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WORKING CONDITIONS IN VICTORIAN STOURBRIDGE

Everybody imagines he knows about working conditions in Victorian England, particularly the excessively long hours resulting from the use of machinery to which the workers became increasingly enslaved. In the famous words of James Philip Kay, “Whilst the engine runs the people must work – men, women and children are yoked together with iron and steam. The animal machine – breakable in the best case, subject to a thousand sources of suffering – is chained to the iron machine, which knows no suffering and no weariness.”¹ It is equally well-known that the worst aspect of employment was the exploitation of women and small children in textile factories and mines. Factory conditions were causing disquiet as early as the 1780’s, and the revelations of the witnesses before a succession of committees and commissions in the early part of the nineteenth century are too familiar to need repeating here.² The same may be said of conditions in the mines. Who has not been moved by that description of girls at work in the mines of the West Riding – “Chained, belted, harnessed, like dogs in a go-cart, black, saturated with wet, and more than half naked [...] they present an appearance indescribably disgusting and unnatural”?³ Yet it is also common knowledge that factory and mine workers were only a minority among the working classes at the mid-century, numbering about 1 $\frac{3}{4}$ millions compared with the 5 $\frac{1}{2}$ millions employed in non-mechanised industry. Agriculture and domestic service, in fact, employed twice the number of those working in

¹ James Philip Kay, *Moral and Physical Conditions of the Operatives employed in the Cotton Manufacture in Manchester* (1832), p. 24.

² See B. L. Hutchins and A. Harrison, *A History of Factory Legislation*, 3rd ed. (1926), for details of the early stage of concern about factory conditions, while the most sensational reports of ill-treatment of women and children are conveniently collected in a popular work, A. Royston Pike, *Human Documents of the Industrial Revolution* (1966).

³ *Children’s Employment Commission* [1842], Appendix to First Report, Mines [Parliamentary Papers, 1842, XVI], Pt II, p. 75.

manufacture and mining at this time.¹ What then were working conditions like away from the factories and mines? Was work equally hard, were the hours excessive, was the new work discipline harsh and oppressive before the passing of factory and workshop legislation? In short, did the new industrialisation cause working conditions to deteriorate? There is a curious paucity of information on this subject. Concentration on factories and mines and declining handicraft industries has meant that little has been written about workers engaged in different industries in the same town.² This article is an attempt to redress the balance in one particular respect. It surveys working conditions in Stourbridge, a small town situated a dozen miles to the west of Birmingham and on the edge of the Black Country, during the period from the 1830's to the early twentieth century, when its population increased from 13,874 in 1831 to 32,151 in 1911.

At the beginning of the nineteenth century, Stourbridge was one of the ten market towns of Worcestershire (other than Worcester itself), and was already showing signs of industrial growth. The river Stour was a valuable means of communication with the river Severn which it joined at Stourport, while the Stourbridge canal, built in 1776, linked the town with the Staffordshire and Worcestershire canal at Stourton. Turnpikes also improved communications with Bromsgrove, Wordsley (on the Wolverhampton road), and Halesowen; and by the 1790's Stourbridge itself was something of a transport centre with regular services of waggons, carts, and boats to all parts of the kingdom.³ In 1781, the eighteenth-century historian of Worcestershire, Treadway Nash, tells us that the town was "very populous", partly owing to the manufacture of cloth, iron, glass and firebrick, and partly owing to the mining of coal and clay.⁴ With the exception of the making of cloth, these industries were to be the staple industries of the town for the whole of the nineteenth century. Table 1 shows the occupational structure of the area by the mid-century, while Table 2 sets out the position in the remaining part of the century. By 1914 the main occupations remained substantially unchanged, with the exception that nailing had almost died out, to be replaced by the manufac-

¹ J. D. Chambers, *The Workshop of the World* (1961), pp. 21-2; Peter Mathias, *The First Industrial Revolution* (1969), pp. 264-7, 269-71; H. D. Fong, *The Triumph of the Factory System in England* (1930), p. 21.

² S. Pollard, *A History of Labour in Sheffield* (1959), remains the most impressive work in this field.

³ For details of turnpikes, see W. Scott, *Stourbridge and its Vicinity* (1832), p. 352. For road transport services, see *British Universal Directory*, 1795.

⁴ Treadway Nash, *Collections for the History of Worcestershire*, 2nd ed. (1799), II, pp. 211-2.

Table 1
Principal Occupations in 1851

	Male	Female	Total		
Agricultural labourers	222	8	230		
Bootmakers*	196	24	220		
Bricklayers	96	—	96		
Brickyard workers**	42	134	176		
Dressmakers	—	206	206		
Glass workers	355	54	409		
Iron workers, <i>specified below</i>	2493	1054	3547		
Labourers	553	32	585		
Miners, <i>specified below</i>	360	—	360		
Servants***	62	741	803		
Tailors	136	—	136		
Wood workers	249	—	249		
	4764	2253	7017		
<i>Iron Workers</i>	M	F	M	F	
Anvil and Vice Makers	42	—	Moulders	49	—
Blacksmiths	80	—	Nailers	1139	979
Boilermakers	18	—	Panmakers	18	—
Chainmakers	340	38	Puddlers	98	—
Engineers	61	—	Roll Turners	63	—
Fitters	16	—	Screwmakers	1	37
Forgemen	103	—	Scythemakers	10	—
Furnacemen	24	—	Spade and edge tool makers	136	—
Hammermakers	14	—	Other iron workers****	262	—
Millmen	19	—			
<i>Miners</i>	Clay	96	Iron	33	
	Coal	137	"Miners"	94	

* The women are bootbinders.

** Includes clay pickers and scrapers.

*** The women include nursemaids, housekeepers and cooks.

**** Includes dressers, heaters, shinglers, stocktakers and other undefined iron workers.

Source: Census Returns (Enumerator Books), 1851.

ture of hollow-ware and frost cogs,¹ while some diversification of the labour force had taken place with the coming of the railway and of newer occupations such as those of electricians and tramway drivers and conductors.

We may now look at working conditions throughout the period, and attempt to assess them with reference to the employment of women

¹ Frost cogs are small metal studs fitted to horseshoes in icy weather in order to give the horse a surer footing.

Table 2

Male Occupations in Anglican Registers, 1861-1911

Year	No of mar- riages	No of chur- ches	Chain- makers	Nailers	Other iron wkrs	Brick	Glass	Labs	Mining	Wood	Totals
1861	174	4	6	72	97	3	20	94	45	15	352
1871	251	6	29	67	166	6	25	109	62	44	508
1881	140	7	26	42	62	12	14	48	38	15	257
1891	160	7	12	22	98	2	11	51	48	9	253
1901	161	7	15	14	105	3	19	46	47	5	254
1911	180	7	21	9	101	15	26	63	42	10	287

Male Occupations in Anglican Registers, 1911-1913

Year	Chain- makers	Cog- makers	Nailers	Other iron wkrs	Brick	Glass	Labs	Mining	Rail- way wkrs	Wood	Other occupa- tions
1911	21	12	9	89	15	26	63	42	20	10	118
1912	19	15	3	86	12	15	51	38	26	9	120
1913	24	5	4	113	15	20	56	43	13	15	118
	64	32	16	288	42	61	170	123	59	34	356

Note: Both tables include the occupations of all grooms resident in the area, and of the fathers of all grooms and brides still alive and also resident in the area.

