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From Taylorism to Ms Taylor: the transformation of the accounting craft

Christine Cooper^{a,*}, Phil Taylor^b

^aDepartment of Accounting and Finance, University of Strathclyde, 100 Cathedral Street, Glasgow G4 0LN, UK

^bDepartment of Management Organization, University of Stirling, Stirling FK9 4LA, UK

Abstract

The history of professionally qualified accountants and their regulatory processes command considerable attention in the academic accounting literature. In contrast, “non-qualified”, clerical employees have been virtually excluded from serious accounting research. This paper aims to overcome this serious deficiency in the academic literature. The framework used in the paper to analyse the work practices of accounting clerks draws strongly on the theoretical foundations of Marx and subsequent development by Braverman. We will show that the majority of work experience in the accounting industry is one of deskilling according to Tayloristic “Scientific Management” principles. © 2000 Elsevier Science Ltd. All rights reserved.

The history of professionally qualified accountants and their regulatory processes command considerable attention in the academic accounting literature. This is the case even in the *critical* accounting literature. In contrast, “non-qualified”, clerical employees have been virtually excluded from serious accounting research. Despite both the concerns of Hopwood (1987) and Loft (1992) that this is an under researched area, and Crompton and Sanderson’s (1990) and Kirkham and Loft’s (1993) valuable contributions, there is still no thoroughgoing analysis of this majority employee experience.¹ This paper aims to overcome this ser-

ious deficiency in the academic literature. It is centrally concerned with the changing work practices of non-professionally-qualified workers in accounting clerical roles.

Adopting a long term perspective, the paper charts the changing work practices of accounting clerks from the mid 19th century until the publication of Braverman’s *Labour and Monopoly Capital* (1974). It continues where Braverman left off in 1974 by studying the skills required by employers of accounting clerks from 1974 until 1996 through a longitudinal analysis of job advertisements and other contemporary changes within the accounting industry.

The framework used in the paper to analyse the work practices of accounting clerks draws strongly on the theoretical foundations of Marx and subsequent development by Braverman. Although Braverman’s work is widely acknowledged in the critical accounting literature, the narrow focus of accounting research, which typically equates “accounting labour” with “the accounting

* Corresponding author. Tel.: +44-141-552-4400; fax: +44-141-552-3547.

¹ In the UK in 1998, 78% of the accounting labour force of 1.3 million were “clerical” as opposed to “professional”. Of the “clerical” stratum, 76.5% were women. More detailed information can be found in Appendix A. In obtaining these figures we have excluded “debt, rent & other cash collectors” and “actuaries, economists & statisticians”, which form part of the National Statistics Office accounting workforce classifications.

profession”, means that Braverman’s work has not been exploited to the full.² Braverman contended that in the monopoly capitalist era, Scientific Management is used both to deskill workers and to progressively relieve them of autonomy in their working lives. One reason for choosing a Marxist/Braverman Labour Process theoretical framework is that it problematises the myth that we are living in an age which requires greater skills of its workforce than for any previous generation and that, consequently, people cannot find jobs because they “do not have the necessary skills”. Our analysis, using Braverman’s work, will present a contrasting picture. We will show that the majority work experience in the accounting industry is one of deskilling according to Tayloristic “Scientific Management” principles. This has meant that the “skill premium” paid to bookkeepers has all but disappeared resulting in the driving downwards of bookkeepers’ wages. The fact that Braverman’s work is as much about the loss of autonomy as the loss of skill has several serious implications for the clerical workers in accounting in the sense that their working conditions are continually dehumanised.

While this paper is not concerned directly with “accounting professionals” the broader implications of our work gesture towards some serious implications for the accounting profession. The contemporary fusion of the commercialization of the accounting profession, the division of the organisations into “core” and “non core” elements, and the continuing impact of Scientific Management on accounting work has already led to several organisations outsourcing their finance function. The outsourcing accounting organisations may represent the most “efficient” scientifically managed accounting/bookkeeping practice to date. It is likely that more senior accountants’ work will remain unchanged if their organisation decides to outsource its accounts.

However, middle level or more junior qualified accountants’ jobs are likely to disappear making

qualified accountants’ scientific management’s newest victim.

The paper is structured as follows. The first section assesses the progress of the debates since the publication of Braverman’s *Labour and Monopoly Capital*. This is followed by an outline of the principles of Taylor’s version of Scientific Management and how the deskilling of work has been organised in practice. Following a history of bookkeeping we develop an analysis of more than 1000 accounting clerical and bookkeeping job advertisements which appeared in the (Glasgow) *Herald* newspaper for the period 1974–1996. Our conclusion gestures towards possible futures for the accounting industry.

1. Braverman and the labour process

When Braverman’s *Labour and Monopoly Capital* (Braverman, 1974) first appeared a quarter of a century ago no one could have imagined the breadth and intensity of debate which this path-breaking account of the capitalist labour process would stimulate. A recent summary (Noon & Blyton, 1997, pp. 105–120) of the current state of the debate divides Braverman’s critics into “sympathizers” and “agnostics”, those, on the one hand, who accept his general approach with qualification, and those, on the other, who consider it inadequate as an explanation of the capitalist labour process. The litany of criticism is now commonplace; that Braverman ignored workers’ resistance (Edwards, 1987) or alternatively, workers’ accommodation and consent (Burawoy, 1979), that he “privileges” the extraction of surplus value at the expense of the realisation of that surplus (Kelly, 1985), or that he overestimated the universality of management “control” strategies, neglecting, for example, the possibility of “responsible autonomy” strategies (Friedman, 1977, 1990).

Space prohibits a full assessment of these criticisms but one line of argument “in defence of” Braverman appears, to the authors, to have even more validity now than when written in the late 1980s. Peter Armstrong (1988), in urging a re-reading of *Labour and Monopoly Capital*, resurrected the rich and subtle, non-deterministic Braverman

² For example, Hanlon (1994), dismisses Braverman when he writes that he, “will argue that the deskilling thesis is an inappropriate theoretical framework for examining accountability, and most likely the professions in general”.

who is not guilty of many of the charges laid against him, not least of which the accusation that he erected an invariant law of deskilling consequent on capitalist development. Armstrong effectively demonstrates that Braverman does allow for a range of skill outcomes following technological innovation. Notwithstanding the importance of much of the post-Braverman critique (Thompson, 1989) we agree with Armstrong that the enduring strengths of Braverman can be viewed most clearly through a long lens.

The explanatory power of Braverman's analysis lies in the appreciation of the *long-term* consequences of the separation of conception and execution in the labour process and the accretion of management control. Deskilling tendencies are, therefore, best understood as a "system-wide dynamic or "law of motion" in capitalist economies which could, temporarily and locally, be interrupted or reversed by a variety of factors..." (Armstrong, 1988, p. 157). If one comprehends the "deskilling" thesis as an overall tendency and if one disregards its application as a "universal law" applying in all cases at all points in time, and finally, if one adopts a broad temporal perspective, then Braverman's essential validity comes into view. Over a period of, not years, but decades, one would expect to find, if Braverman is correct, that work in the majority of occupations has become progressively deskilled, subdivided into routine and fragmented tasks, subject to increasing amounts of managerial control.

In his consideration of clerical workers, Braverman argues for the necessity of a "long time span" (Braverman, 1974, p. 293) when assessing the evolution of occupations. In our analysis of the transformation of occupations of "non professionally qualified accountancy workers" we will similarly apply a broad temporal method.

A broad historical perspective also informs the most effective theoretical analysis of class structure. In following both Marx and Erik Olin Wright (1978) we would agree with the position advanced by Callinicos (Callinicos & Harman, 1987) when he argues that, given the central importance of a person's place in the relations of production, three groups of white collar workers must be distinguished. At one extreme there exists,

"a small minority who are salaried members of the capitalist class, participating in the decisions on which the process of capitalist production depends" (Callinicos & Harman, p. 7). Secondly, and occupying managerial and supervisory positions between labour and capital, which might be termed "contradictory class locations", there is the "new middle class" of well-paid salaried employees. Thirdly, there are the majority of white-collar workers, the mass of unproductive wage-earners, whose numbers have grown massively this century. This latter group includes the mass of clerical workers and those in the "lower professions" (Callinicos & Harman, p. 17).

In arguing for a broad definition of the working class which included both productive and unproductive workers, Callinicos quotes Wright,

both... are exploited; both have unpaid labour extorted from them. The only difference is that in the case of productive labour, unpaid labour time is appropriated as surplus value: whereas in the case of unproductive labour, unpaid labour merely reduces the costs to the capitalist of appropriating part of the surplus value produced elsewhere. (Wright, 1978, p. 49–50.)

