard shapes of tools or a toolroom; where men drift about in search of tools or tackle; or wait in idleness for drawings and material; where machinery is obsolete and light so bad that good work could not be done if the machinery were up to date.¹

In the shoe trade also, we have noted, a machinery manufacturer estimated in 1923 that with improved managerial practices the output of the average factory could have been increased by a fifth.²

Weaknesses in the effort-performance link were an important theme in the flint-glass industry. Bad management, according to one operative in the 1880s, had done more to limit

¹ Cited in Gospel, *Markets, Firms, and the Management of Labour*, pp. 51-2.

² See above, p. 239.

output than any union restriction, the first half-hour of a shift being routinely lost. Another noted that, although arriving for work at 7.00am, the condition of the furnaces and equipment meant production often did not commence before 8.00am: 'In the U.S.,' he believed, 'they have none of this to contend with, they go in and start work straight away, everything is got ready for them to start.'¹

The quality of the metal was an additional concern; as this deteriorated towards the end of the week production became more difficult. Similarly, attempts to work faster could lead to more broken or rejected articles, for which the men would not be paid. Lastly, the team nature of production meant that the individual could not work faster than the chair's slowest member. When one operative was absent, the whole chair would often have to be laid-off or produce a significantly reduced make - a situation which, owing to the heavy drinking of glass makers, was not uncommon. The records of Wood Brothers revealed that on 1 August 1890 a quarter of the firm's chairs failed to either start or complete their shift. In such circumstances it was a far from easy matter for an operative who *wished* to be more productive to actually *be* so.

2. *The Valence of Outcomes*

Despite differences of detail and emphasis, our case studies indicate important similarities with regard to the positive and negative consequences shoe and glass makers expected to follow from increased output. In both cases workers frequently concluded that the net benefits were insufficient to justify greater production. The positive consequences of increased effort appeared weak; the negative, by contrast, seemed real and impressed the mind of the worker.

See above, p. 336.

(i) *Positive Consequences of Increased Output*

(a) *Increased Pay*

Wages are probably the most important, and certainly the most studied, of the extrinsic rewards of work. The connection between output and pay is strongest under piece-work and, writes Lawler:

a substantial amount of evidence supports the prediction of our motivation model that tying individual performance to financial rewards results in increased performance... Even the most conservative results from these studies seem to suggest that individual incentive plans can increase productivity by 10 to 20 per cent.¹

Piece-work, if not dominant, was widely utilised in British industry. Around 30 per cent. of manual workers in manufacturing were paid by results, and this proportion exhibited a slight upward tendency prior to 1920.² The experience of firms introducing the system confirms the existence of a positive effect upon productivity. Indeed the figures quoted in shoe-making are close to the 20 per cent. differential Lawler postulates.³

From this undoubted fillip to production consequent upon the introduction of piece-work it is sometimes inferred that the system will thereafter encourage ever-greater levels of output. While the effects of learning by doing may produce this result, considered purely from the perspective of effort there is no reason why the individual, having attained his preferred intensity of effort, will subsequently wish to increase it. Henceforward the primary function of piece-work is to provide an incentive toward the *stabilisation* of effort levels - a point which Baldamas has emphasised.

However in British industry another factor has been shown to have acted against greater output under piece-work, namely rate-cutting. It was a commonly noted phenomenon that employers would cut piece-rates when an employee's total earnings exceeded by around 33 or 50 per cent. those customary for similar work under time-wages. Complaints of rate-cutting

¹ Lawler, *Motivation*, p. 119.

² See above, pp. 97-101.

³ Above, pp. 119, 250-51.

emanated from across industry.¹ In shoe-making the upper limit to earnings appears to have been approximately 30 shillings at the end of the 19th century. Indeed this wage ceiling was so much a part of the trade that employees tailored their output accordingly and were not reasonably expected to produce more.²

Why did employers behave in this way? Two main reasons have emerged from this study. First, inadequacies in the rate-setting procedures meant that employers frequently had no accurate idea as to what was a feasible level of output on a job, and hence a reasonable price per piece. When, therefore, an operative's total earnings began to significantly exceed his usual weekly wage this was considered to more likely reflect an overly generous piece-price than a high intensity of application. The temptation to cut piece-rates was strong and not without justification. This is a point which Stiglitz has developed. When, he writes, the worker has better knowledge of the true cost of production, in terms of effort, than the employer, he has:

an obvious incentive for informing the manager when the job is difficult (when the piece rate is set too low) but he has no corresponding incentive to inform the manager when the job is easy, i.e., when the piece rate is set too high.

In these circumstances:

The firm seeks to infer information about the difficulty of the task from the revealed behaviour of the individual; when it obtains this information, it uses it to revise the piece rate.³

Second, employers conceived of an upper limit to the earnings that it was 'appropriate' for a factory worker to receive. When judging whether wages were 'reasonable' or 'excessive' the employer made reference, not simply to the productivity of the worker, but to the standard of living customary to his class position. A shoe trades' journal acknowledged in 1896 that 'most employers think that 28s. per week is a good wage for an operative.' The shoe makers' union had earlier expressed the dilemma which this attitude posed for workmen:

¹ See pp. 112-13 above.

² Above, pp. 253, 271.

³ Stiglitz, 'Incentives, risk, and information', 566.

When they had been provident and abstemious, and thereby kept themselves, their wives and families in a manner that society terms respectable, this is considered by some ample proof that the wages received are too high. If on the other hand they had been improvident and indulged somewhat freely in the luxuries...of life, this is considered by some a sure sign that the wages earned have led to evil habits and therefore to curtail them becomes a moral virtue and necessity.¹

It was not the incidence of rate-cutting alone that was important. W.F. Whyte has observed how workers, in responding to an incentive plan, will be influenced by the testimony of other workers with regard to the consequences of performing well. Thus a worker can be convinced, by his peers, that if he is highly productive his piece-rate will be reduced even though he has never seen it happen and the company says it won't happen:

Workers believe the event will happen because the event has been predicted by their fellow workers, who represent a high credibility source.²

There can be little doubt that there was passed on, within the culture of the 19th century workshop, traditions and accounts of previous occasions of rate-cutting, so that rate cuts, even when not observed, could still be anticipated and thus shape employee motivation. The legacy of rate-cutting could therefore persist when the employer had come to acknowledge its damaging consequences.

