



OF MESSINESS, SYSTEMS AND SUSTAINABILITY: TOWARDS A MORE SOCIAL AND ENVIRONMENTAL FINANCE AND ACCOUNTING

ROB GRAY

University of Glasgow

This essay is a personal attempt at a re-visitation and re-consideration of a number of the fundamental questions which underlie accounting and finance but which only rarely receive explicit consideration. Social and environmental accounting has been the principal focus of my research interests since I became an academic and the subject was, indeed, the primary reason I became an academic in the first place. A concern with social and environmental accounting automatically forces one to raise basic questions about (what is conventionally thought of as) accounting and finance—its foundations, its purposes, its assumptions. In trying to answer those questions one comes to see all of accounting and finance in different ways—both in terms of what it assumes about the world and what it can potentially do for the world. This paper seeks to clarify some of the ways in which conventional accounting and finance and social and environmental accounting (and finance) can be in harmony. However, the principle purpose of the paper is to suggest that many of our ghettos, our internecine

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All papers owe intellectual debts, so I would like to take this opportunity to acknowledge not only the debt I owe to my many excellent colleagues in social and environmental accounting within whom it has been a privilege and a joy to work with over the years but also to the 'Sheffield School' (and its subsequent diaspora) whose intellectual initiatives have opened so many possibilities in accounting and finance. Tony Lowe's influence has been appropriately acknowledged in the BAA award for 2000. I would like to add to that my gratitude to especially Richard Laughlin and Tony Tinker whose friendship, collegiality and unremitting scholarship have profoundly affected the directions I have taken in my research. Equally importantly I very gratefully acknowledge the comments, suggestions and help I have received from David Collison, Lee Parker and Sue Gray in the preparation of this paper. I also gratefully acknowledge the helpful comments received on earlier versions of this paper from, *inter alia*, The British Accounting Association Annual Conference at Jersey in 2002, colleagues at the Universities of Canterbury (NZ) and RMIT (Australia), William Forbes and, most especially, from David Collison, Richard Laughlin, Markus Milne and David Owen.

Please address all correspondence to: Rob Gray, The Centre for Social and Environmental Accounting Research, Department of Accounting and Finance, University of Glasgow, 65-71 Southpark Avenue, Glasgow, Scotland G12 8LE, UK. Tel: +44 141 330 6315; Fax: +44 141 330 4442; E-mail: r.gray@accfin.gla.ac.uk

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squabbles and our misunderstandings are trivial when compared with the essential question of what we place at the centre of our teaching and scholarship. At the core of accounting and finance is a truly fundamental conflict between sustainability and modern international financial capitalism. Our choices between these are likely to be a great deal more than matters of methodological nicety or intellectual convenience. Social and environmental accounting *and finance* offer a way to recover a moral and productive accounting and finance that places survival of the species at its very heart.

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1. PREAMBLE AND INTRODUCTION

It would appear to be one of the (many) peculiarities of academic life that the more we become fascinated, immersed (and, hopefully, competent) in our own specialist area the more we risk being unable to communicate and share that fascination and discovery with others. Not only do we become more specialised and, consequently, more obsessed with our own concerns but we are effectively forced to focus our increasingly pressurised research time on issues which are little understood (and, indeed, are matters of relative indifference) outside our specialised college. Our concepts, constructs and language run the danger of becoming ever more arcane and the shared intellectual experience with others in accounting and finance can become, correspondingly, elusive.

This is probably inevitable to a degree but a key function of the college and, indeed, the British Accounting Association, is—I guess—to prevent it from becoming an overwhelming problem.¹ However, without wishing to overstate the case, the increasing pressure to specialise coupled with a growing inability to understand each others' work appears to be leading us towards isolation and ghettos within the accounting and finance literature. This has implications not just for conferences such as the British Accounting Association (the BAA hereafter) but for the college itself, the health of the disciplines, our teaching and, *inter alia*, the training of new lecturers and research students.

This, relatively inarticulate and under-developed anxiety was brought into fairly sharp relief when considering how to put together this paper for a clearly competent, but predominantly general, audience of my peers. I wanted to produce a paper which reflected on the nature of the academic experience and offered personal views on the state of the discipline. In order to draw from one's expertise (and, of course, to try and share one's own obsessions) the paper had to attempt to articulate—in digested and digestible form—one's own work over the years and to do so in a way which is neither so general as to be banal nor so specific to one's own interests as to be irrelevant and inaccessible to one's audience. This proved to be a great deal more difficult than I had imagined (as, I fear, this paper may fulsomely demonstrate). This was not least because whilst I *know*² that

social and environmental accounting (SEA) are the most important aspects of the discipline and that sustainability is the most critical—even life-threatening—of the concepts we can use to underpin our teaching and research, I am perfectly aware that SEA and sustainability are often matters of (at best) sublime indifference to many colleagues (see, e.g., Gray & Collison, forthcoming).

Whilst a sub-text of this paper is to try to encourage more awareness of—and enthusiasm for—SEA, the principal purpose is *not* to call for already over-burdened academics to undertake yet more reading, yet more research and to remain informed about an ever-increasing breadth of subject areas. Indeed, simple calls for us to embrace new directions or develop new aspects to our teaching and research can be expected to be largely doomed to failure. This is not only because the mis-used terms of our very own discipline—accountability, efficiency gains, productivity, measurement, etc.—have been turned against us (see, e.g., Gray *et al.*, 2001). We are now at a point where what little remaining intellectual freedom we may retain is in danger of becoming irrelevant as we have so little time in which to exercise it (see, e.g., Humphrey *et al.*, 1995). Neither is it because we have become (in the UK, at least) members of an ‘industry’ which, despite: more than doubling of our ‘productivity’; vast exploitation of our ‘efficiency gains’; massive increases in our ‘exports’ and ‘product development’; and increased contributions to ‘wealth creation’; we remain relatively poorly paid³ and widely (at best) patronised by society in general and our own practitioner arm in particular (see, e.g., Broadbent *et al.*, 1997; Lee, 1989, 1995; Napier & Power, 1992).

These would be quite sufficient reasons for us to eschew all possibilities that might risk increasing our workloads or commitments. But what makes appeals to our professional standards, to our vocational commitment to education and to our fascination and curiosity about our world so potentially empty is the realisation that these are characteristics only the slightly stupid, saintly or over-zealous could be assumed to still aspire to.

There is little that I find more depressing than the realisation that the economisation, privatisation and commodification of the academic vocation have produced a situation where the morally bankrupt rational economic man (sic) of our less thoughtful or less informed lectures is, increasingly, the only fitting description for successful—indeed ‘rational’—behaviour in British academe (see, e.g., Tinker & Puxty, 1995). How our simplifications and models have come to haunt us (McPhail, 1999; Craig *et al.*, 1999).

Consequently, a simple appeal to my fellow professionals whose service in the public interest requires an altruistic dedication to enquiry, knowledge acquisition and education could sound like a hopelessly naive one.

Fortunately, a great many of those in academe remain irrational, altruistic, aspirational, selfless—in a word: slightly mad. Indeed, it continues to be a source of both amazement and encouragement that the British academic community—in accounting and finance at least—despite having

suffered from attempted de-professionalisation at least as acutely as any other of which I am aware—remains the most diverse, supportive, encouraging and collegiate of communities. It is a community which has, *inter alia*: resisted the temptation to separate accounting and finance; largely embraced methodological difference; and has resisted the ghettoisation of subject matter that is so apparent elsewhere.⁴ The BAA remains a testament to diversity and tolerance—and it is that context that has determined the thrust of this paper.