We would argue that the mass of accountancy workers must be regarded unequivocally as part of the working class. These workers who constitute the clerical ranks are distinguished, firstly and obviously, from senior accountants who may be part of, or close to, the capitalist class. They are distinguished also from qualified professional accountants, who as a "contradictory" layer performing managerial and supervisory functions, stand above the mass of clerical accounting labour.

Accountancy workers, as distinct from accountants, neither own the means of production nor can exist without selling their labour power. They will be subject to control by senior management or, more likely by managers and supervisors who directly execute policies on behalf of owners and senior management. If Braverman is correct then we would expect to find the mass of accountancy workers to have been effectively divested from control over their labour process. We would further

expect a progressive, if not wholly linear, tendency for deskilling to have occurred over a long time span. Our belief in the centrality of the deskilling aspects of Scientific Management to the contemporary work practices of accounting clerks and bookkeepers requires that we spend some time explaining its concepts and principles. This more in depth consideration of Taylorism is the subject of the next section.

2. The introduction of Taylorism and scientific management

Frederick Winslow Taylor was the key figure in the Scientific Management movement which began in the last decades of the 19th century (Kanigel, 1997). Basically Scientific Management's task was, and is, to find ways of controlling labour in rapidly growing capitalist organisations. Capitalism is central to Scientific Management because the antagonistic social relations created by capitalism are taken by Scientific Management as *natural* and inexorable. Braverman wrote that Scientific Management was central to the full development of capitalism since it consummated the transformation of the formal subordination of labour (where the capitalist purchases the right to direct labour or labour power) into the real subordination of labour (where the capitalist takes control of the actual process of production). Scientific Management which enters the workplace "as the representative of management masquerading in the trappings of science" (Braverman, 1974, p. 86), was driven by three major changes which took place in the second half of the nineteenth century. These were the enormous growth in the size of enterprises, the beginnings of monopolistic organisation of industry, and the purposive and systematic application of "science" to production. Although, as we will see later, the introduction of new technology (especially computerisation) adds synergy for the capitalist to a Tayloristic work process, Taylorism belongs to the chain of development of management methods and the organisation of labour. Scientific Management took the level of technology as given.

This paper takes the view that Scientific Management played and *continues to play a central role*

in shaping the capitalist work process. We do not believe that Taylorism or Scientific Management have been superseded by newer "management schools" or by Human Resource Management. While the successors to Taylor are found today in engineering and work design (especially in developments such as "total quality management", ISO 9000 corporations and Business Process Re-engineering) the widespread diffusion of Tayloristic principles can be seen to have continued to prevail in manufacturing (Danford, 1998) and to have extended to much of the contemporary service sector. Ritzer's celebrated critique of McDonald's (Ritzer, 1996) and several more detailed studies have charted the emergence of new forms of Taylorism in service and white-collar work (for example, Baldry, Bain & Taylor, 1998; Taylor & Bain, 1999). A recent, and convincing, re-evaluation of the labour process debate rejects the claims of the new paradigm theorists that Taylorism has been eclipsed or 'bypassed by real changes in production in and work organization' (Smith & Thompson, 1998). Indeed the authors, while acknowledging that real changes have taken place, emphatically reaffirm the continued application of Taylorist techniques, albeit in developed and more sophisticated ways.

Whether it is the development of new engineering standard systems in retail distribution (Wright and Lund, 1996); the search for standardized procedures and uniform, dependable practices within TQM (Jones, 1997; Tuckman, 1994; Wilkinson and Willmott, 1994); or the search for the one best way through benchmarking in the auto industry (Leary, 1998), the shadow of scientific management continues to fall over contemporary work organization. (Smith & Thompson, 1998, p. 555.)

Indeed, behind the optimistic HRM nostrums where (team) workers are multi-skilled, empowered problem solvers, many studies have revealed a conflicting reality; work intensification is the more recognisable outcome of teamworking (Garrahan & Stewart, 1992; Parker & Slaughter, 1988; Pollert, 1996). A recent ethnographic study of two manufacturing locations in the UK serves as a salutary reminder of the enduring reality of

alienated, routinised, target-driven toil, where, for example, workers face relentless pressure to meet standard times for part insertions of 2.7 seconds (Delbridge, 1998).

Notwithstanding the resilience and pervasiveness of Tayloristic principles and Scientific Management in the world of work they are considered highly unfashionable in mainstream management thinking. Statements such as “The sheer silliness from a modern perspective of many of his [Taylor’s] ideas, and barbarities they led to when applied to industry, encourage ridicule and denunciation” (Rose, 1978, p. 31) are indicative of a desire to portray Scientific Management as a historical phenomenon, inapplicable to the contemporary workplace. A contradiction exists, therefore, between the rhetoric of management practice and the reality of work organisation and design. Peter Drucker understood this when he insisted that,

Personnel Administration and Human Relations are the things talked about and written about whenever the management of worker and work is being discussed. They are things the Personnel Department concerns itself with. But they are not the concepts that underlie the actual management of worker and work in American industry. This concept is Scientific Management. Scientific Management focuses on the work. Its core is the organised study of work, the analysis of work into its simplest elements and the systematic improvements of the workers’ performance of each of these elements. . .

Indeed, Scientific Management is all but a systematic philosophy of worker and work. Altogether it may well be the most powerful as well as the most lasting contribution America has made to Western thought since the Federalist Papers. (Drucker, 1954, p. 280.)

Scientific Management is very much more than a straightforward study of work to produce efficiency gains. The self-use of experimental methods in the study of work by the craftsman is, and probably always has been, part of the practice of the craft worker. But the study of work by *managers*

developed with the growth of the capitalist system and is wholly concerned with wresting control over work practices from labour. Capitalist managers, from the outset were interested in controlling workers. Burrell (1987) describes how workers were physically removed to factories where they could be more readily surveyed and controlled. But Taylorism took capitalist control to an entirely new level by asserting that an absolute necessity for adequate management is the dictation to the worker of *the precise manner in which work is to be performed*. Taylor insisted that management could only be a limited and frustrated undertaking so long as workers were left with any discretion in the implementation of their work. To totally alleviate management’s frustration, Taylor developed a revolutionary division of labour.

Taylor’s basic concern was that workers should produce “a fair day’s work”, meaning all the work which workers could do without injury to their health, at a pace that could be sustained through their working lifetime. A close reading of Taylor’s case stories would lead you to believe that in practice his definition of a “fair day’s work” meant working at a crippling level of activity at an extreme limit, dictating a pace that only a few could maintain, and then, only under strain. To Taylor there were two basic factors which prevented workers from producing a fair day’s work. The first was pure laziness (or *natural soldiering*) and the second was more conscious, deliberate, collective and universal (*systematic soldiering*). Taylor was less concerned with laziness than with systematic soldiering which was created by workers’ relationships with each other. Systematic soldiering was carried out with the deliberate object of keeping management ignorant of how fast work can be performed. Taylor recognised that since wage rates were determined chiefly by market, social and historical factors, that there was no incentive for workers to work harder. Pre-Taylorist management had introduced piecework systems in an attempt to improve the work rates. But Taylor found that it was under piecework systems that workers produced the most advanced types of systematic soldiering.

Taylor’s thinking evolved when working as a foreman in Midvale. He “fully realised that,

although he was the foreman of the shop, the combined knowledge and skill of the workmen who were under him was certainly ten times as great as his own” (Taylor, 1911, p.53). The source of the control problem lay “in the ignorance of the management as to what really constituted a proper day’s work for a workman” (Taylor, p. 49).

The historical antecedents of skilled workers or craftspeople being repositories of knowledge spanned from earliest times to the Industrial Revolution. In each craft the worker was presumed to be the possessor of a body of traditional knowledge, and methods and procedures were left to his or her discretion. The apprenticeships of traditional crafts ranged from 3 to 7 years. Taylor recognised that it would not be easy to take control of these skilled workers’ knowledges but this was the task he set himself. Taylor set out three principles which underpin his system and which are seldom publicly acknowledged.

2.1. First principle

The managers assume... the burden of gathering together all of the traditional knowledge which in the past has been possessed by the workmen and then of classifying, tabulating, and reducing this knowledge to rules laws and formulae... (Taylor, 1911, p.36 cited in Braverman, 1974, p. 112.)