Table 3

Principal Occupations of Children under Thirteen, 1851

Occupation	Boys	Girls	Total of all workers in occupation
Agric. labourers	2	—	230
Brickyard workers	3	3	176
Glass makers	10	—	409
Iron workers:			
chainmakers	46	3	378
nailers	101	72	2118
all others	22	—	1051
Labourers	16	—	585
Miners	20	—	360
Servants	6	69	803
Wood workers	1	—	249
	227	147	6359

and children, changes in the pattern of work habits, and variations in work processes and environment.

In the middle of the nineteenth century, the age and sex of workers in the Stourbridge area was regulated only in mining; in all other industries none of the Factory Acts applied, so that there was no restriction of any kind on the employment of women and children save in this one respect. Before the 1842 Act there were no women underground, but it was customary to employ numerous small boys below ground from the age of seven as trappers, slack boys (collecting small coal), pitchers (loading skips), fillers, pushers, and drivers.¹ The last three occupations were confined to boys of ten and above. Fortunately for the younger boys, the massiveness of the coal in the ten-yard seam precluded the use of very small boys save as trappers or messengers.² There were 30 boys to every 100 men in the coal mines, and in the ironstone mines 70 boys to every 100 men, but here again small boys were of no use since the work was so laborious.³ However, the mines were very small in the Stourbridge district, so that these numbers could be misleading – there were only 121 coal miners altogether in the Stourbridge area in 1831.⁴ The 1842 Act brought an important change by restricting the age of starting work to ten years. Table 3 shows that there were only 20 boys out of a total 360 persons engaged in mining in 1851, three of them under ten. Of course, this figure may be an understatement, and there might have been more boys working illegally underground, especially as systematic inspection did not begin until 1851 and after. Still, it appears that some reduction, at least, had already begun by 1851 in the number of small boys working below ground.

In the iron works, the age of starting work in the early 1860's was about eight, these small boys working as scrap carriers or door drawers, while the majority of boys of nine and above worked on the small rolls – that is to say, on the smaller rolling machines.⁵ At the works of Bradley & Co, the largest iron works in Stourbridge, the youngest witnesses before the commissioners of 1842 and 1862 were aged ten and nearly eleven, respectively.⁶ Numbers under thirteen in

¹ Children's Employment Commission [1842], Appendix to First Report, Mines, Pt I, pp. 8-26.

² *Ibid.*

³ *Ibid.*

⁴ Printed Census Returns, 1831.

⁵ Children's Employment Commission (1862), Third Report [PP, 1864, XXII], p. iv.

⁶ See the Appendix to Second Report [PP, 1843, XV], Pt II, qq. 81-2, of the 1842 Commission, and the Third Report of the 1862 Commission, p. 16.

all iron works in 1851 were again very small – only twenty-two, out of a total work force of 1,051. In the glass industry, boys entered the trade as cutters at twelve and above, and as makers between nine and eleven.¹ In 1851 there were only ten boys in the glass houses under thirteen. In 1862 there might have been more, but one of the largest firms, Joseph Webb & Co, employed only twelve boys, while Walker & Co employed only eight, the youngest aged eleven.² Thus, it appears that the number of young boys employed in the glass trade in the 1860's was not large.

We turn now to trades in which the employment of females as well as males was prominent. In brickmaking, the workers were mostly women and girls, though men and boys were employed for the actual firing of the bricks. It is not clear how young the girl brickmakers were when they commenced work, but none of the girl witnesses in this trade before the commissioners of 1842 and 1862 was younger than twelve; and at the latter enquiry Mr Pearson, of Pearson & Co, said that he would not employ any children under twelve, or any who could not write.³ This is as may be. Eleven years earlier, only six children under thirteen are described as brickworkers in the 1851 enumerator books. The girls were employed as pages or assistants to the women brickmoulders, carrying off the bricks to the stove (a heated floor) and then to the kiln.

Next, we come to the domestic trades where by far the largest numbers of children were employed. Boy nailers often started work in their own families at the age of seven or earlier – stories were common of boys of four or five being stood on boxes so that they could work at the bench – while girls started at about eight; under this age they often looked after the baby at home.⁴ In 1851, as can be seen from Table 3, there were more children below the age of thirteen in nailing than in any other single trade. The figures for chainmaking are much smaller, and about half of the chainmakers in Lye worked at the factory of Wood Brothers, and not at home. The youngest witness in 1842 employed by this firm was ten.⁵

To sum up the position in the 1850's: it is evident that the employment of children was most widespread in nailing, and it was in this traditional domestic trade, and not in the larger workplaces such

¹ Children's Employment Commission (1862), Fourth Report [PP, 1865, XX], p. 181.

² *Ibid.*, pp. 232-3.

³ *Ibid.*, pp. 140-1.

⁴ Children's Employment Commission [1842], Appendix to Second Report, Pt II, evidence of Lye National School Superintendents, qq. 74-8.

⁵ *Ibid.*

as foundries or glass houses, that the youngest children were to be found. Presumably the actual age when children started work would depend on the physical development of the boy or girl concerned, and on the demand for additional labour in the family – boy nailers of four or five must have been particularly well-developed to have made a worthwhile contribution. It is highly unlikely that the decision to start a child on work would be the result of any weighing-up of the moral considerations involved. Children had always worked as soon as they were strong enough to do so – how else were they to occupy themselves? Child labour was not the invention of Victorian employers; rather it was the Victorians who were the first to restrict and then finally abolish the employment of young children.

How this worked out in practice in the Stourbridge area may best be understood if we now survey the scene in 1914. By this date there were no boys under thirteen working underground as a consequence of the Employment of Children Act, 1903. In the iron works, the minimum age for boys was effectively raised to thirteen by the Factory Act, 1867, because although part-timers were allowed from the age of eleven, they were not permitted to work at night.¹ As the services of boys on night work were essential, half-timers were “practically expelled from the forges”, as one inspector put it, by this act.² In the glass houses, the same act forbade the employment of any boys under the age of twelve, and although part-timers were allowed between twelve and thirteen, they too were not allowed to do night work, so that again there was an effective raising of the age of entry to thirteen, since this industry also did not employ part-timers.³

In the three major areas of employment for younger boys, therefore, age restrictions were applied from the 1860's onwards, and by 1914 there were no boys employed under thirteen in any of them. These restrictions were not welcome to employers, of course, and no doubt some of them evaded the act where they could. Nevertheless, the new rules could not have affected very large numbers of boys, since boys under thirteen in 1851 constituted only 2.1% of the work force in mills and forges, 2.4% in glass works, and 5.5% in mines.⁴ These figures may under-state the position in 1851, of course, but even then

¹ See the Report of the Commissioners to the Enquiry into the Working of the Factory and Workshops Acts [PP, 1876, XXIX], Vol. I, pp. xii-xiv, for a useful summary of the law relating to employment in factories and workshops at that date. See also Hutchins and Harrison, *op. cit.*, ch. VIII.

