Environmental Accounting, Managerialism and Sustainability: Is the planet safe in the hands of business and accounting?

Rob Gray  
Centre for Social and Environmental Accounting Research  
Department of Accounting and Finance  
65-73 Southpark Avenue  
University of Glasgow  
Glasgow, G12 8LE  
Scotland, UK  
Tel: +44 141 330 5666  
Fax: +44 141 330 4442

Jan Bebbington  
Department of Accountancy  
University of Aberdeen  
Edward Wright Building  
Dunbar Street,  
Aberdeen, AB24 3QY  
Scotland, UK  
Tel: +44 1224 273590  
Fax: +44 1224 272214

Abstract

The growth in environmental accounting research and interest in the last few years has been little short of phenomenal. For those of us with a long-standing interest in such issues, it is easy to get swept along in the euphoria of seeing environmental issues brought to centre stage in business and accounting debates. Despite wishing to encourage this growth in interest, this paper is by way of a cautionary tale that, within this burgeoning, enthusiastic and often excellent research, there is a very real danger that environmental accounting may well end up doing more harm than good. This paper, works from the premises that (a) accounting (and accounting research) typically adopts a set of implicit assumptions about the primacy and desirability of the conventional business agenda - and is thus "managerialist" in focus; and (b) that the conventional business agenda and environmental protection - and, especially, the pursuit of sustainability - are in fundamental conflict. If this is so then accounting is contributing to environmental degradation - not environmental protection. The paper seeks to provide a review of the current state of the art in environmental accounting research through this "managerialist" lens and then goes on to illustrate the essence of the problem through the reporting of a new analysis of data from an international study of accounting, sustainability and transnational corporations. The paper concludes with a call for more explicit examination of the implicit assumptions held in accounting research generally and environmental accounting research in particular.

Introduction

Little more than a decade ago, any scholar wishing to review the literature concerned with accounting and the natural environment would have been faced with a relatively straightforward task. Beyond the few significant and seminal papers (see, for example, AAA, 1973; Dierkes and Preston, 1977; Ullman, 1976) environmental issues tended only to surface as one of the themes within the social accounting and reporting literature. (See, Gray et al., 1996; Mathews, 1997 for summaries). The change in the last ten years has been little short of phenomenal. Consequently, it would be easy - especially for those of us who have been involved in the area for some years - to get swept along on a tide of enthusiasm now that environmental (and, latterly, social) accounting appears to be occupying an increasingly central place in accounting debate. For years accounting scholars have bemoaned the fact that accounting (and finance) teaching and research have largely ignored environmental matters. Now this has changed and there are few aspects of accounting in which environmental concern is not explicitly recognised as important. Is that a matter for (unqualified) celebration, (see, for example, Mathews, 1997)? We are not so sure. Our primary purpose in writing this paper is to offer a (potentially significant) cautionary note lest, in the atmosphere of celebration, we overlook the need for a continuing critical appraisal of the subject. Whilst there is much about recent developments in environmental accounting about which we should celebrate, the research in the field still has some way to go and some major problems to overcome before it can confidently claim unqualified success.

The essence of our concern, and the contention that we would like to explore in this paper, is that the bulk of environmental accounting research is not, strictly, about accounting for the environment (environment or sustainability-centred) but it is rather driven by an interest in the extent to which environmental issues are, and can be, reflected in conventional accounting practice (managerialist or business-centred). Whilst these two positions (environment- and business-centred) may well be considered as extreme positions, they serve an important function. That is, it is reasonable to assume that all accounting research which takes environmental issues as its subject is motivated by a concern for the environment and, therefore, with a desire to improve the condition of our natural world (or, at least, to reduce the rate at which it is suffering damage). But is there no evidence which guarantees that such an outcome will be the result of simply introducing environmental concern to our well-established accounting practices and including the environment as a new and important factor in our research endeavours? Such evidence as exists suggests that such optimism may well be misplaced (see, for example, Newton and Harte, 1997). This is because the efficacy of environmental accounting as an advocate of the natural world, relies upon the use to which it is put and the systems it supports or challenges. If the bulk of accounting research is focused upon the business world and most environmental accounting works 'with the grain of business', then only if business is successful in adopting a more environmentally-benign posture (in part through the application of environmental accounting) can environmental accounting claim to be acting for the environment and its protection and enhancement. If environmental accounting works with the grain of business and
business continues to encourage desecration of the planet (albeit at a reduced rate) then, ceteris paribus, we need to conclude that our environmental accounting may, perhaps, being doing more harm than good. This is the thesis that this paper seeks to explore.