Braverman described this first principle as the *dissociation of the labour process from the skills of the workers*. Taylor demonstrated this principle with both simple and complex tasks and found that it was possible in either case for management to collect at least as much information as is known by the worker who performs it regularly. The manner of obtaining this information brought into being new methods such as can be devised only through the means of systematic study. Arnold (1998) describes a contemporary study of the way in which knowledge is obtained from labour.

2.2. Second principle

All possible brainwork should be removed from the shop and centred in the planning or

laying-out department... (Taylor, 1903, p. 98–99.)

This removal of brainwork, the separation of conception from execution, is perhaps the cornerstone of Taylor’s work. In short, management must take total control of the workers actions. Braverman puts it like this,

This dehumanization of the labour process, in which workers are reduced almost to the level of labor in its animal form, while purposeless and unthinkable in the case of the self-organised and self-motivated social labour of a community of producers, becomes crucial for the management of purchased labour. (Braverman, 1974, p. 113.)

Clearly if a worker’s execution is guided by his or her conception then management will be unable to impose its own efficiency norms. Thus, work always had to be studied by management and never by workers themselves. There was never a question of having *scientific workmanship* rather than *Scientific Management*.

In his testimony before the Special Committee of the House of Representatives (1912) Taylor made the point that the systematic study of work would be paid for by management since workers did not have the resources to fund their own studies of work. Since management paid for these studies then management should own that knowledge in the same way as they owned other assets like land and buildings. Braverman makes the telling point that not only has capital become the property of the capitalist but *labour itself thus becomes part of capital*. The advent of the Industrial Revolution ensured that workers lost control of the means of production, Taylor then compounded this by ensuring that they also lost control over their own labour and the manner of its performance. But even this was not enough for Taylor who asserted that any knowledge possessed by workers’ alone was not useful to management. This would be the case even if a worker devised a way of working more efficiently since this particular worker would keep the information to him/herself. The drive to reduce pay costs is integral to

management objectives. The purpose of Scientific Management is not to train workers in scientific knowledge; its purpose is to cheapen the workers by decreasing their training and enlarging their output. The separation of conception and execution serves two purposes. It cheapens labour and facilitates management control.

2.3. *Third principle*

Perhaps the most prominent single element in modern Scientific Management is the task idea. The work of every workman is fully planned out by the management at least one day in advance, and each man receives in most cases complete written instructions, describing in detail the task which he is to accomplish, as well as the means used in doing the work. . . . This task specifies not only what is to be done, but how it is to be done and the exact time allowed for doing it. . . . Scientific Management consists very largely in preparing for and carrying out these tasks. (Taylor, 1911, pp. 63 and 39 cited in Baverman, 1974, p. 118.)

Thus, the third principle involves using the knowledge taken from the worker to control each step of the worker's day. Thus, Taylorism ensured that as crafts declined, workers would sink to the level of general and undifferentiated labour power, adaptable to a large range of simple tasks, while as science grew, it would be concentrated in the hands of management. Tayloristic principles are suited to a whole range of jobs. For example, many jobs in science concerned with gene technology development have been reduced to a factory like process. These same principles have been used in bookkeeping. This is the focus of the next section.

3. A brief history of the labour process of bookkeeping

Many different histories of accounting have been written using various theoretical frameworks. Among these are African–American oral histories

(Hammond & Streeter, 1994), Foucauldian histories (Hopwood, 1987b; Hoskins & Macve, 1986; Loft, 1986; Miller & O'Leary, 1987), "new" histories (Miller, Hopper & Laughlin, 1991) feminist histories (Kirkham & Loft, 1993; Lehman, 1992), Marxist histories (Armstrong, 1985; Armstrong, 1987; Bryer, 1993; Crompton, 1987; Tinker & Niemark, 1987), histories concerned with sexuality (Burrell, 1987) and more traditional histories (Johnson, 1981; Littleton & Yamey, 1956; Mills, 1990; Nobes, 1982; Parker, 1981; Stacey, 1954). The history presented in this section considers the actual work practices of typically non-qualified, bookkeepers, or accounts clerks.

Perhaps the best place to start when assessing the position of contemporary bookkeepers or clerical workers is the mid 19th century. Anderson's (1976) study of Victorian clerks charts the genealogy of many of the issues confronting the white-collar worker of the late 20th century. He states that

In contemporary British society white-collar workers still suffer, albeit in a different form, from the kinds of frustration anxiety and resentment that first became apparent among Victorian and Edwardian clerks. (Anderson, 1976, p. 133.)

Clerks of the mid 19th century were the predecessors of modern middle management rather than the army of clerks found in the modern workplace. Indeed the sons of wealthy merchants during this period sometimes became clerical apprentices, in order to obtain a commercial grounding, before they became managers (Anderson, 1976). For others, in the prosperous decades of the nineteenth century the socioeconomic position of clerks was relatively secure. Clerks formed a small, homogeneous group differentiated from the mass of the urban working class at the bottom of the social ladder. These clerks were men. The 1851 census recorded that there were just 19 women clerks, and in 1861, the number had only risen to 279 (Kirkham and Loft, 1993). Kirkham and Loft note the practical and ideological struggle that women of this period faced if they wanted to become clerks. The masculine qualities required of clerks "contrasted markedly with the image of the

weak, dependent, emotional ‘married’ woman of mid-Victorian Britain” (Kirkham & Loft, 1993 p. 516).

This is not to present a picture of a golden-age of bookkeepers. Many 19th-century clerks worked in appalling conditions. Anderson’s history of Victorian clerks describes the working conditions of many clerks in the following way.

For many clerks the workplace must have corresponded all too closely to the depressing conditions created by Dickens for Bob Cratchit and Newman Noggs. In Manchester one magazine, describing its city clerks in the 1860s, observed how “as they pass along, then disappear mysteriously down passages or into doorways that lead to narrow staircases, some doubtless to little tanks like that in which Bob Cratchit toiled under Scrooge’s uncharitable eye while others are absorbed into dingy warehouses that look as dreary as prisons”. (Anderson, 1976, p. 9.)

The incidence of phthisis among clerks was heavy. The Liverpool Clerk’s Association found that phthisis was the most common cause of clerical deaths, accounting for six out of nine deaths from the disease in 1876 (Anderson, 1976). The newer offices which were built at the end of the century and during the Edwardian years were constructed as a symbol of the fortunes and reputations of the bankers and merchants. Their grand entrance halls and facia had little to do with the comfort and well being of employees.

But clerical work in its early stages had the characteristics of a craft (Shepard, 1971). Master craftspeople like bookkeepers maintained control of their work which essentially consisted of keeping the current records of the financial and operating condition of the enterprise, as well as its relations with the external world. Moreover, clerks were *trusted*. To some extent fraud was considered to be not the fault of the individual employee but the fault of the paternalistic employer for “allowing conditions to persist in which clerks were reduced to embezzlement” (Anderson, 1976, p. 37). Among the most prestigious and highly paid clerical workers of the mid 19th century were bank clerks. Those who

achieved managerial positions in banks usually served between 10 and 12 years first as apprentices and then as accountants, clerks and cashiers.

The antecedents of contemporary clerical labour arrived in the late 19th and early 20th century with the creation of a new class of clerical workers, which had little continuity with the mid 19th century small masculine, homogeneous and privileged clerical stratum. Despite this, Victorian and Edwardian clerical labour tended to carry an ideology of “respectability” aligning themselves with employers rather than other workers. The change from the mid 19th century clerk to the clerk of the turn of the century was emphasised by two fundamental changes: composition by sex, and relative pay. For the bookkeeper, the significant change from mid to late 19th century was the massive increase in the number of jobs. Anderson (1976) believes that part of the reason for the reduction in relative pay and change in the gender composition of clerks was increased education brought about by the Education Act of 1870. Better education meant a rapid increase in the number of female and young male clerks all equipped with the basic skills of clerking. The proportion of women clerks rose from 1.1% in 1871 to 18.2% in 1911 (Kirkham & Loft, 1993).

While the gender composition of the new clerical layer moved from men to women, bookkeeping clerks on the whole tended to be men, with men taking bookkeeping classes and women studying shorthand and typing³ (Anderson, 1976). Even with the huge influx of women into clerical positions during the First World War (from 500,000 to 930,000), many into skilled accounting roles, few women sat for their Institute of Bookkeepers’ examinations (Kirkham & Loft, 1993). Women had long been barred from sitting the examinations of professional accounting bodies. From their formation these bodies had adopted practices which would serve to exclude 80 or 90% of the population (i.e. those without funds to pay for the training and membership premium and women) from their membership.