Whatever the motives for piece-rate reductions, there can be no doubt that they were highly damaging to the functioning of payment by results as an incentive to increased exertion. Realising that if he allowed his weekly earnings to go too far beyond his customary wage the piece-price would be cut, the employee's obvious response was to keep his output within this limit. Output and earnings were thus reciprocally tailored by workmen and employers: the operative received a wage one-third greater than that under day-work, and in return did one-third more work.

From the perspective of increasing productivity, the experience of British industry in the 19th century well illustrates a warning given by Lawler. Motivating by extrinsic rewards, he notes, can be very expensive. An organisation must be willing and able to give certain

¹ Quoted above, pp. 269-70.

² Lawler, *Motivation*, p. 56.

employees significantly greater pay. 'If a company cannot afford to do this or is not willing to do it, it should forget about using pay to motivate performance.'¹

(b) Promotion and Internal Labour Markets

By working harder an individual might hope to advance through the employment hierarchy, gaining greater extrinsic rewards, notably pay, security, and status, as well as intrinsic rewards such as self-esteem and the exercise of leadership. Promotion was important for time-workers - who were the majority - since it represented the chief means by which they could expect to raise their wages by improved performance.

Yet in much of industry this incentive was weak. Internal labour markets were underdeveloped. Although some larger firms, such as the Manchester high-quality spinning concerns studied by Huberman, had discovered the advantages of internalising their labour relations prior to 1850, most of the more typical small and medium sized firms lacked the bureaucratic resources and long-term stability required for the operation of internal labour markets. Instead, as Gospel has emphasised, the external labour market dominated their labour strategies. This meant not only that they made active use of the external labour market to meet their fluctuating labour requirements, but that, equally important, they referred to the market wage for the labour in question when setting the wages of their own employees.² Consequently, even when workers did remain with one firm over a prolonged period, the wage structure offered little opportunity to reward their firm-specific performance.

We identified, in particular, four factors which limited the effectiveness of promotion as a motivator to effort. First, the wage-range within most factories was fairly narrow. As noted in Table 2, the foreman's wage, which was the highest to which a manual worker could reasonably aspire, was in 1906 generally 30-60 per cent. above that of the average employee's. The differential in shoe-making, at 35 per cent., was at the lower end of the range. Figures for

¹ *Ibid.*, p. 138.

² See above, p. 116.

the Desborough Shoe Company in 1912 show a differential of only 30 per cent.¹

Second, prospects for promotion were limited. It was a corollary of the low levels of supervision in British industry that opportunities for advancement to the position of foreman were few. There were, on average, around 30 employees to each foreman in the shoe industry, and this conformed to the average for industry as a whole.² In such circumstances foremen were, as Alfred Williams observed of the railway workshop, 'only made once or twice in a generation...'³ Third, the monitoring of employee performance on time-work was not rigorous. Decisions regarding who should be appointed and advanced usually formed one amongst the many duties claiming the foreman's attention. There was no regular system of appraisal, and much rested on the foreman's personal judgement. One consequence was unpredictability: the operative could not be sure which, if any, dimensions of performance would lead to advancement.

Lastly, criteria other than performance influenced the promotion decision. Seniority was important in the flint-glass industry. Wage differentials within the chair were significant: a finisher received a basic wage almost twice that of a footmaker. Although poor performance, with regards to quantity or quality, was likely to prevent a workman advancing through the hierarchy of the chair, the basic factor governing promotion was length of service. Further, all appointments had to be sanctioned by the union, whose priority was often the placing of an unemployed member or the elevation of the operative who had been waiting longest, rather than the reward of merit *per se*.

It is therefore questionable whether a worker would have been wise to increase his effort level in the expectation that this would be recognised by his employer and rewarded proportionately. Wage differentials within departments were narrow. Besides, few firms possessed the institutional machinery to monitor each worker's performance and adjust his

¹ Above, pp. 124, 242.

² See above, pp. 139, 242.

³ Williams, *Railway Factory*, p. 282.

reward accordingly. With only one foreman overseeing all aspects of production in a department of 20, 30, or more workers, and frequently working himself, the likelihood that extra exertion would have gone unrewarded was probably sufficient to dissuade even the most ambitious worker.

(c) *Avoidance of the Stick*

Fear of dismissal acted, negatively, as an important motivator, and was the basic factor underpinning the performance of employees on day-wages. A worker could be paid-off with little more than a few hours' notice.¹ Redundancies were especially associated with periods of slack trade, when it was a common observation that employers used these opportunities to weed-out their less strong, skilled, or diligent employees. This was a feature of both the shoe and glass industries.

With unemployment in the late 19th century quickly bringing poverty and destitution, and with industry subject to marked cyclical fluctuations - in the shoe-trade compounded by the seasonality of demand; in flint-glass by secular stagnation - the threat of dismissal probably operated as a powerful disciplinary device. Some employers sought to heighten its effectiveness by paying efficiency wages - i.e., wages in advance of the market equilibrium for the labour in question.² Flint glass finishers received a wage above that of other skilled workers employed locally, and the wage structure within the industry bears important similarities with that suggested by such internal labour market models as Lazear's. The high earnings of finishers were largely a return to their earlier years of low wages and long apprenticeship, during which they developed their industry-specific skills. It was these skills which, in turn, generated a Marshallian composite rent, enabling firms to pay a wage which, even if below the finisher's marginal product, was greater than that which he could earn in his next-best employment. To provide the appropriate stimulus to exertion and investment in human capital it was necessary

¹ Gospel, *Markets, Firms, and the Management of Labour*, p. 23.

² Above, pp. 150-54.

that such long-term wage commitments be honoured, and it was for this reason that the ever-lengthening unemployment list of the Flint Glass Union posed such a challenge to the labour policies of the industry.

There is, however, little evidence of efficiency wages in the shoe industry, where the average wage of 30s. per week was similar to that paid to other forms of semi-skilled labour. Given the small size of firms and low capital-labour ratios characteristic of the shoe trade, this absence of efficiency wages was to be anticipated. It further conforms with the result of our general industrial analysis, which suggested that the value of capital per worker was the efficiency wage factor most relevant to explaining the wage structure of 20th century industry. Profits and firm size were, by contrast, found to be relatively unimportant.¹

Since the threat of dismissal was a function of the likelihood of being discovered malingering, effective supervision was crucial to its operation as a disciplinary incentive. Yet, as we have discussed, supervision was frequently lax in a wide range of industries in the period under review. With managerial hierarchies undeveloped, responsibility for monitoring performance rested chiefly with the foreman. However the ratio of workers to foremen, at around 1 to 30, was significantly above those levels recommended by contemporary experts on industrial efficiency.² In the shoe industry there was generally one foreman per department, which averaged 1 to every 30 operatives. This ratio changed little over the period. These foremen had a wide range of managerial duties besides supervising performance, and sometimes had to work themselves. And it was a running complaint that their wages, at around 40s. per week, did not correspond to the vital role they fulfilled. As the *Manufacturers' Monthly* observed, employers, by paying foremen wages only a few shillings above the average, got men of poor quality and had a high turnover.