We seek to explore this thesis in three stages around which the paper is structured. The first stage comprises a brief outline of what is meant by managerialism and some of its implications - first in the context of ‘conventional’ accounting and then in an environmental (and sustainability) context. In the second stage of our attempts to support our argument we provide a review of the environmental accounting literature in an attempt to illustrate the extent to which environmental accountants are (unwittingly?) managerialist in orientation. The final stage of the argument involves the reporting of an empirical study which acts as a practical illustration of the dangers of assuming that managerialism can deliver sustainability. This comprises a report of an international field and questionnaire study of large transnational corporations (TNCs hereafter) and their activities and attitudes to both sustainability and accounting. The link between the three elements - TNCs, sustainability and accounting - is a complex, even tortuous, one because, inevitably, researching something which is not happening (accounting’s support for moves towards sustainability) by reference to a profound notion which is little understood (sustainability) is less straightforward than one might wish one’s empirical research to be. We deal with - and try to explain - this set of relationships and implications in the later part of the paper wherein we report on the study. We suggest that the conclusion, however, is clear: namely that we would be ill-advised to assume that sustainability was safe in the hands of business.

Accounting and Managerialism

Whilst accounting might well be designed to serve many purposes - accountability, control, reification, truth-telling or whatever - it is something of a truism to say that ‘conventional’ accounting (i.e. accounting as it is typically practised, taught and researched) is managerialist. We are using the term here to specifically refer to the notion that conventional accounting is a managerialist practice in that it both supports organisations in their conventional pursuits and is an essential mechanism in the workings of international financial capitalism in the pursuit of its conventional objectives. The term, thus, is just a shorthand for the implicit assumptions (see Tinker et al., 1982) about our current systems of economic and business organisation which are built into conventional accounting practice, policy, teaching and (largely) research.

For many - perhaps the majority - of accounting researchers and teachers this observation that accounting supports and encourages the status quo is an unexceptionable one. Although typically held implicitly, the dominant assumption in accounting is that neither the nature of business nor business’ pursuit of its conventional objectives of growth, profit etc., are in any way contentious. Indeed, business, profits, etc., are all assumed to be incontestably desirable. This is often captured under the trite - but important - phrase: what is good for business is good for society. Whilst it may be that business is, in general, “good” for society, it is surely uncontentious to suggest that this need not necessarily be so. That is, if it is possible to imagine that our current systems of business and economic organisation are not necessarily the basis for the best of all possible worlds, one then admits to their imperfection and, consequently, the desire for improvement. Further, whether the argument is considered ethically or empirically, it is difficult to demonstrate that our current system of capitalism does indeed bring the greatest benefit to the greatest number. For the present purposes in this paper, it is sufficient that such arguments can be recognised as having worth - it is not necessary to accept them at this stage.

The point is that business (with the help of accounting) in pursuing its own objectives can - and frequently does - cause “bads” and well as “goods” in society. To the (perhaps implicit) supporter of modern liberal capitalism, the bads are the eggs one has to break in making the economic omelette but, it is assumed (typically implicitly), that the goods outweigh the bads. Whilst we would find it difficult to accept such an interpretation of the relative weights of the goods and the bads, we recognise that it is virtually impossible to offer any uniquely persuasive argument for or against such a view and, indeed, the more optimistic view is the more widely held - especially amongst accountants. At least, the evidence may, indeed, be apparently equivocal when we are considering social goods and bads. Consequently, whatever one’s own beliefs, it is necessary to recognise that there may well be a (albeit equivocal) basis on which to justify accounting’s support of business and financial systems.

When we turn to environmental goods and bads it is, we argue, much more difficult to maintain the optimistic view.

Accounting, the Environment and Sustainability

There is little question that western capitalism has been immensely successful in creating a higher level of material consumption (perhaps even well-being) for an increasing, but still relatively small, proportion of the planet’s population. But, by the same token, it is not in question that the planetary environment is declining seriously and rapidly.

The principle employed to articulate this situation is that of sustainability. Sustainability - or its less threatening sounding analogue "sustainable development" - is 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).

It is a deeply challenging notion and one which is still little understood. For these reasons, plus its centrality to the empirical work we will report later in the paper, it is worth spending a little time examining what it means.