³ Of course some women did their best to change the position of women, for example in the late 1880s the Manchester Business Young Ladies’ Association offered bookkeeping classes.

It was not at the top but at the bottom end of the clerical labour market that women made their impact. In the early 20th century for working class men, becoming a clerk was seen as an opportunity for upward social mobility. Their competitors for clerical posts were typically well educated middle class women. Since the “marriage bar” which required women to leave work upon marriage was in operation at this time, women employees were not given long and expensive training which would be lost to the employer upon their marriage. With the rapid feminisation and growing working class composition of clerks, their salaries and status were driven down. Notwithstanding the early 20th century clerk’s ideological alignment with management, Victorian clerk’s pay did not keep pace with their industrial counterparts,

I was vividly “class conscious” as a clerk, and the men in the shops, whose apprenticed sons were earning more than I, were regarded as my social inferiors. The atmosphere of the office reeked of smug respectability. I was on the side of the master and against the men, and being masters’ men, we clerks were naturally petted and cosseted, but our wages — beg pardon, salaries — were beneath contempt. What fools we were! (The Clerk, April 1908.)

By the 1950s US clerical workers pay was less than the pay of manual workers. For example, Lockwood reported that

... the gross change in income relativities is unmistakable. The main result is that the average clerk is now very roughly on the same income level as the average manual worker, or perhaps even slightly below. (Lockwood, 1958, p. 22.)

The change in the gender and class composition of clerks continued throughout the 20th century. For many years the outrageous price women had to pay for very small promotions and meagre financial independence was the renunciation of marriage and children. During the 1930s clever working class girls who had been given opportunities of schooling after the age of 14 provided a ready supply of recruits to lower level clerical jobs (San-

derson, 1986). Women have been increasingly channelled into the lower-level repetitive, or Taylorised work with few promotion prospects. It could be argued that feminised work in offices meant Taylorised work. For these repetitive jobs are social constructions. The next section considers the growth in organisations necessary to implement Tayloristic principles in the office.

3.1. *The growth of paper “controls”*

With the advent of larger scale organisations and monopoly capitalism⁴ in the late 19th century, the accounting functions of control and appropriation, expanded enormously. An accounting function which could exactly “shadow” the *real* production process became increasingly important. This was partly due to the coordination and control of new productive processes through accounting and its paper trail (Armstrong, 1985; Armstrong, 1987; Hoskins & Macve, 1986; Miller & O’Leary, 1987) and partly due to the removal of “trust” as an expected clerical skill (Braverman, 1974; Hopwood, 1987). The dishonesty⁵ or laxity of employees made double entry bookkeeping particularly appropriate since

under this system, every transaction is recorded at birth in two places, and the entire

⁴ The use of the term “Monopoly Capitalism” by Braverman denotes a period in which perfect markets ceased to be an adequate model of capitalism. There have been various different terms used for this new stage of capitalism, notably *finance capitalism*, *imperialism*, *neocapitalism* and *late capitalism*. Braverman opts for the term “Monopoly” Capitalism following Lenin, who Braverman considered one of the pioneers in the treatment of the subject. In *Imperialism, the Highest Stage of Capitalism*, in *Selected Works*, vol.5, p.114, Lenin states that “the economic quintessence of imperialism is monopoly capitalism.” (Lenin, n.d.)

⁵ In the 1890s, Baring Brothers’ Liverpool house was the scene of such an embezzlement. William Smith’s embezzlement came to light in January 1897 when Baring’s chartered accountants discovered that on 2 January 1896 an account had been opened in the name of Smith and debited to cash £800 and on 31 January 1896 it was closed by Transfer Account of £800. This amount duly appears to the debit of Transfer Account in the ledger but no entry has been made in the book called *Transfers* for a similar amount (Baring Brothers, box XLIV, 23 January 1897).

movement of the values that pass through the enterprise is reflected in an interlocking set of accounts which check and verify each other. The falsification of only one single account will usually lead directly to the falsifier, and as a rule the work of falsifying many accounts so they continue in balance with each other is possible only through collaboration of a number of people. (Braverman, 1974, p. 303.)

The increased importance of bookkeeping was also tied to the drive to maximise profits in accordance with an economic system which encompassed demand-led calculations of value. This meant that, in effect, the actual type of commodity being sold became obscured by the net gain appropriated from that commodity. The value form of commodities separates itself out from the physical form as a vast paper empire which under capitalism becomes as real as the physical world. Thus, a portion of the labour of society must therefore be devoted to the accounting of value. Indeed as capitalism becomes more complex and develops into a monopoly stage, the accounting of value becomes infinitely more complex.

The battle to realise values, to turn them into cash, calls for a special accounting of its own... in some industries the labor expended upon the mere transformation of the form of value (from the commodity form into the form of money or credit) — including the policing, the cashiers, and collection work, the record keeping, the accounting etc.-begins to approach or surpass the labour used in producing the underlying commodity or service. *And finally, as we have already noted, entire “industries” come into existence whose activity is concerned with nothing but the transfer of values and the accounting entailed by this.* (Braverman 1974, p. 302, *emphasis added.*)

Stacey (1954) links the expansion of bookkeeping directly with the rising costs of production caused by the introduction of the Factory Act 1862 which limited the exploitation of children and adults. He wrote that:

The costs of production rose as soon as a brake was put on the indiscriminate employment of children and adults. The profit margins of power-driven factory production in its salad days could doubtless absorb the inroads made into them as a result of the increased wages bill, but at the same time *entrepreneurs* had to exercise stricter control over outgoings to effect all possible savings in the processes of manufacturing. This economy drive could not be put into practice without some rudimentary information culled from the accounts. The larger the undertaking, the greater were the opportunities for saving and the importance of keeping greater records of costs grew pro tanto. (Stacey, 1954, p. 17.)

With the rapid growth of companies and their paper trails, office work changed from something merely incidental to management into a labour process in its own right. The characteristic feature of this period was the ending of the reign of the bookkeeper and the rise of the office manager as the prime functionary and representative of higher management. Office management developed as a special branch of management in its own right. As a consequence of the operations side of business growing to employ hundreds of clerks and bookkeepers, rather than half a dozen or so, companies were compelled to investigate whether or not clerical employees were producing “a fair day’s work” (Galloway, 1918). Given the historical context, this inevitably meant considering the application of Scientific Management methods to the office. The following is an extract from the foreword of William Henry Lefingwell’s *Scientific Office Management*, which was published in 1917.

Time and motion study reveal just as startling results in the ordinary details of clerical work as they do in the factory. And after all, since every motion of the hand or body, every thought, no matter how simple, involves consumption of physical energy, why should not the study and analysis of these motions result in the mass of useless effort in clerical work just as it does in the factory. (Lefingwell, 1917, foreword.)

The first practitioners of Scientific Management applied Taylor's concepts to the office. This resulted in the dissolution of work arrangements which had allowed clerks to work according to "traditional methods, independent judgement, and light general supervision, usually on the part of the bookkeeper" (Braverman, 1974, p. 307). New work practices were prescribed by office managers. Work methods and time durations were to be verified and controlled by management on the basis of its own studies of each job. The role of the office manager in terms of supervision was a key to the increased productivity of clerks brought about by the implementation of Taylorism. For example, Braverman (1974, p. 309) observes that when Leffingwell says that

"the output of one clerk was doubled merely by the rearrangement of the work on the desk," we may understand this was an effect of close and frightening supervision rather than a miracle of efficiency; this was understood by the managers as well, although concealed beneath as "scientific" mystique.

It is worth noting that the implementation of Scientific Management in offices around the turn of the century worked (as did Taylor) with existing technology (which typically consisted of typewriters although the instruments for adding, dictating and ledger posting by mechanical means had already been devised). The mechanization of the office still lay far in the future.