In the flint-glass trade discipline was chiefly entrusted to the finisher. He was essentially a more skilled and senior worker, and did not conceive of himself as an agent of the company.

¹ See the above discussion, pp. 152-53.

² Above, p. 139.

The finisher's prime concern was that the work produced be of adequate quality. Although it was also important that the chair work at a steady pace, there is little to suggest that finishers, who were themselves of middle and late-middle age and who were, of all workers, the most imbued with trade customs, sought to enforce strict supervisory regimes. Certainly, as we have seen, discipline within flint-glass houses was relaxed, with beer drinking common and absenteeism high.

Further, in the shoe and flint-glass trades workmen took active steps - particularly through union organisation - to minimise the disciplinary and dismissal threat. In both the financial costs of redundancy were reduced by the payment of unemployment allowances. In both, also, the union sought to secure alternative employment for those dismissed for engaging in militancy. Attempts by shoe firms to enforce stricter supervision and discharge hands for inadequate output were frequently met with strike action. This was less common in the flint-glass trade. However in the latter the Society's tight control of the labour market meant that an employer discharging a worker would have great difficulty securing a replacement. As a consequence, complained one producer, they were forced to retain 'men of indolent and bad habits, men not diligent or ambitious to make progress in the trade' and who manifested 'a degree of indifference with regard to the character of their work or the opinion of their employers.'¹

As the examples of shoe and glass manufacture illustrate, the structure of firms in the late 19th and early 20th centuries, and their systems of material rewards and penalties, gave workers relatively little inducement to expend greater effort. As operated, piece-work was more akin to task-work, with workers receiving a wage approximately 30 per cent. above the time-wage average and not expected or expecting to earn more. Potential gains from promotion were limited and only weakly connected to performance: monitoring was not close and criteria such as seniority were at least as important as effort. Supervision was lax, with employees retaining

See p. 341 above.

significant discretion in the performance of tasks and supported by a network of trade custom which was frequently reinforced by trade union policy. The remarks of Lawler thus have a 19th century resonance:

managers who wonder why their people are not more productive should start by comparing the rewards given to good performers with the rewards given to poor performers. Time after time, no real difference is found when this comparison is made.¹

This state of affairs cannot, however, be necessarily taken to indicate managerial failure, for three reasons. First, the setting-up and administration of more sophisticated piece-work schemes, internal labour markets, and managerial hierarchies entailed significant fixed outlays, which would have appeared uneconomic to the many small and often unstable firms which characterised much of 19th century industry. Further, the differentiated markets for which many British firms catered rendered inappropriate the kind of investment in bureaucratic production controls and specialised capital equipment that was characteristic of mass production systems in America.²

Second, employers did not only wish to increase productivity. They had an interest, first and foremost, in stabilising effort at a satisfactory level, so as to secure continuity of performance with a minimum of supervision. As practised, the chief function of piece-work was, as Baldamas observed in the late 1950s, to provide workers with an incentive to produce a standard, regular output. This could not be taken for granted in the shoe trade, where outworkers new to factory production were initially resistant to factory discipline. After experimenting with both piece and day work systems, the industry gravitated in the first decade of the 20th century toward the compromise of the Quantity Statement, whereby the worker was expected to produce a minimum output in return for a basic wage; any additional output was voluntary and was, in fact, discouraged in most union districts. This method of payment had important similarities with the move and turn system which had long prevailed in the flint-glass trade. There, also, its effect was to stabilise effort levels, and thus ensured that, though

¹ Lawler, *Motivation*, p. 53.

² Tolliday and Zeitlin, 'National Models and International Variations', p. 280.

operatives were nominally paid by the piece, they were not encouraged to sacrifice quality to greater output as was always a temptation under pure piece-work systems.

More generally, employers had an interest in following established productive practice, of which the prevailing system of effort inducement was one aspect. They relied heavily on the skill, initiative, and goodwill of the workmen, who operated within the context of an inherited structure of workshop procedure. 'Before the Second World War,' write Tolliday and Zeitlin:

labour management in much of British manufacturing industry was based on an indigenous variant of craft production which exhibited little tendency towards the assertion of direct control through deskilling technology or bureaucratic methods. Among the central features of this system of production was its heavy reliance on skilled, autonomous workers for the performance of a varied range of tasks that required considerable know-how and discretion.¹

While this delegatory system had weaknesses, which intensifying international competition was to expose, it possessed, by the late 19th century, the characteristics of what North has described as 'institutional equilibrium.' It appeared more rational for employers to work within the existing constraints, respecting the customs and privileges of the operatives and negotiating with their union representatives, than to incur the risks and costs that a restructuring of productive organisation and a thorough challenge to restrictive workplace practices would have entailed. Employers were, themselves, familiar with the existing arrangements and could expect work of a predictable quantity and quality.

It is this underlying mutual dependency which explains why such major disputes as the flint glass stoppage of 1858, the shoe lockout of 1895, and the engineering disputes of 1852 and 1897, did not issue in any fundamental break in workplace organisation. The flint-glass confrontation lasted six months, and although at one point employers had demanded that operatives sign a document renouncing the Union and interference in the running of the glass house, the eventual settlement was in effect a victory for the Union. In return for small concessions on apprentice numbers it had formally consolidated its position within the trade - which it was not to relinquish for nearly half a century. The 1895 shoe trade lockout, by

Ibid., p. 279.

