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Accounting and control of the labour process

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Abstract

Textbooks and business managers presume that accounting is the most important management control system, but modern scholars think its role and status are problematic. Most argue that although accounting is important, it is inherently subjective and is only one among many control systems. The paper uses Marx's theory of the labour process to argue that accounting is the premier control system because it provides senior managers with objective measures of the generation and realisation of surplus value that they use to hold workers accountable for the circulation of capital. Prima facie support for Marx's theory is that it gives us a theoretical foundation for textbook presentations of management accounting that resolves controversies over the allocation of overheads and the role of accounting information in decision-making and performance evaluation. The paper re-evaluates some key aspects of the 'labour process debate' sparked off by Braverman's *Labor and Monopoly Capital* [Braverman H. Labor and monopoly capital: the degradation of work in the twentieth century. London: Monthly Review Press; 1974]. It highlights misunderstandings of Marx caused by neglect of accounting. It concludes that accounting is the key to controlling modern business organisations in the interests of capital, that social scientists have too readily jettisoned Marx's labour theory of value and his theory of class.
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> "No other financial principle with which I am acquainted serves better than [the accounting] rate of return as an objective aid to business management" (Sloan, 1964, p. 140).

How important is accounting in controlling business enterprises? Accounting textbooks and business managers take it for granted that accounting systems are "vital" (Mackintosh,

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1994, p. 197). They presume accounting is an objective source of information that investors and management use in a rational, authoritarian way in pursuit of self-evident and widely shared economic ends. They presume accounting's overall measure of a business entity's performance, the extent to which it carries out its social duty, the rate of return on capital (or 'profitability'), makes it the naturally dominant mode of control. Modern scholars, by contrast, downplay the significance of accounting even though they acknowledge its ubiquity and importance. They seek "to undermine the pretensions of the accounting potential of old" (Hopwood, 1989, p. 149). Many now think "it cannot be overemphasized that accounting is just one technique that is available to assist in the control process, not the totality of that process" (Emmanuel et al., 1990, p. 98), and not necessarily even the most important technique. Many stress that accounting is inherently "ambiguous" and lament that "the role of accounting in organisational control is little understood" (Ezzamel and Hart, 1987, p. 107). The paper uses Marx's analysis of the capitalist labour process to challenge this view. The aim is to show that it is not an "emotive reaction . . . [to say that] 'all profit represents the exploitation of the working classes. . ..'" (Emmanuel et al., 1990, p. 34). It argues that accounting is the most important control system because it provides investors and managers with objective measures of the generation and realisation of surplus value. 'Objective' means reference to measurable phenomena that exist independently from the 'subjective' and, therefore, immeasurable states of mind of the observing subject. It does not mean verifying management's use of detailed rules, but that the phenomenon exists independently of the accountant's rules. The paper provides further support for the view that the object underlying accounting profit is surplus value (Bryer, 1998, 1999a, 1999b). It resuscitates Littleton's (1953, p. 18) search for the "basic concept which makes accounting different from all other methods of quantitative analysis, . . . [the] central idea which expresses better than others the objectives, effects, results, ends, aims that are characteristic of accounting—a 'centre of gravity' so to speak". The uniting theme of modern scholarship is precisely that accounting itself has no 'central idea', no 'centre of gravity', no 'essence'. Miller and Napier (1993, p. 631), for example, say that "[t]here is no 'essence' to accounting, and no invariant object to which the name "accounting" can be attached". In contrast to the traditional view, many modern scholars assume that accounting measurement is incorrigibly subjective. The paper challenges this core assumption. Accounting is not the only technique of management control, and it does not reflect or allow us to understand and control all aspects of an organisation's reality. Nevertheless, accounting is the 'totality' of the control process because it provides an objective framework within which all other control systems and realities are subsidiary and subservient.[1]

Management control was central to Marx's view of capitalism in which 'capital' 'subordinates' and exploits labour. Capital was Marx's shorthand for what he called 'total social capital', the collectivity of all investors that began to form in the late nineteenth century

[1] The paper avoids the charge of naive realism and empiricism (e.g., Tinker, 1988) by arguing that accounting implements the 'calculative mentality' of capitalism that is both the historical product and the producer of objective social relationships between capital and labour (Bryer, 2000a, 2000b). Tinker (2002, p. 275) follows Quine (1980) in arguing that "empiricism suffers from inherent and irreducible ambiguities [because] . . . [e]mpirical work always entails the simultaneous testing of . . . two theories: the substantive (i.e. Marxist) theory, and a theory of measurement". This paper, by contrast, follows Kuhn's (1970) view that a good measurement theory (accounting) is implicit in a good substantive theory (Marxist).

and that today we call the capital markets. Capital owns the market portfolio and demands at least the required return on capital from every business enterprise (Bryer, 1993, 1994a).[2] Within Marx's framework, the function of financial accounting is to give capital an objective record of the circulation of capital of an enterprise to allow it to control senior management (Bryer, 1998, 1999a, 1999b). The paper argues that the function of management accounting is to allow senior management to control workers, including subordinate managers. It shows that Marx's analysis of the circuits of capital gives us a coherent theory of management accounting that clarifies and resolves inconsistencies in conventional textbook presentations. It concludes that accounting is the most important control system because it allows capital to 'control' labour in both common meanings of the word—to dominate and to regulate. In short, the paper argues that accounting shapes worker's behaviour in capital's interest, not that it directly determines their thoughts.

Section 1 shows that the traditional view makes sense if we see accounting as providing investors and senior managers with information to hold subordinate managers and workers accountable for capital. It offers a needed "radical retheorization of agency [a]s about control, not contract" (Armstrong, 1991, p. 12). Section 2 outlines the central role accounting plays in Marx's analysis of the labour process as predominantly a 'valorization process', a process of producing surplus value. Section 3, the heart of the paper, explains conventional management accounting using Marx's labour theory of value as a process of measuring and reporting the circuits of industrial capital. It shows that the key to Marx's analysis of relationship between value and price is the distinction between 'expenditure' (money spent as a matter of fact) and 'cost' (socially necessary expenditures). Clearly making this distinction resolves some long-standing confusions about the allocation of overheads and the role of accounting in decision-making and performance evaluation. Section 3 concludes that accounting is the primary control system because it provides investors and senior managers with an objective record of the generation and realisation of surplus value. Finally, Section 4 reviews the 'labour process debate' sparked off by Braverman's *Labor and Monopoly Capital* (1974). This reveals important misunderstandings of Marx by Braverman, his supporters, and his critics, caused by their neglect of accounting, particularly their failure to recognise the centrality of the valorization process.[3] The paper concludes that accounting plays a key role in capital's control of business organisations and, therefore, in its control of society. The implications for social scientists are that Marxists have been too hasty in abandoning the labour theory of value, and that sociologists have too readily jettisoned its corollary, Marx's idea of class (cf. Savage, 2000).

1. Accounts, accountability and control of the labour process

Traditional claims for the hegemony of accounting control make several unquestioned assumptions about the nature of the social and organisational world and about accounting and its role. Scholars began to challenge these assumptions in the 1970s and 1980s (e.g.,

[2] In Marx's theory, the required return on capital is the risk-adjusted general rate of profit, the ratio of the total surplus value generated in a society to the total capital it employs (see Bryer, 1994a, for details).

[3] As the labour process literature is large, the contributions analysed are necessarily selective.

Burchell et al., 1980; Cooper, 1983; Hopper et al., 1987; Hopwood, 1980, 1983; Parker, 1977). Textbooks assume that organisations have clear economic goals that are congruent with the interests of its members. They assume that behaviour in organisations is rational and co-operative and that accounting gives investors and management objective and neutral information – a "mirror-like objective depiction of reality" – helpful for decision-making. They also assume that accounting is for the good of all, and, therefore, those few individuals that do not co-operate are 'deviants' (Hopper et al., 1987, Table 1, p. 442). Against this, many argued that organisational goals are the problematic outcomes of processes of social interaction between individuals in which actors negotiate meanings that are uncertain and change. From this 'naturalistic' perspective, accounting is a "language subjectively created, sustained and modified intersubjectively" (Hopper et al., 1987, Table 1, p. 442), having neither a technical nor a social essence (Hopwood, 1989). As Burchell et al. (1980, p. 19) put it,

> "Rather than being essential to the accounting mission, the roles which accounting serves in organizations are created, shaped and changed by pressures of organizational life. They are implicated in action, rather than being prior to it".

In response to these criticisms of the traditional view, some critical accounting scholars advanced a labour process view that questioned the naturalists' "[n]eglect of organizational goals as [the] articulation of vested interests". These scholars challenged the "[i]nadequate explanation of persistent conflict and the elements of compliance", and their inadequate theorisation of power and politics. They particularly criticised the failure "to grasp the significance of the class structuring of managerial work" (Hopper et al., 1987, Table 1, p. 442). They argued that "[t]he role of management accounting i[s] the institutionalised subordination of labour", and concluded that we should view the "organization as a site of class struggle and domination" (Hopper et al., 1987, Table 2, p. 446; see also Armstrong, 1991; Cooper, 1983; Hopper and Armstrong, 1991). The naturalists' countered that labour process theorists assume an objective social essence to accounting. As Hopwood (1989, p. 149) put it, they assume that "accounting is a reflection of an abstract conceptualisation of directed social relations and interests" and, therefore, that it "can be reduced to its social core". In short, the labour process view assumes accounting is 'capitalist' without explaining either its historical origins or its social function. The challenge for the labour process view is, as Armstrong (1991, p. 19) put it, to provide "an empirical and historical analysis of the development of the role of accounting within the capitalist agency relationship, informed by the theoretical framework of contradiction and crisis". Critical accountants adopting a labour process view have highlighted contradiction and crisis as important themes in the analysis of accounting, but have yet to "theorise the penetration of the power of capital itself into capitalist enterprise" (Armstrong, 1991, p. 9). That is, they have yet to show us how accounting institutionalises the subordination of labour. A major aim of the paper is to fill this gap.

Critical accountants have not followed accounting into the production process because they agree with the naturalists that it has no technical essence—that it does not measure an objective reality. They see accounting as a subjective "language [that] serves and legitimates sectional interests" (Hopper, Storey and Willmott, 1987, Table 2, p. 446). Most agree with Hopwood (1983, p. 290) that "notions of cost, profit and other indices of financial perfor-

mance may not be seen as being unproblematic". Roberts and Scapens (1985, p. 448), for example, argue that "the accounting categories of cost, profit, contribution, return on investment serve as a structure of meanings which are drawn upon by organizational members . . . [, but] [t]hese meanings . . . are neither frozen nor unambiguous". Tinker (1985, p. 106) says "accounting is no more than a social artefact, act[ing] to resolve conflict in exactly the same way as, for example, the mystics". In his view, "although accounting conventions and practices may sometimes produce unambiguous exchange values, in many situations they are ambiguous and arbitrary . . . [for example,] the amount of profit earned for the shareholders during a period" (Tinker, 1985, p. 106). Hopper et al. (1986, p. 110) take issue with accountings' "presumed neutrality and objectivity", emphasise its "ideological aspects . . ., its relationship to particular interests" and state that "what is 'profit' and what is 'loss' is contestable". Hopper and Armstrong (1991, p. 410) dispute the relevance of a realist concern with "the 'accuracy' of costs' . . . [i]f management is taken to be about the control of labour". Armstrong (1991, p. 20) calls on us to view "the [capitalist] agency relationship as constituted by social action, rather than as constructed from 'objective' accounting". Hoskin and Macve (2000, p. 97, fn. 7) "find profoundly problematic any theory that takes as its object . . . of analysis . . . information as objective".

Does accepting the traditional view that accounting is objective inevitably means naive realism and the abandonment of human agency (e.g., Tinker, 1999)? To show that it does not, we develop Armstrong's (1991, p. 20) suggestion that "the concept of the agency relationship, by foregrounding the role of accounting in the articulation of the power of capital within the modern corporation, offers the potential for a coherent radical theorization of the dynamic interplay between the development of accounting and capitalist organization". We argue that accounting articulates capital's power by holding labour 'accountable' for capital.

1.1. Capitalist accountability and management control

At the centre of the problem of management control is that capitalism is an exploitative mode of production with superiors (investors and senior managers) who derive a surplus from the labour of subordinates (wage workers). As Edwards (1986, p. 69) says, "[i]n any exploitative mode of production the central problem for the dominant group is to extract effort from the subordinate group". In capitalism this problem arises because workers sell but retain control over their 'labour power', defined by Marx (1976, p. 271) as those human capabilities which the worker "sets in motion whenever he produces a use-value of any kind". The corollary is that although "A may order B to carry out a task, . . . the ultimate choice rests with B alone" (Parker, 1977, p. 136). Modern scholars implicitly accept that capital buys the ability to work and not the work itself when they recommend that senior managers "take steps to ensure that . . . employees . . . do what needs to be done to achieve the organization's aims and objectives . . . [as] individuals are not always willing or able to act in the best interests of the organization" (Emmanuel et al., 1990, p. 110).

When the worker's decisions to engage in useful labour can be 'programmed' – when superiors can accurately predict the outcomes of specified actions – they can tell subordinates what to do and monitor their actions (Anthony, 1965). In practice, the costs of supervision are high and subordinates usually face 'non-programmed' decisions, i.e., the

relationship between the subordinate's actions and outcomes is uncertain or unobservable.[4] Typically, the superior must rely on the subordinate's judgement in deciding what labour to perform. With non-programmed decisions, superiors can only monitor results and they must, therefore, use 'results controls' (Anthony, 1965).[5] One influential interpretation of the traditional view is that it assumes programmed decisions so that managers can use accounting algorithms to make optimal decisions (Earl and Hopwood, 1981; Hopwood, 1980). In this interpretation accounting is objective and neutral only because it exists in the economist's make-believe world of "absolute certainty" (Emmanuel et al., 1990, p. 18). The role of accounting, therefore, becomes problematic in the real world of uncertainty because agents must make non-programmed decisions and accounting becomes subjective.[6] Problems arise in situations of uncertainty from this perspective as management may inappropriately use accounting techniques as though it faced certainty. Furthermore, when an organisation's objectives are uncertain, management may use accounting to pursue its interests rather than those of the owners. Alternatively, it could use them constructively to explore problems and possible solutions (Hopwood, 1980, pp. 228–233). With no objective foundation, in such a world, accounting's "purposes are implicated in action rather than being essential to the craft itself" (Burchell et al., 1980, p. 6), that is, accounting becomes what people use it for. By contrast, as we explain below, accounting is hegemonic from Marx's perspective precisely because it reports objective results to shape non-programmed decisions, the essence of managerial work, in the interests of capital. As Emmanuel et al. (1990, p. 114) put it, "[w]hile it may be easy to define precisely desired behaviours for assembly-line employees, definition of desired behaviours for middle managers cannot be as precise".[7] Defining the behaviours capital wants from senior managers is even less precise. From the labour process perspective, it is this difficulty that makes the objective measurement of results so critical to the control of non-programmed situations, and that puts accounting at its heart.

How does a superior manager (the 'principal') use accounts to make a subordinate manager (the 'agent') behave in the principal's interests when the agent must make non-programmed decisions? As the relationship is exploitative, agents do not voluntarily provide accounts to minimise their agency costs as they do in agency theory (Jensen and Meckling, 1976). On the contrary, the principal demands and, if necessary, extracts accounts from the agent. Similarly, in contrast to transactions cost theory, there is no contract between equals determined solely by market forces (Williamson, 1970). Instead, we have Armstrong's (1991, p. 5) "image of organization as a network of agency relationships . . . divorced from

[4] March and Simon (1958) popularised the terms 'programmed' and 'non-programmed' decisions.

