1 Introduction

‘Perhaps as I tell you my story, which, with variations, is the story of hundreds of thousands of my East End neighbours and of millions of my brothers all over the country, you will begin to understand’ (Thorne, 1925?, p. 13). Will Thorne was born (1857) into poverty and illiterate until adulthood. He wrote his autobiography, fittingly titled *My Life’s Battles*, to provide his readers with the background for his views and to explain his lifetime commitment to socialism. Thorne was branded, as he acknowledged, by his bitter experiences as a child worker. Such experiences were far from unique. Thorne’s story, along with more than 600 other working-class autobiographies, constitutes the basis for this study. Quantitative and qualitative analysis of these memoirs provides new insight into the role that child labour played in the British industrial revolution and thereby into the process of industrialization itself.

The child worker was a central if pitiful figure in both contemporary and classic accounts of the British industrial revolution, but in modern economic history, the children who toiled in early mills, mines and manufactories have become invisible. The standard economic history textbook (Floud and Johnson, 2004), contains only five references to child employment, all but one of which derive from the rather peripheral chapter on ‘Household Economy’. As a topic of research, children’s role in industrialization has become *passé* (Bolin-Hort, 1989). Clark Nardinelli’s (1990) revisionist interpretation provided an exception that shocked traditional historians. Nardinelli argued that since child workers and their families had the option not to work and yet chose employment, it must have been that child labour was preferred, and in this (economist’s) sense was optimal. Although Nardinelli’s version has been disputed (Galbi, 1997; Tuttle, 1998; Humphries, 1999), it retains a powerful position within mainstream economic history.

Recent work (Horrell and Humphries, 1995a; Cunningham and Viazzo, 1996; Tuttle, 1999; Cunningham, 2000; Heywood, 2001; Kirby, 2003; Humphries, 2003b; Honeyman, 2007; Levene, 2009) suggests a revival of interest perhaps derived from the current concern with child
labour in Third World countries. However, although this recent work has reaffirmed the importance of child labour in the first industrial revolution, its study remains a minority interest fraught with uncertainties and controversies. Disagreements persist about child labour’s extent and setting, its causes and consequences, and the reasons for its retreat.

Controversy begins with attempts to establish trends in children’s work. There is disagreement about whether children’s labour in the early mills and manufactories of Britain represented a continuation of their involvement in domestic manufacturing and agriculture or a novel feature of the changing economy. The traditional view was that child labour reached its apogee in the early factories, although even in the classic literature some authors emphasized its prevalence in domestic manufacturing (Pinchbeck and Hewitt, 1973). Subsequent research on proto-industrialization, which suggested that child labour was widespread in workshop and home-based industry prior to mechanization (Levine, 1987), reinforced this interpretation. The debate remains unresolved with the evidence leaving the interpretations ‘neatly poised’ (Cunningham, 1996, p. 14). A subsidiary aspect of this debate concerns the intensity of child labour and whether shifts in the pattern and context of children’s work led to changes in pace and hours. In particular, did the transition to the factory system speed up the labour process and lengthen the working day?

The recent studies extend the focus on workshop and small-scale manufacturing to include agriculture and services and unite in seeing child labour entrenched in these traditional sectors. For Kirby ‘[T]he archetypal model of child labour in large factories and mines was never the predominant mode of child labour’ (2003, p. 132). Similarly, Honeyman (2007) and Levene (2009) show that even pauper apprentices, commonly viewed as the vanguard of the factory proletariat, were widely deployed in small-scale and traditional manufacturing enterprises. While agriculture, small-scale manufacture and domestic service rarely receive the attention they deserve as sources of employment for children, the strategic importance of child workers in the early factory labour force surely remains. In the eighteenth century, the sheer size of agriculture, traditional manufacturing and domestic service necessarily meant that they dominated placements of child workers generally and pauper apprentices in particular, but at the same time, the flow of apprentices to early factories, now well documented in Honeyman’s important (2007) contribution, meant that ‘early industrial expansion took place at a rate not otherwise likely’ (Honeyman, 2007, p. 111).