² Report Factory and Workshops Acts, Vol. II, Appendix C, evidence of sub-inspector J. A. Jones.

³ *Ibid.*, evidence of W. H. Packwood, Central Secretary of the Flint Glass Makers Friendly Society, and a Stourbridge glass maker, pp. 348-51.

⁴ Calculated from figures given in Table 3.

the resulting change in the work force in these industries by 1914 does not appear very great, and there does not seem to have been any vast sweeping out of child labour from them in the Stourbridge area.

Of the trades which employed girls and women as well as boys, brickmaking was affected in particular by the Factory Act, 1871, which forbade the employment of boys under ten, and of girls under sixteen. The Workshops Act, 1867, had a much wider effect on women and children in nailing. It forbade the employment of children under eight, limited the hours of children between eight and thirteen to six and a half hours (these children were to spend ten hours a week at school), and provided that young persons between thirteen and eighteen and women were not to work more than twelve hours a day, less $1\frac{1}{2}$ hours for meals. It took a considerable time for the act to be enforced, and there was still much to be done in this respect in the 1870's and 1880's. Nevertheless, the children, at least, were gradually excluded from the workshops. By 1893 the minimum age of employment had become eleven, but the local factory inspector commented that this made no difference, since children rarely began work before they were twelve. He added that no children were now taught hand nailing.¹ It is likely, however, that children continued to work illegally after school for some time, and this was said to be still going on even in the 1890's.²

By 1914 it is clear that there must have been very few children under thirteen at work in any trade (the exceptions were those who were twelve and had reached Standard Six, thereby entitling them to leave school). This means that while in 1851 5.8% of the work force in the leading trades were children under thirteen, by 1914 this element had been entirely removed. The effect of this was probably most marked in nailing in that it must have added to the difficulties of a rapidly decaying trade. The same may be said of the restriction of the hours of women, though here, for reasons which will be discussed later, the restriction may actually have added to the work load of married women.

On the basis of the facts presented so far, it appears that the employment of very young children was not a marked feature of Stourbridge industry during the nineteenth century, save in nailing, a trade which was in existence long before the onset of the Industrial Revolution. There is thus little or no evidence to support the view that as industry expanded it brought an increasing exploitation of younger children in the Stourbridge area. What probably happened is that

¹ Report of the Chief Inspector of Factories and Workshops, 1883.

² Report of the Royal Commission on Labour [PP, 1892, IV], Vol. II, Group A, pp. 571-5, report by Eliza Orme on the condition of women in the nail, chain and bolt making industries of the Black Country.

children simply began work, as they had always done, when they were physically ready for it. In the second half of the century, this had to end, partly because the intolerable conditions in textile factories led to a gradual extension of restrictions to all branches of industry, and partly because the education acts required the presence of children in school. The ending of child labour was in itself a profound social change, bringing to an end practices which were centuries-old, and constituting one of the most revolutionary social changes of the period. Certainly in the Stourbridge area it is the end of child employment, with its incalculable consequences for familial relationships and for socialisation of the child, rather than its survival in the first half of the nineteenth century, which deserves the greatest emphasis.

We move on now to changes in the pattern of work habits, and in particular to changes in the nature of the working week. If the position about 1850 is again compared with that of 1914, we must stress at the outset the fundamental distinction between domestic trades and non-domestic trades. The former were still very important numerically in 1851. It can be seen from Table 1 that nailers alone amounted to a quarter to a third of all workers in the principal occupations; certainly a good half of the work force was employed in or about the home at the mid-century. It follows that the pattern of work at this time for a substantial proportion of Stourbridge workers was that traditionally associated with domestic industry, while even in non-domestic trades the six-day week was by no means universal.

To take nailing first: here the working day was very long. About 1850 a day of thirteen or fourteen hours inclusive of meals was common enough among boys from the age of twelve onwards, girls of the same age working an hour or so less. Since the children usually worked under supervision, adult hours were at least as long as those of the children, and often longer – it might be from as early as 5 a.m. to as late as 10 p.m.¹ However, these hours were not worked throughout the week. St Monday was often kept, and sometimes St Tuesday, too. Several witnesses before the Commission of 1842 said that they did not work on Mondays, and the practice continued into the 1870's and even later. For example, the vicar of Lye (where the predominant trade was nailing) gave evidence in 1876 that Monday was usually a holiday, though the more thrifty might work then,² while Mr Brewer, the local junior factory inspector, alleged that the week's work of the typical nailer was generally reduced to four days. Sunday was a *dies non* for

¹ See the long letter from a nailer in the *Worcestershire Chronicle*, 3 March 1842.

² Report *Factory and Workshops Acts*, Vol. II, pp. 84-6 (evidence).

work (as he put it), Monday a day for seeking orders and iron, Tuesday for resting or idling, Saturday a weighing-in day. Thus, Wednesday, Thursday and Friday were days of incessant labour.¹ Brewer was later criticised for exaggeration,² but the criticism seems to have been not of these statements, but of his attacks on the moral habits of nailers; and there seems no reason to doubt that Monday, at least, was still a day of relaxation for some nailers in the 1870's.

Moreover, if the working week was flexible, there were also traditional interruptions in the yearly routine. The greatest of these was the annual exodus to the countryside in August – shared, no doubt, with other workers such as colliers – to help with the harvest, and in particular to pick the hops.³ This continued to be a feature of working-class life in Lye throughout the second half of the century.⁴ Lye also had its own wake in November, and holidays were also taken at Christmas, Easter, and Whitsun.⁵

It is clear, then, that though the hours of nailers might be very long, they were still mostly of their own making in the middle years of the century. This applied equally to domestic chainmakers, and presumably to other iron workers such as anvil and vice makers and hammer makers who worked in their own shops. It may or may not have applied to bootmakers and dressmakers, but it would be surprising if they were quite unaffected by the traditional work habits of local industry. Thus, it is fair to say that up to half of the workers in the Stourbridge area were still engaged in a task-orientated economy in the 1850's, with all this implies for flexibility of hours.⁶

It would be wrong, however, to assume that all the non-domestic trades were quite different and tied rigidly to a six-day week. This is not so at all. In mining, boys and men alike worked a twelve hour day from 6 a.m. to 6 p.m., with an hour off for dinner from one to two o'clock. There was no night work, nor any work in some pits on alternate Mondays, that is, the Mondays following the Saturdays on

¹ Reports of Inspectors of Factories, April 1874.