It is definitionally the case that sustainability relates to both present and future generations and that it requires that the needs of all peoples are met. Those needs are both social and environmental. It is common to refer to these social and environmental needs as, respectively, eco-justice and eco-efficiency - and of these two, eco-efficiency commands by far the greater attention, (see below when we review the environmental management accounting literature). Eco-justice tries to capture the idea of equity between peoples and generations and, in particular, the equal rights of all peoples to environmental ‘resources’. Eco-efficiency (which captures the notion of reducing, for example, material and energy inputs per unit of output), although a useful concept, needs to be distinguished from eco-effectiveness (which captures the idea of reducing our overall ecological footprints). For sustainability to be achieved we need to feel confident that all elements: eco-justice, eco-efficiency and eco-effectiveness are met for both current and future generations. These elements are summarised in Figure 1.

Much of the evidence referred to in Figure 1 comes from the United Nations conference organised 5 years after the Earth Summit (sometime referred to as Rio+5) which concluded that all the major sustainability indicators had worsened since the Rio Summit. The only conditions that might possibly be satisfied - and only then if one was very optimistic - were those relating to eco-efficiency (and eco-efficiency is irrelevant in the face of declining eco-effectiveness). It is a depressing scenario but leads unerringly, we would argue, to the belief that not only are the world’s present methods of business and economic organisation unsustainable but they are becoming more so.
The presence of such implicit managerialist assumptions is assumed in one of two ways. In burgeoning environmental accounting literature, it does this by structuring the review empirically by attempting to provide an overview of the field, but it is based is fairly straightforward. We are aware of no systematic counter-arguments and, indeed, we would actually argue that no counter argument against accounting's implicit assumptions can be put - although we would welcome such argument. The crucial point is that accounting which takes the business agenda as given and is thus managerialist (and this includes much environmental and social accounting) will assume that the arguments above are of no value and therefore fail to address them. To assume that current business and economic organisation will deliver environmental security and sustainability does not provide any support for the notion that it can deliver such things.

Thus, central to any discussion of accounting and the environment is a basic, challenging and deeply unsettling question: do we believe that the organisations which accounting serves and supports can deliver environmental security and sustainability? This paper seeks to explore this question in two ways: first by attempting to demonstrate that the majority of environmental accounting research maintains the implicit assumption that what is good for business is good for the environment; and then, second, by demonstrating that even large well-informed businesses are unable to deliver on sustainability because (inter alia) (a) they frequently have little understanding of the concept and (b) they are themselves constrained by, primarily, accounting and financial systems. Our conclusion is that only a critical, self-reflective - indeed, challenging - environmental accounting can make any claims on that then follows, it would seem, is whether business and accounting are important root causes of the problem or, at least, whether they are importantly implicated in the present acceleration away from sustainability. Equally contentious, and regardless of one's answer to the first question, can business and accounting (or at least business and accounting as currently conceived) be part of the solution? - a solution which is clearly necessary to move our economic organisation back towards less unsustainable paths.

These issues are important - and they are complex. They are important because the consequences of unsustainability - as currently experienced by millions on the planet - are appalling, grotesque and immoral. At their worst, (and at the most anthropocentric) the rapidly degrading environment threatens the continued existence of, not just our current ways of life, but of any way of life.

The issues are complex for a number of reasons. We are not only dealing here with a set of profound ideas which challenge centuries of western thought but also with a lack of scientific certainty about the actual state of the planet and the consequences of further planetary degradation. That complexity is worsened because, whilst some of the links between economic and business activity and the state of the natural environment are fairly obvious, it is too complex a link to "prove" uniquely and simply. Further, is the responsibility for this condition one for which we should hold business responsible? - and if not, whose responsibility is it?

And, then, where do we fit accounting into the picture?

We will not attempt to settle these questions here. We do, however, maintain that any careful review of the issues and the evidence places business and economic activity at the heart of the environmental crisis. Business and our systems of economic organisation, whether or not one wishes to attribute responsibility, are implicated in the current social and environmental crisis. That, it seems to us, is sufficient reason to wish to examine the issues. Equally accounting is implicated in the environmental crisis.

More specifically, (returning to our opening comments), accounting serves - and is essential to - current economic organisation and business. Environmental accounting, if it follows the pattern of the vast majority of other accounting will, similarly, tend towards servicing and supporting current business and economic organisation. If that business and economic organisation is demonstrating a malign consequence - such as environmental degradation - then it follows that a conventional environmental accounting is supporting and encouraging that environmental degradation. Thus accounting is equally complicit with business in environmental degradation.