Another tension emerging in the recent literature concerns the prevalence of very young children (under 10 years old) working. Kirby is
adamant that this was ‘never widespread’ (2003, p. 131), while Horrell and Humphries argue that the end of the eighteenth and early years of the nineteenth century saw a boom in child labour associated with younger ages at starting work, with factory employment at the forefront of this trend (1995). Since Kirby agrees with other authors (see Humphries, 1998) that child labour at ‘abnormally young ages’ was associated with ‘lone-parent households, orphans and children formally in the care of parish authorities’, its investigation requires attention to the demographic and social context (2003, p. 131). Thus, questions remain about the structure and distribution of children’s employment over the course of the industrial revolution and in comparison with the adult labour force.

A second area of uncertainty concerns the causes of child labour and particularly the relative importance of demand and supply. The investigation of demand requires linking the evidence on child labour’s extent and setting to an understanding of the process of industrialization and how new roles for children might have been replicated in the changing workplaces of early industrial Britain. The exploration of supply requires confronting Nardinelli’s neoclassical interpretation of family decision-making with an older literature on family strategies and asking how child labour fitted into the working-class family economy. Questions concern what role poverty played in the decision to send children to work and whether the age of starting work was flexible or heavily circumscribed by custom.

A third set of questions relates to the consequences of child labour, which for the children themselves were often conditional on the behaviour of other family members. A key issue is whether parents as well as employers exploited children, commandeering the fruits of their labour and using them to support increased adult consumption or more leisure. Alternatively, perhaps children’s contributions to family income increased living standards, and in particular improved diets so compensating them for the disutility of work. In this case, child labour was the best available outcome for everyone, including the children themselves. If so how did such compensation filter through household distribution mechanisms to reach child workers, and in particular did working enhance children’s status and hence their command over household resources?

Decisions whether to send children to work did not take place in a vacuum but both reflected and reverberated back upon adult wages and job opportunities. If children were sent to work in response to falling adult wages, or working children themselves competitively drove down adults’ wages, in the aggregate child labour would be associated with lower adult wage rates and no net benefit to working-class families, a
‘bad’ equilibrium, which no individual family’s actions could unlock. In this scenario, child labour represents a co-ordination failure that challenges Nardinelli’s rosy interpretation (Basu, 1999; Humphries, 1999).

The implications of children’s labour depended on the terms and conditions of employment, and specifically how they affected schooling, health and training. The consequences spilled out beyond the individuals concerned and even beyond the generation in place. Men, who had been subject to premature labour and unable to build up their human capital, would be insufficiently productive to raise their children without condemning them too to the depredations of child labour. Clynes’s ‘shrunken and white-faced’ adult, the result of a childhood ‘ruined by hard labour and little sleep’ was ill-equipped to support dependent children through adolescence (1937, p. 43). One-off adverse conditions could trigger a deleterious cycle with children’s labour having a significant impact not only on their own well-being but also on the well-being of future generations (Basu, 1999; Hazan and Berdugo, 2002). Did something like this miserable cycle emerge in the early industrial economy to lock it into poverty, low productivity and early work? Did the lack of capital markets and difficulties in making inter-generational contracts stick push children into early labour, even if delay would have increased their productivity as adults enough to compensate for the youthful earnings forgone? In short, did missing markets maintain child labour at inefficiently high levels (Baland and Robinson, 2000)?

Whether or not children’s work adversely affects future growth depends on the relationship between early work and skill formation, usually seen as substitutes but in certain circumstances perhaps complements. In broader terms, the question is whether all children’s work is bad or whether some kinds of work may not be adverse, indeed may have beneficial effects for the children themselves and for economic growth. Does the historical evidence suggest a range of work for children with some jobs having deleterious effects and others more positive consequences? Specifically, does child labour crowd out schooling or can work and education go together? Potential complementarities between child labour and not only schooling but also other endowments (nutrition, health and training) lessen the negative feedback from child labour to future growth. The search for evidence of such complementarities in the historical record provides another topic for investigation.