² Report Factory and Workshops Acts, Vol. I, p. lxxix.

³ See J. Noake, *The Rambler* (1854), for an account of harvesters from Lye. A more general account of the movement of Black Country pit girls into the Home Counties for fruit picking is given in an anonymous article on the Black Country in the *Edinburgh Review*, April 1863.

⁴ In 1892 a Hoppickers Protection Society was formed at Lye to discuss the prohibition on the giving of cider by employers under the Truck Act, 1887. *Stourbridge Advertiser*, 30 July 1892.

⁵ Good Friday was always an unpopular holiday with employers, however, since it made working difficult on the following Saturday. It is still largely ignored in the Black Country.

⁶ For a discussion of this point, see E. P. Thompson, "Time, Work-Discipline, and Industrial Capitalism", in: *Past & Present*, No 38 (1967).

which the men were paid.¹ Other pits were closed from Saturday afternoon till Tuesday morning, and Tremenheere remarked in 1850 that it was “beyond all probability that any number of men in the district [South Staffordshire] could be got to work on a Monday”.²

In the glass industry, cutters worked the usual local day of twelve hours with 1½ hours off for meals, since night work was unnecessary for them; but the makers worked turns or shifts of six hours on, six hours off throughout the week. Monday was apparently a working day at the mid-century, but the week’s work ended early on Friday, so that the glass maker had Friday, Saturday, and Sunday off.³ In the forges and mills, the standard shift seems to have been the customary twelve hours, and this was certainly the working day (and night) at John Bradley & Co. Here, Monday working was practised, at least in theory, since all ball furnace men, rollers, puddlers, hammermen, etc. were supposed to be at their work on their turn at twelve o’clock every Sunday evening.⁴ Lastly, in brickmaking, the women and girls worked the twelve hour day, though the number of hours worked by the women brick moulders depended on how long they took to finish their daily stint of 1,000 bricks. If they wished, they could make more – one witness in 1843 said that she had once made 1,300.⁵

The picture which thus emerges is of a work force clinging to the work routines of the eighteenth century, and still geared to the under-productivity of a small master economy. As we have seen, those who worked in the home alternated between long periods of sustained hard work and an extended week-end in which they could indulge, if they wished, in the traditional Black Country pastimes of pigeon flying, dog-fighting, and drinking.⁶ But even those at work in the mines, iron works, and glass houses might still keep St Monday in the 1850’s. It hardly needs to be said that by present-day standards the week’s work was still arduous in the extreme, but the fact remains that the pattern of work was demonstrably different from one based on, say, the factory economy of a cotton town. Further, the annual

¹ Children’s Employment Commission [1842], Appendix to First Report, Pt I, pp. 8ff.

² Tremenheere’s Report on the Mining Districts of South Staffordshire (1850), p. 19.

³ See the Flint Glass Makers Magazine, II (1854), p. 1.

⁴ Rules and Articles (undated) of John Bradley & Co, in possession of the firm.

⁵ Children’s Employment Commission [1842], Appendix to Second Report, Pt II, at q. 82.

⁶ On pigeon fancying, see the article previously referred to in the Edinburgh Review, April 1863. The last bull-baiting in England is sometimes said to have occurred in Lye in 1836. Robertson, *Recollections of the Lye Parish, 1866-1875* (1914).

cessation of work to go hopping is a sufficient indication of the old-style nature of work habits in the neighbourhood.

By 1914 much of this had changed, but by no means completely. The greatest single change was undoubtedly the decline and near-extinction of nailing. There were virtually no nailers left in the area by 1914.¹ Whereas up to a third or even more of the total work force had been nailers in 1851 with all that implies in work habits, in 1914 their descendants in Lye worked away from home on the manufacture of frost cogs or galvanised iron ware. Their places of work were often small, and the work discipline was not that of the large factory. Nevertheless, they now worked the regular hours dictated by the Factory and Workshops Acts, even though St Monday might still be observed at the end of the century both in their workshops and in the few remaining domestic nail shops.²

In mining, the adult working day was effectively reduced to ten hours by the Coal Mines Act, 1872, which not only raised the minimum age for boys working underground to twelve, but also limited their daily hours to ten up to the age of sixteen.³ By 1890 the average daily hours bank to bank (i.e. from above ground to the working place and back again) in the Worcestershire part of the South Staffordshire and East Worcestershire coalfield were 8.44 hours for all workers below ground.⁴ This figure is in effect confirmed by the evidence of Col. Cochrane, Chairman of the South Staffordshire and East Worcestershire Masters Association, before the Royal Commission on Labour, 1892, who thought that as the men came out as soon as they had finished their stint, they really worked $7\frac{1}{2}$ to 8 hours bank to bank. He also said that employment was offered on six days a week, but Monday was often a half-day, while some pits closed altogether on that day. Thus, the reduction in the working day came long before the Eight

¹ Exact figures are not available, but the figures in Table 2 suggest there were few nailers left in 1914. G. C. Allen, *The Industrial Development of Birmingham and the Black Country, 1860-1927*, revised ed. (1966), p. 273, says that the few hundred nailers remaining by 1914 were in the Dudley and Bromsgrove areas.

² Even when domestic nailing was dying fast, Monday was still a slack day for some. Mr Hoare, the local factory inspector, said in 1889 that not much work was done on Mondays, especially in nailing, see the Third Report of the Select Committee of the House of Lords on the Sweating System [PP, 1889, XIII], p. 455. Women in particular still took Monday off when they could (*Stourbridge Advertiser*, 12 June 1886, quoting an article in the *Fortnightly Review* by Miss Ada Heather-Briggs). A lady factory inspector visiting Dudley in 1903 remarked that many of the women nailers were not at work on Mondays (Report of the Chief Inspector of Factories and Workshops, 1903).

³ B. McCormick and J. E. Williams, "The Miners and the Eight Hour Day, 1863-1910", in: *Economic History Review*, Second Series, XII (1959).

⁴ *Ibid.*

Hours Act, 1908, and it has even been suggested that it came as early as the 1870's.¹

In the glass industry it is difficult to detect any change in the routine of work in the second half of the century, though the traditional foot ales seem to have died out after 1850.² Working conditions were apparently generally acceptable to the glass makers at this time, and there was ready agreement between men and employers that the highly skilled work on luxury table ware, which was characteristic of the Stourbridge houses, could not be sustained for more than six hours at a time because the work was so delicate and required "continual fixed attention".³ The working week in the 1870's began at 6 a.m. on Tuesday, so that Monday was now the day off and not Friday.⁴ Of course, working six hours on and six hours off for four, or four and a half days, must have been a considerable strain, but no attempts were made by the union to change the system before 1914.