3.2. *The technical division of accounting labour*

Management's solutions to the problem of how to control large offices were found firstly in the technical division of labour and secondly in mechanisation. In industrial terms, the work processes of most organisations could be described as "continuous flow processes". For example, an order would be received (by letter, telephone, in person); certain documentation would be prepared (customer name and address, billing address, credit standing, goods ordered, discounts payable, shipping costs and so on); the documentation would be sent to various departments (to shipping

department, to purchasing department and so on). In its mid 19th century form the entire process would be the province of the bookkeeper. But with the advent of large scale activity and organisation, and the application of Scientific Management, the process was subdivided into minute operations, each becoming the task of a worker or group of workers. One necessary division was the introduction of various ledgers (sales, purchases, nominal). The essential feature of this parcelling out of individual processes was that the workers involved *lose comprehension of the process as a whole and the policies which underlie it*. With sufficient customers, one worker (or a group of workers) would be left to post, for example, customer orders. This worker might see nothing of the credit worthiness of a customer or their sales history and, therefore, would be unable to assess whether there was anything unusual about a particular order. The indefinable element of judgement and intuition based upon skill, experience and a comprehension of several stages in the process would have been removed. Moreover, clerical processes could now be controlled at various points by mathematical checks with, for example, the measurement of the number of invoices posted per day per worker or the quantification of mistakes made by an individual clerical worker, operating possibilities.

The application of Scientific Management was and is an *ongoing* process. It can take different forms in different organisations. In a medium sized company "a sales ledger clerk" might have access to customer information, their overall importance in terms of the organisation, automatic discount levels and so on because there isn't a large enough throughput of sales invoices to employ different clerks for each process.

If the flow of work is great enough, the application of the principles of Scientific Management can be applied to the office process. This point is important in a bookkeeping context. Without sufficient flows of invoices it would be impossible for management to parcel out the bookkeeping tasks to clerical workers in a Tayloristic manner. We will see in the analysis of more contemporary bookkeeping jobs in the next section that some small organisations still have the old mid 19th

century bookkeeping work in place. But the majority of bookkeeping work is under the ongoing dehumanising influence of Taylorism. Partly this is linked to the introduction of new technology.

In the late 1880s the office was virtually untouched by technology, the bookkeeping paper processes were carried out by the hands of predominantly male clerks. But the expansion of organisations in the late 19th century made this increasingly costly and interest turned to the possibility of some sort of mechanical writing machine (Baldry, 1997).

3.3. *The advent of mechanisation and large scale computerisation*

Office mechanisation has further accelerated the process of deskilling of accounting labour. In the main, this has meant the deskilling of feminised accounting labour. Baldry (1997, p. 11) states that “organisational developments following this concentration of capital and restructuring at the turn of the century brought with them the linked forces of mechanisation and feminisation which have gone hand in hand in the office ever since”. Remington’s first typewriters of the 1870s were met with rather a cool reception. But by 1890 Remington were selling 65,000 typewriters annually. Selling around the concept of “The Remington Girl”, the new technology promised emancipation for women, entry into the male world of business with pay, conditions and above all status well above those in factory of domestic work. In the UK, Olive P. Rayner’s (1897), *Typewriter Girl*, a pioneer in what was to become a significant literary genre, popularised this image by telling the story of a woman who achieves financial independence in London through her commercial skills. Zimmeck (1986) suggests that before WWI, in order to differentiate women clerks from men clerks, that a line was roughly drawn between intellectual work (the province of men) and mechanical work (the province of women). Like computer systems several generations later, typewriters and other machines speeded up work processes and reduced labour costs by allowing the (more expensive) male correspondence

clerks to pursue the more analytical side of clerical work (Baldry, 1997).

The computer’s early applications were for large scale repetitive and routine operations which, before the advent of computers, were typically performed mechanically, or almost mechanically by cumbersome machines. Such tasks would consist of payrolls; billing; debtors and creditors; mortgage accounting; stock control, actuarial and dividend calculations and so on. But computers were also applied to other tasks, for example, management accounting, sales reports and so on up to the point where companies’ books of record were put into computerised form. Once computerisation had been achieved, the pacing of data input became available to management as a weapon of control. The reduction of office information to standardised “bits” and their processing by computer systems and other office equipment provided management with an automatic accounting of the size of the workload and the amount done by each operator, section or division.

Clearly this increased output due to computerisation would have two implications for management. They would be able to get by with less labour. The labour which they needed could be less skilled (and therefore cheaper). Ida Russakoff Hoos’ *Automation in the Office* (1961) reported that a woman worker explained,

With each reduction in force, the remaining workers are told to increase their output. Automation has reduced the staff in that office by more than one-third, and more mechanisation is in prospect. The union spokesman said that the categories of jobs which have disappeared are those which require skill and judgement. Those remaining are the tabulating and key punching operations, which become even simpler, less varied, and more routinised as work is geared to the computer. (Hoos, 1961.)

A recent account of the clerical labour process in diverse locations in both the public and private sector spells out the consequences of the introduction of IT to the office; an increase in intensification

of effort and the speed, volume, and intensity of work, as subdivided tasks become subject to unprecedented levels of monitoring and target setting (Baldry et al., 1998).

But what about the myth that with the advent of computerisation companies would need better educated labour? This myth was quickly recognised as such by management. But, it is true that during the transition period from manual or machine based accounting to computerised accounting a degree of upskilling occurred. Bookkeepers with knowledge of both computerised and manual systems, could for a while, demand higher salaries. But once the new computerised systems had passed through their initial trial period the necessity for highly skilled bookkeepers diminished.

The most junior bookkeeping staff were most severely affected at first by the advent of large scale computerisation. Their jobs were degraded and frequently transformed into pure data-processing jobs with no promotion prospects. Enid Mumford and Olive Banks in a study of bank computerisation reported that personnel managers were “recruiting girls of too high intellectual calibre for the new simple machine jobs” (Mumford & Banks, 1967, p. 190.) Hoos reported the views of a data processing executive as follows

Due to the simplicity of operator training for single pocket proof encoders, the job, as related to our job evaluation scale, has been downgraded three grades, and reduced from an average base of \$68 to \$53 per week. The only gal who will stick with this work has to have a husband with two broken legs and five hungry kids. No one else could stand it. (Hoos, 1961, p. 57.)

The position of more skilled bookkeepers was also weakened by the advent of computerisation. Braverman cites the example of an US multi-branch bank which reported that within 18 months of installing electronic bookkeeping machines, the bookkeeping staff of 600 had been reduced to 150, and the data processing staff had grown to 122. This was in line with the experience of most banks which achieved labour reductions

of between 40 and 50%. Many bookkeeping staff were replaced by machine operators, punch card operators and similar grades of workers (US Department of Labor Statistics, 1966, p. 247).⁶

The removal of the “conception” part of a clerk’s work is one of the key elements to the implementation of Taylorism in an office. Braverman describes the transformation

The greatest single obstacle to the proper functioning of such an office is the concentration of information and decision-making capacity in the minds of key clerical employees. Just as Frederick Taylor diagnosed the problem of the management of a machine shop as one of removing craft information from the workers, in the same way the office manager views with horror the possibility of dependence upon the historical knowledge of the office past, or the rapid flow of information in the present, on the part of some of his or her clerical workers. The recording of everything in mechanical form, and the movement of everything in a mechanical way, is thus the ideal of the office manager. But this conversion office flow into a high-speed industrial process requires the conversion of the great mass of office workers into more or less helpless attendants of that process.

As an inevitable concomitant of this, the ability of the office worker to cope with deviations from the routine, errors, special cases, etc., all of which require information and training, virtually disappears. The number of people who can operate the system, instead of being operated by it, decline precipitously. (Braverman, 1974, p. 347–348)

In the next section we will present empirical evidence concerning the transformation in work practices of non-professionally-qualified accounting workers. It is necessary to reiterate the observation that deskilling is an ongoing and dynamic

⁶ US Department of Labor Statistics, *Technological Trends in Major American Industries*, Bulletin no. 1474 (Washington, 1966) p.247.

process rather than a once and forever change. For while, Kirkam and Loft (1993) may be correct in their assertion that the differentiation between bookkeepers and qualified accountants was complete by the 1930s, the deskilling and feminisation of bookkeeping was still in process in the 1970s, 1980s and 1990s.⁷ As has already been indicated, it is possible, even today, to find organisations in various stages of the deskilling process. Moreover, the rate of capitalist development is uneven. It is likely that many of the changes in the UK, for which we now present detailed evidence may well have occurred 15 years earlier in the USA.

4. Deskilling of accountancy workers: the Glasgow evidence

4.1. Methodology

In order to chart the changing skills of bookkeepers we have chosen job advertisements as the primary source. The analysis of job advertisements has been used in other studies; the examination of entry-level employment trends (North & Worth, 1996); the impact of automation on the skills required of catalogers and reference librarians (Xu, 1996); changing Information Systems' professionals' skills (Todd, McKeen & Gallupe, 1995); the emergent market for informational professionals (Cronin, Stiffler & Day, 1993); and differences between public and technical services jobs (Reser & Schuneman, 1992). Other studies have pointed to the importance of newspaper advertisements in terms of recruiting new staff. England (1994) examined the processes by which employers recruit women workers and found that newspapers and agencies were particularly important. Marsden (1994) similarly found that newspaper advertisements were important for recruiting. Our study captures both employers who directly advertised positions in newspapers and employers who utilised recruitment agencies, who, in turn, placed advertisements in newspapers.