Whilst I would like to speak about social and environmental accounting, I want to try and do this in an inclusive manner. That is, I want to try to recognise, embrace and even encourage the diversity of subject matter and methodological and theoretical allegiances that, to my mind, both reflect and determine the vibrancy of the intellectual landscape in accounting and finance.⁵

In particular, in this paper I do not want to try to offer anything new but rather to rearrange some of the ways we think about accounting and finance. In doing so, I want to try and clarify some of my own thinking and, in doing so, perhaps to open up some ways in which colleagues might better learn from and contribute to each others' projects and develop more collaborative work within and across disciplines.

The paper is organised as follows. In the next section, I rehearse systems thinking and, in particular, the use of systems thinking as a heuristic rather than as an empirical model. Section 3 re-examines the extent to which accounting, as conventionally conceived of, is social and/or environmental. Section 4 re-visits issues of methodology and examines them in a systems framework. Section 5 addresses the meta-systems issues and, in particular, the roles that capitalism and sustainability play—or at least should play—in our scholarship and teaching. Section 6 offers a brief discussion and some tentative conclusions.

2. THE HEURISTIC OF SYSTEMS THINKING⁶

... we must stop acting as though nature was organised in the same way as university departments are (Ackoff, 1960)

Systems thinking (sometimes, somewhat misleadingly I tend to think, called systems theory) has probably had a bigger effect on my own conception of accounting and finance than any other area of theorising. The influence has been direct in the way it has helped me, for example, conceive of both social and environmental accounting (see, e.g., Gray *et al.*, 1996, ch. 1, Gray, 1990). The influence has also been indirect in that one of the most seminal influences in academic accounting and finance has been the 'Sheffield School' who, themselves, were much influenced by systems theory (see, e.g., Lowe & McInnes, 1971; Lowe & Tinker, 1977; Lowe *et al.*, 1983).

The two influences have come together through working with Richard Laughlin (see, e.g., Laughlin & Gray, 1988)—of which more below.

The essence of systems thinking is basically very simple indeed: it is to conceive of everything as a system and to recognise that each system is both a part of larger systems and contains sub-systems of its own (see, e.g., Kast & Rosenzweig, 1974). Thus, for example, immune systems are part of the biological system of a mammal, which is part of local ecological systems which, in turn, are part of a planetary system. Understanding of one of these systems requires an understanding of both the systems that comprise the system under study and the systems of which it is a part. General Systems Theory (GST) as it was known, was initially derived in the biological sciences (see, e.g., von Bertalanffy, 1956, 1971). The principal motivation behind it was to break down the reductionism in biological sciences which was leading to subsystems being studied in isolation from their wider system—systems which clearly affected and/or were affected by the system under study.⁷

It rapidly becomes apparent that this process of reductionism is one to which all areas of thought are prone. Not only do we divide human experience up into subjects and disciplines, but each discipline undertakes its own reductionism in the way in which it both divides into sub-disciplines and limits problems and models for the purposes of making them more amenable to analysis (and/or reflecting categories of power and vested interest). Nowhere is this more apparent than in the social sciences where, for example, political economy is no longer studied but, for example, politics, law and economics are. And somewhere within *those* sub-systems lies the study of accounting and finance.

Although all human knowledge is inevitably partial,⁸ reductionism (whether by reference to subject boundaries, or in the artificial bounding of problems) has its own special dangers. These dangers not only limit understanding but can even lead to *mis*-understanding. Reductionism between disciplines, reductionism within disciplinary study as well as the constant reduction to sub-disciplines and the more and more precise bounding of research questions, are useful strategic intellectual devices. Such devices do, however, inevitably limit and reduce the quality of the understanding of the human phenomena of interest. The danger is that not only do we bound our understanding of the world through limiting the understanding and communication that flows across areas of study (disciplines or sub disciplines) but that the answers are constructed by an increasingly reductionist analysis to less and less contextually set problems.

Thus, we have seen over the last two decades or so an increasing acceptance (at least outside the US), that accounting must be studied in the context in which it occurs (Burchell *et al.*, 1980, 1985; Hopwood, 1978). Thus whilst precise and functional analysis of (say) investment appraisal methods or approximations of Hicksian income are obviously legitimate issues for intellectual enquiry, their meaning and importance lie in

contextualising them in the organisational setting in which they occur and the cultural and political environment within which the organisations act. This in turn, leads to calls for explicit recognition that these levels of systems need to be further contextualised to recognise the essential components of capitalism which underlie virtually all of our analyses in accounting and finance (Tinker, 1980, 1984, 1985, 2001; Chwastiak, 1996). *This*, in turn, draws in, for example, the social, environmental, moral and spiritual assumptions and impacts of the current form of international financial capitalism under which we work. In essence, we cannot: understand arbitrage pricing isolated from international capitalism; appreciate the implications of international accounting standards isolated from the moral and imperialistic pretensions of privileging investors and the imposition of western principles; or understand strategic management accounting isolated from the environmental degradation that economic growth inevitably brings with it.

It is these concerns which are explored further in the rest of the paper.

3. IS ACCOUNTING SOCIAL OR ENVIRONMENTAL?

Determining the boundaries of—in, fact, providing unique, discrete definitions of—accounting and finance consistently proves to be virtually impossible. It is not just that a unique definition of what is, and what is not part of the subject is elusive and ever changing. In addition, new areas of intellectual enquiry respond to both new research endeavours and new developments in practice—and these, in turn, would seem to arise through an apparently random set of stimuli. The discipline's boundaries seem to be at the mercy of stimuli as diverse as power, pragmatism, self-interest, idealism and so on. Only at the level of meta-theory (e.g. neo-classical economics, marxian critique of capitalism) is there any sense that the 'subject' possesses coherent and/or consistent elements. Theorising is our formal means of 'sense-making' in our subject and therefore theorising both reflects the levels of coherence that we identify within our subject and provides the level of coherence which we as scholars will bring to our study, explanation and analysis. Unfortunately, most theorising occurs (especially in accounting), not at the meta-level where coherence might be possible, but at the level of the sub-elements of the subject: finance, auditing, financial accounting etc.

The lack of coherent theory can be a problem. Whilst, for example, auditing can offer some coherence as a consequence of its formally regulated nature and finance can offer coherence in its primary attachment to method and theoretical roots of 'normal science', this coherence can be a fragile thing and still resistant to formal theorising. For financial accounting the issue is acute—despite consistent attempts (primarily through standard setting—see, e.g., Page & Spira, 1999; Hines, 1991) to impose a coherence

and theoretical consistency on the activity. Management accounting, similarly, is constantly undergoing change (or renewal?) and no single theoretical lens will either explain all aspects of the subject or, at least, satisfy all practitioners and researchers. In essence, the appearance of (to all intents and purposes) random new practices or issues, which are widely considered to fall within the ambit of the subject can usually be expected to challenge the coherence of prior theoretical explanations of the subject and, in turn indicate that practice does not emerge from any coherent extant theory. This in turn, illustrates the weakness of the theory and conceptual framework through which the subject is viewed, studied and practised. It would seem that our conceptions of our discipline(s) are only ever partial, conditional and unstable.