Indeed, the only alteration suggested came from the employers' side in 1882 in an effort to increase productivity at a time of trade depression. The Midland Association of Glass Manufacturers asked that the restriction to two moves a turn (a "move" was the making of an agreed quantity of glass) should be abolished, since the whole trade except Stourbridge was working on the $2\frac{1}{4}$ or $2\frac{1}{2}$ move system. The Central Secretary of the union (himself a Birmingham man) thought that Stourbridge should give the newer system a trial, since it worked well in Birmingham, and would mean more money for the men.⁵ The Stourbridge men refused, and there is nothing to show that it ever came into use before 1914. It is not surprising that several firms eventually defied the union and employed non-society men after the devastating strike of 1902.⁶ In most houses, however, the six turn week, two moves per turn, was still the working week in 1914.

In the iron works the turn seems to have decreased to eleven hours by the end of the century. In 1892 the week consisted of four turns of

¹ Stourbridge Advertiser, 26 June 1909, reporting on demands by miners locally for "snap" time, which was not provided for by the 1908 Act. The reporter says that the eight hour day really came in the Black Country in 1872, but that the miners remained below somewhat longer to allow for snap time.

² Flint Glass Makers Magazine, 1851, No 5, and also quarter ending 31 October 1897.

³ The aim of most of the evidence given by employer and workman alike before the Enquiry into the Working of the Factory and Workshops Acts, 1875-6, was to keep the age of entry to thirteen, and to oppose the proposal to raise it to fourteen.

⁴ Report Factory and Workshops Acts, Vol. II, pp. 348-51.

⁵ Flint Glass Makers Magazine, quarter ending November 1882.

⁶ See Eric Hopkins, "An Anatomy of Strikes in the Stourbridge Glass Industry, 1850-1914" in: Midland History, II (1973).

six heats, with a final fifth turn of five heats lasting eight or nine hours on the Saturday. Puddlers thus began either on Monday night finishing on Saturday morning, or on Tuesday morning finishing at two or three o'clock on Saturday afternoon.¹ In 1891 the Midlands Iron and Steel Wages Board recorded its disapproval of puddlers working the first shift on Mondays, which necessitated Sunday labour.² The basic week remained unchanged in the larger works by 1913 – eleven hour turns of six heats, with nine and a half hours on Saturdays.³ At Bradley's, the first turn appears to have begun not at midnight on Sunday as in former days, but at two o'clock on Monday afternoon.⁴

In other iron works, where the work routine was tied to the puddling furnace, the hours varied with the work undertaken, the overtime or Sunday work, and the employment of women. Jones & Attwood, for example, were engineers and iron founders specialising in central heating apparatus. In the early 1880's their wages book shows hours ranging from the 40's to the 80's per week. In November, 1886, one workman actually worked 88 hours including five nights away from home, for which he received an allowance of 1/3d per night.⁵ In January, 1898, the standard week was one of 54 hours, and the energetic proprietor of the firm, Walter Jones, decided to adopt the 48 hour week, with overtime at the usual rates. This was because only about a third of the men actually started at 6 a.m., and there was a waste of gas and machinery until all the men were present.⁶

For the smaller firms, for example, those making edge tools, we have no information regarding men's hours, but it is unlikely that they went beyond the customary 10½ hours (excluding meals) of the 1860's, and probably they were less in view of the general shortening of the working day. Where women were employed in any numbers, as in the hollow-ware manufacture of Lye, the tendency must have been to work to a maximum of 10½ hours, that is, the longest day permitted to women under the Factory and Workshops Acts. In brickmaking, the limiting factor was again the 10½ hour maximum just mentioned, though hours were sometimes less at the turn of the century. Work began at 6 a.m., and lasted till 5 or 6 p.m., with 1½ hours off for meals; in winter, the hours were shorter. It was sometimes difficult to prevent work in the dinner hour, since the women were anxious to complete their stint, and to get away home.⁷

¹ Report of the Royal Commission on Labour, Vol. II, Group A, p. 353.

² Stourbridge Advertiser, 22 August 1891.

³ *Ibid.*, 1 March 1913.

⁴ Oral evidence of oldest workman employed by firm in 1969.

⁵ See Wages Book of Jones & Attwood, 4 January 1884 to 11 June 1887.

⁶ Stourbridge Advertiser, 8 January 1898.

⁷ Reports of Lady Inspectors contained in Report of the Chief Inspector of Factories and Workshops, 1901 and 1902.

From this survey two major points emerge: the first is that in the non-domestic trades of mining, iron manufacture, glass making, and brick making, the working week did not change very markedly during the century. In the first three trades, the week began with St Monday for most of the period. By 1914 St Monday had declined somewhat, but might still be observed in some mines and iron works, in most glass houses, and in sheet metal works.¹ Clearly, the routine of work in itself was not very different at the end of the period from what it was at the beginning, though the Mines and Factory and Workshops Acts had reduced the length of the working day.

The retention of St Monday for so long is interesting. Of course, it was well-known elsewhere,² but the fact that it survived so long in the Stourbridge area seems to indicate that some employers, at least, saw no reason to try to incorporate Monday into the working week with a view to increasing output. It has been suggested that St Monday disappeared in Birmingham and the Black Country in the 1890's when the rapid adoption of power machines led to the spread of the factory system.³ In fact, the number of factories in Stourbridge and district by 1914 was still very limited. Perhaps the most important reason for the retention of St Monday was the depressed state of the glass, iron and mining industries when neither employers nor workmen were eager to change traditional ways in the interests of higher productivity. Admittedly an increase in productivity might make it possible to lower selling prices, but could do little to offset effectively the major handicaps suffered by the declining iron and coal industries of the West Midlands.⁴ Again, where prices were linked to wages, as they were in both iron and coal,⁵ lower prices ultimately meant lower wages, and as such were not attractive to the work people. Hence the

¹ Even in 1919, the day ended in sheet metal works on Mondays at 2 o'clock. Evidence of Mr Brettell, secretary of Lye Branch of the Sheet Metal Workers Union, who began work in 1919.

² E. P. Thompson, *loc. cit.*, gives examples. Pollard, *A History of Labour in Sheffield* (1959), p. 211, quotes a manufacturer who said that it was Wednesday, but five men in one department had not turned up yet. Another employer said that he lay awake at night trying to think of ways of circumventing men who would not start on Mondays. St Monday was still very much a feature of the Sheffield trades outside the great works in the period just before the Great War.

³ See G. C. Allen, *op. cit.*, Pt IV, ch. IV.

⁴ Local supplies of both coal and ironstone were becoming exhausted, and transport costs were heavy compared with those of other areas using more modern furnaces and sea-borne transport. See D. B. Evans, "The Iron and Steel Industry of South Staffordshire from 1760 to 1950" (unpublished Birmingham M.A. thesis, 1951).

⁵ The first formal wages boards were set up in the iron industry in 1876, and in mining in 1883.

incentives to change traditional work patterns were not as strong as they might have been elsewhere.