⁷ By feminisation we mean certain work characteristics, for example repetitive routinized work, decreased promotion prospects and a driving downwards of occupational status. Feminisation is not intended to connote the entry of more women into an occupation; although, the two are closely linked.

All job advertisements for accountancy workers from 1974 to 1996 were copied from the appointments sections of the Glasgow Herald newspaper. Typically the jobs recorded were those for the more general categories of bookkeepers and accountancy assistants as well as for the more specifically designated ledger clerks and cashiers. A representative sample for each year was then selected giving a total of 1024 separate advertisements for the 23-year period. Care was taken to ensure that each annual sample reflected both the volume and type of job advertisements found in that year. Each advertisement was entered as a separate record on a database with the characteristics of each job recorded in 26 fields (see Appendix B. The database was ordered chronologically and then divided into four equal time intervals, thus, enabling comparisons to be made over broad periods. The dates of each of the four periods are given in Table 1. The results provide a unique temporal perspective on the transformation in the nature of accountancy workers jobs. As we shall see there is powerful evidence to support a 'deskilling thesis'.

4.2. Gender composition of job advertisements

For the first 3 years of our sample (1974, 1975 and 1976) *The Herald* had separate job columns for men and women. Almost 81% of the bookkeeping jobs appeared in the women's columns. The most common job titles in the women's columns were Bookkeeper or Clerkess (to trial balance). The men's job titles were more varied including Assistant Accountant (with experience), Bookkeeper, Accounts Clerk, and Accounting Assistant. There were salary differentials between the two. For example in 1974 the range of salaries for jobs advertised in the women's section was £1500–£1700. The men's salaries ranged from £1750–£1900. With the advent of the Sex Discrimination Act, these separate columns disappeared.

In the periods after 1976 employers managed to "gender" their jobs and offered lower pay by various means. The descriptor clerkess was frequently replaced by clerk/ess. Clerk/ess appeared as late as 1996, the last year of our survey. Employers also placed advertisements for bookkeepers under the Secretarial Job Section rather

Table 1
Job advertisements divided into four periods

Period 1	Period 2	Period 3	Period 4
1 March 1974 to 30 November 1979 <i>n</i> = 236	1 December 1979 to 31 July 1985 <i>n</i> = 179	1 August 1985 to 28 February 1991 <i>n</i> = 352	1 March 1991 to 31 December 1996 <i>n</i> = 258

than the Accountancy Section to denote the gender of their job. Some employers were more blatant about their gender requirements. For example in 1993, a construction company placed the following advertisement under the Secretarial/Clerical Job Section

Purchase Ledger Supervisor

Due to retirement a vacancy has arisen for an able LADY 35+ to take charge of our computerised invoice processing and payment system. A knowledge of Multisoft would be an advantage. This position is open to men and women.

In 1978, a timber company placed this advertisement

Bookkeeper Cashier

Experienced bookkeeper cashier who can prepare accounts to trial balance stage. Responsibility for cash transactions and general office procedures. Experience at supervisory level. SUIT MAN/SINGLE

Experienced older women bookkeepers had an important place in many medium sized companies alongside men in the early years of our survey as skilled bookkeepers. However, with the advent of computerisation and further deskilling of bookkeeping there was a marked reduction in advertisements for older women. For while it has been illegal since 1976 to specifically advertise for women, many employers seem to have managed to gender their jobs by the specific placing of their advertisements as outlined above.

4.3. Computer knowledge and experience

There is clear evidence of the developing requirement for computer “knowledge” and

experience over the 23-year period. As can be seen from Table 2 the proportion of job advertisements which explicitly require computer expertise successively rise across each of our four time periods. The greatest increases in requests for computer experience occurred between the first and second periods and between the second and third periods. What is most striking, however, is the massive change between the first and last period. Between March 1974 and November 1979, only 6.7% of job advertisements requested computer knowledge and experience, while between March 1991 and December 1996 almost two-thirds of job advertisements (66.3%) explicitly requested computer experience. In the first period, very few advertisements specifically stated that the accounting system was manual, but by the third period manual systems were specifically mentioned since these would have been the exception rather than the rule. The same is probably true of the last period where companies may have decided not to include the word “computerisation” in their advertisements since people would expect company accounts typically to be computerised.

The clear evidence from these figures hardly does justice to the qualitative impact of computerisation upon the labour process of accountancy workers. Firstly, the arrival of computers marks the virtual extinction of older machine technologies like the comptometer. Secondly, and more profoundly, they signify the progressive deskilling of a range of accountancy jobs. As computers arrive the range of specific skills requested in job advertisements declines.

As we shall now see, advertisements in the early years of our survey make specific mention of a range of skills and abilities. Typically, an advertisement for a “bookkeeper” or an “accountancy assistant” might explicitly require an applicant to be able to take books “to the trial balance stage”,

to be experienced in the sales, nominal and purchase ledgers and, additionally, to demonstrate expertise in double entry bookkeeping. Let us now examine the extent of the decline in these skill requirements over the 23-year period (Table 3).

Some of the figures in this table need to be carefully evaluated. For example, examination of the requirement “ability to take books to trial balance stage” shows that the percentage of advertisements which make this ability explicit has fallen from slightly less than a half (46.2%) in the first period to slightly less than a quarter in the last period (23%). We should note that this statistical profile might conceal a deeper deskilling process. The most significant decline in the skill requirement “ability to take to trial balance” occurred between the first and second periods with the introduction of the computer into most organisations. Although, for example, a Period 4 “sales ledger input clerk” may be aware of the term “trial balance”, this does not mean that the clerk would necessarily understand the technical processes which lie behind the trial balance.

Many small and medium companies in the last two periods required knowledge of either Sage or Pegasus accounting software packages. It may certainly be the case that some skill would be required when initially setting up a computerised accounting system like Sage or Pegasus. However, once the system is set up virtually no knowledge of the double-entry process is required. Therefore, the use of these types of packages along with the segmentation of the accounting process would mean that many organisations no longer required that its bookkeepers understand “accounts to trial balance” in the former sense of the term. This point is reinforced by the dramatic decline in double-entry bookkeeping requirements by employers. The *conception* of the technicalities behind a trial balance require that the worker has a conceptual understanding of the double-entry system. Therefore, while almost a quarter of advertisements in Period 4 still request the “ability to take books to trial balance” the skill composition of this ability may well have been devalued by the introduction of software which permits this.

Table 2
Change in computer, manual or machine experience required, 1974–1996

Requirements	Period 1 March 1974– November 1979 %	Period 2 December 1979– July 1985 %	Period 3 August 1985– February 1991 %	Period 4 March 1991– December 1996 %
Computer only	6.7	20.7	55.3	66.3
Computer and manual	0.0	5.6	2.8	0.8
Manual only	2.5	2.8	2.6	1.9
Machine	1.7	2.2	0.3	0.0

Table 3
Change in skill and experience requirements, 1974–1996

Skills, abilities and experience requested	Period 1 March 1974– November 1979 %	Period 2 December 1979– July 1985 %	Period 3 August 1985– February 1991 %	Period 4 March 1991– December 1996 %
Ability to take trial balance	46.2	37.4	30.1	23.0
Sales ledger	22.9	19.6	11.4	14.7
Nominal ledger	11.4	15.6	5.1	7.0
Purchase ledger	21.6	19.0	15.1	15.9
Double entry B/K experience	11.4	18.4	3.4	4.7

Whilst the ability to take to trial balance is still a skill required by a sizeable, if progressively, shrinking proportion of employers, the broader abilities once associated with this process have been, in part, reduced to the manipulation of computer-based software packages.

Table 3 demonstrates that explicit requests for sales, nominal and purchase ledger skills have decreased significantly over the 23-year period. However, the rate of decline varies between the different ledgers. What we are witnessing here is the further deskilling of previously fragmented jobs. In fact the scale of change is probably more extensive than Table 3 indicates. In the first two periods, many companies required knowledge of *all three* ledgers. In these cases, without the use of a computer, we may assume that the clerks involved would have had a greater conceptual understanding of the book-keeping process and relatedly a broader conceptual understanding of the organisation for which they worked. But gradually the number of organisations requiring a broad knowledge of accounting has declined.