Chief among historical institutions that promised to combine child labour with investment in skills was apprenticeship. Apprenticeship played a vital role in the early modern economy, bridging the gap between the home and the workplace, introducing the child to the
world of work and fostering training (Ben Amos, 1994; Lane, 1996). But less suited to the needs of an industrial economy, apprenticeship was thought to have faded away. The rising cost of living discouraged traditional forms of live-in apprenticeship, and the repeal of the Statute of Artificers in 1814 removed the legal requirement for apprenticeship prior to practising a trade (Snell, 1985; Lane, 1996). Yet historians are vague about the timing and pace of apprenticeship’s decline (Snell, 1985; Humphries, 2003). Moreover, little attention has been paid to how the decay of apprenticeship influenced child labour markets. Did it mean that children who would previously have entered a formal contract for training and subsistence in exchange for labour, a contract where the behaviour and conduct of both parties was legally circumscribed, were now thrown unskilled on to the labour market and left to strike their own bargains? Did the fading of apprenticeship adversely affect the supply of skills or did young men obtain training by alternative routes?

The final topic for debate concerns the causes and chronology of children’s retreat from the labour market. If something like the cycle of early work and low productivity characterized the crucible of industrialization, what threw it in reverse, causing child labour to begin to decline? The usual suspects include shifts in technology, the Factory Acts and compulsory schooling. Kirby (2003), for example, gives some credence to changes in the labour process and industrial organization but dismisses state regulation and schooling as irrelevant. Alternatively, the withdrawal of children from the labour force has been seen as the natural corollary of a rise in male wages and a demand for higher ‘quality’ children (Nardinelli, 1990). Did children’s labour decline in stages as they retreated first from mainstream industrial processes and then from more marginal activities often in the interstices of the informal economy, and did different factors promote the retreat in different times and places?

These are important questions, but why search for answers in such a potentially hazardous and time-consuming source as working-class autobiographies? Memoirs fail for a number of reasons. Remembrances of childhood may reflect childish understanding and failures of memory. They may be refracted through the lens of ideology or indeed consciously designed to misinform and mislead. The handful of working people who were willing and able to write down their experiences was by that very act a selected sample; to draw general conclusions from such rarefied evidence might be foolhardy in the extreme.

Autobiographies are indeed a difficult source, and generalizing from an invariably small and selected sample is a hazardous endeavour. It
takes care to construct a general picture from these individualized building blocks. At the same time, these writings are worth more respect than is generally accorded them. Many of the alleged weaknesses of memoirs are irrelevant when they are used not as eyewitness accounts of external events but as a source of information about their own author’s experience. Here they are surely invaluable, a rare fenestration of working-class experience. Autobiographies are one of the few ways in which ordinary men and women recorded what happened to them or what they perceived happened to them. For this reason they can uncover aspects of the past that have often been thought irrevocably lost, particularly how working men and women made sense of their lives and responded to the world about them (Vincent, 1981; see also Burnett, 1994; Rose, 2001). Such a standpoint is essential to answer those questions identified above as lying at the heart of the history of children’s work.

There are secrets in childhood experience around which the autobiographers tiptoe, but experiences of work and training are not among them. The vast majority of working-class autobiographers had something to say about their youthful introduction to the labour market and the extent of their preparation. There is a gold mine of information on pressures to work, links between the family and the labour market, the nature of first jobs, remuneration, apprenticeship and schooling. Autobiographies cannot substitute for the household surveys that have enabled the study of child labour in today’s poor countries but they can fill some of the lacunae in our knowledge and contribute to a clearer and more reliable history.

The attractions of autobiography are not the whole story. Children’s work in the past remains poorly understood because there are few good sources of information (Kirby, 2003), and those that exist are concentrated late in the era of industrialization. The earliest reliable British census with a detailed occupational breakdown took place in 1851, the end of the industrial revolution. Without estimates of child labour before mid-century, trends remain hazy. Moreover, census data itself must be viewed cautiously. All Victorian censuses underestimate child labour, as comparisons of census enumerators’ books with other records show (Gatley, 1996), and understatement may have increased in the later censuses, when employers feared prosecution. The census evidence can get researchers out of the blocks, but cannot alone reveal the history of child labour.