[5] Even though management could programme decisions, it may choose not to on cost-benefits grounds.

[6] Note that those who believe that accounting is subjective under uncertainty implicitly adopt the neo-classical perspective that accounting is a method of economic valuation that only becomes problematic when there is uncertainty about the future.

[7] Emmanuel, Otley and Merchant understate the difficulty in specifying precisely what any worker should do. Labour process theorists argue that management cannot define worker's tasks precisely enough and monitor behaviour closely enough to make action controls fully effective in practice (Edwards, 1986). In Section 4 we argue that accounting plays a central role in controlling all workers, not just managers. That, even when not directly present in the foreground, accounting is an omnipresent background to the work, not just of workers on the factory floor and in the offices, but also of managers. Here, however, we focus on top management's use of accounting to control subordinate managers.

the notion of contract . . . offer[ing] an account of the manner in which the delegated power of ownership reaches down into the heart of the corporation, permeating relationships within it". Agency and transactions costs theorists have struggled to explain the role of accounting in controlling the agent because they also believe that accounting is inherently subjective (e.g., Watts and Zimmerman, 1986, p. 20).[8] If accounting is objective, however, its role in controlling the agent is clear from the everyday meanings of the word 'account'. According to these meanings, principals use accounts to control their agents in two ways. In one sense, 'account' simply means 'counting, calculation, reckoning'—to 'render an account', to 'narrate', 'to relate, recount, give an account of' some behaviour, results or state of affairs.[9] In another sense, to account means to be 'accountable', having 'to explain, to answer for' behaviour, results or a state of affairs. In this sense, an agent is accountable because the principal judges their performance and punishes or rewards them accordingly. In short, principals hold their agents to account by requiring a report and explanations of performance. How, though, do objective accounts enable the principal to control the agent who makes non-programmed decisions?

If accounts are objective principals can use them to motivate agents to take decisions and actions to achieve targets.[10] The principal, therefore, 'controls' the agent because the agent knows the principal will judge an objective measure of performance against a target (for example, against a required return on capital), will scrutinise the agent's explanations of the results and will hand out punishments and rewards. This role for accounting is consistent with a common meaning of 'control' – to 'call to account, reprove (a person)' – the ability to hold an agent accountable.[11] In developed capitalism the principal, social capital, has the power to not only demand accounts, but also the means to make informed judgements about the agent's explanations and to impose punishments and rewards. Enmeshed in a subordinate position, having to produce and explain accounts constrains the agent's choice of behaviours (plans, decisions, actions, inactions). In non-programmed situations, to satisfy the principal – to avoid punishment or get rewards – agents must engage in 'feedforward control', that is, in planning and taking any necessary corrective actions to achieve targets.

Armstrong (1991, p. 12) is right that within conventional agency theory, the unanswered question arises "of how the independence of third party monitors is to be guaranteed, particularly when these are normally engaged by agents rather than principals". He suggests

[8] Criticisms of agency theory and transactions cost theory on many other grounds are too numerous and too well-known to need rehearsing here. Tinker et al. (1982), Christensen (1983), Hopper and Armstrong (1991), Tinker (1988), Hopwood (1989), Armstrong (1991) make telling points.

[9] *Shorter Oxford English Dictionary on Historical Principles*, vol. I (1973, p. 13).

[10] This remains the case even if the roles of principal and agent live in the same person. For example, individual owners may hold themselves accountable as workers or managers from their position as owners of the means of production.

[11] The word control is an accounting word coined by the English state (Hoskin and Macve, 1986, p. 114). It comes from the ancient French *contre-roller* and Medieval English *counter-rollour* meaning a person who checked (inspected) and directed (dominated) action by means of a 'counter-roll', i.e., one who controlled by means of a duplicate register of receipts and payments. Thus, a controller – or *comptroller*, the spelling of controller to emphasise the association of control with counting (from the Latin *computus*) – was 'One who keeps a counter-roll so as to check a treasurer or person in charge of accounts' (*Shorter Oxford English Dictionary on Historical Principles*, vol. I (1973, pp. 386, 416). The person in charge of the accounts, the accountant, is the agent overseen by the comptroller.

that capital attempts to resolve the potential infinite regress of agents monitoring other agents by training, indoctrination, social assimilation and economic incorporation (high pay and perquisites) to engender 'trust' in the agent (Armstrong, 1991, pp. 13–14). Such processes, however, are expensive and ultimately contradictory, for example, paying for trust and high levels of training undermine trust as they give the agent independence from the principal. If accounting is objective, however, underlying the principal's trust in the agent is control of monitors (accountants and auditors) through writing and enforcing rules for accounting.[12] While these rules cannot eliminate collusive fraud, they underpin the control of monitors by the accounting profession or the state (as representatives of social capital) by allowing them to use action controls ultimately enforceable by law.

If accounts are objective, they are only useful to agents to discharge accountability, either by demonstrating their achievement of the target results or, if not, persuading the principal that their plans and actions were 'reasonable'. When an agent makes accounting calculations (for example, makes forecasts and comparisons of costs, profits, capital, and calculates net present value, etc.), we need not therefore see these calculations as 'rational economic decisions' where the agent and principal supposedly optimise their economic welfare. We also do not need to see them as subjective, psychological or social decisions. Rather, following Weber, we can see them as rational social decisions (Cohen, 1981b, pp. XXVI–XXVII), that is, technically rational means of discharging the subordinate's social accountability.

Scholars often recognise accountability (e.g., Hopwood, 1980; Roberts and Scapens, 1985), but they undervalue it because they believe "accounting information is only an imperfect measure of performance" (Emmanuel et al., 1990, p. 4). Although Hopwood, for example, sees it as "vital" that "[b]udgeting and financial reporting practices together can provide the framework within which measured and observed delegation of authority can take place", in his view the outcome is problematic and essentially subjective. Consistent with the accountability perspective, he argues that "[a] pattern of expectations can be established, an organisational ethos articulated, and even motivation influenced, as the visibility that is created provides a basis for organisational rewards and sanctions" (Hopwood, 1980, p. 231). However, because he thinks accounting only "imperfectly reflect[s] ... the underlying organisational transactions", he sees practice as "often characterised by bargaining, controversy and debate, and by a rather loose, indeed ill-defined and shifting, relationship with many other management practices; with its consequences being dependent upon the wider organisational processes in which it is embedded and which determine how it is used" (Hopwood, 1980, pp. 237, 234). Scholars recognise the importance of accountability when, as they often do, they endorse Simon et al.'s (1954) view that accounting has 'attention directing', 'problem solving' and 'scorecard keeping' functions. Accounting directs the agent's attention to problems requiring solution by reporting variances from standards or targets. The principal scores the agent's performance against the standard or target. The agent uses the accounting system for problem solving, that is, "to assist in evaluating the economic consequences of the various courses of action proposed" (Emmanuel et al., 1990, p. 161). All three functions are elements of the accountability process, but central to it is

[12] Accounting rules play the same role in sustaining trust in accounts that engineering and safety procedures play in generating trust in flying in aircraft.

the scorecard function. Involvement in budgeting and regular reports of variances reminds the agent of the accountability relationship. However, if the agent faces a non-programmed decision, variances are of little use for discharging accountability because the agent remains responsible for deciding if a problem exists and, if so, how to solve it. Similarly, the problem-solving function of accounting only assists the agent's decisions by evaluating the solutions the agent proposes. The key to accountability is Simon's scorecard function, the target-setting and punishment or reward elements of the accountability process. As Emmanuel et al.(1990, p. 161) say, "[t]his use of accounting information is a particularly critical one, for managers who are aware that their performance is being monitored will be motivated to act in ways that will be reported favourably by the information system". However, although they say accounting information plays a "vital" role in this, in their view, "it has to be used in a manner that takes account of its imperfections and limitations" (Emmanuel et al., 1990, p. 160). The question, therefore, is whether there are 'imperfections and limitations' in accounting that make it just one of many techniques of management control, or whether, as labour process scholars argue, they reflect contradictions inherent in the exploitative social relations of capitalist production?

Conflicts inevitably arise in the accounting process because capital buys labour power from workers, including management, whose interests may not coincide with those of capital. For example, the conventional wisdom is clearly right that if management uses budgets for performance evaluation, subordinates have an incentive to manipulate both the budget (e.g., suppress the target) and the reported results (either flatter them or save them for a rainy day). If, on the other hand, management sets higher targets to compensate, budgets lose their planning function and may demotivate subordinates if set too high or they do not participate in setting targets. If workers participate in setting targets, they may build in too much slack (Emmanuel et al., 1990, chapter 7). Emmanuel, Otley and Merchant explain these problems as 'imperfections and limitations' of accounting. First, however, this ignores the fact that in the very process of controlling the generation of profit, accounting generates conflicts that tend to undermine it. Conflicts in the accounting process are not evidence of weaknesses in accounting but are inherent in its mission to control the exploitation of labour (Armstrong, 1991; Cooper, 1983; Hopper and Armstrong, 1991; Hopper et al., 1987; Neimark and Tinker, 1986). Second, the limit to manipulating internal targets and accommodating to internal organisational politics is social capital's target that over time all enterprises must realise at least the required return on capital. This limit undermines the idea that the function of management control is to ensure that an organisation "adapts successfully to its changing environment" (Emmanuel et al., 1990, Preface, p. xi). Under capitalist control, as in nature, organisations 'adapt' and continue to earn the required return on capital, or they 'die'—the liquidator returns what capital remains to its creditors and owners. Within the context of social capital, it is not the case that "fundamental conflicts within the organization make overall organizational optimality an elusive concept" (Emmanuel et al., 1990, p. 24). While managers may not agree on the best strategy, they may pursue their interests, and managers will often conflict with workers; from the labour process perspective, the idea of optimality – earning the maximum lifetime return on capital – remains clear.[13]

[13] The lifetime of capital in any particular form depends on whether senior management and investors believe it will earn at least the required return and as much as any other opportunity.

Also clear from social capital's viewpoint is the definition of the organisation management controls as any entity accountable for capital employed for profit, any investment centre. By contrast, for Emmanuel et al. (1990, p. 31) any definition of an organisation is "arbitrary", and any notion of its ". . . 'performance' . . . is highly ambiguous".

Neglecting the social context of capital also causes "difficulty with the notions of effectiveness and efficiency" (Emmanuel et al., 1990, p. 29). For example, Emmanuel et al. (1990, p. 29) confuse themselves by pondering whether "a business that generates £80 profit when it wished to generate £100 [is] more or less effective than one that generates £49 when it attempted to generate £50?". Although for them accounting's failure to answer this question is one of its imperfections, they do not ask how much capital each business employed. If we control for the effect of the environment, from social capital's perspective whether either business was effective depends on how much capital each employed and the target rate of return. For the same reason, Emmanuel et al. (1990, p. 29) find the idea of efficiency an "even more tenuous concept . . . because it is difficult to find a valid standard with which actual performance can be compared". Although the principal will, perhaps, never know whether the agent chose the best option, from the labour process perspective, the efficiency of all options depends on the relationship between the inputs and outputs of capital, and the relationship of this to the required return. In short, as we shall see in Section 3, in Marx's accounting, effectiveness and efficiency are socially constructed to mean the same thing—the rate of return on capital and its relationship to the required return.

The exploitative nature of capitalist mode of production generates conflicts, but the very fact that it is exploitative means that subordinates cannot escape from their relationship with their superiors. Subordinates may struggle against their superiors, but they must also co-operate in delivering their labour power. Similarly, the superiors must co-operate to meet their subordinates' socially defined needs, even though considering capital and labour as social collectives, the relationship is inherently antagonistic.[14] From capital's viewpoint, the primary function of accounts is to define the ground rules within which the subordinate must co-operate—to define the social space within which the subordinate is accountable to the superior. As Nichols and Beynon (1977, p. 119) put it, workers and managers learn "in a capitalist enterprise there is a limit to reasonableness and cooperation . . . set by the . . . logic of capital (a logic which . . . forces managers to 'count numbers'; assess profit and loss)". Nichols and Beynon, rare labour process theorists who see a major role for accounting in defining the boundaries of co-operation (see also Armstrong, 1983), do not explain this logic, or how it works. This is unsurprising given the ambiguity of the conventional

[14] We are talking about control in a mode of production, about the typical relationships of superiority and subordination across all superiors and subordinates. Therefore, we can divide superiors and subordinates into 'classes' with objectively definable ('real') economic interests that directly conflict in that what one class gains the other loses, i.e., their economic interests are directly opposed or 'zero-sum'. Edwards rightly objects to applying the term 'interests' – wants, desires, preferences – to individuals because they are not necessarily objective, and the objective economic interests of individual superiors and subordinates do not necessarily conflict. Thus, to keep the discussion general, we here follow Edwards' terminology and call the mode of production exploitative because it contains a 'structured antagonism'. Edwards also objects to the term 'real economic interests' because he believes we cannot objectively define these at the level of classes within the capitalist mode of production. The burden of the paper, however, is to define the real economic interests of capital and labour objectively with accounting. We return to this issue in Section 4 and in the concluding comments.

wisdom's understanding of accounting's role in boundary definition and management. It is, in particular, a vast understatement to say that "[m]ost participants in business organizations will agree that the overall return to shareholders is a guiding objective, or at the very least, a crucial constraint" (Emmanuel et al., 1990, p. 22). Without adequate profitability, the flow of cash will dry up and cause activity to cease, and everyone can agree usually that the firm should continue to exist (Emmanuel et al., 1990, pp. 7, 27).[15] Adequate profitability, however, is seen only as an external constraint, only one boundary of a feasible region defined by conflicting constraints imposed by managers, workers, government, customers, etc., as well as by investors (Emmanuel et al., 1990, Fig. 1.3). By contrast, we argue in Section 3 that the function of management accounting is to embed this overriding goal into the organisation's social functioning. Its aim is to ensure that "[a]ccountancy and accountability are structured into the very organisation of the . . . corporation" (Nichols and Beynon, 1977, p. 173). The details of management accounting systems and their uses vary enormously. Budgets may be tight or loose; participatory or imposed; management may integrate budget systems with other information systems or not; it may strongly link them to rewards and punishments or not. In the conventional wisdom, the world of management accounting is a 'blooming, buzzing confusion'. Despite their variety, however, all systems embody the rate of return on capital as their ultimate objective.[16] This is not literally the "sole objective of the enterprise", but whereas for Emmanuel et al. (1990, p. 7), feasible regions change as environments change and "the concept of organizational control [is] somewhat elusive", within the labour process perspective, it remains clear. Organisations are in control if they earn at least the required return on capital; all other objectives are subsidiary. Similarly, whereas for Emmanuel, Otley and Merchant, "where conflicts of interests prevail, the concept of organizational control is more nebulous", from capital's perspective, it remains concrete. The overriding aim and basis for judging control and the salience of conflicting interests is producing at least the required return on capital employed. Accountability for this was for Marx the hallmark of capitalist control of the labour process.

2. Capitalist control of the labour process

Marx argued that capitalism emerged from the feudal mode of production—that the transition was a change from politically and ultimately physically coercive accountability for production under the slave systems of classical antiquity and feudalism, to economic accountability under capitalism. He gives us a history of the capitalist labour process as the product of a series of transitions in the social relations of production each with its characteristic way of extracting surplus and corresponding modes of accounting (Bryer, 2000a, 2000b). He says that as free wage-labour spreads, so workers become 'formally' subordinated to capital and "the free worker is in principle ready and willing to accept every possible variation in his labour-power and activity which promises higher rewards"

[15] They neglect to mention that sometimes investors and senior management will not agree.