Our survey of advertisements also seems to indicate a decline in the desire of employers to engage a layer of accountancy workers able to perform their tasks with levels of discretion and autonomy. A relatively frequent requirement of advertisements in the 1970s was for bookkeepers or accountants' assistants to be able "to work on their own initiative". In the first period 11% of advertisements requested that ability. The percentage actually increased to 17.3% in the second period. However, only 3.7% of advertisements requested this ability by the third period, with a slightly larger 3.9% in our last period. Employers are now much less likely than they were two decades ago to place importance on the "ability to work on one's own initiative". We can perhaps advance this as further evidence that the level of discretion and autonomy held by key accountancy workers has diminished. If the labour process is more subdivided, regulated and computerised then the need to have key individuals who act as the repository of accumulated informal knowledge and expertise will decline as a consequence.

Without explicitly posing a direct causal relationship between the onset of computerisation and

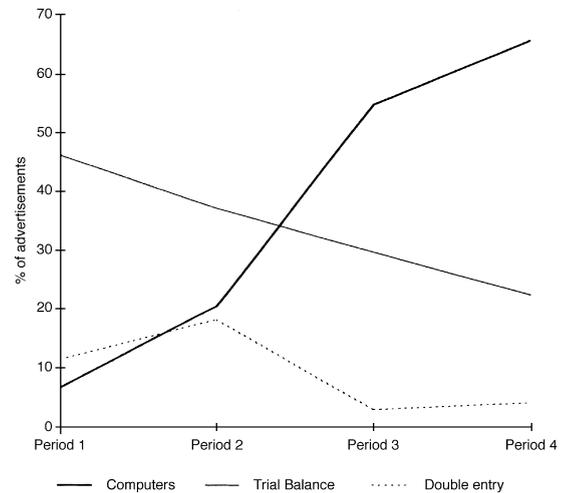


Fig. 1. Relationship between computerization and accounting skills.

the decline in required skill requirements, it may be useful to display in graphical form the increase in requests for computer skills and experience against the reduction in requirements for general and specific skills (Fig. 1).

Clearly a transformation has occurred in what is implied and understood by "experience". If we look at advertisements the requirement for experience shows a decline followed by a rise over the 23-year period. The percentages are as follows: Period 1 — 79.3%, Period 2 — 68.8%, Period 3 — 68.8%, Period 4 — 73.4%. These figures only tell us that employers have been fairly consistent over 23 years in requesting applicants to possess something called experience. What may constitute "experience" both in terms of what is requested by the employer and what is understood by the applicant is not a fixed definition. In the early period we can posit that it is a broad conception, where experience involves some unity of conception and execution in the performance of a range of accountancy tasks, at least for some of the posts advertised. These posts may well be "of the own initiative" type and carry supervisory responsibilities. (The important caveat is that there was always a range of junior and segmented jobs.) We may define experience in this sense, then, as a generalised experience of the full range of bookkeeping tasks with perhaps an intimate

knowledge and understanding of an organisation's workings.

Experience has come to mean, for very many posts, something quite specific by the end of the period under survey. The job advertisements reveal the change — “2 to 3 years computer experience in sales ledgers”, for example. Experience is no longer broadly defined but is specific and in most cases has become associated with experience of computers.

We can suggest that this redefinition of experience is connected to the age requirements that the advertisements reveal. There is a decline in the demand for older workers in the advertisements over the four time periods. Table 4 shows the results. The proportion of advertisements seeking “older” workers have fallen by more than a half between the earliest and the latest periods. Significantly, in the earlier periods a number of advertisements specifically request women who are “mature” or are over 40 years old and possess a full range of bookkeeping skills. Frequently, these

women should possess secretarial skills and may also have experience as office administrators.

From these required characteristics and abilities we can construct a profile of a type of mature non-professionally qualified woman with a wide range of bookkeeping skills who probably has deep and accumulated knowledge of a particular industry or trade. We suggest, also, it is the arrival of computerisation and the further subdivision of tasks which accompanies it, which erodes the “craft” of this employee and which reduces the demand for this type of employee.

A new development with respect to experience started during Period 4. A few bookkeeping advertisements required qualifications (mostly, AAT or HND/C). This may reflect a growing societal trend in which increasingly high qualifications are demanded for jobs involving repetitive tasks.

Table 5 below highlights other trends in our survey. It is possible to make some tentative comments about these results. Kalamazoo accounting

Table 4
Age requirements in advertisements, 1974–1996

Age requirements	Period 1 March 1974– November 1979	Period 2 December 1979– July 1985	Period 3 August 1985– February 1991	Period 4 March 1991– December 1996
Over 25 years of age	19.1	13.4	23.9	9.7
Over 35 years of age	12.3	6.1	5.1	3.1

Table 5
Change in a range of skill and experience requirements, 1974–1996

Skills experience, abilities and experience requested	Period 1 March 1974– November 1979 %	Period 2 December 1979– July 1985 %	Period 3 August 1985– February 1991 %	Period 4 March 1991– December 1996 %
Specific mention of salary or range of salaries	28.1	22.9	19.6	14.3
VAT	7.6	11.2	7.7	8.9
Typing	10.6	9.5	6.3	4.7
Financial accounts	8.9	12.8	3.7	5.4
Kalamazoo	6.4	4.5	0.6	0.8
Cash book	14.4	15.1	5.7	13.2
Day book	4.2	14.0	1.1	3.9
Management accounts	9.3	8.4	6.8	8.1
Supervisory	10.2	2.8	3.1	5.5

systems have almost disappeared from use. Day Books appear to have disappeared too, along with manual or machine based accounting systems. The requirement for non-qualified management accountants seems to have remained remarkably constant over the 23-year period. Perhaps one of the most telling changes in Table 5 is the decline of the inclusion of salaries in the advertisements.

4.4. Pay

Many of the advertisements were silent about the level of pay although they might have included vague assurances that salaries would be “competitive” or “good” or “according to age and experience”. However, a significant though declining proportion did include information about salaries (see Table 5). While we would not claim that our figures represent a broad ranging UK salary survey, the salaries mentioned in the advertisements do suggest that bookkeeping/clerical salaries have fallen in real terms (see Table 6).

Falling real wages adds weight to our arguments surrounding deskilling. If, with the advent of computerisation employers were simply using different language to demand the same set of skills, we would at least expect to see wages remain stable. Falling wages are the realised potential of Taylor’s systems. Taylor, himself stated that the potential of his system

will not have been realised until almost all of the machines in the shop are run by men who are of smaller calibre and attainments, and who are therefore, cheaper, than those required under the old system (Taylor, 1903, p. 105.)

Table 6
Salary changes 1980–1996

	Average salary	Growth in salary	Purchasing power of the pound ^a
1980	£8334	100	100
1990	£9768	117.21	190
1996	£10,898	130.78	230

^a Government Statistical Service: The UK in Figures.

In the early years of the study, a knowledge of computers would have increased salary levels by at least one third. For example, in 1975, typical salaries ranged from £1600 to £1800 pa. But, in the 9% of the advertisements which mentioned that knowledge of computing would be an advantage pay ranged from £2300 — £2700. Again in 1976, typical bookkeeping salaries ranged from £1600 — £1800; whereas in the 10% of “computerised” jobs, salaries were significantly higher, in once case the salary mentioned was £4000. As companies went through the process of computerising their accounts, they typically required “skilled bookkeepers with a knowledge of computing”. Indeed companies frequently ran manual (or accounting machine) systems, alongside new computerised ones. But it seems as if once companies had gone through the process of computerising, bookkeeping salaries tended to fall.

The difference between skilled bookkeepers and professionally qualified accountants’ salaries in the late 1970s was surprisingly small. By 1979 skilled bookkeepers could earn between £3500 and £4000. Salaries for qualified accountants that year were in the order of £5000. The skilled bookkeepers in the earlier period were likely to have been “repositories of organisational knowledge”, and an importance source of information for both those within their organisation and those outside of it, for example auditors. Today, qualified accountants tend to earn three times as much as bookkeepers. In London, newly qualified accountants can expect a starting salary of £33,000. A London bookkeeper will earn around £10,000. In our survey, the average salaries mentioned in Period 4 were £10,150.⁸ We would argue that several factors account for this. Firstly, due to deskilling, bookkeepers in the late 1990s do not have the same prestige, skills and usefulness to employers as their 1970s counterparts, and this has driven down their salaries. In addition to this, the prestige and “professionalism” of qualified accountants (along with their images and so on)⁹ has

⁸ We need to be very careful about this figure since advertised salaries may differ significantly from actual salaries.