Alternative sources of data are the government inquiries of the early industrial period and surveys by contemporary authorities. These have provided historians of children’s work with much of their raw material to date. Tuttle’s (1999) analysis of such evidence suggests extremely
high relative employment levels of children (aged under 13) and young people (aged 13–18) in several industries. Children and young people comprised between one third and two-thirds of all workers in many textile mills in 1833 and regularly over one quarter in many mines in 1842. Government inquiries generally cover only two (albeit important) industries, textiles and mining. Moreover, the index of child labour is invariably the relative employment share in particular establishments and industries, leaving a question mark over the issue of how important children’s work was to the population as a whole. Thus, based on this evidence, interpretations differ. Nardinelli (1990) holds that child labour was only briefly important, whereas Tuttle argues that even by 1850 children were not only found in some factories in the industrial heartlands, but were also commonplace in rural districts (Tuttle, 1999; see also Winstanley, 1995). Moreover, for the first phase of industrialization, even this type of information is not available and historians must rely on patchy and localized sources.

My earlier work (with Sara Horrell: Horrell and Humphries, 1995a) used accounts of working families’ budgets to explore trends in children’s contributions by type of family across the whole period of industrialization. While necessarily limited by the number of budgets that were recovered, this evidence is rare in providing insight into the composition of family incomes in the eighteenth century and in tracking differences not only over time but also by fathers’ occupational group and geographical location. Although this study mobilizes a completely new resource, its overall concern with the exploration of those same patterns and trends will occasion comparison with the child labour outcomes inferred from the family budgets. More generally, this account does not rely on autobiographical materials exclusively but relates the findings from this new source to existing accounts based on materials that are more conventional.

The autobiographies provide unambiguous answers to many of the questions posed. They document astonishing levels of child labour throughout the period of the industrial revolution and throughout the British economy. They show that children’s work was not confined to isolated industries or particular occupations but deeply entrenched and ubiquitous. As children, many autobiographers had much-publicized and specifically juvenile jobs: piecers in textile factories, draw-boys in handloom weaving, trappers, hurriers and thrusters in coal-mines, and crow-scarers, shepherds and stone pickers in agriculture. However, it would be a mistake to think of children’s work as limited to these well-known examples, or as confined to assisting and facilitating the work of an adult principal. For one thing, although children often did
work as ancillaries to adults, their help was not ad hoc occasional assistance but built into the labour process. This was true not only of child piecers and of transport workers in mines, but also of ‘barrer boys’ who hauled off new-made bricks and tiles and of ploughboys in agriculture. Will Thorne stood up to long hours on the brickfields working with his uncle, but had to give up when working with another man who was faster because he could not keep up the harder pace and was suffering physically (Thorne, 1925?, p. 19). Joseph Ricketts, a very young agricultural labourer, was ‘frequently knocked down with a large lump of hard dirt’ by the ‘ill-tempered carter’ with whom he worked for not keeping up with the horses without holding on to the traces (Ricketts, 1965, p. 122). Children often served not adult co-workers but early industrial and far from fully automated machinery, and not only in the textile industry. Robert Dollar in describing how aged 12 in 1856 he started work in a machine shop alerts his readers to what he suggests was a common children’s job. Dollar was set on to attend a lathe: ‘In those days there were no self-feeding lathes and small boys were used for that purpose’ (Dollar, 1918, p. 3). Boys also worked with traditional equipment; for example, large numbers worked in various jobs alongside horses and ponies. Moreover, some children’s jobs, while specifically reserved for and understood as ‘children’s work’, required autonomous action and imposed heavy responsibility. More than one miner employed as a child opening and closing ventilation doors recalled the dreadful burden of this task (Rymer, 1976; Watchorn, 1958). In addition, it was common, as Carolyn Tuttle has suggested, for some children to undertake the same work as adults, for example, as spinners, miners and agricultural labourers (Buckley, 1897; Rymer, 1976).

Children’s labour is best thought of as a kind of mastic holding the early industrial economy together. It linked together working adults and linked those adults to machines. It was hugely important in moving raw materials and work-in-progress around the workplace and delivering goods through the distribution network to final consumers. It met seasonal peaks in labour demand in agriculture, industry and services. It was called upon to bridge technologies and to accommodate shifts in the place and organization of work, most famously in the transition from domestic to factory production when no adult workers were available to work in the new large-scale workplaces located far from existing concentrations of population. It was mobilized too in the protracted tussle between hand trades and mechanized production, as the first line of defence by domestic workers whose standard of living was threatened by falling prices was to call up their own wives and children and increase output. The greedy appetite for children’s labour
manifested by the industrializing (and bellicose) economy was anthropomorphized in the imagination of Robert Collyer (born 1823), who perceived child labour as directly commandeered by the state. ‘It is told of the Younger Pitt that, in looking around for more earners and still more to meet the demands for more money and still more to carry on the war with Napoleon, the great statesman said, “We must yoke up the children to work in the factories”’ (1908, p. 15). Collyer reflected that he could not vouch for the story but nonetheless he found himself with many children of around seven and eight years old standing at the spinning frames, ‘13 hours a day five days a week and eleven on Saturday’ (Collyer, 1908, p. 15).1