[16] Even though this may not be evident at the company's lower business sub-unit levels (cf. Armstrong et al., 1996). At the very least, all companies must produce financial accounts that provide the means for calculating the overall return on capital.

	Classical Antiquity	Feudalism	Capitalism	
			Formal subsumption	Real subsumption
Subordinate relation	Slave	Serf	Wage Worker	Wage Worker
Labour process	Control of the use-value of labour	Control of surplus labour	Control of the use-value and exchange value of labour	Control of the valorization process
Form of surplus	Use-values	Labour rent	Revenues - Expenses	Surplus value

Fig. 1. Marx's history of the labour process.

(Marx, 1976, p. 1034). He means that the labour market subordinates labour to capital. This is what brings the seller into a relationship of dependency. However, Marx also says that capital subordinates labour in the process of production. He calls this form of labour control the 'real subsumption' of labour under capital. He argues that this, the modern form of capitalism, follows and builds upon the formal subsumption of labour, became its "premiss and precondition" (Marx, 1976, p. 1026). Fig. 1 outlines Marx's history of the labour process. The focus in this paper is the accounting correlate of Marx's theory of the real subsumption of labour, of surplus value.

The essential difference between slavery and feudalism is that whereas the master must control all the slave's labour to extract a surplus of use-values, the feudal landlord's agents and peasants were accountable only for surplus labour, for various forms of feudal rent (Bryer, 1994b). The essential similarity was that both slave and serf were ultimately personally and, if necessary, physically accountable for their labour. In England, the landlord charged the steward personally with the incomes received, and discharged accountability for expenditures and disbursements judged by the lord and the auditors to be necessary. In capitalism, by contrast, the "*mode of compulsion* [is] not based on personal relations of domination and dependency, but simply on differing economic functions" (Marx, 1976, p. 1021). Labour becomes controlled by means of "an *economic* relationship of supremacy and subordination, since the consumption of labour-power by the capitalist is naturally supervised and directed by him" (Marx, 1976, p. 1026).[17] The transition is in the mode of accountability for labour—from a directly coercive patriarchal, political or even a religious relationship, to "a *relationship of sale and purchase*, *a purely financial relationship*". This relationship "is objective in nature, voluntary in appearance, *purely economic*" (Marx, 1976, pp. 1027–1028). That is, its objective condition as 'free wage-labour' in the labour market, free of all possessions except labour power to sustain itself, imposes economic control on workers. Free wage labour allows economic control of labour because "[w]hat brings the seller into a relationship of dependency is *solely* the fact that the buyer is the owner of the conditions of labour"; "*capital* . . . [i]s the monopoly . . . buyer of his labour power"(Marx, 1976, pp. 1025–1026). The landlord sought direct control over his steward and peasants, but the worker is nominally a "free agent", free to act in his or her own interests (for example,

[17] When Marx writes of 'the capitalist', he refers not to individuals but to representatives of the social capital, the capitalist class.

slacking). Unlike the slave who has a master or the serf who has a lord to directly control their labour, the free worker "*learns to control himself*" (Marx, 1976, p. 1033).

Following the formal subordination of labour to the market, "[w]ithin the production process . . . two developments emerge" (Marx, 1976, p. 1026). Capitalists work their labour harder and more efficiently, but, initially, feudal accountability continued:

> "As regard capital in the context of the *formal* mode of subsumption, its *productivity* consists in the first instance only in the *compulsion to perform surplus labour*. This compulsion is one which it shares with earlier modes of production, but in capitalism is more favourable to production" (Marx, 1976, p. 1054).

To get the workers to work harder, the early capitalists rely on the traditional compulsions – on authority and supervision – to ensure that the "material conditions of labour are not subject to the worker, but he to them. [That] [c]apital employs labour" (Marx, 1976, p. 1054). The workers become accountable to the capitalist, but at first only in a "simple form . . . [that] entails the personification of things and the reification . . . of persons" (Marx, 1976, p. 1054). At first, the capitalist does not hold workers accountable for capital in production, but only for the means of production and the production of commodities as 'things', that is, for the production of use-values and exchange values. From this simple and transparent beginning, the second development was that the accountability

> "relationship becomes more complicated . . . and apparently more mysterious, with the emergence of the specifically capitalist mode of production. Here we find it is not only such things – the products of labour, both use-values and exchange values – that rise up on their hind legs and face the worker and confront him as '*Capital*'" (Marx, 1976, p. 1054).

Under real subsumption, the worker faces not only use-values and exchange values, but also capital itself. Marx says this labour process has a "two-fold form" involving not only use-values and exchange values, the material process of production, but also capital. The capitalist's "aim is to produce not only a use-value, but a commodity; not only use-value, but value; and not just value, but also surplus value" (Marx, 1976, p. 293). All production is the physical production of use-values by use-values, "concrete labour in the use-values of commodities" (Marx, 1976, p. 992). However, as production is primarily a social activity – in capitalism, the production and realisation of "socially necessary labour as calculated in exchange value" (Marx, 1976, p. 992) – we must understand the labour process as the unity of "the material elements of the labour process" and the "valorization process" whereby capital controls labour to produce and realise surplus value:

> "The production process, considered as a unity of the labour process and the process of creating value, is the process of production of commodities; considered as the unity of the labour process and the process of valorization, it is the capitalist process of production, or the capitalist form of the production of commodities" (Marx, 1976, p. 304).

Marx (1976, p. 994) made clear his view that it was "pre-eminently in this sense – which pertains to the valorization process as the authentic aim of capitalist production – that capital as objectified labour (accumulated labour, pre-existent labour and so forth)

may be said to confront living labour (immediate labour, etc.)". Section 3 argues that the pre-eminent way whereby capital controls the labour process to produce and realise surplus value is by confronting workers with management accounts. That it is by means of objective accounts that senior managers, as personifications of capital, "rise up on their hind legs and face the worker and confront him as '*Capital*' . . .". That it is in the accounts and their use that we will find "[c]apital is not a thing . . . [but, rather] certain specific social relations of production between people appear as relations of things to people" (Marx, 1976, p. 1005). In accounts, we find "heaped-up wealth confronting the worker grows apace and *confronts him as capital*, *as wealth that controls him*" (Marx, 1976, p. 1062). As we shall see, financial and management accounts provide objective measures of wealth as use-values, exchange values, and the socially necessary value of labour. As Marx (1976, p. 1054) himself put it,

> "[t]he capitalist himself wields power only inasmuch as he is the personification of capital . . . [and] [i]t is for this reason that he always appears in a dual role in Italian bookkeeping . . . [f]or instance, as the debtor of his own capital".[18]

Continuing this thought, in vol. 2 of *Capital*, he says that "By way of bookkeeping, which also includes the determination or reckoning of commodity prices (price calculation), the movement of capital is registered and controlled" (Marx, 1978, p. 211). The function of bookkeeping was "the supervision and ideal recapitulation of the process [of production]" (Marx, 1978, p. 211). In other words, to determine the selling prices of commodities and to "recapitulate", that is, to see the movement of capital through production, the capitalist turns to the books. For example, where purchased and self-produced commodities "are not changed into actual money [i.e., sold], they are converted into accounting money; in short they are used as exchange-values and the element of value they add to the product in one way or another is precisely calculated" (Marx, 1976, p. 952). In the capitalist's mind, the value of the product is "express[ed] . . . more precisely as money of account" (Marx, 1976, p. 955). In short, capitalists achieve real subordination by holding workers, including management, accountable for the circuits of industrial capital. Outlining this is, therefore, a necessary step to understanding Marx's theory of management accounting.

2.1. Accountability for the circuits of industrial capital

In the conventional wisdom, any importance attached to accounting arises from its preoccupation with "money" because this gives investors and senior managers a common denominator they can use to calculate an overall measure of performance (Emmanuel et al., 1990, p. 7). By contrast, from Marx's perspective, the premier role of accounting arises from its preoccupation with the common denominator of 'capital'. Capital is the money an enterprise uses to acquire labour power and other necessary means to produce commodities or services whose sale will recover that money and provide a surplus.[19] Using

[18] In other words, the owner's capital appeared in the balance sheet as both a credit for the source of funds and a debit for their use.

[19] Some say that Marx unduly emphasised the production of tangible commodities. However, by 'industrial' capital, he means "every branch of production that is pursued on a capitalistic basis", including "the investment branches of industrial capital" and the service industries (Marx, 1978, pp. 133, 144).

Marx's notation, capital follows the circuit M–C ... P ... C'–M'. During the first phase, M–C, management gets money capital (M) and spends it on commodities (C), both labour power (L) and means of production (raw materials, buildings, plant, etc.) (mp). In the second phase, management consumes these use-values in production (... P ...) to produce commodities or services with use-values having a greater exchange value, $C' = (C + c)$, than the cost of those it consumed in producing them.[20] In the third phase, the enterprise sells C' for $M' = (M + m)$, a greater amount of cash than management originally invested, where the increment (m) is surplus value, for Marx the value of unpaid labour. According to Marx, expenditure on the means of production is 'constant capital' because it transfers its value (cost) unaltered to final commodities. By contrast, capital spent on labour power is 'variable capital' because, although all the value labour adds during production also transfers in full to final commodities, the capitalist only pays for a part of this value. The value added by labour that the capitalist appropriates is the potential profit or surplus value. The capitalist's aim is to maximize the return on capital employed, m/M. We can use this framework to provide a theoretical foundation for financial and management accounting.

If we collect together measurements of capital's circuit through production and markets at any point, we have a balance sheet. At any point, "A part of the capital exists as commodity capital that is being transformed into money ...; another part exists as money capital that is being transformed into productive capital; a third part as productive capital being transformed into commodity capital" (Marx, 1978, p. 184). These are the assets we find in balance sheets today. At any point, capital functions as either (a) money or claims to it (e.g., debtors) waiting to be transformed into commodities, or to be distributed to investors, (b) as the cost of necessary use-values for production (e.g., plant, buildings, stocks of raw materials and work in progress)[21] or (c) as stocks of finished commodities and other commodities for sale. Underlying them all is Marx's "double character of the commodity (as a use-value having an exchange value)" (Murray, 1998, p. 33). An accounting definition of an asset, therefore, corresponding to Marx's definition of a commodity as a use-value with an exchange value, is that assets are either money, claims to money or the recoverable costs of controlled use-values. From this definition, we can derive operational definitions of all the other elements of financial statements—liabilities, revenues, expenses, etc. If we compare the capital advanced to production against the capital recovered from circulation and breakdown the difference into its component parts, we have the profit and loss account that also underlies modern practice (Bryer, 1998, 1999a, 1999b). Although scholars often argue that financial and management accounting have distinct conceptual foundations (e.g., Anthony, 1965), in Marx's framework, they are two interrelated branches of accounting

[20] Here we assume that the prices of labour and the means of production are constant. Note that from Marx's perspective, the going-concern idea is not "ambiguous about the precise definition of what is the essential core of the enterprise that constitutes a standard for assessment of improvement or deterioration" (Emmanuel et al., 1990, p. 34). Marxist and traditional accountants unambiguously argue for the maintenance of productive capacity (replacement cost accounting) and against adjustments for inflation. See Bryer (1999b) for details of Marx's accounting for price changes.

[21] Note that necessary costs for production includes expenditures that are non-productive, i.e., do not produce commodities or services for sale. Non-productive overheads costs provide necessary conditions for production, e.g., the costs of general management, advertising, etc. However, from Marx's viewpoint, they are only assets if paid for in advance.

sharing the same conceptual foundation—accountability for the circuit of capital; for the rate of return on capital. Financial accounting reports to investors on the realised return on capital to control senior management. Management accounting reports to senior management on the production and the realisation of the required return on capital to control workers. The conceptual foundation of both branches of accounting is the definition and measurement of capital.

The following section argues that we can use Marx's definition of a commodity and his analysis of the circuit of capital to explain the fundamentals of conventional management accounting and resolve confusions in scholarly and textbook presentations. It concludes that with objective foundations in use-values, exchange values and socially necessary values, it is not "erroneous to assume that management accounting is . . . the major . . . means of management control" (Emmanuel et al., 1990, p. 97). Section 4 uses this result to argue that Marx's striking metaphor that under capitalism, "the means of production employs the workers" is not "a nonsense[,] . . . grasp[ing] not the essence of the capitalist mode of production, but the fetish that throws it up" (Cressey and MacInnes, 1980, p. 13). That, on the contrary, accounting is the foundation of control because through it a capital appears as palpable, objective reality that controls workers.

3. Marx's management accounting

In 1963, Most claimed that Marx's economics had "come unstuck", but he nonetheless thought that "Marx's contribution to management accounting has been underrated" (p. 175). "In particular, it appears that he was well on the way to discovering standard costing, ratios and value analysis when he published *Das Kapital* one hundred years ago" (Most, 1963, p. 175). Most says nothing about Marx's 'ratios and value analysis'. We consider below what he says about Marx's standard costing. In 1978, Wells noted that the 'costs attach' idea "bears a striking resemblance to that enunciated earlier by classical economists", particularly by Marx in whom, he says, we find its "ultimate expression"[22]:

> "We know that the value of every commodity is determined by the amount of labour materialised in its use-value; by the amount of labour time socially necessary for its production . . .. To begin with, therefore, we must reckon up the labour objectified in the product" (Marx, 1890, p. 180, quoted by Wells, 1978, p. 106).

Wells (1978, p. 104) thinks that neo-classical economics has "discredited . . . the simple cost of production theory of value". Marx, however, does not have a 'simple cost of production theory of value', the butt of the "most pertinent comment by Smart [quoted by Wells against Marx]: 'However great the cost expended on an article, if the public will not have it, all the cost in Christendom will not give it a value' . . .." (Wells, 1978, p. 110). As we shall see, in Marx's theory and in management accounting, the cost of production is the 'socially

[22] As Marx never wrote on management accounting as such, by 'Marx's management accounting', I mean my reading of how Marx's theory explains this phenomenon, and its importance to his project of understanding the inner workings of capitalism.

necessary cost', not the actual expenditure. Although accounting scholars have not considered Marx's management accounting in any depth,[23] until relatively recently, the literature of management accounting used language with implicit understandings of the labour theory of value. Today, while the practices remain unchanged, the language in modern textbooks expunges any traces of labour theory of value and theoretical confusion reigns.[24]

Although Marx (1981, p. 139) thought "surplus-value and profit are in fact the same and even numerically identical", he recognised that the only thing that appears to interest the capitalist is the accounting rate of return on capital, what he calls the 'rate of profit'. "As far as the individual capitalist is concerned, it is evident enough that the only thing that interests him is the ratio of the surplus-value ... to the total capital advanced for ... production" (Marx, 1981, p. 134). As, however, "The rate of profit is ... determined by two factors: the rate of surplus value and the value composition of the capital" (Marx, 1981, p. 161), the capitalist must look not simply at the total circuit of capital through financial accounts, but must look deep into production by means of management accounts. In symbols:

$$\frac{p}{C} = \frac{s}{v} \times \frac{v}{c+v}$$

where p = profit = s = surplus value, C = total capital employed ($c + v$), c = constant capital and v = variable capital.

This says that underlying the rate of return on capital is the extraction of surplus value from labour (s/v) in production, "relative surplus value" and the "value composition" of the capital employed (v/C), i.e., the proportion of total capital (C) employed in the form of constant capital (c), the means of production. Marx (1981, p. 134) accepts that capitalists rarely consciously recognise surplus value as such, or the value composition of capital, and where they do "it is actually in his interests to disguise these particular ratios and inner connections". On the surface, capitalist accounts also appear to ignore surplus value and to deal only with reified notions of 'cost' and 'profit'.