The second major fact is that for a large proportion of the work force the period after 1850 saw a change from the flexibility of domestic work to more systematic work outside the home in workshop, factory or mine. As we have already seen, by the end of the century in Lye and Wollescote the children of nailers were frost cog makers or iron plate workers in the hollow-ware industry. In their hey-day their forefathers would have taken things easy on Mondays, rested sometimes for several hours at midday on a working day, broken off work to attend to the rabbits or pigeons kept in the workshop, worked all night on Fridays, and gone off for weeks at a time to help with the harvest. The hours of the iron plate workers, many of them women, were certainly fewer in the aggregate, but much more regular. However, even in this relatively new industry, St Monday was still observed to some extent, so for this class of worker the rigid routine of the factory week was still unfamiliar in 1914.

Were working hours excessive in Stourbridge in the nineteenth century? By the standards of the day they do not seem to have been over-long in any of the industries which have been reviewed, except in nailing. Here the very long hours in the first part of the century seem to have resulted for the most part from the ways the nailers organised their working week, rather than from pressure exerted by the employers; though it was otherwise later in the century, when the competition from machine-made nails increased the weekly work-load, and made nailing the most wretched and degraded trade in the Black Country.

The whole subject of the length of the working week is in fact more complex than might at first appear. The length of the traditional working day was based on that of the agricultural worker, and was very long, judged by today's standards. However, the pressure of work was rarely as intensive and calculated as in the modern factory; and where long spells of concentrated attention were required, the shift was accordingly shorter, as in glass making. Again, the flexibility of the domestic system of industry made a long working week more tolerable than would otherwise have been the case. It is a significant fact that few direct complaints against the length of the working day or week for the adult are to be found in the extensive contemporary evidence on working conditions in the Stourbridge area. Men born into a traditional work situation are more likely to accept their working conditions without complaint than men adjusting themselves to the strains and difficulties of factory work. It must not be forgotten, too, that most working men were much more concerned with the pay they

received than with the precise number of hours worked. In the Black Country, employment was often intermittent even in periods of prosperity, so that the main object for many was simply to earn enough to eat and to pay the rent. Consequently, grievances centred very largely on wages, not on hours, and even at the end of the nineteenth century, strikes were much more likely to arise from disputes over pay than over excessive hours.

It remains to examine changes in work processes and environment. In nailing, the work situation remained largely unchanged throughout the century. The nailshop was usually of brick, and of rough construction with an unglazed window, a divided door like that of a stable, and an earth floor.¹ Inside were a central hearth and bellows, with separate benches and hearths at each corner. The only tools used were hand hammers and chisels, and an oliver, a treadle-operated, spring-loaded hammer used for heavier work. There was no noticeable improvement in conditions by the end of the century – nailers roasted in summer, and froze in winter, sometimes standing on duck boards if the drainage was inadequate. It was not until 1902 that some of the shops were whitewashed for the first time, and the sanitary authority ordered the removal of hens, pigeons, and rabbits from the workshops.²

Work discipline depended very much on the disposition of the head of the family. The children were certainly made to work very long hours, and when they were excluded from the late 1860's onwards, the women suffered as a result. The local junior inspector in 1875 alleged that the women did all the work, while the men were idle and drunken.³ Certainly women lacked protection under the law because of the difficulty of enforcing the 10½ hours maximum when these hours might be worked at any time between 5 a.m. and 9 p.m. Moreover, it was not customary to inspect workshops where only the man and his wife were working, and unusual in any case to proceed against a man for overworking his wife. Further, a woman who hired a stall or bench became an occupier, and could not be proceeded against for overworking herself.⁴ Paradoxically then, the 1867 act added to the burdens of women nailers, instead of reducing them, just at the time when the

¹ For a description in detail of the nailers' working conditions and mode of work, see E. I. Davies, "The Hand-made Nail Trade of Birmingham and District" (unpublished Birmingham M.A. thesis, 1933), and also A. F. Moseley, "The Nailmakers", in: *West Midlands Regional Studies*, II (1968).

² Report of the Chief Inspector of Factories and Workshops, 1903.

³ Reports of the Inspectors of Factories, April 1875.

⁴ Third Report of the Select Committee of the House of Lords on the Sweating System, p. 436.

competition from machine-made nails was growing intense, and nailers were forced to resort again and again to the hated foggers.¹

Nailing was perhaps the only trade in the area where working conditions failed to improve in the nineteenth century. In contrast, mining was extremely arduous and dangerous early on, but much safer later in the century. At the mid-century, accidents were alarmingly frequent, deaths resulting from falling down shafts, being struck by coal or wood while in the shaft, or from roof falls, the last being a marked feature on this coalfield, there being more deaths from this cause in the 1850's than in any other mining district.² One major cause of the high death rate was the mode of working the thick seam by pillar and stall (the "square work system", whereby pillars of coal were left to support the roof), for this was a basic cause of the excessive number of roof falls. Another was the butty system, by which neither the mine owner nor his agent took any interest in the safety of the pit, leaving it all to the butty. The men's wages were paid by the chartermaster or butty (or his assistant, the doggy) who was generally in charge of the working of the mine, subject to the visits of the agent or manager. The butty made his agreement with the mine owner for the delivery of so much coal, and paid the men and boys accordingly. He was often a man who could neither read nor write, so that he might be unable to read the special rules for his pit, let alone carry them out.³ Agents themselves were frequently illiterate, but it was the butty who was especially disliked by the men. In his Shut End colliery (just outside the Stourbridge area) James Foster did away with them, and accidents were reduced under a new system whereby men were paid fortnightly at the office.⁴ More specifically, accidents were caused by the crudity of the equipment (most shafts had neither guide rails or cages), by firedamp explosions, by what were called locally "bumps" (defined by one inspector as "a sort of explosion or eructation in the strata which in some cases is so severe as to be comparable to local earthquakes"), or sometimes by the simple carelessness of the colliers themselves. In spite of all this, the miners remained an astonishingly

¹ A fogger bought nails from the nailer, often when trade was slack, and the demand limited. He paid lower rates than the nailmasters, the difference being his profit when he in turn sold to them when trade revived. Foggers were notorious for exploitation, e.g. by payment in kind, or using false weights, or by intimidation, especially of women, at the Saturday weigh-in.

² There were 189 deaths on the South Staffordshire and East Worcestershire coalfield in 1851, the first year of inspection. Reports of the Inspectors of Coalmines, 1851.

³ These rules had to be made for each mine under the Coal Mines Inspection Act, 1855.

⁴ Midlands Mining Commission, First Report [PP, 1843, XIII], p. 70.

cheerful community. One of the commissioners of the 1842 enquiry, Dr Mitchell, remarked that the miners did not seem ill-disposed to their work, and coming across a party of miners during their dinner hour, he described them as "the most lively, uproarious, and jovial that I have ever seen".