contrast, eventuated in defeat for the Union. Its membership declined for several years subsequently, and it was forced to concede the employers 'seven commandments,' including the demands that every employer be entitled to fully control his factory and that there be no attempt to restrict the output of hand or machine labour. Yet in more fundamental terms the productive relations of the industry continued unaltered. The Union remained strong in the chief centres of Northampton and Leicester, and in the new century was to expand beyond its previous size. At shop-floor level workers maintained informal controls upon output, payment systems, and forms of supervision. Within a year of the lockout complaints that workmen were limiting output on machinery re-surfaced, and by the late 1890s had attained a pitch comparable to that witnessed in the earlier part of the decade. Similarly, most engineering employers, though successful in major disputes in 1852 and 1897, persisted, writes Gospel, 'with traditional work methods and did not push through major technological reorganisation,' preferring to 'resort to cost cutting and work intensification rather than to introduce new methods of mass production.'¹

Third, the structure of rewards existing in the late 19th century reflected, in part, employee preferences. Unions, for instance, promoted narrowed wage hierarchies, pressing, in particular, for workers doing comparable jobs to be paid the same wage. They tacitly approved of limits to piece earnings,² and disrupted attempts to set piece-prices more accurately - which would, in theory, have removed one justification for rate cutting. The resulting levelling of earnings may have reflected, we have observed, status concerns of the sort described by Frank as well as risk aversion, which caused workers to prefer a stable income stream to one which, even though higher on average, was more subject to variation. More rigorous supervision and monitoring was also opposed. In matters of promotion operatives favoured the criterion of seniority. This, we have noted, had several advantages from the perspective of labour - not the least of which was that it helped to protect expected life-time earnings.

A good example of the influence of employee preferences on labour market structure is

¹ Gospel, *Markets, Firms, and the Management of Labour*, p. 20.

² See above, p. 121.

provided by the flint glass industry. This possessed in the years after 1850 many of the features of the classic internal labour market. There were recognised ports of entry in the positions of helper and footmaker; clearly defined hierarchies of function, status, and earnings; and a regularised system of promotion based upon length of service, yet making allowance for skill and reliability.

However it is important to emphasise that this labour market was administered, not by firms, but by the Flint Makers' Society. It was the Union which controlled entry to the trade, oversaw the apprenticeship system, regulated promotion, supplied vacancies with men of requisite skill, and maintained the wage differentials of the chair. Thus while there was an internal labour market within the flint glass trade, *it was external to the individual firm*. There was good reason for this. Individual glass houses were small, and only an industry-wide organisation could sustain the bureaucracy necessary for the administration of the system and have sufficient scope to balance the needs of employers with the available labour resources. Yet the result was not unproblematic for firms. Internal labour markets inhibit the flexibility of employers with regard to such matters as the remuneration, recruitment, and discharge of labour. Compensating for this is the fact that firms are able to base promotion decisions on past worker behaviour, which in turn gives workers an incentive to perform well over a sustained period. The circumstance that the system in the flint glass industry was conducted by the Union without direct reference to the interests of firms meant that employers incurred many of the costs of internal labour markets with fewer of the off-setting advantages. Promotion, recruitment, and wages were all subject to close regulation, but the employer did not have discretion as to *who* was to be advanced to fill which position. This decision was governed by the Union, which frequently sought to promote a worker by moving him to another firm or place a member who was unemployed. In either case the Union's decisions were naturally shaped by its own priorities, and employers, as we have noted, often expressed dissatisfaction with the worker supplied. It further meant that the employee had less reason to please his immediate employer who was, in promotion decisions, not the final arbiter.

As the flint glass trade stagnated in the face of foreign competition the internal labour market ceased to be sustainable even at an industry-wide level. With the lists of unemployed finishers lengthening, the Union sought to find positions for as many as possible. The promotion prospects of footmakers and servitors accordingly declined, creating resentment and demands that their wages be raised to reflect the potentially long-term nature of their position.

(ii) *The Negative Consequences of Increased Output*

Against the positive valence of greater output must be set the fact that workers also perceived that increasing output had consequences which were either negative in themselves, or which appeared to threaten other objectives to which they attached importance. Although the precise nature and ordering of these negative consequences varied between industries and types of labour, the case of glass and shoes, as well as industry more generally, suggests certain common themes.

(a) *Undermining the Standard Rate*

The Webbs were the first commentators to draw attention to the importance of the Standard Rate of reward to effort as an organising concept in trade union wage bargaining, incorporating, as it did, not only the earnings of labour but the level of effort with which it was associated. Huberman has, recently, further shown that employees saw the maintenance of the Standard Rate as central to the protection of their living standards over the later stages of their life-cycle.¹

Fear that increased output would lead to a reduction in the Standard Rate, either because the piece-rate would be reduced or because time-wages could not be confidently expected to increase in proportion, thus acted as a powerful disincentive to greater exertion. In both the shoe and glass trades, though especially the latter, this fear was compounded by a belief that demand for the finished product was price inelastic. A general increase in output would put a downward

¹ Huberman, *Escape from the Market*, p. 38.

pressure on selling prices, leading to demands for reduced piece-rates or employment.¹

A disruptive factor in the shoe industry was technical change. As employers introduced new machines it was vital, for their profitability, that their output potential be realised. Yet the same technical change transformed the character of jobs, rendering obsolete previous performance benchmarks. Operatives, not unnaturally, believed that firms were exploiting the situation to lower the Standard Rate - a fear which was exacerbated by the continuing tendency to view the Standard Rate in terms of a certain labour cost per shoe. Limiting the output of machines was thus seen as an important defensive measure. It was one which, partly for this reason, enjoyed the support of certain local Union leaders, notably in Leicester during the 1890s where the pace of mechanisation was swiftest. As mechanisation encroached more rapidly in Northampton after 1900 this district came to the fore amongst those interpreting the Quantities Statement as a basis for output limitation.²

(b) Implications for Employment

The lump-of-labour theory was widely held in 19th century British industry, especially amongst the shop-floor rank and file. The shoe and flint glass trades proved no exception. If output was increased it was expected that some workers would be made redundant. As we have noted, surveys conducted in 1945 amongst American manual workers continued to show that, of those holding that workmen should limit their output to the 'average amount,' seven per cent. gave as their *first* reason for this belief the fear that greater output would increase unemployment.³

Partly, workers empathised with those losing their jobs. But even if, as Huberman has again emphasised, they were not themselves at immediate risk of being laid-off, they realised that at a future stage of their career they, too, might be made redundant for similar reasons. Workers valued sustained life-time earnings, and unemployment threatened these. 'The laborer's

¹ Above, pp. 223-5, 286-7.

² Above, pp. 217-23.