This link between accounting and environmental degradation is well-established in the literature now (for a summary, see, for example, Eden, 1996; Gray et al., 1993; Gray and Bebbington, forthcoming) and the logic on which it is based is fairly straightforward. We are aware of no systematic counter-arguments and, indeed, we would actually argue that no counter argument against accounting's implicit assumptions can be put - although we would welcome such argument. The crucial point is that accounting which takes the business agenda as given and is thus managerialist (and this includes much environmental and social accounting) will assume that the arguments above are of no value and therefore fail to address them. To assume that current business and economic organisation will deliver environmental security and sustainability does not provide any support for the notion that it can deliver such things.

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In order to reach this conclusion, the paper, first, sets the scene for the later empirical study by attempting to provide an overview of the burgeoning environmental accounting literature. It does this by structuring the review with especial reference to support our contention that the implicit managerialist assumptions of conventional accounting are being (largely) reproduced in environmental accounting. The presence of such implicit managerialist assumptions is assumed in one of two ways. In many pieces of work it is quite clear that the
evidence continues to emerge, this conclusion seems increasingly plausible and increa
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exploration of how the accounting system could be employed to identify, seek out and
language,. Other such reviews do exist, (see, for example, AICPA, 1991; CICA, 1992; 1993
rather than primarily researcher, emphasis. Consequently, our coverage emphasises the academic literature with much less attention on
the (now burgeoning) professional literature.
Further, we generally find it convenient to think of environmental accounting as comprising a number of themes - these are summarised in Figure 2. In order to give the review structure, we have broadly based our brief overview of the environmental accounting literature around these themes.

Figure 2: Themes in Environmental Accounting

Management Accounting, Environmental Management and Auditing

One of the earliest business-orientated manifestations of the growing environmental agenda of the early 1990s was the development of environmental auditing. Although the term was used to cover many different activities, each of them represented a recognition that one of the first steps any business needs to take is to assess the extent of its exposure to the environmental agenda. This interest, in turn, was reflected in the public policy arena where BS7750, EMAS and, now, the ISO14000 series of standards expanded the interest in environmental auditing to the most demanding requirements of environmental management systems (EMS). Once EMS became established it did not take long before it was recognised that accounting not only needed to know something of the field but also had a significant role to play in its development and success. Texts appeared (see, for example, Gray et al., 1993; Ditz et al., 1995; Epstein, 1996; Bennett and James, 1998b) which drew from practice - often experimental practice - and provided both investigation and guidance on the ways in which accountants might adapt, inter alia, their budgeting, investment appraisal, costing and performance appraisal systems to support and refine the emerging EMS. Neither the accounting profession (see, for example, AICPA, 1991; CICA, 1992; 1993) nor non-accounting bodies (see, for example, the US Environmental Protection Agency, the World Resources Institute, The Tellus Institute, the International Institute for Sustainable Development) were slow to recognise the central role that accounting had to play in the development and monitoring of EMS.

A number of themes were immediately apparent as management accounting was cajoled into responding to environmental issues. In Northern Europe - and, especially, Germany and Austria - the central position of EMAS and the ökobilanz was highly influential. When coupled with (what frequently looks like) the more engineering focus in Northern European accounting (as opposed to, say, the economics focus of Anglo-American accounting) the combination led to exploration of how to most accurately and precisely measure the physical flows - of energy, materials, wastes etc., - and their associated costs. (See, especially, Schaltegger et al, 1996, but also see, for example, Bouma and Wolters, 1998; White and Wagner, 1996; Gelber, 1995). Whilst the, almost mechanistic, search for precision does not sit comfortably with Anglo-American traditions - in either practice or research - there remains much that can be learnt from both the experiences with EMAS and the importance of the ökobilanz in both managing and reporting on an organisation's environmental interactions.

For the Anglo-American community, the emphasis is most clearly on seeking ways in which to exploit the so-called "win-win situations" (Walley and Whitehead, 1994) that could be derived through "eco-efficiency". Central to this, significantly managerialist, literature is the exploration of how the accounting system could be employed to identify, seek out and exploit financial savings in, for example, resource usage, wastes, energy and emissions, that would, of necessity, also lead to reductions in the corporations' environmental impact. (For examples and illustrations, see Ditz et al., 1995; Epstein, 1996; Bennett and James, 1997a; 1998b).