> "Under the heading of costs, which include not only wages but also the price of raw material, the depreciation of the machinery, etc., the extortion of unpaid labour appears simply as an economy in the payment of one of the articles that comprise these costs, simply as a lesser payment for a certain quantity of labour, an economy similar to that made when raw material is bought more cheaply or the wear and tear of machinery is reduced" (Marx, 1981, p. 136).

Nevertheless, for Marx (1981, p. 135) it remained "true that the nature of surplus-value persistently impresses itself on the capitalists' consciousness in the course of the immediate

[23] (Fleischman and Parker, 1997, p. 263) note that "Marx himself ... catalogued the specific conditions under which capitalism required the formulation and costing of relationships and parts of the production process", but give no details.

[24] Wells (1978) selected the seventh ed. of Horngren's (1977) *Cost Accounting: A Managerial Emphasis* in his well-known study 'Accounting for Common Costs' as a classical representative (with others) of the high point of modern management accounting thought. We use it here as an exemplar exposition of management accounting still embued with implicit understandings drawn from the labour theory of value, and contrast it with the economics-based presentation of Horngren's (now joint-authored) later work (Horngren et al., 1999). We shall see, however, that nothing of substance has changed.

production process". As evidence that it does, he points to "industrial bookkeeping" that allows the capitalist "the supervision and ideal recapitulation of the process [of production]" (Marx, 1978, p. 211). If Marx is right, we should be able to explain how accounting gives us an objective record of the circuit of capital through production that management can use to control the extraction and realisation of surplus value. In what follows, I argue that we can.

3.1. The origins of management accounting

Industrial capital needs management accounting because enterprises buy labour power – the potential for labour – not labour itself. Management must take charge of the workers and their use of the means of production (Marx, 1996, p. 335). First, because capitalists exploit labour, they must tackle "resistance to the domination of capital . . . by counterpressure" (Marx, 1996, p. 336). Second, the capitalist must control labour to realise at least the required return on the capital employed. The capitalist must not simply control, but must control to a "preconceived plan" and create a "powerful will . . . who subjects [workers'] activity to its aims" (Marx, 1996, p. 337). The capitalist must, in short, control workers to earn the required rate of return on capital.

To do mental labour, capital employs an officer class of managers because "[t]hat a capitalist should command on the field of production, is now as indispensable as that a general should command on the field of battle" (Marx, 1996, p. 335). To command on the field of production, the capitalist must get workers to work to produce surplus value:

> "If, then, the control of the capitalist is in substance twofold by reason of the twofold nature of the process of production itself – which, on the one hand, is a social process for producing use values, on the other, a process for creating surplus value – in form that control is despotic. As co-operation extends its scale, this despotism takes forms peculiar to it" (Marx, 1996, p. 337).

The despotism of the capitalist is peculiar because he commands in a different way. We saw in Section 2 that when the aim becomes real subsumption, the mode of accountability changes from direct coercion to economic control, and herein lies the social foundation of Marx's management accounting. Clearly, "An industrial army of workmen, under the command of a capitalist, requires, like a real army, officers (managers), and sergeants (foremen, overlookers), who, while the work is being done, command in the name of the capitalist" (Marx, 1996, p. 337). In the capitalist industrial army, management accountants are financial intelligence officers.

As capital proceeds with ever finer divisions of labour requiring ever tighter planning and co-ordination of production, "[i]ntelligence in production expands in one direction, because it vanishes in many others. What is lost to the detail labourers, is concentrated in the capital that employs them" (Marx, 1996, p. 366). The 'intelligence' lost to the workers is not simply technical knowledge and control of the production of use-values. "The control exercised by the capitalist is . . . a special function arising from the nature of the social labour process, and peculiar to that process", and is "at the same time a function of the exploitation of the social labour process" (Marx, 1976, p. 449). In short, capitalist control is control of the valorization process. This is the function of management accounting—to

be the capitalist's intelligence in production. As Braverman (1974, p. 263) put it, in the modern corporation, "[f]inance . . . became the brain center of the entire organism, because here was centralised the function of watching over capital, of checking and controlling the progress of its enlargement; for this purpose the finance division has its own subdivisions". Management accounting is the subdivision responsible for controlling the production and realisation of surplus value.[25] Its function is to help management to plan, make decisions about and control the socially productive power of labour to achieve or beat the required rate of return on capital. It seeks to implement the capitalist mentality and its accountability relationships to ensure "the sway of capital develops into a requisite for carrying on the labour process itself, into a real requisite of production." (Marx, 1996, p. 335). Management accountants today describe their role as providing financial information "for the purposes of *planning*, *decision-making* and *control*" (e.g., Edwards and Newell, 1991, p. 39). They do not make the entity's plans; they provide financial information to allow management to rank and choose plans and to judge and control outcomes "in terms of their expected financial merit" (Edwards and Newell, 1991, p. 39).

To understand the social logic of the management accountant's definition and measurement of financial merit, we must first recognise that over a certain minimum number of workers simultaneously employed, a qualitative change occurs in the production process. It stops being a collection of individual workers and becomes the "productive power of social labour" (Marx, 1996, p. 334). Capital's aim to maximize the social productivity of labour in its interests is the foundation of the management accountants' job. It shows in all aspects of their work—in measuring the cost of production; in accounting for overheads; in decision-making; in control and performance evaluation. In what follows, we argue that in each aspect, conventional management accounting provides objective information on the circulation of capital with which to confront and control workers.

3.2. The cost of production

Scholars have long abandoned the search for 'true' cost (Ezzamel and Hart, 1987, p. 3). However, they have done so in ignorance of Marx's theory in which the cost of production is a social construct that we must sharply distinguish from expenditure that has a different ontological status.[26] Expenditures, as Armstrong (2002, p. 104) puts it (though he is referring to 'direct costs' which we consider below), "are real, in the sense that they are external to cost accounting as a practice". In Marx's framework, costs are real because accounting is a real social practice embedded in real social relationships of domination and subordination in production that "exist independently of our [individual] perception of them" (Armstrong, 2002, p. 104). Acceptance of this social reality underlies textbook presentations of conventional management accounting, even though some authors take short cuts that leave false impressions.

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[25] Although Braverman here appears to recognise a critical role for accounting, we shall see in Section 4 that it plays only a constraining role in his theory of capitalist control of the labour process.

[26] Note that although the words 'costs' and 'expenditures' can be used interchangeably, they can have different meanings. Whereas 'expenditure' usually means the act of spending or laying out, 'cost' can mean the given price of something. It is in this latter sense that accountants use the word cost, 'to estimate the cost of production of an article' (*Shorter Oxford English Dictionary on Historical Principles*, 1973, vol. I, pp. 433–434, 705).

Edwards and Newell (1991, p. 40), for example, say that "[m]odern cost accounting systems are designed to measure on a routine basis actual [sic] costs incurred in two ways: the total cost of each of the various activities of a business, and the cost per unit of a firm's output or outputs". This is misleading because, as the early Horngren (1977, p. 76) stressed, whether management uses job costing, batch costing or process costing, the "most important point is that product costing . . . is an *averaging process*. The unit cost used for inventory purposes is the result of taking accumulated costs and dividing it by some measure of production".[27] As Marx (1996, p. 327) puts it, over a minimum number of workers, the "labour realised in value, is labour of an average social quality". The productivity of individual workers varies, but so far as the capitalist is concerned, "the collective day of a large number of workmen simultaneously employed, divided by the number of these workmen, gives one day of an average social labour" (Marx, 1996, p. 328). Similarly, although expenditures on materials and other conditions of production vary, the capitalist produces a mass of products at an average cost. It is misleading to say, therefore, that the 'direct costs' (of labour, materials, etc.) of a product are real because "their calculation and association with particular cost objects does not depend on the particular approach to costing which is adopted" (Armstrong, 2002, p. 104). This is true of expenditures, but it is not true of costs that have a real social foundation. First, to calculate costs, capitalist accounting distinguishes between expenses and losses, or between productive and unproductive labour in Marx's terms (Bryer, 1999a, 1999b). Second, the cost of production is not simply productive expenditure, but what management accountants call 'standard costs'.[28]

As Most (1963, p. 175) says, Marx "introduced the concept of 'social labour-time' which can be seen to resemble the 'standard time' of the cost accountant". Most says social labour time only seems to resemble standard time because he thinks that Marx means the average cost of production in a particular industry, even though the quotation he gives stresses the social nature of the average, not its arithmetic derivation:

> "You will recollect that I used the word 'social labour', and many points are involved in this qualification of 'social'. In saying that the value of a commodity is determined by the quantity of labour worked up or crystallised in it, we mean the quantity of labour necessary for its production in a given state of society, under certain social average conditions of production, with a given social average intensity, and average skill of the labour employed" (Marx, quoted by Most, 1963, p. 175).

Most does not explore the role of this standard in Marx's theory of management accounting. He implies Marx thinks capitalists are happy being average, or could freely choose to remain below average. Far from it. Management must implement the market "rule that the labour time expended on a commodity should not exceed that which is socially necessary" (Marx, 1996, p. 350). The socially necessary average vitally concerns the producer because the market prices of commodities fluctuate around the socially necessary average value of the labour power to make them. Therefore, as "[t]he labour time socially necessary is that required to produce an article under normal conditions of production, and with the average

[27] Note that even if this measure of output is a single unit, this unit is one of a planned mass that the capitalist has produced one at a time.

[28] We discuss 'direct' and 'indirect' costs in more detail later.

degree of skill and intensity prevalent at the time" (Marx, 1996, p. 49), the market price includes the average capitalist's profit given by the required return on capital. The value remaining is the maximum cost of production because, as we have seen, in Marx's model, competition spurs the capitalist on to pursue relative surplus value that requires an excess return. For the capitalist to earn an excess return, the labour-time expended on a commodity must be less than the socially necessary time. The problem facing the capitalist manager is not simply to be average, but to continuously press the cost of production below the socially necessary average. As Horngren et al. (1999, p. 33) put it in words that Marx himself could have written, "[t]he continuous cost reduction efforts of competitors create a never-ending need for organisations to reduce their own costs".

Competition ensures the capitalist's cost of production cannot exceed, and must be continually pushed below, the socially necessary average. But, unlike in handicrafts or simple co-operation, in early systems of 'manufacture' and perforce in machine-based capitalist production, Marx stresses the enforcement of this rule not only "by the mere effect of competition". The complex and integrated nature of production "compels each [labourer] to spend on his work no more than the necessary time, and thus a continuity, uniformity, regularity, order and even intensity of labour, of quite a different kind" (Marx, 1996, p. 350). Uniquely in manufacture, therefore, for the first time, "the turning out of a given quantity of product in a given time [becomes] a technical law of the process of production itself" (Marx, 1996, p. 350). To get the workers to produce the continuity, uniformity, regularity, order and intensity of labour demanded by the technical laws of production, the management accountant translates them and management's plans into budgets based on standard costs, the firm's minimum socially necessary costs of production.

An important element of standard cost data in conventional management accounting systems is 'overheads', for Marx a defining feature of capitalist production. Many scholars would accept that the standard costs of direct labour and materials are objective measures. However, many question the objectivity of allocating overheads to production. For example, Emmanuel et al. (1990, p. 130) say that "any allocation is essentially arbitrary".

3.3. Accounting for overheads

When the capitalist collects a large number of workers together, "a portion of the means of production, are now consumed in common" (Marx, 1996, p. 329). In other words, by collecting his workers together, the capitalist economises on capital by incurring production overheads:

> "Even without an alteration in the system of working, the simultaneous employment of a large number of labourers effects a revolution in the material conditions of the labour process. The buildings in which they work; the store houses for the raw material, the implements and utensils used simultaneously or in turns by the workmen. ... When consumed in common, they give up a smaller part of their value to each single product; partly because the total value they part with is spread over a greater quantity of products, and partly because their value, though absolutely greater, is, having regard to their sphere of action in the process, relatively less than the value of

isolated means of production. . . . The effect is the same as if the means of production had cost less" (Marx, 1996, pp. 329–330).

On top of the 'prime' (meaning original or fundamental) or 'direct' costs of labour and materials, management accountants calculate the full cost of production by adding a portion of 'production (or manufacturing) overheads'. Prime costs are elements of the cost of production because they provide materials and labour embodied in the use-values of a product or service. Expenditures on factory buildings, machinery, rent, etc., are not only 'over'-heads because they are in addition to prime costs. They are also overheads because production is 'completely submerged or immersed'[29] within the necessary conditions of production these expenditures create. Management accountants today often misleadingly call production overheads 'indirect costs' and define them as those that "cannot be traced directly to cost objects" (e.g., Drury, 2000, p. 23; Horngren et al., 1999, p. 45; Wilson and Chua, 1993, p. 82). Clearly, indirect *expenditures* – expenditures on production overheads – do not embody use-values in cost objects, and therefore "allocations of them can never be real" in this sense (Armstrong, 2002, p. 104). Costs, however, are real in a different sense. Cost is the socially necessary expenditure to produce a use-value for production. Whereas expenditures on 'direct' labour and materials are, by definition, costs because they provide embodied use-values (or are losses where they do not), expenditures on overhead labour and materials do not provide embodied use-values. To calculate the full cost of production, therefore, management accountants must study the consumption of production overheads and allocate expenditures according to the use-values they provide. As Drury (2000, p. 23) puts it, whereas "all that is required for the direct cost items is to record the amount of resources used . . . multiplied by the price paid per unit", "[m]anufacturing overheads . . . are assigned to products using . . . estimat[es] [of] the cost of the resources consumed by products". Drury does not define what he means by 'resources'; in Marx's theory, products consume use-values.

Production overheads add value to commodities because they are socially necessary costs of production. That is, they provide necessary use-values for production. Expenditures on rent or factory buildings, for example, do not embody use-values in products or services, yet they provide shelter and other specific use-values for production. Expenditure on administering workers' pay is a pre-condition for the use-value of productive labour, etc. Clearly, as the early Horngren (1977, p. 87) said, "The making of goods would be impossible without the incurrence of such overhead costs as depreciation, material handling, janitorial services, repairs, property taxes, heat, light, and so on". Indirect costs are necessary costs of production, just like labour and material costs. Consistent with Marx's social ontology, as the early Horngren put it, the costs of production after allocating production overheads "are more properly called *normal* costs, rather than actual costs, because they include an average or normalized chunk of overhead" (Horngren, 1977, p. 89). Management accounting must account for the social cost of production—the average cost of a planned mass of commodities. If, for example, "management has committed itself to a specific level of fixed costs in the light of foreseeable needs far beyond the next thirty days . . . [, f]ew people support the contention that an identical product should be inventoried . . . [with] different overhead

[29] *Shorter Oxford English Dictionary on Historical Principles*, Vol. II (1973, p. 1482).

rates . . . not representative of typical, normal production conditions" (Horngren, 1977, p. 89). Similarly, "[i]t would be illogical to load any single month with costs that are caused by several months operations" (Horngren, 1977, p. 90), for example, expenditures on repairs, just as it would be illogical to charge heating expenditures only to winter production. In the face of the chaotic individuality of expenditure,

> "The accountant throws up his hands and says, 'We have to start somewhere, so let's pool the year's overheads and develop an annual overhead rate regardless of month-to-month peculiarities and specific overhead costs.' Such an average provides a normal product cost that is based on an annual average instead of a so-called 'actual' product cost" (Horngren, 1977, p. 91).

Also consistent with a social ontology of overhead allocations, late nineteenth century authorities were "concerned to develop methods which were fair and practicable. Fair in that all products were treated equitably, and practicable in that all of the costs relating to manufacturing were identified and distributed" (Wells, 1978, p. 55). Wells says these authorities did not explain what 'fair' meant. In Marx's theory, it means 'fair' from the capitalist's viewpoint, i.e., verifiable estimates of the product's consumption of the use-values provided by expenditures on the social overheads of production.