³ Cited above, p. 28.

psychology,' wrote Commons, 'is conservative - high wages at one time do not off-set no wages at another time.'¹

Although fear of unemployment pervaded both the shoe and glass trades, its context differed in the two cases. In the former it was linked to the rapid progress of mechanisation, which threatened to displace established skills and allow employers to substitute cheap boy labour. Restrictions on output were thus seen as one way of hindering the advance of machines and thus protecting employment. In flint glass manufacture the dominant theme was the pressure from overseas competition which captured the cheaper-goods end of the trade. The result was a growing pool of surplus hands. By the end of the century around a third of the Flint Union's membership were without work. Continuity of employment, even for finishers, was no longer secure. Further, the stagnation of the trade encouraged amongst workmen the view that the market for flint glass was fixed in extent, so that if productivity were increased fewer hands would be required.

(c) *Compromising Quality*

It has been a basic contention of needs theorists such as Herzberg and McGregor that 'enriched jobs', which are complex, challenging, and interesting, are in themselves sources of motivation and satisfaction. They are associated with feelings of growth, self-esteem, and competence. Empirical studies indeed suggest that job enrichment programmes conduce towards output of greater quantity and, more particularly, quality.²

It is therefore to be expected that any threat to quality posed by an acceleration in the rate of production would be viewed with concern by many workmen. This was more likely to have been a significant factor in skilled trades, where the work regime in the 19th century possessed many of the features which have since come to be termed 'enriched.' It is apparent that the makers of flint glass, or the wheelwrights described by Sturt, did appreciate the

¹ J.R. Commons, *Legal Foundations of Capitalism* (1924), p. 306.

² C.f. Lawler, *Motivation*, pp. 151-3.

opportunities for satisfying creativity, autonomy, and self-esteem needs which their work provided.

In the flint glass industry dilution of quality was not only considered bad in itself, it was also seen as threatening the trade's future prosperity. 'We know,' said the Union's Executive Committee in 1897, 'that in the long run it is quality, and not cheapness, that holds the market.'¹ As Tweedale has described, similar attitudes were prevalent during this period in the Sheffield cutlery trades, where both business leaders and skilled workers 'were determined to defend the *status quo*, confident in the belief that quality would win the argument over quantity.'² This conviction led them, as in glass, to discount foreign competition and the need for innovation.

(d) *Effects on Factory Hierarchies*

If individual operative's sought to raise their productivity, this would disrupt the existing distribution of positional goods like relative earnings and status. Younger workers would do better compared to senior; workers prepared to bustle and cut-corners would do better than those steadier and more pain-staking. Workshop cultures frequently deprecated the individual pursuit of greater income for this reason.

Pressure to maintain existing hierarchies tended to be strongest where senior operatives exerted a preponderant influence on workplace attitudes and trade union policy, which in turn was more common in skilled trades with stable workforces. This was the case in the main Midland centres of the flint glass industry, where the finishers dominated workshop organisation. The younger footmakers and servitors acquiesced in this situation, anticipating that they too would later benefit from the privileges of seniority.

The desirability of preserving status differentials was less often referred to in the shoe trade, as rapid technical change and the influx of new, younger, hands rendered patterns of

¹ Above, p. 359.

² G. Tweedale, *Steel City* (1995), p. 165.

authority and income unstable. Even in flint glass manufacture workshop controls upon individual performance were weaker in the centres making lower quality glass like Manchester and the North East. Further, as we have seen, servitors and footmakers became increasingly frustrated with their position as the system of promotion stalled.

(e) Deterioration of the Social Environment

We observed, lastly, that workers could regard increasing effort as posing a threat to valued social dimensions of the workplace, such as the opportunities it provided for friendship, conversation, and humour.¹ Involved, here, was not only the direct effect of a heightened pace of factory life, but the possibility of the worker being ostracised by his fellows. The importance of these social rewards of workshop life was a leading conclusion of Mayo's Hawthorne studies, and has been confirmed by subsequent research. Walker and Guest, for instance, in a 1950s study of an automobile assembly line, found that the fewer the opportunities for social interaction provided by a job, the lower the individual's satisfaction.² Other investigations, notes Lawler, have shown that jobs providing greater possibilities for social interaction tend to have lower rates of turnover and absenteeism.³ Indeed it has recently been contended that some Americans are increasingly working longer hours because they find the work environment more satisfying than the domestic. With working hours so long in the 19th century, and opportunities for domestic relaxation limited, it is not far fetched to suggest that this may have been true for significant numbers of workers then also. Certainly, the attachment of flint glass makers to the split- shift system, which so effectively subordinated home to working life, points in this direction.

In short, workers, we concluded, saw the ultimate pay-off to increased productivity, both at the individual and workshop level, as uncertain and very possibly damaging. Whatever the worker's

¹ C.f. pp. 80-81.

² C.R. Walker and R.H. Guest, *The Man on the Assembly Line* (1952).

³ Lawler, *Motivation*, p. 195.

initial position, he suspected that boosting output could ultimately make it worse. Again, the Hawthorne studies were to draw attention to similar suspicions amongst American operatives, as did later opinion surveys. The 1945 study we have quoted showed 40 per cent. of manual workers believing that an operative should limit his output to the prevailing average; if he exceeded it, production quotas might be raised, he could become unpopular with other workers, his piece-rate would be cut, he may become physically exhausted, or unemployment might increase.

Given such expectations of the results of increasing output, it cannot be assumed that workers were behaving irrationally or unreasonably in not raising their average level of exertion. In terms of Vroom's expectancy model, we can say that, owing to the weakly positive or even negative anticipated valence of greater output, the positive force making for increased exertion was insufficient to bring it about.

If we consider the objectives workmen sought to realise through their work, we find the need for security paramount. In the uncertain economic environment of the 19th century, with the worker typically having only a small margin of independence, stability and security were highly prized. The situation was thus consistent with Maslow's hierarchy of needs model, according to which, once basic physiological requirements are met, security needs take precedence. Although subsequent research has not dealt kindly with many aspects of Maslow's work, it does appear that unless existence and security needs are satisfied other needs tend not to come into play.¹ For most British workers in the second part of the 19th century the desire to create a stable work and home environment was their dominant concern and motivator, and it is in this light that their attitude towards increased exertion may be best understood. These observations conform with those made by Commons. The ideals and customs of labourers, he contended in his *Legal Foundations of Capitalism*, sprung primarily from the conviction that there were not enough jobs to go around, and that the jobs themselves were supplied by the employers. From this two ideas followed:

¹ Lawler, *Motivation*, p. 34.