Whilst that makes the study of the subject all the more exciting and potentially a great deal more liberating, it also appears to produce a degree of (unexpected?) conservatism. That is, if we do not know what accounting is or what accounting is not then who is to say whether, for example, 'social accounting' is or is not part of accounting? How might such authority for such statements be claimed? And yet, until fairly recently (and one suspects that many still think this way) social accounting was *not* considered to be part of accounting. Equally, how is that, (say), LETS schemes,⁹ credit unions, third world debt and low-(or nil) return investment are not widely embraced concerns of finance? It is as if, in the absence of a coherent theoretical basis for our studies, we allow a creeping uncertainty to either permit others to define what is and what is not legitimate and/or we buy into a complicit conservatism that suits our invested intellectual capital (see, e.g., Patten, 2002).¹⁰

This problem of conservatism and disciplinary boundaries played a central role in many of the early attempts to develop (and make sense of the emerging practice of) social and environmental accounting (SEA). At a relatively early stage there seemed to be an acceptance that SEA involved accountants¹¹ but accountants who tried to conceive of SEA as a part of—or as an extension to—conventional (particularly) financial accounting (see, especially, Solomons, 1974). In essence, SEA was conceptualised as a subsystem of the system of conventional accounting. That accounting was, as I have suggested above, a relatively incoherent array of ideas was made all the more so by the attempted addition of this new phenomenon. That is, the theorisation of the conventional accounting was deficient in that it had failed to identify that social and environmental accounts were missing from its conception of the world. Equally, the theory of what is (and what is not) accounting was under-specified as it failed to suggest what should and should not be part of this system called accounting.

This attempt to force this new something (SEA) into an older but under-specified something else (conventional accounting) certainly didn't aid the development of SEA and probably, at that time anyway, did little to help the intellectual development of conventional accounting itself. That is, what

was SEA—this thing that was some part of a something else which we could not define either?

Accounting is, I would have thought, much more usefully conceived of as the universe of all possible accountings (see, e.g., Laughlin & Gray, 1988; Gray, 2002; for further examination of this proposal) of which organisational economic accounts (i.e. conventional accounting) were a very constrained subset. That is, the giving and receiving of accounts is a ubiquitous part of human existence (Arrington & Francis, 1993). Conventional accounting only considers those accounts which are financial in nature, which reflect economic events, which are focused on organisational entities and which are intended for some (usually under-specified) fairly limited set of uses, (see Bebbington *et al.*, 2001). Justification for such a restriction of conventional accounting presumably rests in some (generally unspecified) meta-theory of the economic within which accounting must be set. This, in turn, suggests that if accounting is to be restricted to the organisational economic, then only those social and environmental aspects which are of a directly and materially economic nature are relevant to it. This argues for a very restricted conception of the social and environmental aspects of human and organisational life.¹² And whilst this may very well be the view of both accounting standard setters and the more economically driven academic research there is no *a priori* reason which makes it self-evidently the case.

So this questioning of systems boundaries and the relative levels of resolution of: conventional accounting and finance; some all-embracing notion of accounting(s); and of social and environmental accounting itself raises questions. Such questions include whether 'accounting' should be restricted in some way or other; how such restrictions can be justified; and where, if at all, the study of the limitations of conventional accounting and its social and economic consequences should fall.¹³

The next two substantive sections attempt to explore these boundary issues. The following section adopts a systems perspective to enquire into the methodological and theoretical issues (in effect the research domain questions). The subsequent section moves on to explore the lowest levels of resolution in order to allow transcendent and meta-theory issues to be considered in our subject areas (in essence articulation of our worldviews).

4. SYSTEMS AND METHODOLOGY

Positivism, while long since pronounced dead, has not been buried and forgotten. ... No one today, or hardly anyone, refers to themselves or their own work as positivist. (Hammersley, 1995, p. 1)

It is something of a truism that the more widely we draw the boundaries of our enquiry the more factors we acknowledge as relevant to that enquiry and

thus, the more complex we allow our enquiry to become. The corollary is that the narrower we draw the boundaries the less factors that we permit into the problem. In the latter case, the model may be drawn with greater specificity, the theory related to the issue derived with more precision and the reductionism of the 'scientific method' employed to good effect. In the former case, the issue under enquiry will be a great deal messier, the theory a greater deal richer but far less precise and examination will typically be partial, exploratory and conditional.

There is clearly a series of crucial differences between (e.g.) the research question 'what accounting method most closely approximates discounted future earnings?' and 'how can accounting discharge its duties to the public interest in a system of global capitalism?'. Both appear to be perfectly appropriate research questions but each make very different assumptions about the world and about the role of the researcher.¹⁴

The first question has already removed any notion of an accounting which is not financial from consideration, has taken capitalism out of the equation (Chwastiak, 1996) and has already made a series of implicit value judgements about the role and purposes of accounting. (These value judgements are not, however, made explicit thus permitting the researcher perhaps to claim the 'value neutrality' of the work, see Thomas, 1981; Hammersley, 1995). It is an (implicitly normative) exercise in reductionism. The question can now be addressed by researchers in a focused and precise sort of manner, through modelling, puzzle solving and (probably) quantitative analysis using various observable proxies for the variables of interest.

The second question makes no such assumptions about what accounting is and places both value judgement and capitalism at the heart of the analysis. Whilst quantitative method could be employed to define and develop parts of the question, no amount of focused precision will answer this question.

Systems thinking offers us one means of conceiving of these different levels of resolution in the specification of research problems (and even problematics). A simple systems view can help us conceive of a general sense in which the different levels of problems do and can relate to each other. Further, by extending the language of systems thinking a little and oversimplifying the issues a little, we can (speculatively) relate these differing levels of resolution to researchers' theoretical and methodological pre-dispositions. This is what is attempted in Figure 1.

Whilst there are clearly ontological issues with Figure 1 I would like to steer around those for the moment¹⁵ and concentrate on the levels of resolution that the figure suggests. These levels (the different ovals in the figure) are derived, loosely, from the levels of systems that systems thinking employs (see, especially, Boulding, 1966).

At the centre of Figure 1 we have very significantly constrained puzzles (analogous to 'clockwork' systems in systems thinking) in which (typically)

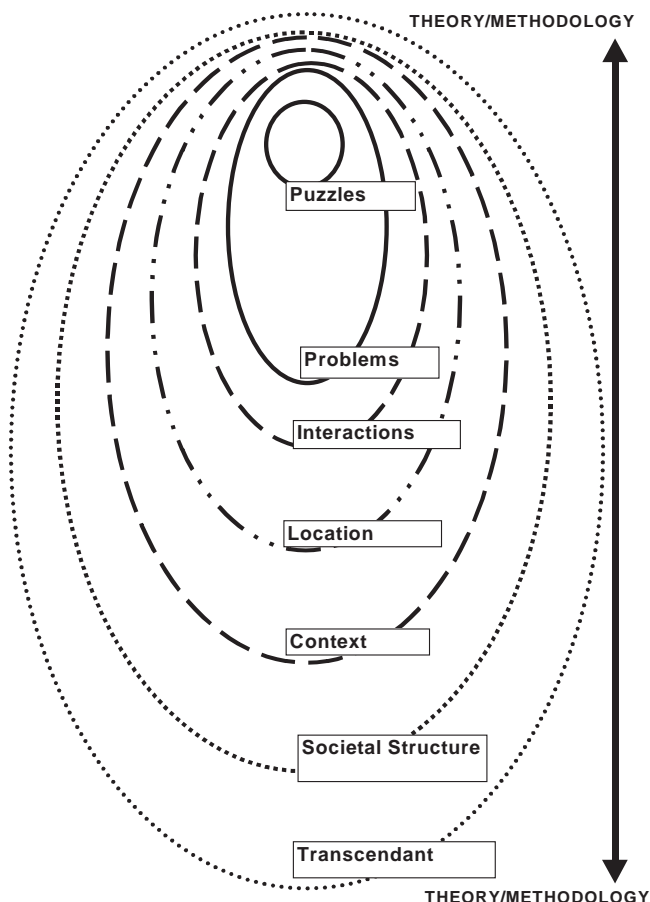


Figure 1. A systems view of resolution in research

functional relationships are isolated from their context to make them more precisely identifiable and more specifically capable of manipulation. Precision is bought at the expense of richness and the eradication of context.¹⁶

As we move out from the level of puzzles we add more and more complexity into our conception of the problem at issue. Our research perspectives grow from the precise and defined to the large and unwieldy. Each step increases the complexity, richness and messiness of the world we investigate¹⁷ and, in doing so, loses the tractability and uniqueness of the issue under enquiry. This seems inevitable—the more complex the issue, the less tractable the enquiry and the less precise the answer.