⁹ See Hopwood (1994).

probably increased professionally qualified accountant's salaries in real terms. Very few bookkeeping job advertisements mentioned management accounts but the ones that did tend to offer significantly higher salaries. This may be because the jobs required bookkeepers who would also play a "lower" management role.

4.5. *Mid 19th century vestiges*

Some small companies, even in the later years' of our survey, used manual accounting systems. These companies advertised for bookkeepers whose conception and execution functions remained intact. For example, a small haulage contractor placed the following advertisement in 1993

Full knowledge of manual double entry book-keeping, wages preparation, PAYE, VAT returns essential. Minimum supervision.

In 1996, a heating and ventilation engineer required an

Expert bookkeeper to prepare manual accounts, VAT, PAYE, payroll, sales, purchase and general ledgers, and bank reconciliation.

This type of advertisement does not in any sense refute the deskilling thesis proposed in this paper, but, rather, shows that the uneven development of capitalism generates variable levels of skill requirements. The important factor here is the small scale of operations. It is fairly difficult, in the case of bookkeeping at least, to segment tasks to the extent required by Scientific Management if the organisation does not have a sufficiently large volume of orders.

5. Implications and conclusions

In this paper we have presented a study of the transformation of the bookkeeping craft from the mid 19th century to 1996. The transformation is a dialectical process which seems to take on several (quantities) of changes before undergoing a fundamental qualitative transformation. The transformed "bookkeeper" of the 1990s is likely to be a young woman (hence the use of Ms Taylor in the

title), working in a repetitive, deskilled job, with relatively low pay and little prospects of promotion.

What is the implication for the accounting professional of the removal of the concentration of information and decision-making capacity from the minds of key bookkeeping personnel? Our work gestures towards some important conclusions which are concerned with the future of professional and nonprofessional accounting labour. Neither of these can be considered in a vacuum and need to be set within the context of other contemporary changes confronting the accounting industry.

5.1. *The impact of "new management philosophies" on accounting*

Alongside the deskilling processes outlined in this paper during the 1970s, 1980s and 1990s, other changes were impacting on the practice of accounting. In some organisations accounting in its entirety has become a non-core element having been outsourced in the manner of catering and cleaning services. One of the leading edge examples of accounting outsourcing is BP Exploration. In 1991 BP entered into an arrangement with Anderson Consulting under which the latter assumed responsibility for managing the day-to-day operations of BP's financial administration services. It has been reported that between 1991 and 1994, costs were reduced by 40% (Singleton-Green, 1996).

A more recent arrival in the accounting outsourcing market is The Accounting Services Company (Tasco). Tasco is a 50/50 Shell and Ernst and Young joint venture specifically designed to take on the accounting functions of Shell and *other* pan-European companies. In order to offer the necessary cost savings to attract new customers, Tasco is interested in taking on large corporate clients. Tasco has been quoted as saying that the potential outsourced accounting market is worth \$1 billion (*Accountancy Age*, 15/1/97; 10/11/97). One can imagine that, following an inquiry by a company proposing to outsource its accounting function, Tasco will draw up a "flow process diagram" of all of the accounting information flows within their organisation. The principles of Scientific Management could then be applied to this diagram as the entire process is

divided into individual work segments. If Tasco wins the accounting outsourcing contract, these individual work segments could then be allocated to dedicated teams, who then shadow the work carried out by the personnel of the client company in each of the segments.¹⁰ This would be the application of the first principle of Scientific Management, where the “managers assume... the burden of gathering together all of the traditional knowledge which has been possessed by the workmen” (Taylor, 1911, p. 36). Finally, if Tasco took over their new client’s accounting work, each team could be monitored to ensure the completion of their work segment at the required rate. It could be argued that Tasco is at the forefront of developments which are delivering unprecedented levels of deskilling of the bookkeeping process. However, in the future it is likely that several medium sized companies may “pool their invoices” to take advantage of the quantities of throughput required to make outsourcing a viable option.

5.2. *The future of the accounting profession*

The degrading of bookkeeping and accounting skills is bound to have a knock on effect on the accounting profession. In 1985, Armstrong wrote that

The involvement of accountancy in key decision-making positions within the global function of capital has, in Johnson’s view, 1977a,b; 1980, created a horizontal fission within the profession whereby the activities of the elite which create, install and supervise control systems have the effect of routinising, fragmenting and deskilling the work of their nominal professional colleagues. (Armstrong, 1985, p. 137.)

In the 1990s we have seen several large accounting firms dropping the sign “accountant” from their company names and/or setting up lucrative consultancy wings. Here we may disagree with Hanlon (1994) that Braverman’s work cannot be used for research into the accounting profes-

sion. The non-elite professional accountant’s work may well become Scientific Management’s next sacrifice. With more revenue coming from “non-accounting” consulting activities, “Big Five” accounting firms may well value entrepreneurial skills over and above technical accounting ones. If there is a horizontal fissure within the profession we may in the future expect to see the emergence of a two-tier accounting profession. The seeds of the two-tier accounting profession may already have been sown in the UK chartered institutes. For example Institute of Chartered Accountants in Scotland now has a “technical” qualification and a “professional” qualification.

5.3. *Ms Taylor and Taylorism*

The history of bookkeepers presented in this paper is intended to give a space to the many workers in the accounting industry who have to date been rendered practically invisible by the academic accounting literature. The paper serves to highlight the continuing importance of Braverman’s theoretical position and his analysis of Taylorism in the 1990s and gestures towards a future which will remain under the ongoing influence of scientific management. Despite the rhetoric by politicians of all political persuasions surrounding the need for a “skilled workforce” the dehumanising long run impact of Tayloristic deskilling is impacting on the majority of the accounting workforce. It may, in the near future, begin impacting on “professional” accountants. For the individual bookkeeper the future is grim. The next stage in computer technology is likely to be cheap voice data entry systems. In some senses this was poignantly predicted by Braverman 25 year’s ago.

The progressive elimination of thought from the work of the office worker thus takes the form, at first, of reducing mental labour to a repetitious performance of the same small set of functions. The work is still performed in the brain, but the brain is used as the equivalent of the hand of the detail worker in production, grasping and releasing a single piece of “data” over and over again. The next step is the elimination of the thought process

¹⁰ If any team member during work shadowing develops a successful “efficiency idea” they could be financially rewarded.

completely-or at least insofar as it is ever removed from human labour-and the increase of clerical categories in which nothing but manual labour is performed. (Braverman, 1974, p. 319.)

Bookkeepers in large factory-like institutions and perhaps outsourced accounting companies may well find themselves working in sick buildings, in totally surveyed teams, reading lists of incomprehensible numbers into computers with no promotion prospects and extremely low pay.

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Appendix A

Spring 1998; United Kingdom ^b	Male	Female	All
25 business and financial professionals	239	85	324
250 chartered and certified accountants	142	46	188
251 management accountants	33	12	45
252 actuaries, economists and statisticians	17	11	28
253 management, business consultants etc	46	16	62
41 numerical clerks and cashiers	262	816	1,077
410 accounts clerks, bookkeepers etc.	177	544	720
411 counter clerks and cashiers	70	257	327
412 debt, rent and other cash collectors	15	15	30

Source: *Labour Force Survey*.

Spring 1997; Great Britain ^b	Male	Female	All
25 business and financial professionals	205	66	271
250 chartered and certified accountants	126	35	161
251 management accountants	14	^a	24
252 actuaries, economists and statisticians	19	^a	26
253 management, business consultants etc.	47	14	61

41 numerical clerks and cashiers	247	763	1,010
410 accounts clerks and cashiers	168	486	654
411 counter clerks and cashiers	65	255	320
412 debt, rent and other cash collectors	14	23	37

Source: *Labour Force Survey*.

^a Estimate is less than 10,000 and is suppressed due to sampling variability.

^b The two quarters are based on different geographies as the Labour Force Survey moved to a United Kingdom basis at the beginning of this year.

Appendix B

Date
Job title
Skill requirements
Salary
Promotion
Age
Gender reference
Company name
Industry
Type of system (computer/manual/etc)
Experience and/or qualification
Trial balance
Sales ledger
Nominal/general ledger
Purchase ledger
PAYE
VAT
Typing
Financial accounts
Kalamazoo
Cash book
Day book
Double-entry
Management accounts
Supervision
Own initiative

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