By 1914 the most outstanding change in the mines is the number of regulations imposed in the interests of safety from the 1850's onwards.¹ The enforcement of these regulations must have had an important effect in reducing the risk of accident, though this cannot be proved statistically.² Secondly, the butty system continued in many pits at least until the end of the century, and miners were still paid day wages.³ There is nothing to show that the Industrial Revolution widened the gap between employer and employed in the Stourbridge mines. The butty always had been disliked, and in any case he was not the mine owner, but a working man who had acquired enough capital to provide working equipment at the pit bottom and to set up as a small employer. Thirdly, the basic technique of coal getting did not change very much in this period. Admittedly, winding gear had improved, boilers were safer, cages and guides came into use in shafts, ventilation was by power-driven fan instead of by such crude devices as a fire in the upcast shaft, but the coal was still cut by hand. There were still no coal cutting machines in any pit in Worcestershire in 1913.⁴ Moreover, coal mining remained the most dangerous occupation in the Stourbridge area, with fifteen fatal casualties in the period 1901 to 1913.⁵

Employment in the larger iron works was not so dangerous as in the mines, but it was still very demanding physically, both for the boys and the men. The boys rarely got through many turns without burns, though many of them were sons of workmen in the same works, and so might work under parental supervision.⁶ For the men, the work was

¹ The detailed terms are set out in the Mines Acts of 1850, 1855, 1860, 1862, 1872, 1887, and 1911. The 1911 Act provided new General Regulations to replace the Special Rules for Districts under the 1887 Act.

² See O. O. G. M. MacDonagh, "Coal Mines Regulation: the First Decade, 1842-1852", in: *Ideas and Institutions of Victorian Britain*, ed. by Robert Robson (1967).

³ Report of the Royal Commission on Labour, 1892, evidence of Col. Cochrane. See also A. Fox, "Industrial Relations in Birmingham and the Black Country, 1860-1914" (unpublished Oxford B.Litt. thesis, 1952), Section I, ch. XVIII, and A. J. Taylor, "The Sub-contract System in the British Coal Industry", in: *Studies in the Industrial Revolution*, ed. by L. S. Pressnell (1960), esp. p. 230.

⁴ Reports of Inspectors of Mines, 1913.

⁵ Calculated from the lists of fatal accidents in the inspectors' reports for the years concerned.

⁶ Children's Employment Commission (1862), Third Report, pp. iv and 2-4.

so hard and exhausting that few continued as puddlers beyond the age of 50. At about this age, men who found their strength failing them became mill furnacemen or labourers at much lower wages.¹ Unlike men in the textile industry, iron workers did not benefit from restrictions placed on the hours of children, and of course there were no limits placed by factory legislation before 1914 on the working hours of grown men.

The works of John Bradley & Co were exceptional in size for the area, and here it appears that considerable efforts were made to impose a strict work discipline. A list of nineteen detailed rules was given to each workman specifying fines payable for a variety of offences, e.g. throwing water into a heat of iron (2/6d), or bringing in more than one quart of ale, or any spirituous liquor (5/-). Here for the first time we meet something like the discipline of the textile factory, but in fact none of the rules seems particularly harsh, and there is no doubt that the proprietor of the works, James Foster, and his successor, William Orme Foster, took some interest in the general welfare of their employees. Houses were provided by the firm for a small number of workmen, and pensions were paid in the 1890's.²

As regards other iron works in the district, there is not a great deal of information to be had regarding work discipline. In the smaller works, the discipline was probably much less formalised than at Bradley's, and tempered by personal knowledge of the men by the employers. Wood Brothers of Lye, for example, were noted for their concern for the children in their works in the 1840's.³ At Jones & Attwood's fines were very occasionally imposed in the 1880's, but at the same time a shilling would sometimes be added to wages for prompt or quick work.⁴ Whenever there were puddling furnaces or rolls – and only a very small number of firms were of this size – there would be an additional element of group discipline, since the puddler paid his underhands and supervised their work, and so did the master puddler. In general, there are no marked changes to be discerned in the physical environment or in work discipline in iron works during the century, though considerable improvements were made through the agency of the factory acts by 1914 in ventilation, the fencing of machinery, safety precautions for both steam engines and electrical equipment, the provision of lavatories, and so on.

¹ *Ibid.*

² See a copy of the rules in the possession of the firm in Stourbridge, and also *Journal No 24*, which gives payments in respect of rents and pensions.

³ *Children's Employment Commission [1842]*, Appendix to Second Report, Pt II, at q. 87.

⁴ See the *Wages Book* referred to previously.

Similarly in brickmaking the basic work situation remained largely unaltered during the century. By 1900 bricks were still being made by women moulders at their tables, with the girl pages bringing them the tempered clay and then carrying off the bricks to the stove. Both girls and women still worked in clothes soaked by clay splashes, and the weights carried by the girls remained very heavy – 40 lb loads were common.¹ Although some of the younger girls were now turning to lighter work in the hollow-ware trade, many of the older women continued as before; some of the women at Harris & Pearson's in 1903 had been with the firm since 1850.²

In the glass industry, working conditions in the earlier part of the century were better in some ways than in any other industry in the district. The glass houses were praised by the commissioners of the Children's Employment Commission, 1842, for being clean, in good repair, and carefully ventilated.³ Most of them had a place to wash, and to change clothes. In particular, Webb's glass house was singled out as having good working conditions, including the railing off of dangerous machinery. The one criticism was of the use of red lead in the mix (the ingredients used in the making of the glass), and of the use of dry putty powder on the cutting wheels, which could cause lead poisoning. By the end of the century, all works had extractor fans in their cutting shops, thereby diminishing the risk of plumbism.⁴ All workers also gained from factory regulations relating to lavatories and to ventilation, the taking of meals in workrooms, and similar matters. It should be added that the place of work by necessity was always dry and warm, so that the trade could make some claim to being as healthy as any in the neighbourhood.

Work discipline in the trade depended largely on the discipline of the group engaged in making, the so-called "chair", which consisted of the workman (the gaffer), servitor, footmaker, and taker-in. The taker-in was a boy who gave assistance as required, but his main job was to take the finished glass into the *lehr*.⁵ If he became an apprentice, he would take the third position in the chair as a footmaker. Glass house boys were worked very hard, and often ill-treated by the men, who were a rough lot, and notorious for their heavy drinking – so much so that the local branch of the union was at one time accused of paying

¹ Reports of Lady Inspectors, see above, p. 414, note 7.

² *The Black Country and Its Industries*, published by the *County Express*, 1903.

³ Children's Employment Commission [1842], Appendix to Second Report, Pt II, q. 90.

⁴ Report of the Chief Inspector of Factories and Workshops, 1898.

⁵ The *lehr* is the annealing oven through which the finished glass passes on a slow-moving belt.

abnormally high sickness benefits to members who were really incapacitated by drink; boozing, it was said, was "a chronic habit at Stourbridge, fixed and incurable".¹ Because the trade was highly skilled, it did not mean that the workmen were necessarily less uncouth than in other trades.