One is the idea that the individual who gets more work or works faster than the others, is taking the bread out of their mouths. This goes along with the idea of stretching out one's work to make it last, or of sharing the work with others, and this leads to that severe reprobation and condemnation of those who violate the custom and refuse to be bound by the notions of solidarity in a field of limited opportunities.¹

According to Shalev, it was Commons's view that operatives, dependent on selling their capacity to work in a volatile market, were immediately concerned to stabilise the market for their labour and influence how it was utilised. For Commons union organisation was, and ought to be, directed to this end.²

Yet workers, we have argued, had objectives besides stability. Most sought rewarding social relationships at work; some, especially in craft-based trades like flint-glass manufacture, looked to work for the satisfaction of creativity and self-expression needs. Maslow himself acknowledged that in some individuals the need-hierarchy was not of the conventional type, with, say, creativity needs taking precedence over social ones, while most normal people, he thought, were partially unsatisfied in all their basic needs at the same time.³ However the coexistence of security, social, and self-realisation goals in the late 19th century is probably best explained in terms of stability being seen as a *condition* for the realisation and protection of other needs. Security was not a step on a ladder, but a platform upon which other activities could take place. Output limitation was one element in a wider system of organisation - encompassing trade unions, sick clubs, friendly societies, political activity - by which workers sought to stabilise their social environment.

Two more general points should at this stage be made. First, expectancy theories operate in terms of a model in which individuals make choices on the basis of estimated costs and pay-offs. While such calculations, conscious or unconscious, undoubtedly played an important part in determining the intensity and forms of effort, they were not the only influences at work.

¹ Commons, *Legal Foundations of Capitalism*, p. 305.

² Shalev, 'Labour Relations and Class Conflict', 355.

³ Maslow, *Motives and Personality*, p. 12.

Underlying, and in a sense forming a backdrop, to these decisions is the role of habit and custom. As Baldamas emphasised, people bring expectations about work obligations to the factory: 'Though partly affected by differences in occupational status and social origin, work obligations are effective over a wide range of varying conditions. Being a product of socialisation, they are a powerful and widely diffused determinant.'¹ These expectations concerning reasonable exertion were then amended, both as to intensity and form, in the light of the attitude of employers and fellow workers. The result was a customary effort standard, taken for granted by the operative and providing the basis for the continuity of performance. Expectancy calculations can thus be viewed as accounting for variations in effort around this customary standard.

Second, it cannot be assumed that increased physical output, and the material gains that it promised, was the chief goal of a factory; certainly it was not the only one. Factories, we have noted, were the arena for many things - friendships, craftsmanship, conversation, the pursuit of status and self-esteem. Increased effort and output had thus to take its place beside a series of other ends and means to ends. This, of course, is what a range of social psychologists have emphasised. As Stuart Chase summarises: 'A factory performs two major functions: the economic one of producing goods and the social one of creating and distributing human satisfactions among the people under its roof.'² Did these wider dimensions of workshop life loom larger in the late 19th century than in the late 20th? It is difficult to be categorical about this. On the one hand, the desire to realise through work intrinsic needs such as self-esteem and autonomy is generally assumed to be positively correlated with income and education. Authors such as T. Roszak accordingly suggest that it has increased over the century; it was no coincidence that the concept of man as a self-actualising animal took hold during the 1950s and 1960s.³

¹ Baldamas, *Efficiency and Effort*, p. 88.

² Quoted in Brown, *Social Psychology of Industry*, p. 72.

³ Lawler, *Motivation*, p. 39.

On the other hand work, we have observed, dominated life to a greater extent than today. Whereas people now have many opportunities to realise their needs outside the workplace, in the late 19th century the length of the working day and the cramped domestic circumstances of most individuals, meant that if their social and development needs were to be realised the factory was the foremost arena for them to do so. Further if, as subsequent studies suggest, the strength of motivation towards satisfying wider needs differs between individuals, then the more rigid social framework of the 19th century meant that it was more likely that workers with stronger egotistical and creative impulses would have been forced to exercise them within the industrial context. Such working class authors as Williams and Watson probably articulated frustrations and aspirations more generally diffused amongst significant groups of workers. The organisation, administration, and politics of trade unionism constituted one outlet for the energies of many such men. If the pages of the Flint Glass Makers' *Quarterly Magazine* provided a regular platform for the thoughts of a glass maker like Joseph Leicester, who was to sit briefly in the House of Commons, the cost of its cultural pretensions attracted a strong undercurrent of criticism within the Union, with some members apparently finding less than flattering uses for its pages.

Whether, therefore, the structure of workplace needs has materially altered cannot be straightforwardly determined. 'To test this view adequately,' says Lawler, 'we would have to compare the need-strength data collected 60 years ago from a random population sample with data collected recently. Unfortunately, such data do not exist.'¹ What does seem probable is that there existed a tendency, during the late 19th and early 20th centuries, for the scope for people to realise their needs through manufacturing work to contract. McGregor and Argyris have drawn attention to the consequences for motivation of managerial methods which limit the employee's ability to satisfy his social and intrinsic needs. Over-emphasis on economic rewards can, they argue, fail to motivate once basic material needs have been met. Finding their 'higher

¹ *Ibid.*, p. 39.

needs' thwarted, workers become frustrated, lethargic, and cynical towards company objectives.¹ One result can be higher turnover and absenteeism; another can be growing trade unionism and strained industrial relations.

The second half of the 19th century saw the continuation of such a process, which accelerated in some industries and took a significant hold in others for the first time. Factory life was evolving in ways which appeared to threaten customary work rewards. Lawler has identified four core conditions for meaningful work. The job must allow the worker autonomy, so that he can make decisions concerning scheduling and methods; it must permit task identity, so the operative can feel personally responsible for some portion of the work; it must provide feedback, so the worker can evaluate his performance; and it must be characterised by variety, so different skills can be utilised.² Each of these core dimensions diminished in many trades during our period. Shoe making is an obvious example. From being an outworker, responsible for a clearly defined part of a shoe which he produced by traditional manual methods in his own home when, within limits, he chose, the shoe maker became a factory hand, subject to the disciplines of centralised production, performing increasingly sub-divided tasks on machinery.