Wells and many others think that accountability for full product costs is impossible because, although the manufacturer or putter-out could calculate the profit or loss on each process by reference to market prices,

> "corroboration is not possible where the records of transactions and events are dissected on an arbitrary basis to derive product costs. There is no external evidence of product costs. They depend solely on the method in which they are derived" (Wells, 1978, p. 28).

However, market prices of commodities continue to provide external evidence because these, less the mark-up to give the required return on capital, are the maximum socially necessary costs of production. Furthermore, diligent management accountants will strive to find verifiable cause-and-effect relationships between productive overheads and cost drivers.[30] In contrast to Wells (1978, p. 15), who claims that "many allocation bases can be rationalized by cause-and-effect criteria", the dominant view today is that only "[i]f . . . [c]ost . . . figures result from allocation bases that fail to capture cause-and-effect relationships . . . [will] managers . . . make decisions that conflict with maximising long-run company net income" (1999, p. 155). Along with many others, Horngren et al. (1999, p. 342) believe it is perfectly possible to have "[o]perational knowledge of how resources are consumed . . . [and] refinement is often seen as necessary . . . in pursuit of greater perceived cost accuracy". In Marx's terms, 'how the resources were consumed' means how production consumed the use-values provided by productive overheads.

Pursuit of greater overhead cost accuracy is today called 'activity-based costing' (ABC). Having divested itself of any connection to the language of the labour theory of value, in much of the literature of management accounting, "the ontological basis of indirect cost

[30] While there will be measurement errors (Datar and Gupta, 1994), for these to be meaningful it is necessary to specify the ideal (Armstrong, 2002). Market prices and the required return provide this ideal.

allocation hovers between realism and idealism" (Armstrong, 2002, p. 105). Sweeping aside the "mightily confused" discussion on the sense in which indirect cost allocations were 'real' when they only 'approximated' to an unknown and unknowable ideal and yet had information value, ABC

> "marks a decisive break from these ambiguities. Although the advocates of ABC continue to use the term 'indirect costs', they do not really believe in them. They sense . . . that all costs are, or should be, direct. . . . In this manner, indirect costs are reconceptualised within ABC as the direct costs of real activities" (Armstrong, 2002, p. 105).[31]

From Marx's viewpoint, the decisive break in the literature is ABC's implicit re-definition of indirect costs as productive overheads. Consistent with this, although early ABC enthusiasts advocated its application to all costs, by "1988 . . . Kaplan had reconsidered, suggesting that the costs of unused capacity should be excluded on the grounds that these are period expenses and that those of research and development should be treated as investment in the future of the enterprise as a whole" (Armstrong, 2002, p. 110). In Marx's theory, both of these costs are non-productive overheads as neither provides use-values for production (Bryer, 1995, 1999a).

Although some practitioners make grand claims for ABC, it only refines cost allocations by increasing the number of cost pools, homogenising them and expanding the number of allocation bases by expanding the number of identified cost drivers. Consistent with this, its rise coincided with dramatic falls in information processing costs that allow companies to cost-effectively deploy more complex and sophisticated costing systems (Horngren et al., 1999, p. 137). The activity-based approach to cost management is nothing new. All cost management requires is control of the activities that generate costs. This is why the cost accounting of the early putting-out manufacturers focused on prime costs and quality control (Wells, 1978) as they controlled only the product of labour, not the labour process itself. In capitalism, by contrast, management calculates the share of production overheads for each product as though it were a socially necessary cost of its production, as "just another cost" (Wells, 1978, p. 55). Wells (1978, p. 16) thinks "there is no way of determining which, if any, costs should be regarded as attaching and which should not". He means that there is no way to distinguish between productive and unproductive labour, but for Marx, productive labour – costs of production – are those expenditures that produce the necessary use-values consumed to earn a profit (Bryer, 1999a, 1999b). As Marx (1976, p. 1038) puts it, "*labour is only productive*, and an exponent of labour-power is only a *productive worker*, if it or he creates *surplus-value* directly, i.e. the only productive labour is that which is directly *consumed* in the course of production for the valorization of capital". Management accountants capitalise the cost of productive labour because, as Marx (1976, p. 1043) puts it, "when we speak of productive labour we mean socially determined labour", and it is, therefore, necessary that the money spent on "[p]roductive labour . . . confronts labour power as capital".

[31] Horngren et al. (1999, p. 32) define indirect costs as those "that are related to the particular cost object but cannot be traced to it in an economically feasible (cost-effective way)".

Distinguishing productive and unproductive labour resolves Armstrong's final ontological problem with ABC. This is that it inevitably leaves a residual amount of truly indirect costs—in Marx's terms, those expenditures on use-values that we cannot observe and trace to particular products, e.g., necessary expenditures on the production director's salary and staff. Armstrong (2002, p. 106) concludes that for all its bold realist claims, ABC remains incorrigibly idealist and its "implementation will contain concealed allocations of indirect labour costs". However, what happens to these truly common costs in practice in ABC implementation is what should happen according to Marx's theory. Management should spread truly common costs of production evenly over each unit of output. Although we cannot observe it, each unit must receive the same use-value and should bear the same cost. For example, although Armstrong (2002, p. 110) calls it "arbitrary", where they are truly common "the costs of supervision are distributed equally to all activities". From Marx's (1976, p. 1048) perspective, this is correct because as "the director of the labour process the capitalist performs *productive labour* . . . consist[ing] in the direction and exploitation of production . . . in the sense that his labour is involved in the total process that is realized in the product". The accountant must capitalise the necessary costs, therefore, because "it is quite immaterial whether the job of a particular worker, who is merely a limb of this aggregate worker, is at a greater or smaller distance from the actual manual labour" (Marx, 1976, p. 1040).

Management must investigate its cost drivers to ensure capitalist equity in the allocations, i.e., to promote decisions that maximize capital's overall returns. Allocating a chunk of overhead to production helps capital in this quest because it holds production agents accountable for the estimated social overhead capital they consume and whose path to realisation they control. Production agents do not directly control overhead expenditure and they cannot, therefore, be accountable for this expenditure as such (e.g., whether or not the purchasing agent buys the overhead cheaply). However, they do control production and, therefore, the demands made on the overhead activity and the speed with which the capitalist recovers the capital embodied in the product or service. It is obviously true, for example, that "[t]he amount of rent paid cannot be affected by the performance of a welder in the machining department, or even by the foreman of that department" (Wells, 1978, pp. 83–84). However, the recovery of the rent – the costs of the use-values of the land and buildings – affects the rate of return on capital. If we define efficiency from the capitalist's viewpoint to mean the rate of return on capital, it does not follow that

> "[t]he efficiency with which a machine has been used cannot be gauged by charging the machine with some proportion of the factory rent or factory manager's salary. Nor should a bonus paid to an employee be affected by the amount of indirect costs (over which the employee has no control) charged to products as a result of the time taken in completing his tasks" (Wells, 1978, p. 84).

By holding the supervisor or worker accountable for the recovery of a chunk of production overheads, the accounting system encourages them to complete production rapidly to minimise the circulation time of capital and maximize the rate of return. For Marx, just as in modern management accounting, the capital objectively confronting workers includes not just the capitalisation of the socially necessary cost of the use-values employed in production, but also the social overheads of production:

> "even the social form of labour appears as a form of development of capital, and hence the productive forces so developed appear as the productive forces of capitalism. *Vis-a-Vis* labour such social forces are in fact '*capitalized*' ... As objects they are independent of the workers whom they dominate" (Marx, 1976, p. 1054).

Most modern businesses allocate overheads to product costs, and survey evidence suggests that they do so to foster social accountability for capital. Allocating overheads to products or services fosters capitalist social cohesion by encouraging production management to use central facilities and by exerting pressure on central management to minimise overhead expenditures. In the modern vernacular, management allocates overheads to products to "remind divisional managers of the existence of overheads ... [; to] induce a sense of cost responsibility ... [;] a sense of cost consciousness" centrally and in production (Ahmed and Scapens, 1991, p. 57).

Rational capitalist management may decide not to use the most direct cost driver to allocate overheads to bias production decisions. In particular, a common method is to allocate production overheads according to labour hours or cost. This allocation base may not always accurately reflect the consumption of production overheads, but as Hopper and Armstrong (1991, p. 259) say,

> "If ... management is taken to be about the control of labour and of junior managers, the issue looks different. From this perspective, accounting information is to be judged by the results which it achieves, rather than its notional accuracy. ... Moreover, ... there is something to be said for the inaccuracy of traditional full-costing systems, since these serve to direct managerial efforts to cut unit labour costs".

Given the objective of maximizing the return on capital through the real subsumption of labour, we should expect overhead allocations biased towards reducing labour costs. As Horngren et al. (1999, p. 156) say, "[m]anagers may ... prefer direct manufacturing labour-hours as an allocation base so as to promote increased levels of automation". In Marx's terms, such managers take up the mentality of real subsumption implicit in the managerial offshoot of ABC, activity-based management (ABM) (Armstrong, 2002), as a crusade. The moral from this is that management and management accounting must do whatever it takes to maximize the rate of return on capital, that management is nothing more than the eclectic pursuit of surplus value. As we shall see next, this theme underlies management accounting's approach to decision-making, control systems and performance measurement.

3.4. Integrating financial and management accounts, decision-making, control systems and performance measurement

For a management accounting system to be fully capitalist, or, as Edwards and Newell (1991, p. 41) put it, "[t]o achieve maximum control[,] ... it is now standard practice for firms to integrate cost accounts with financial accounts in a single accounting system". When it "can trace the internal movement of goods through various stages of production so that costs can be allocated to their sources accurately" (Edwards and Newell, 1991, p. 41) and is integrated with financial accounts reporting the realised return on capital, we have despotic capitalist accounting in Marx's sense. Management is accountable to

investors, and production agents are accountable to management, for the rate of return on capital.

How does being held accountable for past costs and revenues push management and production agents to take decisions in the capitalist's overall interests? Economic rationalists argue that "no useful purpose is achieved by making ex post records of cost allocations in the accounts" (Wells, 1978, p. 13). Management theorists worry that ABC defines an "activity ... as a routine act performed 'for' the cost-object" (Armstrong, 2002, p. 117), and that this cost-reducing mantra drives away the value-creating, truly common costs of non-routine activity. However, as we shall see below, allocating overheads to products is far from unhelpful for decision-making. To prevent the neglect of profitable expenditures on non-routine activity, we must understand accounting for product costs within the total system of management accounting in which there are, as management accountants often say, 'different costs for different purposes'. Uniting this apparently undisciplined eclecticism is management accounting's dedication to the maximum return on capital employed.

In one way or another – and capitalists do not mind in what way – the sum of the profits from individual products must, when management multiplies their sales margins by their rates of asset turnover, produce at least the required return on capital for the entity as a whole. Management must ensure that each product or service makes a 'fair' contribution to the return on capital employed. With this as the foundation of management's plans, "normal cost is often used as a point of departure for setting and appraising product selling prices" (Horngren, 1977, p. 91). Normal selling price minus normal production cost equals normal gross profit. Management accounting uses gross and net profit (after non-productive overheads, e.g., selling expenses), along with a statement of capital employed, as a point of departure for planning, decision-making and control of production. It is certainly true that unit or average costs "must be interpreted with caution. For decision making, it is best to think in terms of total costs". However, it remains the case that, "[n]evertheless, unit-cost numbers are frequently used in many situations" (Horngren et al., 1999, p. 39). In particular, management allocates costs to "provide information for economic decisions" (Horngren et al., p. 135), for example, whether to increase production within planned capacity limits, to decide whether to make or buy a component and to choose selling prices. For Wells (1978, p. 7) and many scholars today, this is the incorrigible confusion that has existed in the management accounting literature and in practice since the turn of the nineteenth century, that "[p]roduct costs are said not to be relevant to alternative choice problems (that is, decisions) but they can be, and are, used in making decisions!". From Marx's social accountability perspective, there is no confusion. Clearly, "[a]lthough they may be a useful basis for making informed judgements for predicting expected future costs, historical costs in themselves are irrelevant to a decision" (Horngren et al., 1999, p. 306). It is also obvious that "[t]o be relevant to a particular decision, a revenue or cost must ... be an expected future revenue or cost" (Horngren et al., 1999, p. 324). To remove the contradiction we need only note that production agents use planned (anticipated) full product costs to make routine production decisions and senior management holds them accountable for incurred costs. Reporting the costs that emerge following the decision is relevant to that decision as the decision-maker knows senior management will hold him or her accountable for them.

Reporting past full costs is relevant for routine decisions within the boundaries of the existing social relations of production—the agreed policies and plans that provide the frame-

work of conventional management control (Anthony, 1965, p. 37). Allocations of overheads to particular products or services embody these plans. Outside these boundaries, however, because the entity's environment changes and multiple interdependencies exist between the elements of the organisation, past costs are not necessarily 'relevant' for decision-making. As Emmanuel et al. (1990, p. 219) put it, "[a]ccounting measures, such as standard costs and budget variances, appear quite appropriate to promote the efficiency of departmental activities undertaken in a stable environment, but much less appropriate for planning and control in a more uncertain environment". Historical standard costs and budget variances are much less appropriate in an unstable, changing environment because they may not lead to decisions that maximize the return on capital. If changes in the environment demand it, "top management does *not* necessarily want operations to conform to plans" (Anthony, 1965, p. 29). Top management must continuously monitor current plans and, where necessary, formulate new plans – engage in strategic planning – and management accountants must check strategic decisions involving changes to plans from capital's viewpoint using 'relevant', that is, forecast costs and revenues. For example, management accountants must check that any fixed capital investments earn at least the required return on capital. From Marx's viewpoint, a potential conflict arises because investments in constant capital (for example, raw materials, plant and machinery) add no new value but only transfer its value to commodities in the process of production. Within his equation for the rate of return on capital ($p/C = s/v \times v/C$), therefore, there is a potential conflict between the rate of surplus value (s/v) and the value composition of capital (v/C). Investment in constant capital to increase the rate of surplus value by increasing labour productivity could reduce the return on capital if the fall in v/C from the increase in C ($C = c + v$) more than offsets any increase in s/v. Not surprisingly, therefore, to capitalists "ROI [return on investment] appeals conceptually because it blends all the major ingredients of profitability (revenues, costs and investment) into a single number" (Horngren et al., 1999, p. 662). ROI and its close cousins, residual income (RI) and economic value added (EVA), both calculations of accounting profit after a required return on the investment, resolve the potential contradiction between profit (revenues and costs) and investment in constant capital.

Just like modern management accounting textbooks, although in different language, Marx argues that capitalists carefully manage the potential contradiction between profit and capital by 'economy' in the use of constant capital—large-scale production reaping economies of scale; cheapening the means of production; increasing the exploitation of labour.[32] Marx and the textbooks agree that "Economy in the use of the means of production has to be considered under two aspects. First, as cheapening commodities .... Secondly, as altering the ratio of the surplus value to the total capital advanced, i.e., to the sum of the values of the constant and variable capital" (Marx, 1996, p. 330). That is, economy in the means of production requires reducing the cost of production and increasing the rate of return on capital. Management accountants therefore strive to ensure that "[a]s long as the labour spent on a machine [its cost], and consequently the portion of its value added to the product, remains smaller than the value added by the workman to the product with his tool, there is always a difference of labour saved in favour of the machine" (Marx, 1996, p. 394).

[32] However, at the level of society, he thinks there is an inevitable tendency for the rate of return on capital to decline (see Marx, 1981, Chapters 5, 13, 14).