It is difficult to assess the severity of the work discipline in the second half of the century, but clearly much of the discipline had to be imposed within the chair itself, and could not be forced on the men from without by the employers. The union exercised such iron control over the supply of labour that employers could hardly afford to antagonise their workmen by interfering with well-established procedures. Indeed, it is not surprising that some employers thought that the union had a pernicious effect on the working of the trade, and that the effort of the workmen was much too limited. A leading Birmingham glass manufacturer told the Royal Commission on Trade Unions, 1867-9, that the union had too great an influence over the filling of vacancies and over apprenticeship, and that the men generally opposed all innovations. In Stourbridge, he said, the men had actually broken a new pressing machine to prevent its use. This was denied by the men's representatives, who said they had never refused to operate the machine when the employer paid for any glasses which were cracked.² The union maintained its authority over apprenticeship, and over its right to supply a man from its national list whenever a vacancy occurred until the strike of 1902, which weakened its overall control of conditions of work.

In reviewing changes in working conditions in Stourbridge between the 1830's and 1914 one is in effect reviewing what is very largely a change from home-based industry to a workshop and factory-based industry. The clearest manifestation of this is seen in the decline of nailing. It is impossible to quantify this change precisely, but its dimensions are clearly indicated by the fact that in 1851 there were five times as many nailers as glass workers, and six times as many nailers as miners; the nailers also constituted 60% of all iron workers. By 1914 their numbers had been reduced to a handful. In one sense, therefore, it might be argued that in as far as nailing declined because of the use of machine-made nails, then technological advance – the Industrial Revolution itself in the narrowest sense of the term – transformed the working lives of up to a third, at least, of the work force of 1851. When a new industry developed in the Lye area – the

¹ Flint Glass Makers Magazine, quarter ending August 1888.

² Royal Commission on Trade Unions, 1867-9, Tenth Report [PP, 1868, XXXII], p. 32.

galvanised iron hollow-ware industry – it was situated, in the main, in workshops away from home and not domestically.

Yet this change must be seen in perspective. It was a slow change, and did not take effect until well into the 1870's. Further, for many the new place of work was a workshop, not a factory, and it lacked the regimentation of the large work unit. All the new hollow-ware works were small enough for the proprietor to be known personally to his work people. Most employers in the industry had themselves worked at the bench, and were well aware of how their workers thought and felt.¹ Moreover, it would be incorrect to assume that the factory system was the norm for industry generally in 1914. The number of large works in Stourbridge was still small at this time – not more than a dozen firms, at the outside limit, employed more than a hundred workers. The small team, so characteristic of domestic industry, was still to be found in the glass, iron, mining, and brick industries; puddlers and rollers still paid their underhands, butties paid their colliers, and brick moulders paid their pages. There was little or no work on Mondays in some of the pits, iron works, hollow-ware works, and glass houses in 1914.

This is not to deny that working conditions changed substantially for the better in most trades, but the fact remains that traditional methods of work and labour organisation died hard in Stourbridge. Steam power, that great engine of change in the Industrial Revolution, of course brought better winding and haulage for the pits, more powerful hammers in the iron works, better tempering machinery in the brickyards, improved ventilation in the glass houses; but the basic processes remained the same. Miners hewed out coal, puddlers worked at their furnaces, women made bricks (even moulding the large quarry bricks with their feet), men made and cut glass much as they had done in the 1830's.

Why there should have been so little change remains a matter for speculation, but the most likely reason has already been touched upon, namely, the secular depression in the iron, coal, and glass industries from the 1870's onwards. Lacking the incentive provided by boom conditions, both employers and workers were content to leave things as they were, and to accept work situations which were recognisably based on eighteenth-century practices. Consequently those changes which did take place in working conditions were due far more to

¹ All the leading proprietors – the Hills, Rhodes, Evesons, and Rounds – had begun as iron plate workers. Inevitably this affected relationships within the works, though not always for the better. For discussion of industrial relationships of this kind, see A. Fox, "Industrial Relations in 19th Century Birmingham", in: *Oxford Economic Papers*, VII (1955).

government legislation than to technological innovation, or re-organisation of the work force by employers into larger units, or trade union action.

We may conclude by suggesting that working conditions in Stourbridge in the nineteenth century were somewhat different from the conventional picture of industrial misery and grinding exploitation. There is nothing to show that the Industrial Revolution directly caused a deterioration of working conditions during the century. What does stand out is the hard work and the length of the working day or week. In particular, children were worked very hard in the first half of the century in iron works, glass houses, and nailshops, but this of course was work of a traditional kind, and mitigated to some extent by breaks in the routine such as that provided by St Monday. The worst cases of exploitation of labour are probably to be found in the domestic industry of nailing, especially of women after the children had been withdrawn from the nailshops. For these women, employment in hollow-ware workshops must have come as a relief. It must be emphasised, too, that employment was often too intermittent for men to complain over-much about being worked too hard or for too long. Some of the longest hours were worked by domestic servants and shop assistants, whose occupations were scarcely the product of the Industrial Revolution. As for work discipline, the one piece of direct evidence of an effort to impose strict regulations in a large works relates to Bradley's Iron Works, where some degree of discipline was obviously essential, but where labour relations were commonly very good. Nailers, as we have seen, made their own work discipline, and so did the glass makers. Only miners seem to have had strong complaints about working conditions at the mid-century, but the object of their criticism was the butty and the butty system rather than the capitalist mine owner himself.¹

Perhaps one of the greatest difficulties in attempting to assess nineteenth-century working conditions is the present-day assumption

¹ Many complaints were voiced on the Staffordshire and East Worcestershire coalfield about, for example, the failure to cover pit shafts, about the lack of official meal times, and about pay, which was sometimes paid late, or in kind, or for only half a day on Saturday when they worked seven out of the full eleven hours on that day. In spite of all this, and of the high mortality rates on the coalfield, the miners managed to enjoy themselves from time to time. Cf. Tremenhare's shocked remarks about their "sensuality and extravagance": "Poultry, especially geese and ducks; the earliest and choicest vegetables [...]; occasionally port wine, drunk out of tumblers and basins; beer and spirits in great quantities; meat in abundance, extravagantly cooked; excursions in carts and cars are the well-known objects on which their money is squandered", *op. cit.*, pp. 33 and 9-10.

that working hours must necessarily be limited by law, and that unrestricted hours provide strong evidence of exploitation – so that by this standard the early Victorians were morally culpable. This is to take one's stance firmly in the present, and to judge the past by the standards of today, which is hardly a satisfactory way of understanding the thoughts and actions of the past. Nor is the case altered by the admitted exploitation of factory children in the early nineteenth century; it does not follow that exploitation on a similar scale existed in other industries. Once however it became established that it was wrong to employ young children, then ultimately all industry was affected. So in Stourbridge it was not the Industrial Revolution in itself which had a marked effect on working conditions, but rather the factory legislation made necessary by the excesses of the Industrial Revolution in other manufacturing areas.