At the other end of the spectrum, the transcendent systems take us beyond the empirical domain and encourage an emphasis on the spiritual

dimensions of human experience in enquiry. I want to return to this level of resolution in the next section of the paper and will say no more about it at this stage.

To a degree, it seems that we can usefully think of these levels of resolution of issues as reflecting: (a) the way in which we conceive of those issues (theory); and (b) the ways in which we employ research methods—with their attendant assumptions about reality and knowledge claims (methodology). More precise, bounded problems can be conceived of within smaller, more bounded theories—the obvious example being agency theory. Such precise and focused theory excludes messiness and lends itself to formulaic modelling and testing: the sorts of characteristics we associate with positivism. The less precise and bounded the issue, the messier the problem, the ‘bigger’ the theory we need to articulate it and the less such matters lend themselves to useful enquiry by precise and formulaic testing procedures. (Not least because the enquiry is, inevitably, more exploratory and tentative). Such (messy) theorising and enquiry we tend to associate with qualitative methods and a more phenomenological methodology, (Burrell & Morgan, 1979; Morgan & Smircich, 1980).¹⁸

Ignoring for the moment the complex theories—the meta-theories which take us into the wider transcendental issues to be discussed later—it seems to be the case that each level of enquiry needs to be seen to sit within the subsequent wider and more contextual layers. Consequently, *to the extent that differing levels of resolution do not produce contradictory ‘truths’* (again, echoing the ontological issue), we can construct an argument that differing choices of methodological allegiance offer potentially additive epistemological claims on the problems of interest.¹⁹ From here it is a relatively small step to the ‘irrelevance’ of method and on to methodological pluralism (Feyerabend, 1975; Morgan, 1983). All conceptualisation and investigation of research problems inevitably involves the trade-offs between precision and rigour (tidiness), on the one hand, and richness and complexity (messiness) on the other. It certainly suggests that privileging claims about ‘better’ research methods is a bit of a nonsense.

Accounting and finance research involves the whole range of methods, theories and methodologies and these cover the whole spectrum of the levels of resolution suggested in Figure 1—from experiments to ethnography, from agency theory to Marxist analysis and from strict functionalism to radical humanism. The sheer range raises its own problems for academics. Communication and understanding across the discipline requires, *inter alia*, an ability to move between very different levels of resolution as well as very different ways of conceiving of: what determines an interesting problem; how the ‘discipline’ is constructed and bounded; and how issues might be investigated. At the extreme, this means that whilst some in the discipline are working with big pictures of what constitutes the problematic, others are solving carefully bounded—and consequently highly rigorous—puzzles. Each is simply working at a different level of conceptual resolution—neither

is doing the 'better' or the 'worse' research. In a 'perfect' world, each would recognise the levels and implications of the other but (albeit anecdotal) evidence suggest that each picture (conceptualisation) is simply either not understood or not accepted by others in the subject.

These differences in levels of resolution lead, I suspect, to different intellectual techniques for thinking and, consequentially to different approaches to analysing the selected problematic. Thus an approach to a problematic is very likely to be a direct reflection of particular intellectual structures, familiarities, techniques and habits. The concern is that each 'extreme' (as in diversity of intellectual frameworks) may each fail to recognise the others' point of view. More substantially such failure can lead to treating the other as not being a legitimate form of analysis or not relying on legitimate forms of epistemological claims. In the resultant separation, each can specialise in forms of reasoning (e.g. hermeneutics versus experimental design) which are both specialist and inaccessible to the other (see, e.g., the Abdel-khalik & Ajinkya (1983) and Tomkins & Groves (1983) 'debate').

Thus, it can be difficult to engage with (say) enquiries about proper accounting standards if one is either unconvinced by the profession's claims that there *is* a conceptual framework underlying financial accounting (Napier & Power, 1992) or one simply refutes the ethical basis on which (say) maximisation of investors' returns is predicated. Similarly, it can be very difficult to see why we might want to analyse different forms of costing system for an organisation when we cannot accept the morality of what that organisation does. Better analyses of the valuation of derivative assets seem inappropriate when one has severe doubts about the claims of current forms of capitalism.

In this regard the listed research interests of the British academic accounting and finance community (Helliard & Gray, 2000) are of interest. The way in which we identify our own foci as, for illustration, international accounting standards, financial ratios, binomial approximations, the history of ICAS, or overhead allocation systems, suggests the breadth of issues we are, or are not, willing to permit into our problematic. We, each of us, bound our problems to a level where we feel comfortable and find the solution tractable within our own orientations.

A particularly clear exposition—and possible explanation—of this is given in Choudhury (1987). He reports the Mitroff & Kilmann (1978) classification of researchers which is based, in its turn, on Jung's (1971) classification of individuals on their preferences for receiving information (sensation or intuition) and making decisions (thinking or feeling). Choudhury then uses Mitroff and Kilman's four categories²⁰ to classify approaches to research in management accounting. The essential argument is that psychological orientation will lead to a 'predilection for a particular mode of enquiry' which 'will determine the research question examined and the methods employed in answering it' (Choudhury, 1987, p. 208).

It is a plausible and, to my mind, helpful, insight. Debates about the relative superiority or otherwise of particular approaches to research thus might be as much the result of psychological pre-disposition as they are of theoretical and methodological issues.²¹ More importantly, it is also probably the case that the choice of theoretical level of resolution and methodological allegiance (see, e.g., Laughlin, 1995) are similarly the consequence of psychological pre-disposition.

The selection of method implies some view of the situation being studied, for any decision on *how* to study a phenomenon carries with it certain assumptions, or explicit answers to the question, '*What is being studied?*' ... [W]e select or favor particular kinds of methodology because we have implicit or explicit conceptions as to what we are trying to do in our research. ... [and thus] see the research process as involving choice between modes of engagement entailing different relationships between theory and method, concept and object, and researcher and researched, rather than simply a choice about method alone. (Morgan, 1983b, pp. 19–20—emphasis in original)

But there is more (or less) to the issue than this. Each of us, in selecting our level of resolution to our research—our bounding of the issues—is buying into, often unconsciously, a set of *a priori* theorising, methodological and, indeed, transcendent choices (see, e.g., Laughlin, 1995; Tinker *et al.*, 1982; Morgan, 1983a,b, 1988; McCloskey, 1998). It is, it seems to me, at this level of the transcendent, the moral and the meta-theory, that the root conflicts within accounting and finance lie. It is here, I hope to show, where conventional accounting and SEA have their differences and it is here that much more socially and environmentally orientated research has its beef with finance. If the foregoing discussion has any substance, then it may be that these disputes are actually about psychology and possibly about politics and are, in all probability, not about research methodology and the boundaries of accounting and finance at all.

5. META-SYSTEMS, CAPITALISM AND SUSTAINABILITY

doing efficiently that which we shouldn't be doing at all ... (Lowe & McInnes, 1971)

If systems thinking provides a helpful heuristic for thinking about the boundaries of accounting (and finance) and an insight into the layering and bounding of research problems, it is at its most powerful in the social sciences when directing our attention to meta-systems. In essence, accounting and finance sit in organisational and institutional contexts.