To reduce the cost of production the capitalist management accountant ensures that "the limit to his using a machine is . . . fixed by the difference between the value of the machine and the value of the labour-power replaced by it" (Marx, 1996, p. 396). He or she recognises the "great danger in basing capital-budgeting decisions on the current accounting period's profit and loss statement, ignoring the future implications of investing in a project", and calculates value differences from "all cash inflows or cash savings" (Horngren et al., 1999, p. 415). To face this danger, although management continues to focus on surplus value, it does not give up thinking that the market is the source of profit. The manager, through his or her behaviour and accounts, acknowledges labour as the source of surplus value. However, this, as Marx (1981, p. 135) says, "appears at most as an equally valid moment alongside the notion that the excess that is realized . . . derives from the sphere of circulation". When evaluating capital investments, management accountants presume capital itself and not the social relations of production is the origin of value—that is, they make rate of return on capital and present value calculations. Present value calculations allow the management accountant and senior management to check that a capital investment will return the required return or opportunity cost of capital on average over its lifetime.[33] Note that from Marx's perspective, these calculations are not attempts by management to make rational *economic* decisions to optimise their own or the capitalist's utility. Rather, they are rational *social* decisions that anticipate accountability for the realised return on capital as a whole. In other words, management accountants use calculations of future costs and revenues to discharge management's accountability for the realised return on capital.

Management accountants check capital budgeting decisions ex ante against the required return, but continue to evaluate performance ex post against the realised return on capital. Investors and top management desire economic value, capital in its perfect social form, but senior management and production agents can only be accountable for the production and realisation of surplus value. Thus, the Janus-faced management accountant can, with equanimity, recommend "ROIs for a particular division . . . to evaluate a manager's performance . . ., even though . . . [they] may be unsatisfactory for evaluating economic returns" (Horngren et al., 1999, p. 672). As Emmanuel et al. (1990, p. 318) say, "[a] fundamental concern is that managers will propose projects which improve short-term accounting profit for the division but which are second best for the company" measured by net present value. Alternatively, management of high performing divisions will be reluctant to disclose investment opportunities that would reduce its ROI but have a positive net present value (Merchant, 1998, p. 545).[34] Underlying this concern from Marx's perspective is the inevitable conflict between socially necessary value and economic value: between "accrual accounting concepts . . . [and] cash flows" (Emmanuel et al., 1990, p. 347), in short, the contradiction between social capital dealing in economic value exploiting individual workers for a surplus of socially necessary value.

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[33] As an equivalent internal rate of return exists for any pattern of ROI (Kay, 1976, p. 89), a positive net present value means the management accountant knows that, so long as management achieves expectations, the capital markets will find the pattern of historical ROI reported acceptable.

[34] Conversely, Merchant (1998, p. 545) says that low-performing divisions may accept investments with ROIs higher than their average but with negative net present values. Clearly, management who can do this is out of control as senior management who does not check the expected rate of return has abdicated!

We must distinguish inherent contradictions between NPV and ROI from failures to apply the traditional principles of accounting. While capital can attempt to ameliorate the inherent contradictions – for example, long-term rate of return targets linked to payment; identification of non-financial 'value drivers'; reducing pressure for short-term profits (Merchant, 1998, pp. 465–468) – it cannot solve them.[35] However, capital need not put up with sloppy accounting. For example, Emmanuel et al. (1990, p. 176) give what they call "the best documented example of . . . [dysfunctional] behaviour in the accounting literature[,] . . . the use of return on investment (ROI) as an overall measure of performance, which can lead to the retention of depreciated assets beyond their economic life". Given their view that "allocation is always arbitrary" (Emmanuel et al., 1990, p. 186), this 'weakness' is inherent in the subjective nature of accounting itself.[36] However, retaining fully depreciated fixed assets is not a weakness of accounting from the traditional accountant's perspective, but a failure to do it properly. Management has over-depreciated these assets and it should reinstate them in the accounts at their replacement cost or recoverable amount if lower (Bryer, 1999a, 1999b).[37] The same comment applies to their view that a major disadvantage with accounting results controls is that "managers will alter their judgements (for example, about accounting reserves) to make their performance reports look better" (Emmanuel et al., 1990, p. 118). It is not clear what they mean by 'reserves'. They could mean traditional accounting reserves, but these are precisely those accumulations of realised capital that traditional accounts flag up as neither potential costs nor liabilities and therefore management cannot manipulate them to flatter the reported results. They could mean liabilities and provisions, or just the latter. In any event, in traditional accounting, these categories are objectively distinct (Bryer, 1998) and capitalist accountants should not allow management to manipulate them.

From Marx's viewpoint, the accounting ROI is inviolable because it is rooted in objective relations of social accountability. Capital and senior management cannot use economic value for accountability because the obvious "difficulty in implementing present value analysis is estimating the expected net cash outflows" (Horngren et al., 1999, p. 668; Merchant, 1998, p. 461). It therefore remains the case, as Horngren et al. (1999, p. 415) put it, that "[a]ccounting profit is of particular interest to the manager because bonuses are frequently based on reported profit. Profit reported in an accounting period is also important to a company because of the impact on the company's stock price". Given its foundation in capitalist relations of accountability, Marx would have found it wholly predictable that, despite unremitting criticism by economic rationalists and others, "ROI [remains] the most popular approach to incorporating the investment base into a performance measure", followed by

[35] Many argue that in evaluating decentralised profit centres, RI and EVA are superior in this regard to ROI (e.g., Horngren et al., 1999, p. 664). Merchant (1998, p. 548) admits that "[r]esidual income measures do indeed solve the problem of sub-optimisation". From Marx's perspective, they are superior to ROI because they measure the excess return on capital, the fundamental aim of capitalist production pursuing the real subsumption of labour.

[36] Merchant (1998, p. 454) believes "even the best accounting measures are not perfect; they are only surrogate indicators of changes in shareholders' value". For example, he advocates Enron's 'innovations' in revenue recognition as "measurement improvements" (Merchant, 1998, p. 464)!

[37] Merchant (1998, p. 548) claims that another weakness of ROI is that many firms use the net book value of fixed assets so that ROI inevitably increases. However, if management is not accountable for the capital realised and returned as depreciation, *ceteris paribus* the rate of return on capital does increase!

RI and EVA (Horngren et al., 1999, pp. 662–663). Thus, even though the management accountant must use economic decision-making to override existing plans, he or she must continue to evaluate performance using return on capital. In Marx's management accounting, the reason is simple. If the labour theory of value describes reality, "[n]o capitalist ever voluntarily introduces a new method of production, no matter how much more productive it may be, and how much it may increase the rate of surplus value, so long as it reduces the rate of profit" (Marx, 1998, p. 263).

We conclude that Marx gives us a coherent theoretical foundation for conventional management accounting. From this vantage point, we can usefully re-examine important aspects of the 'labour process debate' sparked off by Braverman's (1974) *Labour and Monopoly Capital*.

3.5. Whither the labour process debate?

Sociologists have heavily criticised Braverman's focus on the objective determination of the labour process, and explicitly and implicitly criticised Marx's theory through their criticisms of Braverman. The following section defends an objectivist view of the labour process, but argues that Braverman, his supporters and his critics, have all failed to grasp the centrality of the valorization process in Marx's theory of the labour process because all have neglected the central importance of accounting. This is unsurprising considering Section 3. Underlying the debate is the view, shared by Braverman, that we can understand the labour process as exploitative without using Marx's labour theory of value (i.e., Edwards, 1986, 1990; Hodgson, 1982; Knights and Willmott, 1986; Thompson, 1990; Wright, 1985).[38] To give a polite criticism the edge it deserves, we shall see that "labor process theorists have been unsure about the relationship between labor process theory and Marxist political economy" (Rowlinson and Hassard, 2001, p. 88) because they understand neither. If they did, they would understand that in Marx's framework, they are the same thing. Marx's labour process is the valorization process that determines the rules of his political economy that provide rules for objective capitalist accounting.[39]

[38] Whereas Braverman does not explicitly disown the labour theory of value, revisionists and counter-reformationists in the labour process debate regularly deny its validity. For example, although Edwards (1990, p. 127) ducks an "essay on Marxist economics . . . [in which] terms such as capital and labour would need careful exposition", he nonetheless states that "[n]either labour nor capital creates value. Workers create that which has value – namely, the product – and are exploited because capitalists get some of the value of what they produce" (Edwards, 1990, p. 128). This appears to mean a semi-feudal arrangement where workers produce valuable products and the capitalist takes the proceeds of some products for himself for his costs and his profit—like Senior's 'last hour'! (See Marx, 1976, pp. 333–338.)

[39] The causes of the failure of labour process theorists to understand the unity between Marx's labour process and his principles of political economy are beyond the scope of this paper. *Prima facie* they to stem from widespread acceptance of neo-Ricardian critiques of Marx's labour theory of value (Rowlinson and Hassard, 2001, p. 89). Unlike Marx, neo-Ricardians argue that the origin of surplus value is the market (Rowthorn, 1974, pp. 82–83), a view that resonates well with the idea that accounting is subjective. Sociologists share this view of the ontology of accounting. For example, Scott (1997, pp. 212, 213) complains that "the measured size and rate of profits that are earned by enterprises depends on their accounting practices and may not provide strictly comparable yardsticks", and of the "arbitrariness of profit".

4. An accounting critique of the labour process debate

Sociologists regularly criticise Marx and Braverman for being functionalist and determinist (for example, Littler and Salaman, 1982). Braverman notes Marx's dialectical analysis of the historical relations between the material forces and social relations of production. He says his aim is "the study of the labor processes of capitalist society, and the specific manner in which these are formed by capitalist property relations" (Braverman, 1974, p. 24). Braverman, however, is not precise about the dynamic force injected by capitalist property relations. He claims that "he [Marx] gave primacy to the forces of production in the long sweep of history" (Braverman, 1974, pp. 19–20). The alternative view is that Marx gave primacy to the social relations of production, seeing them as resulting from the imposition of a calculative mentality (Bryer, 2000a). Braverman's productive force determinism prevents him penetrating the complexities of the capitalist mentality and the critical importance of the valorization process in the control of labour. His determinist bias – particularly his refusal to consider the subjective consciousness of the worker in explaining what he sees as the dominant trends in worker control – has borne the brunt of the critical response to his work (Knights and Willmott, 1990, p. 10).[40] Although many of Braverman's critics have called for a dialectical theory of control (e.g., Storey, 1985), none of them have searched for this in the context of objective accounting for capital.

Braverman's (1974, pp. 24-25) lack of concern with the valorization process is evident when he writes off Marx's definition of the working class as "the static terms of an algebraic equation", signalling the abandonment of any interest in Marx's political economy. He quotes with approval the translator's comment of the Everyman edition of *Capital* of vol. 1 (1930) that

> "[t]hough extremely precise, [Marx] was not much inclined to define his concepts in set terms. For instance, the present treatise on capitalist production does not contain a formal definition of 'capital' .... The fact is that the whole book is his definition" (quoted in Braverman, 1974, p. 25).

For Braverman (1974, p. 25), this comment gives an important "hint to the beginner in the study of Marxism", but the fact is that Marx repeats his 'formal definition' of capital many times in vol. 1 and elsewhere in his work. Marx would agree with Braverman that the 'accumulation of capital' – the generation of increasing amounts of surplus – "dominates in the mind of the capitalist, into whose hands the control of the labour process has passed" (Braverman, 1974, p. 53). He would also agree with Braverman's (1974, p. 53) aim to consider "the manner in which the labor process is dominated and shaped by the accumulation of capital". However, as Braverman fails to grasp Marx's definition of capital, he has little to say about how the accumulation of capital controls labour, and focuses solely on the material process of production. Some participants such as Morgan and Hooper recognise "the lack of an adequate theorisation of 'capital' ..." as a major "lacunae" in Braverman and

[40] As the paper argues, like Braverman, for an objectivist view of the labour process, this theme in the labour process literature is not relevant to its purposes. For a critique of the 'post-modern labour theorists' who have founded an 'industry' on criticising the missing subject in Braverman (and, supposedly, in Marx), see Tinker (2002).

the labour process debate. However, they do little to fill it because they follow Tomlinson's (1982) view that "[t]he conception of an unambiguous notion of profit is a difficult one to defend" (Morgan and Hooper, 1987, p. 612).

Having marginalised Marx's free wage-labourer, abandoned his definition of capital and eschewed concern with subjective consciousness, Braverman (1974, p. 57) has little option but to effectively define management's task as the classical slave owner's problem of controlling the "work actually performed".[41] In other words, Braverman thinks management's function is to control the use-value of labour. Thus, he concludes,

> "It ... becomes essential for the capitalist that control over the labor process pass from the hands of the worker into his own. The transition presents itself in history as the *progressive alienation of the process of production* from the worker; to the capitalist it presents itself as the problem of management" (Braverman, 1974, p. 58).

Braverman nowhere says as Marx does that the real problem facing management when it buys labour power is the production and realisation of socially necessary labour. He defines the problem of labour power solely as the problem of obtaining use-values from labour. He says that "in purchasing labor power that can do much, he [the capitalist] is at the same time purchasing an undefined quality and quantity" (Braverman, 1974, p. 57) of the use-value of labour. In reality, the capitalist buys labour power but either pays piece rates or calculates in advance the socially necessary labour needed to earn the required return on capital. The capitalist will not settle for less, and makes it his or her business to hold the worker accountable not simply for productive use-values, but also for their socially necessary cost. The worker is not simply accountable for work, but for socially useful work. A few moments' reflection shows that it is "impossibl[e] ... [to] specify ... in advance how hard and in what ways workers shall work (the unspecifiability of labour power)" (Edwards, 1990, p. 127). It is impossible to describe precisely every detail of the use-value of work and, therefore, to only use action controls. This is why the capitalist holds workers accountable for capital, for socially necessary value. Edwards (1986, p. 73) is surely right that "the whole point of seeing production as exploitative is to escape from the view that it is a purely technical process in which amounts of labour are measurable". However, because capitalists cannot precisely measure and control the use-value of labour does not mean they cannot measure and control its socially necessary value. As we saw in Section 3, Marx's management accounting holds labour accountable for abstract, socially necessary labour, not simply for concrete labour.

The corollary of misreading Marx's labour process as essentially the material process of production is misreading his idea of real subsumption to mean the material (technical, or direct) control of workers. For example, Cressey and MacInnes (1980, p. 8) think that "[t]he crux of the R.S.L. [real subsumption of labour] argument is that capital employs labour materially as well as formally [as wage workers] ...; in its use-value aspect too". Another example is Littler and Salaman (1982, p. 265) who claim that "[f]or Marx mechanization solved the capitalist problem of the appropriation of labour, such that labour disappeared as an active force in shaping the social and technical organization of production". Knights and Willmott (1990, p. 3) say "Marx anticipates capital's "control over every

[41] He gives the example of building the pyramids as an example of modern management!

aspect of work, experientially as well as technologically . . ., and workers' control over the productive processes of labour is progressively eroded". Cressey and MacInnes support their reading by noting that Marx said that "it is only with the coming of machinery that . . . [real subsumption] acquires a technical and palpable reality" (Marx, 1976, p. 548; see also Lazonick, 1978, p. 4). However, Marx does not say that real subsumption equals the control of workers by machines. As we have seen, the essence of real subsumption for Marx is the supremacy of the valorization process. The historical significance of machines for Marx is that they (with factories, and help from the state) shift the balance of power in favour of the capitalist class. Machines do not simply help labour, they replace it: "[w]hat was the living worker's activity becomes the activity of the machine" (Marx, 1976, p. 704).[42] For Marx (1973, p. 694), the development of machines is not "accidental . . . but is rather the historical reshaping of the traditional, inherited means of labour into a form adequate for capital". That is, capital's use of machines arose from its struggles to take control of the valorization process. Marx (1996, pp. 373–374) was well aware that machines and factories had existed since at least Roman times, and their use increased during the seventeenth century (particularly the mill) and that only during the eighteenth and nineteenth centuries after protracted class conflict did machines "sweep away handicraftsman's work as the regulating principle of social production". Machines and factories shifted the balance of power between workers and capitalists in the latter's favour such that the 'regulating principle' changed from worker direction of production to capitalist direction of production. Thus, "the worker's struggle against machinery" (Marx, 1973, p. 704). Having lost this struggle, Marx (1976, p. 1055) thought technical control of workers was relatively insignificant compared with social control by capital:

> "Subsumed under capital the workers become components of these social formations, but these social formations do not belong to them and so rise up against them as the forms of capital itself, as if they belonged to capital . . ., in opposition to the isolated labour-power of the workers. And this entire process is progressively intensified as their labour-power is itself modified by these forms to such an extent that it is rendered impotent even when it exists autonomously. . . . And on the other hand, with the development of machinery there is a sense in which the conditions of labour come to dominate labour even technologically".