But the autobiographies do more than provide clear evidence on the extent and distribution of children’s work. They also suggest that children’s work rose and fell over the course of industrialization. The likelihood of children working varied with a number of factors to do with their own family circumstances and local economy. But holding these factors constant, it was in the central period of industrialization, the 1800s to the 1830s, that the age at which children started work was at its lowest and so their participation rates at their highest.

Quantitative evidence on family circumstances and local labour markets permits a formal analysis of the causes of child labour. While the lack of wage information is unfortunate, the evidence suffices to implicate both poverty and family size in children’s entry into paid work, findings which the autobiographers’ discussion of the circumstances that surrounded this memorable transition reinforce and nuance.

The autobiographies also provide insight into the decline of child labour. For example, protective labour legislation is seen to have required some boys who had already started work to withdraw and to have given them as Robert Collyer put it ‘a fine breathing space’ (Collyer, 1908, p. 16). Similarly the often detailed accounts of the nature of the work, how it (and its remuneration) fitted into the family economy, alongside the description of the autobiographer’s subsequent career, cast light on the effects of child labour on health and well-being.

Apprenticeship constituted an important training ground, with a high proportion of boys undertaking formal and informal apprenticeships and most completing their term. Like starting work, apprenticeship was a major step, and the decision as to trade and master weighed heavily on boys and their families. Families worried over the selection of the best trade, the identification of a good master and the negotiation of

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1 For the historiography of this apocryphal story see Hammond and Hammond, 1925, pp. 143 ff.
an advantageous contract. Moreover, apprenticeship did not disappear during the industrial revolution, but continued into the nineteenth century to be viewed both as a gateway to better economic options and as a wise family investment. It did not persist unaltered, but adapted to better fit changing conditions and so survived in the maturing industrial economy. More generally, the autobiographers’ respect for apprenticeship rescues this under-appreciated institution from the condescension of economic historians, and its persistence in shoring up human capital formation through this period has revisionist implications for interpretations of the first industrial revolution as involving green and untrained troops.

Schooling receives perhaps as much attention in the autobiographies as employment. The working-class authors provide rich detail on kinds of schools available, teaching methods, discipline and educational outcomes, much of which can inform the debate about Victorian schooling and the reception of Forster’s Education Act by the working class (Gardner, 1984; Rose, 2001). While very few autobiographers had no schooling at all, for many children attendance was brief and/or discontinuous. The autobiographies reinforce recent research emphasizing the role of Sunday schools, which appear widely attended by working children, as other historians have suggested (Snell, 1999). Schooling and work were packaged together around a set of limited but specific educational objectives, which were desired less for their potential to raise earnings directly than as a platform from which to access other potential opportunities and for their intrinsic value.

Unconscious assumptions about the universality of family structures have often led historians to neglect children who lived outside conventional families. Yet orphans and destitute children were most at risk of exploitation (Humphries, 1998; Horrell, Humphries and Voth, 1999). The prevalence of orphanage or at least the loss of one parent among the autobiographers reflects the high-mortality world in which they lived. Moreover, it is possible that the French wars, the opening of Empire and urbanization inflated orphanage and de facto fatherlessness. Ironically, heightened industriousness may also have contributed to the numbers of children who grew up denuded of parental support, as responsiveness to economic opportunity detached men from their families or left them little time or energy to devote to parenting. It is important to investigate the impact of orphanage on children’s life chances. Other work has suggested that orphans worked at younger ages, had no champion if their situation at work proved oppressive and were routinely supplied to the early factories (Rose, 1989; Robinson, 1996; Horrell, Humphries