These contexts are themselves grounded in modern international financial capitalism. Capitalism is set in the context of human institutions and experience which themselves are set within an environmental and planetary system. It is through this set of systems interactions that accounting and finance draw their meaning, have their efficacy (or otherwise) and through which they (primarily) derive their moral justification and any claims that they might make to serve the public interest.

That is, recognising that accounting and finance have little (if any) intrinsic value and meaning and that they are important systems embedded in a range of social, ethical and environmental systems, one is inevitably called to ask: what is the purpose of accounting and finance?, who and what does it serve? what are—and should be—its value principles?²²

I suppose, crudely, we all have to answer this question for ourselves but for those of us in accounting, our profession leads us to claim that our justification lies in serving the public interest. The question is, of course, do we? and how do we know this? (see Gray & Collison, forthcoming).

A purely economic accounting and finance (as discussed above) will justify its service of the public interest to the extent that it can demonstrate that the economy is served by our accounting and finance and that the economy is designed and run in such a manner that the public interest—perhaps typically the greatest good of the greatest number—is served in the best way possible. As far as I can assess this claim rests (principally) upon the following argument. A market of self-interested people is best served by providing it with information which will enable these self-interested actors, if they act only selfishly and ‘rationally’, to act in pursuit of maximising their financial returns. If we provide this information then markets may come to be information efficient. If these markets are information efficient, then, in some (unspecified) manner or other, they will also become allocative efficient directing new funds to more economically sound investments and away from less economically sound investments.²³ This process, it is maintained, results in the maximisation of economic growth which, in turn, results in the maximisation of social welfare.

In this perception of the world, additional data relating to ethics, social or environmental issues is ‘noise’, distracting actors from their first (and probably moral) duty to maximise economic returns because it is through the economy that all other benefits flow.

It is in this view of the world that most of what we teach and research in accounting and finance finds its justification. It is a specification of how the chosen theories, problematic and methods contribute to the public interest.

I only have two major problems with this perspective/argument. The first is a collegiate one: although this liberal economic argument is the foundation of most of what we do and teach in accounting and finance, it is very rarely (in my experience) either explained to students or understood by academics or practitioners. As it is the basis of most (public) claims to the public interest by the accounting profession it needs to be specified and

examined to assure us that claims to serve the public interest are indeed justified (see Puxty *et al.*, 1997; Gray *et al.*, 2001).

The second problem I have with it is that only one of the elements in the argument (i.e., information efficiency) is determined empirically. The rest of the elements are assertions, assumptions, acts of faith or, at best, contestable inferences. Equally, the consequences of this panacea of utopian liberal economics do not, to my reading of the evidence, look much like a steady rise in social welfare. Indeed, I see something quite the opposite (see also, Galbraith, 1972, 1973, 1987.) This is not to say that we in the west have not benefited enormously in certain ways from the diaspora of capitalism but, in the words of Milton Friedman, there is no such thing as a free lunch. The benefits of capitalism are bought at, it seems to me, an unacceptably high price—not least in terms of environmental degradation, social injustice, soft imperialism, alienation and so forth (see, e.g., Korten, 1995; Brown *et al.*, 1999).

The point is that capitalism—in what ever form²⁴—is an essential component of what we teach and research but it is so often excluded from our analysis (Chwastiak, 1996). Consequently the central issues of ‘do we, in our research and teaching, serve a capitalism of which we approve?’ and ‘do we serve it in the best way that we can?’ rarely surface as issues for discussion. The more constrained our research problems, the more focused our theories and the more bounded our research methods, the more we can come to take the moral, social and environmental claims of the organisations we serve as correct—as taken-for-granted assumptions that all (or at least most) is well with the world.

Such claims do not sit at all well with environmental indicators (see, e.g., Brown, 2001), the UN’s Human Development Index data or even the *a priori* incomprehensibility of the claims that society and the environment are safe in the hands of business (see, e.g., Sustainability, 2001; Schmidheiny, 1992; Schmidheiny & Zorraquin, 1996). It is this sort of concern which runs through much of the SEA²⁵ and sustainability literature. The very existence of all but the most managerialist streams of SEA speaks of a, typically incoherent, disquiet about extant accounting and financial systems.²⁶ It is frequently, and often more explicitly, a concern to think about accounts which, rather than adding to the exponential engine of international financial capitalism, attempt to envisage some less apparently damaging and destructive version of economic organisation—one in which the economic does not drive out all other values (see, e.g., Gorz, 1989; Thielemann, 2000).

So, what SEA tends to be doing is relating forms of accounting and finance not just to the system of capitalism but to the consequences of capitalism—i.e., to a lower level of resolution (a higher layer of system). For example, the interest in accountability (which is used widely in SEA) is an attempt to reform capitalism and to attempt to make it more democratic. As with much of the reformist SEA (see, e.g., Gray *et al.*, 1996; Owen *et al.*,

1997; Bebbington *et al.*, 1999; Tinker *et al.*, 1991) the attempt is to ameliorate and control for the worst manifestations of our current systems of financial and economic organisation. That is, for both pragmatic and, indeed, political reasons to explore whether the organs of modern capitalism *can* be reformed and made more human and less inimical to social justice and environmental degradation.

Increasingly, though, the prospects of success for this reformist optimism are looking less and less realistic. Not only are the indicators of environmental and social health declining whilst the power and influence of corporations increases²⁷ but the very debate over social and environmental issues is increasingly under the control of the business sector. (For more detail, see Eden, 1996; Beder, 1997; Gray & Bebbington, 2000; Welford, 1997; Mayhew, 1997.)

Whilst alternative meta-theories are used to allow us to step, intellectually, outside the immanence of the capitalism envisaged in accounting and finance, it is at the level of sustainability that most SEA research seeks to re-establish the accounting and finance problematic.

Sustainability,²⁸ typically defined as relating to development which '*meets the needs of the present without compromising the ability of future generations to meet their own needs*' (WCED, 1987, p. 8), is an intrinsically difficult notion for modernist, western people. It seems to challenge so much of the key cultural variables and measures of what constitutes success and worthiness for admiration (Gladwin *et al.*, 1997) in recent generations. Placing it at the centre of analysis and concern requires not only a major reappraisal of the undoubted successes of modern capitalism but also a major moral commitment to a set of ideas and principles. These are principles which our economically orientated modernism has largely removed from the analysis (Chwastiak, 1996; Zimmerman, 1994) as being irrelevant to our discussions and analysis. Sustainability requires that we explicitly consider the present conditions of the species and the planet, that we explicitly consider the likely prognoses of our current systems of financial and economic organisation and that we accept that each of us owes a moral duty to others less fortunate and to the continuation of the species as we know it. Whilst this can certainly be considered a contentious statement (and certainly one can question its elements) most in SEA take for granted that survival of the species and eradication of abject poverty and starvation are in the public interest—or are as good a definition of what comprises the public interest as we need.