Marx says that machines only dominate labour 'technologically' – they impose technical constraints and demands – not that they control every aspect of work. He says that workers are impotent against capital 'even when labour exists autonomously', that is, without supervision or technical constraint. As we saw in Section 2, Marx (1976, p. 994) made quite clear his view that it was "pre-eminently in this sense – which pertains to the valorization process as the authentic aim of capitalist production – that capital as objectified labour (accumulated labour, pre-existent labour and so forth) may be said to confront living labour (immediate labour, etc.)". The workers find themselves not only confronted by material

[42] Marx and the modern management control theorists agree that the importance of machines is that by replacing labour they avoid the need to control it (Bryer, 2002). As Emmanuel et al. (1990, p. 111) put it, "[o]ne avoidance possibility is automation. Computers, robots and other means of automation reduce the organization's exposure to control problems because machines can be set to perform more consistently than human beings".

reality, "the workers find themselves confronted by the *functions* of the capital that lives in the capitalist" (Marx, 1976, p. 1054), and therefore by accounting. It follows that in Marx's theory it is not so much in detailed control of the labour process that we see the fully developed subsumption of labour in capitalism, but in fully developed systems of accounting. Braverman, by contrast, sees the detailed control of labour as capitalism's defining problem. This explains his view that "[capitalists] use ... the most productive instruments of labor and the greatest intensity of labor, but they are always aimed at realizing from the potential inherent in labor power the greatest useful effect of labour, for it is this that will yield him [the capitalist] the greatest surplus and thus the greatest profit" (Braverman, 1974, p. 56). By contrast, in Marx's management accounting, and in reality, the capitalist thinks the other way around. Because capital's overriding aim is the greatest return on capital, it invests in machinery and systems of control to increase the productivity and intensity of labour. It does not do this to get 'the greatest useful effect of labor', the greatest possible use-value from labour, but to increase the rate of surplus value to increase the return on capital employed.

It is because Braverman focuses on the technical labour process that he sees management's main task to be 'de-skilling', that is, taking direct control of production. Braverman (1974, p. 67) says the very word 'management', from the "verb to *manege*, from manus, the Latin for hand, originally meant to train a horse in his paces, to cause him to do the exercises of the *manege*", supports his view. He says that

> "[l]ike a rider who uses reins, bridle, spurs, carrot, whip, and training from birth to impose his will, the capitalist strives, through management to control. And control is the central concept of all management" (Braverman, 1974, p. 68).

Braverman thinks the rider uses direct controls to cause the horse to produce the necessary physical movements (use-values) to execute the exercises of the *manege*. In reality, it is more important that riders control themselves, that they 'Ride with [their] Mind[s]' (Wanless, 1987). As we saw in Section 3, central to capitalist management is control, but not simply the direct, external control of workers, but control of the valorization process through accounting that disciplines capital's jockey and its horse. The rider does not simply de-skill the horse by using physical controls, but draws upon and shapes its natural abilities through controlling himself or herself in relation to the horse. In the same way, management does not simply de-skill workers by separating the mental and physical aspects of work and appropriating the former, as Braverman says. What is more important, management controls workers by separating and appropriating the mental labour of pursuing surplus value, the mental labour of controlling the valorization process. As Braverman conceives the labour process solely as a material process, management itself becomes a de-skilled labour process, only "a *task* based on certain *techniques*" (Armstrong, 1989, p. 320). As Armstrong (1989, p. 320) says, the problem with this view is that it obscures "the essential difference between managerial work and intellectual or manual productive labour in the capitalist enterprise: that the relationship between manager and employer, or between junior and senior manager is an *agency* relationship".

Machines, Taylorism and other means of fragmenting work are important strategies for increasing the rate of surplus value, but they are not ends in themselves as they do not inevitably lead to higher returns on capital. "In capitalist production the [technical]

labour process is only the means; the end is supplied by the *valorization process* or the *production of surplus value*" (Marx, 1976, pp. 1001–1002). In short, as we saw in Section 3, management is simply the eclectic pursuit of the maximum return on capital. Whereas Braverman sees the 'progressive alienation of the process of production from the worker' as the progressive fragmentation of work, Marx sees the direction of capitalist development as the progressive alienation of labour from capital from ever tighter accountability. It did not take Taylorism to "ensure that as craft declined, the worker would sink to the level of general and undifferentiated labor power", for this occurred when workers became subject to capitalist accountability.[43] Nor did Taylorism "render conscious and systematic the formerly unconscious tendency of capitalist production" (Braverman, 1974, pp. 120–121). Taylorism is but one expression of the real subsumption of labour, and for this there is plentiful accounting evidence of its much earlier conscious and systematic existence (e.g., Bryer, 2000a, 2000b, 2002; Hopper and Armstrong, 1991).

Braverman and others, of course, acknowledge the existence of the valorization process, but fail to integrate it into a theory of capitalist control (Elger, 1979). Braverman (1974, p. 53) says that under capitalism, "the labor process, which, while it is in general a process for creating useful values, has now also become specifically a process for the expansion of capital, the creation of a profit". However, whereas for Marx the technical labour and valorization processes are an indissoluble unity, Braverman (1974, p. 53) 'adds' the valorization process to the material process:

> "From this point on, it becomes foolhardy to view the labor process purely from a technical standpoint, as a mere mode of labor. It has become *in addition* a process of accumulation of capital".

Braverman 'adds' the valorization process by submerging it within the material process. For him, adding the valorization process adds complexity and uncertainty to the material process. Braverman (1974, p. 57) contrasts the supposedly certain use-values from constant capital with the supposedly uncertain use-values from variable capital, i.e., labour:

> "when the capitalist buys buildings, materials, tools, machinery, etc., he can evaluate with precision their place in the labor process. He knows that a certain proportion of his outlay will be transferred to each unit of production, and his accounting practices allocate these in the form of costs or depreciation. But when he buys labor time, the

[43] Cressey and MacInnes (1980, p. 24) claim that "the concept of simple labour is one of Marx's knottier hostages to fortune" because it is unclear whether he meant 'unskilled' labour or referred to "a category existing at a formal level". Cressey and MacInnes do not explain what formal category Marx could have had in mind. In fact, Marx (1987, p. 272) makes quite clear that by 'simple labour' he means the value of any socially necessary labour, "labour . . . whose only difference is quantity". He says that "[a] commodity may be the outcome of the most complicated labour, but through its *value* it is posited as equal to the product of simple labour" (Marx, 1976, p. 135). However, Cressey and MacInnes think that when Marx (1987, p. 273) notes that "[t]he greater part of the labour performed in bourgeois society is simple labour as statistical data show", this means that by 'simple labour' Marx (Cressey and MacInnes, 1980, p. 24) here meant "a variety of concrete labour that is typical of capitalist society". However, in the discussion in Chapter 1 of *A Contribution to the Critique of Political Economy* (where the quotation comes from), Marx (1987, p. 273) also says that "more complicated labour . . . resolves itself into simple labour put together". Thus, it appears more likely that Marx meant that statistics showed that the majority of people were wage workers rather than self-employed, which they did.

> outcome is far from being either so certain or so definite that it can be reckoned in this way, with precision and in advance. This is merely an expression of the fact that the portion of his capital expended on labor power is the 'variable' portion, which undergoes an increase in the process of production; for him the question is how great that increase will be".

Money spent on labour power is 'variable' capital for Marx because the capitalist intends it to come back augmented with surplus value, not because extracting necessary use-values from labour is more uncertain than extracting use-values from constant capital, as Braverman suggests. Machines may break, raw materials may be faulty, stolen, etc. Braverman confuses the material labour process – the production of use-values – with the valorization process – the realisation of surplus labour that he treats as an additional, complicating factor within the material process of production. For Marx, by contrast, the material and valorization processes are an indissoluble unity. When capital controls the valorization process, it not only holds workers accountable for the socially necessary value of its labour, but also for recovering the value of constant capital whose realisation is just as uncertain as it is for variable capital.

Labour process theorists almost invariably follow Braverman's downgrading of the valorization process. An exception is Nichols who castigates the theoretical output of the "labour process industry" for its neglect of accumulation and valorization. In much of this work, "references to 'the capitalist labour process threaten to become nothing other than an intellectually pretentious way of saying 'work"' (Nichols, 1999, p. 115). Littler (1990, p. 80) marginalises the valorization process when he argues that "control over task performance considering the enterprise as a work organisation is distinct from control over money flows [sic] considering the enterprise as a capital fund. The latter form of control is outside the labour process as such". Burawoy (1985, p. 71, note 29) simply declares that

> "[i]t is the labour process that the workers experience under capitalism, while the valorization process is removed from the point of production and thus does not appear as such, but only in its effects. That is, the workers look upon themselves as producing things rather than profit".

Like Braverman, Burawoy (1985, p. 26) assumes the capitalist's central problem is "the manner in which the capacity to labour is translated into the expenditure of labour", that is, into use-values. He says the material labour process becomes the focus and the valorization process becomes irrelevant because "[u]nder capitalism, because of the absence of a separation, either temporal or spatial, between necessary and surplus labour time, the capitalist is never sure whether has indeed recovered a surplus" (Burawoy, 1985, p. 32)—he means until realisation. Burawoy (1978, p. 262, fn. 29) is right that Marx insisted upon the "distinction between the production of things, or use-value, and the production of surplus value", but only to insist even more firmly that the capitalist labour process was driven by valorization. Because Burawoy (1985, p. 32) is also preoccupied with the material labour process, for him the capitalist labour process is a step backwards from feudal control of valorization:

> "[w]hereas the lord knows he has pumped surplus out of serfs, because for two days a week he can see them working in his fields, the capitalist is cast in an ambiguous

> position since he cannot see surplus or its absence until it is too late. Surplus is obscured in the process of production not only for the worker but also for the capitalist".

The capitalist does not know the size of the surplus (if any) realising commodities will bring, but knows the surplus he or she must realise and calculates, plans and works to that end. In this the lord is in no better a position than the capitalist as he or she peers out from the castle wall to see the serfs at work. The lord does not know whether the work observed will realise surplus value, or how much, as weather, disease, wars, etc., could obliterate or enhance the realised surplus. As we saw in Section 3, the task of management accounting is precisely to make transparent the capitalist valorization process as "this fact is not directly visible" (Marx, 1976, p. 346).[44] In the capitalist mode of production, "[s]urplus labour and necessary labour are mingled together" (Marx, 1976, p. 346). Unable to distil the surplus, bourgeois economists mystify the origin of profit, and capitalists in their idealist moments share the myth that it comes from capital itself or from the market. By contrast, from Marx's perspective, it is through accounting that the capitalist sees and pursues surplus value in production and holds workers accountable for the circuits of capital. Accounts of the total circuit or elements within it confront many workers, particularly managers and supervisors at all levels, and lower level production workers are accountable to their superiors for the socially necessary value of their labour. Workers collectively and individually confront accounts of the circuit of capital when they struggle at the point of production over the exchange value and use-value of labour in the context of the required return on capital. Accounts as a framework of social accountability do not determine behaviour. Furthermore, unlike Braverman's technical labour process, there is theoretical space for the subjective consciousness of the worker – informal understandings, customs, traditions ideology, etc. – in explaining conflict and co-operation in the labour process (Edwards, 1986, 1990). If we see the valorization process as the hub of the capitalist system, it is not the case that "Marx's analysis in *Capital* is misleading, for in abstracting the operation of the mode of production from the larger social system in which it develops, he creates the impression that the modes of appropriating surplus-value in the labour process are sufficient to reproduce the subjection of labour to capital" (Burawoy, 1978, p. 4). This is only a valid criticism if we assume the labour process is the technical labour process.

Critics of Braverman – and, implicitly, of Marx – argue that management does not single-mindedly pursue surplus value through the labour process. They argue that management has its own agenda and must also focus on other moments of the 'full' or total circuit of capital besides production (e.g., Kelly, 1985). As management must concern itself with both the production and the realisation of surplus value, Kelly (1985, p. 32) argues that "there is no sound reason for privileging any moment in the circuit—[i.e.,] the labour–capital relation within the labour process". This is a justifiable criticism of Braverman's privileging of the material labour process. However, it is not a valid criticism of Marx who, as we have seen, 'privileges' the valorization process, the integration of the production and realisation of

[44] There are no references in Burawoy's work to accounting, bookkeeping or costing, just as there are none in Edwards (1986, 1990). Edwards (1986, p. 70) leaves some theoretical space for accounting but appears to see it, if at all, as one of the "modes of control internal to the labour process . . . [that] are necessary as the capitalist seeks a balance of inducements and penalties". By contrast, from Marx's perspective, accounting is not inside the material labour process; rather, the material labour process is inside the valorization process.

surplus value. It is, therefore, meaningless to say that "the realization of surplus value (i.e., finding markets, selling in those markets and making a profit) may be more crucial than the production of surplus value for certain firms, certain industries or certain periods" (Littler and Salaman, 1982, p. 257). The reposte to this view is that the urgency of realising a surplus is in direct proportion to its production! It makes no sense to say that, for example, newspaper's "profits come primarily from sales efforts" (Littler and Salaman, 1982, p. 257) as without newspapers there are no sales. Littler and Salaman (1982, p. 257) may be right that in some circumstances, "production management and labour control [a]re of secondary significance", but this is only a valid criticism of Braverman's view that the labour process is the material process. Littler and Salaman make no attempt to integrate the valorization process into their analysis of the labour process. Their only comment on accounting is that it is a "non-control mechanism" that "may have control implications" (Littler and Salaman, 1982, p. 265)! They do not say what these implications might be. Although Littler and Salaman are critical of Braverman's focus on the material labour process, they appear to believe this is the only possible definition. Their criticism is only that "[t]he subordination of labour, real or otherwise, cannot be understood at the level of the labour process" (Littler and Salaman, 1982, p. 266). This again presupposes that the 'labour process' is simply the material process of production. If we define the labour process as the valorization process, our canvas includes all those activities by which capital produces and realises surplus value.