Two factors, in particular, acted to change the work environment: technical innovation and foreign competition. Although these could occur separately, they were often linked. In many trades it was not only the threat of overseas competition, but the example of overseas methods - especially in North America - which prompted employers to seek to reorganise their factories, challenge worker privileges, and press for increased effort. This was the case in the flint glass trade, where the removal of protective duties exposed the industry to competition from cheap, low quality, items manufactured in France, Belgium, Germany, and Austria. The resulting decline of the industry put pressure on employers and workers alike, and underpinned the strained industrial relations of the period as firms looked to increased productivity to preserve their profitability. In shoe manufacture, employers were similarly forced to react to an

¹ McGregor, *Human Side of Enterprise*, p. 40; Argyris, *Understanding Organisational Behaviour*, pp. 14-18.

² Lawler, *Motivation*, pp. 159-60. See also Gallie, 'The Quality of Employment: Perspectives and Problems', p. 174.

‘American import invasion,’ though it was in fact the new machines, also developed in America, which had the more direct effect on methods of production.

Measures adopted by employers to intensify labour utilisation, although not so thorough going as to fundamentally alter the British pattern of workplace relations, did change the rewards the working environment offered to the operative. Not only were the intrinsic satisfactions from work threatened; its social dimensions were limited by new technologies requiring more continuous and controlled labour; and, most important, security needs appeared compromised as traditional customs were challenged, new payment systems introduced, and technical change transformed or rendered obsolete established skills. As the needs theorists would predict, these were indeed years of growing unionisation and increasingly strained industrial relations. Workers in a range of industries sought to resist the introduction of new machines and methods of production, or to shape the terms upon which they were employed. In several trades, notably engineering, shoe-making, and printing, these tensions resulted in major industrial disputes.

As the wider dimensions of work contracted, material rewards became more important as inducements. This Frederick Taylor and the other proponents of Scientific Management realised, and they consequently accompanied measures to standardise and simplify tasks with the introduction of generous payment-by-results schemes. Yet as the nature of work regimes changed, British employers failed to put in place compensating pecuniary packages. In shoe making the introduction of machinery actually coincided with a shift *away from* piece-work - which, however technically justified, meant that workers had no effective inducement to exert themselves upon the new machines besides the purely negative threat of discipline and dismissal. There is little evidence that the general reluctance of employers to pay high wages underwent any significant change. Indeed it was the effect of the chief innovation in the sphere of labour remuneration, namely the premium bonus scheme, to place a cap on the potential increase in earnings from greater productivity. Whereas the piece-wage systems recommended by Taylor and Gantt were progressive, offering workers steadily higher rates of reward for each unit beyond some basic target, the premium bonus scheme was regressive, offering the worker a

steadily falling reward as output increased.

Recent writing pioneered by Sabel and Zeitlin has contended that there existed an alternative response to the competitive pressures of the late 19th century. Instead of pursuing standardised mass-production techniques, flexible production, they argue, allowed firms to work with, rather than against, the skills of their operatives, encouraging them to develop their initiative, creativity, and adaptability by making specialised items in short production runs.¹ This approach has important similarities with the notion of 'job enrichment,' according to which individuals could be motivated to produce more and better quality work by making their jobs more complex and interesting.²

Flint glass manufacture, we have argued, provides an example of an industry in which flexible production methods were applicable and appeared to offer a possible response to the steady encroachment of foreign producers upon the market for cheaper goods. Indeed, employers did increasingly abandon the manufacture of common glass to concentrate on artistic wares, often made to order. However the potentialities of flexible production were not fully exploited by firms. More inclusive forms of wage payment, such as profit sharing, were not developed, and employer preoccupation with effort levels generated powerful cross-currents which obscured and disrupted the essential commonality of interests between master and employee. 'The continual harass' for increased numbers, complained the Union's Central Secretary, weakened the worker for his duty, prevented him from earning a proper livelihood, and shortened and embittered the closing days of his life.³

Even where flexible production was feasible and to some extent practised it was not necessarily a secure path to survival - as the experience of the flint glass and Sheffield cutlery trades illustrates. In other industries it was not a realistic alternative to mass production techniques. Sabel and Zeitlin, for instance, draw attention to the forced - and they argue

¹ See above, pp. 376-78.

² C.f. McGregor, *Human Side of Enterprise*, p. 55; Lawler, *Motivation*, p. 152.

³ Quoted above, p. 352.

'premature' - move to factory production in shoe-making.¹ But while this did, as we have observed, create difficulties, and there remained in London a trade in bespoke shoes, the scattered making of shoes by often unskilled labour characteristic of the outwork system was unlikely to survive on an extensive scale in the face of overseas competition.

What emerges from these industrial studies is the importance, in the determination of effort, of the social context of work. There were, naturally, significant differences in the immediate background to output limitation in the shoe and glass trades. In the former output control represented an attempt by semi-skilled workers to defend themselves from the destabilising consequences of a revolution in productive technique. In the latter a much smaller group of craftsmen sought to defend traditional practices and privileges in the face of the gradual erosion of their trade by low-cost foreign competition. Yet however distinct the occasion for effort restrictions, similarities have emerged in terms of their social context, particular objectives, and broader function. Shoe makers and flint glass producers were pursuing comparable ends, even when the precipitating factors differed. And, we would suggest, similar considerations shaped motivation in a wide range of other industries during this period.

The individual brought to his employment conceptions of a socially acceptable level of exertion. This was then adjusted in the light of the specific effort norms and the structure of rewards and penalties existing within the workplace. An elaborate social structure thus surrounded work, constituted by the dispositions of employers, managers, foremen, union leaders, craftsmen, semi- and -unskilled hands, in conjunction with inherited customs and trade ethics. This structure was further conditioned by the evolving pattern of economic opportunity, reflecting such things as changes in technology and market structure, as well as more general cultural and social influences.

No employer or worker could ever be independent of this network of relations. For the operative, they rendered the question whether or not to increase levels of output complex and

¹ Sabel and Zeitlin, 'Historical Alternatives to Mass Production', 170.

problematic. He had to consider not only the immediate effects upon himself, but the reaction of his employer and the response of his work-fellows, which latter was itself shaped by the judgements *they* had formed over time with regard to the consequences of greater production for the workshop as a whole. As Whyte has shown, workforce beliefs can exert a strong influence upon an individual's conduct by shaping, for instance, his expectations of rate-cutting or unemployment. While these pressures could be strengthened by union organisation (in the flint glass trade output was formally regulated by the Makers' Society), they were general in their operation and existed in non-union plants.