Sustainability is, thus, a direct challenge to the economic model of the world that runs through conventional accounting and finance. It is a direct alternative to—and incompatible with—the principles of liberal capitalism which, as we have seen, provides the justification and meta-theory of conventional accounting and finance. That is, traditional neo-classical analysis rests upon a small but active state which sets the rules for the economy and then the capitalism can be left to get on with the job in the

certainty that it will satisfactorily deal with all social and environmental matters of import through a well-functioning market. Sustainability is built upon the idea that not only is this a profoundly implausible assumption about the way in which the world can work but is empirically not the case. Environmental and social desecration are seen as deeply systemic ('structural' as Bergström, 1993 calls it) and, consequently, it is the system itself which is at fault.²⁹

At its simplest, the definition of sustainability involves (i) the needs of both the present and future generations and (ii) consideration of both environmental and social justice. In order to distinguish the increasingly popular 'eco-efficiency' (which may involve doing more with less-per-unit but still permits absolute material growth in consumption and production) from a sustainable environment, we have coined the phrase eco-effective (in order to capture the difference indicated by the notion of the ecological footprint).³⁰ These are summarised in Figure 2. (For more detail see, e.g., any World Business Council for Sustainable Development publications and Bebbington & Thomson, 1996; Bebbington & Gray, 1995; Gray & Bebbington, 2001; Milne, 1996.)

For a condition of sustainability to obtain, we must have pretty reliable evidence that all six conditions (as represented by the six cells) are being satisfied. My judgement of the evidence is that there is *no* evidence to suggest more than one or two of the least important are currently being satisfied—even under the most rose-tinted of interpretations.

What is of more direct importance to us here is whether corporations are acting—or even can act—in a manner commensurate with sustainability. A small, but increasing, number of companies have been brave enough to state publicly that they believe that neither they nor, in all probability, any other company is capable of acting in a sustainable manner in the current system of economic and financial arrangements.³¹ (For more detail, see, e.g., Bebbington & Thomson, 1996; Gray & Bebbington, 2000; Bebbington & Gray, 2001.)

Relatively recent research suggests (see Gray & Bebbington, 2000) that even environmentally leading companies have little understanding of sustainability. Worse still, as far as I can find, there is *no* evidence to suggest that companies can act in anything like a sustainable fashion

Elements of sustainability	The needs of the present generation	The needs of future generations
Social justice	X	X
Eco-efficiency	X (?)	✓ (??)
Eco-effectiveness	X	X

Figure 2. The conditions of sustainability. Adapted from Gray & Bebbington (2001)

(see, e.g., Madeley, 1999). The evidence, indeed, is all in the contrary direction. But this is *not* the view which many organisations—sometimes in good faith and unwittingly—perpetuate (see, e.g., Gray & Milne, 2002).

It therefore, follows from this that accounting and finance—which seek to serve organisations, investors and markets—are actively supporting and encouraging *un-sustainable* organisations and institutions. It is here, *not* at the systems boundary, or at the methodological, method or simple theoretical level, that conflict between SEA and conventional accounting and finance occurs. The challenges, therefore, that SEA makes to conventional accounting and finance are:

- Conventional accounting and finance have ‘bought-into’ a meta-theory and ethical framework derived from liberal neo-classical economics. To what extent do teachers, students and researchers know/care/believe this and/or agree with it? and
- There is a growing body of evidence which suggests that not only does this meta-theory fail to deliver what it promises but the planet is going to hell in a hand-basket as a direct consequence. To what extent do accounting and finance researchers, students and teachers believe this, know about this, care or agree/disagree with this?

For SEA, sustainability offers the potential to become the over-arching level of resolution in which the accounting and finance problematic is conceived. Further, it allows consideration of the relative merits of forms of accounting and finance that are reliant on neither methodological nor psychological arguments. Rather it relies upon both deontological ethics (in that social and environmental accountability are essential ‘good things’) and consequentialist ethics (in that the accounting and finance is directed towards outcomes that relate the progress towards or away from sustainable possibilities).

6. DISCUSSION AND CONCLUSIONS

Something of a theme in plenary presentations at BAA conferences has been both attempts to identify future trends in accounting and finance practice, teaching and research and to encourage the community—BAA in this case—to recognise and embrace these changes, (see, e.g., Parker, 2001; Bromwich, 2001). To an extent at least these analyses and calls have been predominantly pragmatic in that they identify and respond to changes in a society. The questions that are raised by such discussions include ‘how do such changes come about?’ and ‘what moral duty do we as academics, individuals, professionals have to follow, embrace or, regardless of the impracticality, try to oppose them?’ The questions are related and depend on both the level of resolution we adopt in consideration of such pressures

and changes and the moral, political or ethical response we make to the changes as we see them.

In many ways, such concerns are identical to the questions that arise in our choice of research topic, our choice of teaching styles and our decisions to engage with aspects of practice (whether through consultancy, voluntary activity or in engaged research itself). Our answers to these determine not just our response and choices in the classroom but also our contributions to the body of literature that builds up and constitutes our discipline. Additionally, our answers have implications for the way we respond to increasing pressures to formulate the training and education of the next generation of academics through doctoral training.

These questions equally raise issues about the extent to which we embrace and support (what we consider to be) the *status quo* or the extent to which we seek to challenge it. It is well-established that (see, e.g., Tinker *et al.*, 1982; Puxty, 1986, 1991) conventional accounting and finance adopts, reifies and reinforces a conservative liberal economic view of the world—although such a view, as we have discussed above, is very rarely made explicit or examined carefully.

There is a growing body of evidence which suggests that the dominant paradigm—essentially a variation on neo-classical economics—is unlikely to produce the best of all possible worlds—despite promises or, at least, assumptions to this effect. Issues of environmental degradation, injustice, anti-democratic activity, impoverishment or alienation all suggest that the pure form of neo-liberal capitalism in its modern financial and international variant is out of control and many of the costs of the system are outweighing the benefits. Unless our work acknowledges these possibilities in some way or other, it follows the path of unconsciously supporting³² current trends, issues and concerns as they arise from the powerful within that system.

Never has the academic community in accounting and finance been more vibrant despite all the pressures and constraints that are continually piled upon it. The diversity of method, methodology, issues and paradigms is astonishing but can lead to subject/methodological ghettos developing. One consequence of such ghettos is that our understandings of the world are not as synergistic or as constructive as we could make them.

For me, the solution to this is to develop a more conscious consideration of the wider levels of resolution which inform our work and which implicitly we bring to that work. More explicit recognition of this would allow a more explicit response to pressing issues such as: e.g. the growing disquiet about the commodification of teaching and research; the abandonment of the search for transcendence in education; the implications of globalisation; the decreasing accountability of MNCs. These are all trends which, it seems to me, are in no sense unequivocally desirable and they are all trends in which most accounting and finance is implicated.

One major way in which we can approach such matters is to place sustainability at the heart of our analysis. What is at stake for me is no less

than the important question of whether or not my children will see out their natural lives, how we all should respond to increasing levels of drought and starvation, how to address our responsibilities for increasing degradation of the planet's natural systems. How are we, in effect, to address the complicity of accounting and finance in these malign trends? It is not obvious to me that better understanding of share price movements, more assistance to privileged and rich westerners in the balancing of their investment portfolios, the seeking out of more rapid innovation and oppression in the name of efficiency, the imperialistic imposition of international accounting standards—often through World Bank dictate—or the embracing of increased audit at the expense of either intrinsic performance or assurance systems of genuine quality are, in any wide sense, in the interests of the global public.

Such anxieties need not, of course, be shared. But, at the risk of simplification, there are two literatures in accounting and finance—one which takes the declines in accountability and sustainability for granted and places them at the centre of their concerns; and another which completely ignores these issues altogether. If the concerns are so trivial as to be beneath contempt, it would be a genuine addition to the literature if someone could demonstrate this and encourage SEA to stop wasting its—and everyone else's—time. Equally, if the claims of modern capitalism are so self-evidently good and so unequivocally beneficial—it would also be a useful addition to the literature if this could be demonstrated. Then, at least, we could develop a better understanding of other paradigms in recognition that they were the result of genuine political and paradigm differences. There is surely an intellectual duty on us as academics to expose and clarify (if not resolve) such concerns.³³

It is traditional to conclude papers of this sort with exhortation—however ill-advised that might be. The exhortation is in two parts—to those not concerned with SEA and to those who are.