Objective accounting ensures that management is not free to pursue its own agenda. Interlocking systems of financial and management accounting mean that "the capitalist is just as enslaved by the relationships of capitalism as is his opposite pole, the worker, albeit in a quite different manner" (Marx, 1976, p. 990). Through these systems of accounting and the social relationships they reproduce, "the capitalists impose . . . the law of capitalist production—the creation of surplus-value, etc. . . . upon the workers and on each other" (Marx, 1976, p. 1056). Different managements may pursue different strategies, but all must pursue the same end. All must find the strategy that produces the required return on capital in often widely differing circumstances. For example, depending on a variety of factors, management may pursue strategies of 'direct' control of labour or seek it through strategies of 'responsible autonomy' (Friedman, 1977). However, it is precisely because management is the eclectic pursuit of surplus value that no ideal-typical strategies of labour control will ever do justice to the bewildering array of labour controls we find in reality.[45] Braverman's critics (e.g., Cutler, 1978; Littler and Salaman, 1982; Thompson, 1990) are right that any individual enterprise can realise surplus value from the market (buying cheap and selling dear, speculation, monopoly, etc.), but this is not possible across all enterprises.[46] These

[45] For a survey and critique of attempts to construct "the all-embracing descriptive and analytical categories" (Thompson, 1990, p. 98) such as Friedman's, see Edwards (1986, 1990).

[46] And is usually no substitute for realised surplus from production even for those lucky enterprises that do make profits this way. For example, Thompson's (1990, p. 53) use of "ICI, Britain's largest manufacturer, [that] was losing money in all its divisions except one—the foreign exchange department", to support this argument, is debatable. It is questionable, first, whether ICI's foreign exchange dealings were "more profitable than making and selling chemicals", because most of the so-called profits were unrealised gains on long-term foreign currency debts that, from the perspective of the circuit of capital, are capital maintenance adjustments. ICI had many foreign currency debts when Sterling revalued after the Conservative government abolished exchange controls in 1979. As David Marsh of the *Financial Times* commented on one of these loans, "[o]f course, much could happen on the

critics forget that in Marx's theory, and in reality, it is the sum of the surpluses of all enterprises that concerns social capital.

Labour process theorists evince little understanding of Marx's notion of total social capital and its centrality in controlling the labour process.[47] Underlying their views is the belief that there are 'many competing capitals', 'divisions of interests within the ranks of capital', etc. For example, Edwards rightly says that ". . . 'Capital' is not the sum of individual capitalists but is a social force stemming from the mode of production". However, he does not say what this 'force' is, and he thinks that "[t]he category of 'capital' . . . relates to a particular position in the production process" (Edwards, 1986, p. 94), that is, apparently, to individual firms that will have individual interests. He says, that "[i]ndividual capitalists are likely, through their competition with each other, to perceive many differences with each other; and there will also be differences between different types of capitalists, such as the large corporation and the small independent firm" (Edwards, 1986, p. 94). Individual companies will certainly perceive many differences between themselves, but if they are elements of social capital they will also perceive a fundamental similarity in their goals. Although there can be fundamental differences between the goals of large (presumably listed) corporations and small (presumably not listed) independent companies, this is precisely because the former are part of social capital and the latter are not.

The valorization process has theoretical priority in Marx's theory because it allows us to understand the dialectic of co-operation and conflict at the point of production. Several of Braverman's critics have raised but not resolved this problem (e.g., Burrawoy, 1985; Littler, 1990, pp. 64–65). To understand the relationship between co-operation and conflict, we must, as Edwards (1990, p. 138) says, recognise the "difference between what may be called detailed control, or the control of the details of work tasks, and general control, meaning the continued deployment of workers' capacities to produce surplus value". Detailed control "refers to the immediate work process, and is a zero-sum category"—to the control of the use-value and exchange value of labour. General control "reflects the extent to which workers are successfully subordinated to the production of surplus value" (Edwards, 1990, p. 145). In short, using the terminology of conventional management control theory, we must distinguish between action controls and results controls. In Marx's framework, accounting is central to the general control of labour. Edwards (1990, p. 145), however, does not want us to place "too great a weight on [a] term" that he thinks has no particular "analytical power". By contrast, in Marx's theory, accounting provides the objective framework and momentum in the dialectic of capitalist control. Understanding this should allow us, in Edwards' (1990, p. 148, n.1) words, to "draw out in detail the ways in which structural factors in a given situation shaped behaviour without determining it; how that behaviour helped to generate expectations that influenced later developments;

exchange markets to wipe out this gain in the eight years remaining before the loan has to be repaid" (21 April, 1981). Second, its management well understood that these 'gains' were of little consequence to ICI as a business, as a capital fund. "But ICI stresses that no amount of dealing expertise can compensate for losses in its export business caused by the level of sterling that has looked fundamentally over-valued" (*Financial Times*, 21 April, 1981).

[47] Storey (1985, pp. 194–195), for example, dismisses accounting as inherently "functionalist . . . [- the] premise . . . that capital must and can devise coherent systems of control to ensure the necessary extraction of surplus value", and finance as 'determinist'—the view that "capital is deemed to require a certain level of surplus value"!

and how the point of production mediates external influences". Accounts define the boundaries of cooperation and conflict by holding labour accountable, thereby shaping behaviour without determining it; at the same time, accountability relationships – targets, punishments, rewards – generate conflict and expectations that influence behaviour at the point of production.

The analytical power provided by seeing accounts as representations of the social relationships of capital – as the central element in the general control of labour – is, first, that it gives us the structural framework that contains struggles over detailed control of the technical labour process. Second, it gives us their root cause in the contradiction within the capitalist labour process. Because he lacks this analytical power, for Edwards and others, "[a] contradiction is not a conflict" but only an "inherent tension", and he and others are loathe to use the terms 'conflict of interest'. By contrast, for Marx, the contradiction is between the valorization process dedicated to increase the rate of return on capital – the real economic interest of capital – by constantly worsening the economic returns to the collective worker (including its quality of life) – the real economic interest of labour. Although individual workers may give degrees of consent to capitalist aims and they may benefit from co-operation, across all workers the underlying conflict of economic interests both drives and shapes struggles between capital and labour at individual points of production over the extraction of effort. By contrast, echoing Braverman's preoccupation with the material labour process, in Edwards' (1986, p. 35) view, "[i]t is in the use of labour-power within the production process that conflict is rooted". Edwards therefore defines 'struggle' as conflict about who controls the use-value and the exchange value of labour, about detailed control, not about general control, control of socially necessary value to realise a satisfactory rate of return on capital. In his model, therefore, as in conventional models of management control, profitability acts only as an external constraint on the labour process, and is not the direct source of conflict at the point of production. In his view, "[a] capitalist . . . is dependent on realizing profits in exchange and has to manage his labour relations accordingly" (Edwards, 1986, p. 71). Or, as Littler and Salaman (1982) put it, "Control only becomes a concern when profitability is threatened". By contrast, for Marx profitability is the aim of control and the source of conflict. Certainly, as Edwards (1990, p. 129) says, in managing labour relations, the capitalist generates conflict and 'struggles' over control of the technical labour process that "create understanding about how work shall be performed". Struggles have histories, lives of their own, etc., and at any point we can describe their outcome as a 'frontier of control'. However, they also have boundaries, and, in contrast to Edwards and other labour process theorists, if we understand general control as accounting control, it is also a zero-sum game for the collective worker versus the collective capitalist. Higher returns on an individual capital either immediately result from, or by way of competition will lead to, pressure on workers somewhere to sustain or increase the rate of surplus value.

General accounting control generates struggle at the point of production because management uses it to press workers to sustain and increase the rate of surplus value. Management undertakes competitive and job-destroying investment in fixed capital to increase labour productivity; it increases the intensity of labour; it puts continued downward pressure on wages; it uses competitive sub-contracting, etc. This is the contradiction that Marx says drives the dialectic of the capitalist labour process at the point of production—that it requires the col-

lective worker to submit to capitalist accountability. Capitalism requires not only work, but also that the collective worker works to further its own exploitation and impoverishment. Edwards and other labour process theorists argue that the source of co-operation and conflict at the point of production is workers' experience and interpretation of the material process of production as exploitative. By contrast, Marx argues that the source of co-operation and conflict at the point of production is the worker's experience and interpretation of the valorization process – the experience of capital – as exploitative. Accounts are central to this experience.

5. Concluding comments

The paper has argued that objective accounting lies at the core of capitalist control of modern business enterprises; that accounting implements the capitalist mentality in production by holding the collective worker accountable for the rate of return on capital. It argued that Marx's circuit of industrial capital gives us a coherent theory of management accounting, and that this theory refutes criticisms of Marx made in the labour process debate. Understanding the central role of accounting in management control has important implications for understanding the history and functioning of capitalism and its potential for change. It casts doubt on Marxists' virtually wholesale abandonment of the labour theory of value and with it Marx's theory of class. Savage (2000, p. 11) says this reflects the theory's failure to define 'productive' and 'unproductive' labour consistent with defining women's housework as productive, and Cohen's critique of Marx's definition of socially necessary labour. Understanding Marx's labour theory of value as accounting dispels these concerns. Marx and accounting define productive labour as the labour the capitalist sells for a profit. As the capitalist does not sell women's housework for profit, it is non-productive for the capitalist. Such labour becomes productive only if the capitalist hires women workers and sells their housework as a profitable service. Cohen (1981a, 1988) claims that Marx overlooked the problem that the socially necessary labour at the time of production may not equal the socially necessary labour at the time of sale. Marx solved this problem as accountants do today by updating standards to current cost (Bryer, 1999b). If we accept the accounting defence of the labour theory of value, sociologists have been too hasty in abandoning Marx's analysis of class.

Many scholars question Marx's "claim that the organization of the mode of production creates a basic tendency for workers to become aware of their own exploitation, to identify with other workers, and to struggle against it" (Edwards, 1986, p. 53). Note that Edwards does not say that Marx claims that workers progressively *understand* their own exploitation. To generate conflict, workers need only be aware of their exploitation. Some workers, probably the minority, may believe that capitalist exploitation is in their own best interests (e.g., that labour 'employs' capital to discipline it in the collective workers' interests) and collaborate in their exploitation. Some, probably the majority, believe it is inevitable (e.g., that capital is a 'factor of production') and struggle against its consequences for them as individuals. A minority believes capitalist exploitation is unnecessary and harmful, and struggle against whatever they believe causes it (e.g., capitalist control of the technical process of production, big-business, state power, etc.). Accepting that it may be a distorted

awareness, what worker is not aware of their exploitation and 'struggles' against it? In other words, what worker does not seek to deal with the threats capitalism poses and to exploit the opportunities it presents in the circumstances in which they find themselves?[48] What workers do not "know that whatever social pleasantries managers may exchange, whatever relationships they may have with them as 'people', they represent a system, the logic of which is to serve capital not labour" (Nichols and Beynon, 1977, p. 175)?

But awareness is not necessarily conscious understanding. In particular, as Edwards (1986, p. 53) says, "there need be no presumption that exploitation will lead directly to class consciousness; numerous factors may legitimately be introduced to explain why workers tolerate exploitation". In Marx's theory, workers tolerate exploitation because as individuals, they cannot resist economic accountability. Individual workers cannot resist capital's demand for the required return because this defines the limit below which it refuses to employ capital and hence labour. As Marx (1976, p. 1056) said,

> "Productive labour – as something productive of labour – continues to confront capital as the labour of the individual workers, irrespective of the social combinations these workers may enter into in the process of production".

Because capital organises itself collectively, workers could only resist capital collectively, that is, consciously. As Braverman (1974, p. 23) put it, "[s]ocialism, as a mode of production, does not grow 'automatically' in the way that capitalism grew in response to blind and organic market forces; it must be brought into being, on the basis of an adequate technology, by the conscious and purpose activity of collective humanity". There is, therefore, no "impossible burden" of Marx's supposed teleology of the revolutionary working classes (e.g., Thompson, 1990, p. 115). For Marx, the transition to socialism begins with a transition in mentalities. The capitalist mentality minimises necessary social labour to maximize surplus labour. The socialist mentality is not utopian but turns the capitalist development of calculation and accountability to other ends. It shares the capitalist focus on the management of production to minimise socially necessary labour time, but instead of handing the surplus to the owners of capital it maximizes the surplus time at every individual's disposal. Under socialism, "necessary labour time will be measured by the needs of the social individual . . . [and] production is now calculated for the wealth of all, *disposable time*" (Marx, 1973, p. 708). Looked at in this way, Marx's (1976, p. 929) vision of the transition to socialism was that when capitalism developed the means of production to the point where it had solved the problem of wealth creation and socialism became a realistic possibility, the collective worker would come to understand that

> "[t]he monopoly of capital [has] become . . . a fetter upon the mode of production which has flourished alongside and under it. The centralization of the means of production and the socialization of labour reaches a point at which they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist property sounds. The expropriators are expropriated".

[48] From this perspective, high-flying executives are aware of their exploitation as workers and struggle against it by helping capital exploit other workers.

For the collective worker to see the incompatibility between the forces and relations of capitalist production it must understand them as such.[49] At some point, the knell, the ring of a funeral bell, sounds. At that moment, the realisation dawns; the penny drops in the mind of the collective worker. Capitalist property relations crumble at the first toll; capitalism bursts apart at the conceptual seams. The forces of production capitalism creates at the same time create "the material conditions to blow [its] foundation sky high" (Marx, 1973, p. 706). As the socialist mentality is the will of the collective worker, unlike the transition to capitalism there is no need for violence:

> "The transformation of scattered private property . . . into capitalist private property is naturally an incomparably more protracted, violent and difficult process than the transformation of capitalist private property, which in fact already rests on the carrying on of production by society, into forms of social property. In the former case, it was a matter of the expropriation of the mass of the people by a few usurpers; but, in this case, we have expropriation of a few usurpers by the mass of the people" (Marx, 1976, pp. 929–930).

Awareness of capitalist exploitation does not mean class understanding, the automatic creation of a class 'for itself'. For this to happen, there must be widespread understanding of the origin of the capitalist mode of production and the nature and consequences of its mode of exploitation, which for Marx meant understanding capitalist history and political economy. He thought his most important achievement in producing *Capital* was the unique grasp of what "Englishmen call 'the principles of political economy' . . . the quintessence . . . [whose] development . . . could easily be pursued by others" (Marx, 1985, p. 435). Others have not found Marx's principles of political economy easy to understand, let alone provide the basis for the "sequel" he anticipated. Explaining these principles and writing the sequels to Marx's work to show them in operation is a major task for critical accounting scholars.

History was Marx's answer to the charge that "Marxism must propose some logic of social development such that exploitation is ended" (Edwards, 1986, p. 89). At the extreme, this charge requires a detailed blueprint of socialism. Marx's answer is that socialism, just like capitalism, first appears as a mentality that does its work through the processes of history. Just like the capitalist mentality, the socialist mentality begins with the social and technical conditions at hand, but where it will lead is a question for activists and future historians. Marx did not base his belief in the 'inevitability' of socialism on hope but on the lessons he drew from his history of capitalism in which a class with a distinctive mentality overcame huge social and technological obstacles to transform the mode of production. History, therefore, was Marx's abiding interest, as it should be for all critical scholars of accounting. Marx's passion, however, was revolutionary politics. The potentially revolutionary implication of understanding the social objectivity of accounting is that rather than strive for worker control of production, activists must strive for worker control of the valorization process. The issue is not so much control of the labour process, but control of accountability of the labour process. The aim must be the collective worker's control of the capital markets and corporate

[49] Marx was reputedly extremely 'arrogant' (Wheen, 1999), i.e., he thought he had unlocked the key to understanding the 'laws' of capitalism and its history. It is not, therefore, being unkind to Marx to suggest that he may have thought the publication of his work would itself hasten the sound of the knell of capitalist relations.

boardrooms, not just the factory floor, and central to this must be control of accounting. To pursue this aim, rather than strive to simply increase workers' political consciousness, activists should strive to increase their understanding of the business of capitalism. An essential first step is to deepen their understanding of accounting and its importance in controlling the labour process.

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