Consider the questions confronting an individual when choosing how to respond to a piece-wage incentive. How would his fellow operatives, and in particular his union, view his increased productivity? What would be the attitude of his employer to his larger wage? Would he cut the rate at some point? If so, where - at time-and-a-quarter, time-and-a-third, time-and-a-half? What were the opportunity costs of greater output? Would the work run-out more quickly, causing himself or somebody else to be laid-off? Would he have to scamp the job, making products of inferior quality? How about the scope for relaxed conversation and humour? Confronted with such claims upon his conduct, the operative's reaction to the incentive had inevitably to assume the form of a provisional compromise in which output was almost certainly *not* maximised.

Studies have shown that coherent work groups can both increase and decrease the average level of effort within a workshop or industry. In the cases of both shoe and glass manufacture they acted to limit output since the ethos was strong in both trades that an individual, by seeking to work harder, would damage the long-term interests of the work group as a whole - and hence, ultimately, the individual. These interests encompassed the majority of what Herzberg was later to define as hygiene and motivating factors, ranging from matters relating to remuneration, job security, and working conditions, to feelings of achievement and fulfilment in work. That increased effort was seen as threatening these interests reflected the relative predominance of penalties as opposed to rewards associated with increased output. This,

in turn, was the product of a range of circumstances, some of which work studies in other periods and countries have shown to be of wide applicability, and others which were specific to the environment of late 19th century British industry. They included, we have seen, the collective experience of the stresses and insecurities created by industrialisation; the breakdown of alternative forms of social support; fear of unemployment - especially for those in their later years; the observed and reputed conduct of employers, particularly their propensity to cut piece-rates; the perceived inelastic demand for finished products; the concern with status differentials; and the dominant position occupied by the workplace in the satisfaction of social and development needs.

A similar combination of pressures and considerations acted, implicitly and explicitly, upon foreman, managers, and employers, with similar consequences for productivity. But if employers and workers did not possess a common goal in the maximisation of productivity and income, what provided the basis for compromise within industry? This was a desire for stability and predictability which was, in practice, a goal shared by employers as well as workers.

Employers were concerned to sustain a predictable level of output with a minimum of supervisory and administrative costs. It was this, for instance, that piece-work was primarily designed to produce - as Baldamas suggested and as the conduct of piece-work in British industry tends to confirm. So, equally, was the practice of delegating authority to skilled workers and group leaders within the manufacturing process (of which finishers within the flint glass trade provide an obvious example), who retained significant discretion in the conduct of the production process. This act of delegation implied limits to managerial authority, for if the system were to function the worker's interest in self monitoring had to be respected. And this entailed tacit acceptance of those trade customs elaborated by the workers - including union organisation. These trade unions were themselves seen as promoting stability, not only by regulating industrial relations within plants, but by extending organisation to other firms and administering industry or district price-lists, which had the effect of limiting competition from smaller, less-established producers.

Workers, on the other hand, wished, as Huberman has emphasised, to stabilise their prospective life-time earnings. They wished, also, to stabilise their work environment. Increased output appeared to compromise both, creating risks of lay-offs and rate-cuts, and threatening to irrevocably alter the work regime - in terms of both the production process and the social dimensions of working life. Stability, in other words, was seen as the condition for the satisfaction of existence, as well as higher, second-order, needs. As Herzberg acknowledged, if hygiene factors could not motivate in themselves, their absence would result in dissatisfaction, thus compromising the operation of the motivating factors.

Security was pursued, less by increasing output and wages so as to widen the margin of material comfort (as it has been argued American workers sought to do) than by elaborating a framework of rule and custom to entrench the existing state of affairs. In accounting for this bias we placed particular emphasis upon the role of the class system, which was transformed by industrialisation but not superseded. The hierarchies of income and status which characterised Victorian and Edwardian society had several effects upon effort motivation. Marked inequalities in the distribution of income hindered the growth of the sort of mass market which underpinned mass production techniques, whilst the more specialised consumption of the wealthy helped to sustain a multiplicity of limited markets served by workshops and small factories. Demand for these latter products was price inelastic, encouraging amongst both employers and workers a comparatively static view of economic opportunities. The market for flint glass, and the corresponding attitudes of masters and operatives, provides a striking example of this phenomenon. Further, notions of consumption patterns customary and 'appropriate' for manual workers contributed, we have argued, to the tendency of employers to limit operative earnings; while the workman's straightened economic, social, and cultural circumstances limited material ambition and encouraged a fatalistic acceptance of existing conditions. Within this context there evolved an approach to industry emphasising the importance of positional goods such as status, with each group jealous of its privileges and keen to defend them against encroachments from above or below. The result was a self-reinforcing stability, in which much skill and strategy was

devoted to adjusting the relative positions of individuals and status groups, rather than cooperating to lift the overall level of productivity.

The tendency, therefore, was towards compromise and stability within the existing social structure of industry. In the earlier decades of the 19th century it was the productivity of the British factory worker which drew the admiration of Continental observers. As other countries developed their own factory industries the performance of the British workman appeared less remarkable. However if his zest for work no longer impressed foreign employers, what increasingly did was his self-discipline, organisation, aspirations to respectability, and indifference towards those radical political programmes which exerted a growing hold upon their own operatives.¹ For the British workman, with his friendly societies, clubs, co-operative stores, and trade unions; by his willingness to engage in peaceful bargaining; and his network of workshop rules and craft privileges which ultimately sustained the entire structure, had unconsciously created a distinctive and resilient industrial society which, as Ashley claimed in 1903, 'may well be regarded as among the greatest contributions of this country to the progress of civilisation.'²

It is this context that what Commons described as the 'menace' of external competition posed such a powerful challenge.³ Across a range of industries, of which shoe making and flint glass are merely prominent examples, the developing threat from foreign producers meant that the existing methods of manufacture could not be sustained in the long run. Cheaper imports represented a constraint with which British employers and workers, and the industrial culture they had created, had, ultimately, to come to terms. The tensions and conflicts which this process initiated in the years before 1920 were to become one of the dominant themes in the travails of Britain's economy and society during the 20th century.

¹ E. Halevy, *History of the English People* (1929), v. 24.

² W.J. Ashley, *Tariff Problem* (2nd edn., 1911), p. 189.

³ J.R. Commons, 'American Shoemakers', 1648-1895', *Quarterly Journal of Economics* xxiv (1909), 78.

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