For those not currently concerned with SEA, the plea is twofold.

First, I believe we need to more carefully explore the foundations and the moral and intellectual determinants of what is taught and researched. The principal challenge to SEA tends to be that it is 'not relevant', or 'not accounting and finance' or 'not research' or 'well, it is all just nonsense isn't it?'. These challenges, although common, are not sophisticated arguments with which it is easy to engage. The more conservative, liberal economic mainstream of accounting and finance does itself no favours and hardly encourages SEA to overcome its alleged weaknesses if there is no formal argument with which to engage. The argument from sustainability is that the conventional, liberal, neo-classical paradigm is killing the planet.³⁴ It is an argument that needs a response. A more substantive challenge to SEA has been mounted by the 'critical/alternative' theorists—those drawing their motivation primarily from critical theory. This challenge has been articulated and developed (with varying degrees of politeness) and has led

to interactions, debates and even forms of reconciliation and mutuality. It would be fair to say that SEA now enjoys a symbiosis with critical theory. It would be helpful if SEA could do the same—most especially, in an informed way—with more mainstream accounting and finance.

Second, may I request those currently unconcerned by SEA to consider the application of their research paradigms to slightly different issues—in essence to let interesting problems as opposed to interesting methods drive the research. Especially if one is unaware of, indifferent to or unconvinced by the neo-liberal economic paradigm why not apply ones' skills and methods to other, potentially more useful, unusual and intricate problems? Instead of looking at increasing the returns to western investors (who, by any reasonable reckoning already have far too much money—to misquote John Stuart Mill) explore the losses or gains to the poor from international diversification. Instead of following the inexorable sweep of the IASB's world domination, why not examine the indigenous and different accounting systems that we are in danger of losing—look at differences that indigenous systems of accounting have to offer local or wider cultures? (After all, Chinese systems of accounting have probably existed for a great deal longer than international standards and probably have something of value in them!) Perhaps consider why systems of environmental management, waste usage and disposal or the plight of the unemployed are generally thought to be less interesting or worthy of research than other more mainstream issues in management accounting?

This is, thus, not a plea for academics to re-tool; but to turn their existing tools to questions of a different nature. Sustainability is not necessarily any more or less 'interesting' (in Geoff Whittington's terms) than neo-liberal economics, anymore than encouraging globalisation and economic efficiency is intrinsically any more 'interesting' than questioning the *status quo* on its assumptions about growth and modern soft imperialism. The same research methods, the same tools can be applied to equally 'interesting' questions but ones which have the *a priori* case for public interest built into them.³⁵ We need a more socially and environmentally aware finance and just as we are building SEA we need to build a SEF. (A start on this has been made in the fields of ethical investment, in the Alternative Perspectives on Finance Conferences and in a new and emerging literature, see, e.g., McGoun, 1997.)

For those working in SEA itself the plea to consider levels of resolution remains. Very soon after the environmental, and later the social, debates entered the public domain in the 1990s, business and business groupings were quick to adopt and adapt them to their own agendas. So a considerable proportion of what is said and researched on such matters as social responsibility and sustainability is considered in an exclusively corporate context. (See, e.g., Mayhew, 1997; Beder, 1996; Bebbington & Thomson, 1996; Gray & Bebbington, 2000.) For many SEA researchers, though, the inherent managerialism and conservatism in, e.g. eco-efficiency, environmental

management systems, WBCSD, GRI and 'sustainable business' seems inherently attractive (see, e.g., Bennet & James, 1998; Schaltegger & Burritt, 2000). The difficulty here is that the assumed managerialist case—namely that current forms of economic organisation can and will deliver sustainability—is entirely unproven and, indeed, runs counter to either argument of principles or the available evidence (see also Gray, 2001). So the initial plea to many colleagues working in SEA is to widen the level of resolution a little to check that the work you are doing and the material you are teaching does actually seem likely to deliver the sustainability it is assumed to do.³⁶

Social and environmental accounting and finance (or, as we prefer to think of it, just accounting and finance) has grown rapidly in the last ten years or so. It finds its way into more areas of literature and into more business-related discussions than ever before. But SEA will never fulfil its potential if it is both constrained by a business-led agenda and language as well as constrained to fit within current business and accounting orthodoxy. SEA is a profound challenge to current forms of accounting and finance—it is neither an addendum nor a refinement of GAAP. If it ever becomes such a redundant appendage to capitalism, we can almost certainly kiss the future of sustainability and, thus, the future of our societies goodbye.

NOTES

1. There are many examples of debates and collaborations in the literature. These, in conjunction with journals and conferences, help to bridge—with varying degrees of success—the paradigmatic, theoretical and/or methodological allegiances that are held in different areas of the subject.
2. Such a statement is not made with deliberately mischievous intention but to indicate a firmly held belief that illustrates the value-laden and personal nature of epistemological claims—of which more later.
3. This 'relatively' refers specifically to accounting and finance practitioners and other professions and *not* to the homeless and unemployed in the (so called) developed world and the many millions in the (so called) developing world who live at or below subsistence levels.
4. Having single departments or schools which focus upon (and perhaps even tolerate) a single approach to study—typically uninformed but statistically sophisticated positivism—will certainly lead to greater efficiency in research, in teaching and in the training of doctoral students. But a single approach to knowledge creation that is intolerant of other approaches (in this case extreme positivism) can hardly be thought of as a celebration of the modernity which is itself motivated by, *inter alia*, the determination to shake off the shackles of single paradigm control of what constitutes knowledge and reasoning (in that case religion and the Church).
5. This point arises from a challenge made to me by Martin Walker of Manchester University following an off the cuff and ill-considered remark I made during a presentation. The remark I had made concerned, in general terms, the need to encourage new scholars to develop their competence and confidence in 'nurseries' away from the critical attack of—in the case in point—hard-line, intolerant positivists. Martin's rejoinder was that the danger of this was that the sub-areas of the discipline

were not, consequently, subject to the constant testing and co-operation that ensured rigour and vibrancy and which, in time, encouraged joint work and the understanding of different positions. I still think both points were correct.

6. I should note that systems thinking is now a fairly old perspective and although it attracted its criticisms in the past, is not as currently popular as it once was (although see Checkland, 1981). This may suggest that the theory has failed the 'market test' but, crucially, systems thinking is an essential component of the environmental and ecology movements which we consider later in the paper. My (largely unsupported) contention is that it has been abandoned because its implications are too difficult as opposed to abandoned because it is outdated (see also, Note 7).
7. Systems theory is, in no sense, uncontestable. Particularly good and trenchant critiques are offered by Bryer (1979) and Hopper & Powell (1985). My contention would be that in using systems thinking as a heuristic in this paper, the analysis does not fall within the scope of the criticisms—except in so far as all modes of thinking carry their own limitations and make some things invisible. In passing, it is perhaps also worth noting the intellectual connections between systems thinking as outlined here and current work in stakeholder theory which is so influential in SEA.
8. Our capacity to know is, of course, severely limited by, *inter alia*, the complexity of the world and our own mental capacities.
9. LETS stands for Local Economic (or Exchange) Trading Systems—see Bebbington (2001).
10. Such conservatism can be seen in approaches to accounting education (see, e.g., Gray & Collison, 2001; Gray *et al.*, 1994; Lee, 1989; Sterling, 1973). Our apparent reluctance, as 'educators', to stray outside the orthodoxy, to explicitly expose the assumptions underlying conventional accounting and finance or to respond to the challenges that we indoctrinate as opposed to educate our students is very well documented (Zeff, 1989; Loeb, 1988). Equally, we identify a well-established conservatism in both our attitudes to journals and in the policies of some of the journals themselves (Parker *et al.*, 1998; Brinn *et al.*, 1996).
11. Also see Medawar (1976) for an incisive and prescient alternative view.
12. That is, although there are extreme visions of an economic world which can embrace all aspects of social and environmental experience through the pricing of everything (see, e.g., Pearce, 1989) this in turn raises a range of highly contestable issues. Such issues include, not only can, but also why should, human experience be reduced to the economic? (i.e. the economic defines all human experience within which all experience is simply a subset). Why would this be better than seeing the economic as only one limited subset of human experience. Gorz (1989) is especially eloquent on this matter—and see also Power, 1992).
13. For future reference, it is important to notice the value-laden nature of these questions (the use of 'should'). This value-laden nature suggests that no purely positive accounting or finance *can* exist. This case was initiated and developed in Tinker *et al.* (1982).
14. This is an appropriate point to reference (and acknowledge the influence of) Geoff Whittington's celebrated enquiry into whether accounting was becoming too 'interesting', (Whittington, 1995; Gray, 1996). In terms of what follows here, Whittington was concerned that research was either spending too long examining alternative (to Geoff's way of looking anyway) meta-theories or spending too long puzzle-solving for questions that Geoff did not see as part of *his* problematic.
15. That is, there is a fundamental assumption here that messy problems are just bigger versions of small problems and that all problems can be described in similar ways. There is an unexplored assumption within this that messy problems are just big functional problems whose functions have not yet been discovered. I am not sure I want to subscribe to such an assumption and I am not clear to what extent such an assumption really does influence and impair what follows.

16. 'The victim abstracts the original problem until the mathematical intractabilities have been removed (and all semblance to reality lost), solves the new simplified problem, and then pretends that this was the problem he wanted to solve all along. He expects the manager to be so dazzled by the beauty of the mathematical results that he will not remember that his practical operation problem has not been handled'. Herbert Simon (1960), *The New Science of Management Decision*, Harper and Row, p. 18.
17. If one were a positivist one might say we were increasing ecological validity
18. And with apologies to Richard Laughlin for over-simplification of the ideas—for a more thorough analysis see Laughlin (1995).
19. A common enough argument in research methodology discussions of triangulation.
20. The four categories with illustrative exemplars from management accounting are the analytical scientist (Brownell), the conceptual theorist (Ronen & Livingstone), the particular humanist (no exemplars) and the conceptual humanist (Hopwood & Tinker).
21. That what we are calling psychological predisposition is, in all probability, also a cultural, sociological and politically determined sense is not in dispute but is not further explored here.
22. It is, of course a value judgement that one believes that the academic act must itself be principles driven and, indeed, driven not by values established at a high level of resolution (e.g. 'doing ones job well') but at the lowest level of resolution (e.g. by reference to one's personal world views).
23. This analysis applies most obviously to financial accounting and finance but management accounting enters the picture through providing information which self-interested managers can use to pursue and provide those investments which the market is apparently seeking.
24. The simple models of capitalism that were envisaged by (and often incorrectly attributed to) Adam Smith are a very far cry from the global international financial capitalism that has become the dominant economic (and probably social and political) form today. There is a tendency, I think, to offer arguments around capitalism that envisage the simpler archaic form rather than its modern megalithic form. Whilst it seems likely that unbridled capitalism would inevitably find its way to taking over the world—growth being a necessary condition and an essential characteristic of the form—the increasing inability (or reluctance—see, e.g., Korten, 1995, 1999; Bailey *et al.*, 1994a,b; Hirst and Thompson, 1996) of states to control the organs of capitalism (which we in accounting and finance seem to serve) makes the central question about whether or not capitalism (and our service of it) serves a public interest or not so much more acute. If capitalism dominates states and capitalism does not serve the public interest then there is a troubling question about who or what does or can look after the interests of society and the environment.
25. SEA has grown enormously in the last 10 years. It is now simply too big an area to be seen as a single area of research or accommodated in a single researcher's projects. I see that SEA researchers are just beginning to adjust to the now daunting size of the subject area and, increasingly, are no longer researching SEA as such—but rather they research aspects of it.
26. Research across the spectrum of SEA probably comes close to covering all levels of Figure 1. Thus we find research which explores: for example, the financial performance of ethical investments funds, the fitting of environmental issues into current GAAP; developing management accounting which interacts and responds to EMS; comparison of regional differences in environmental responses; understanding of the levels of conflict between (say) social and environmental audit and commercial imperatives up to the drivers for social and environmental reporting as an accountability mechanism which empowers a democracy. At the transcendent level, concerns to re-establish a deeper spiritualism and issues about human justice are increasingly articulated within the framework of sustainability.

27. Of the 100 largest economic units on the planet only 49 of them are countries (Korten, 1995).
28. I note, but have ignored here, the anthropocentric nature of sustainability as discussed here (see, e.g., Gladwin *et al.*, 1995, 1997; Zimmerman, 1994).
29. It is my experience—I can only offer anecdotal evidence—that whether one sees the environmental crisis as systemic or as a series of unrelated symptoms seems to accord with whether or not one uses the systems heuristic to study the issue. In essence, deep greens are systems thinkers, light greens are not (see, e.g., Gray, 1990; Daly, 1980; Daly & Cobb, 1990; Bergström, 1993).
30. Current levels of population and related production, consumption and disposal patterns produce a total of ecological footprints which are of too large a scale. It is the volume of activity which sits beyond the planet's carrying capacity. Moreover, if all members of the planet had footprints as large as those of the average North American, we would need three planet Earths to accommodate them.
31. Many more have expressed such views to either me or colleagues in private. Why in private? The current orthodoxy manifested by, especially, institutions such as WBCSD, is that sustainability is safe in the hands of business. To express a contrary view is to break ranks with colleagues—something which boards do not want to do.
32. The decision to consciously support current forms of liberal economics would satisfy the calls in this paper and would focus the debates onto the moral and empirical basis of such support.
33. Two papers by Benston (1982a,b) are amongst the few that I know which come anywhere near to addressing these issues—my apologies, of course, if I have inadvertently missed a major strand in the literature.
34. And if that argument has not been sufficiently spelt out then it is a relatively simple matter to do so (see, e.g., Gray, 1992; Gray & Bebbington, 2000, 2001; Bebbington & Thomson, 1996; Perrings & Ansuategi, 2000; Hawken *et al.*, 1999; Weizsacker, 1997; Lamberton, 1998; Birkin, 1996; Milne, 1996).
35. I am, of course, aware that such suggestions raise difficulties about the respect of peers, the difficulties of swimming against the tide and the increased difficulties of acquiring data, but what is research without a challenge?
36. There is a major set of issues implicit in some of the foregoing I am conscious that these comments skirt right around, *inter alia*, the cause and effect arguments (see especially, Power, 1992). That is, in a complex world with a complex ambition it is very far from clear what actions *can* be taken within current orthodoxy which can or are likely to produce the ends intended. In fact many have argued that social and environmental reporting will, as a result of corporate capture, end up as corporate legitimisation devices which will, from social and environmental points of view, do more harm than good. The arguments are powerful ones (see, e.g., Puxty, 1986, 1991; Tinker *et al.*, 1991; Owen *et al.*, 1997).

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