Following the first wave of publications which, generally speaking, explored the possibilities and potential for accounting in the early 1990s, the more scholarly and formally-orientated research literature is only now beginning to emerge with any substance. Several themes are emerging here. First, it is apparent that accountants have been slow - even reluctant - to initiate the sorts of changes which EMS requires of the accounting system. (see, for example, Bebbington et al, 1994; Wang et al., 1997; Guiding and Kirman, 1998). In part, this seems to be an illustration of some of the failings in accounting education and training (see below). However, it also seems to be the case that, in the first flush of enthusiasm for environmental accounting, it was usually forgotten that change - and, especially, organisational change - is a complex and little understood process (see, for example, Gray et al., 1995). Indeed Newton and Harte (1997) accuse both the accounting and management literatures of resorting to kitsch - assertion, unwarranted optimism, cajolery and aspiration - in place of more critical analysis of the issues at the heart of accounting's response - or lack of it - to the environmental agenda.

But deeper issues are also beginning to emerge. Key to the environmental management literature - and the accounting literature which follows it - is a largely unquestioned acceptance of EMS. There are two major problems with such simple-minded acceptance. First, eco-efficiency relates to reducing the inputs for a given level of outputs - it is a ratio. If, however, the organisation's output is rising, its overall environmental impact - its ecological footprint or eco-effectiveness - will continue to rise. This is, in fact, the case. The environmental (and social) impact of industrialisation and consumption is rising despite some significant improvements in eco-efficiency. Second, there must be profound doubts about the regime of EMS itself. In the first place, the dominance of the ISO14000 series is establishing EMS at the lowest common denominator (see Krut and Gleckman, 1998, for an especially good analysis of this). In the second place, the EMS emphasis on monitoring environmental performance as opposed to actually being concerned by environmental impact largely misses the crucial point that the environmental crisis is facing us with a fundamental challenge to our methods of business and economic organisation (see also below). In this, EMS and environmental audit are especially clear cases of Power's "audit" thesis in which he argues, in essence, that auditing activity has come to replace undertaking activity. (Power, 1991; 1997a; 1997b). As the evidence continues to emerge, this conclusion seems increasingly plausible and increasingly concerning. Management accounting research, it would seem to us, has yet to get to grips with this issue.
Environmental Issues and Financial Statements

There is probably only one line of research which runs unbroken from the early interest in social accounting through to the current interest in environmental accounting. That line of research is that which investigates the statistical relationships of corporate environmental (and social) disclosures, corporate characteristics, environmental (and social) performance and financial performance. (See, for example, Freedman and Jaggi, 1986; 1988a; 1988b; Freedman and Stagliano, 1995; Freedman and Ullmann, 1986; and see Ullmann, 1985 for an early summary). This, almost uniquely, US research draws from data which has not, until recently, been available in other countries and it is probably fair to say that the positivist research paradigm which has been so influential in both the US and in other non-US schools influenced by the US traditions. The growth in both environmental awareness and the impact of environmental matters on the financial statements has tended to provide further impetus for research in this mould.

Much is learnt from this literature - most especially, that financial performance is only loosely linked to environmental performance in all but the most extreme cases and that, on the whole, investors are interested in environmental issues only to the extent that it affects their financial well-being. The dominance of a positive focus on, primarily, remediation and liability which appears to be so dominant in the US (see, for example, Kennedy et al., 1998; and see Abdolmohammadi et al., 1997; for an overview) is just beginning to carry into research outside the US. However, given the generally low levels of financial disclosure on environmental matters in the financial statements in other countries, there is not yet a substantial body of evidence about such matters outside the US. So, it falls to researchers to try and abandon the most obvious aspects of positivism and try to research "absence" (Choudhury, 1988) - whether it be absence of accountants or accounting disclosures, for instance. But here again, we not only find an unwillingness or inability of accountants to take the initiative (see Bebington et al., 1994; Wang et al., 1997; Guilding and Kirman, 1998; and see also Jaggi and Zhao, 1996) but an overwhelming reluctance in accountants to undertake actions for which there is no (as yet) formal accounting guidance (see, for example, Gray et al., 1998). As the regulation of environmental disclosure grows (as it has done in Sweden, Netherlands, Denmark and Korea, for example) we can hope to see more studies of environmental accounting in the financial statements and its effects. But this should not blind us to the peculiarities of a profession which only acts when instructed to do so.

The other strand of enquiry and experimentation which seems to be growing in popularity in this area of financial statements echoes the early experiences with social accounting. That is, there have been examples of organisations attempting to undertake much-needed experimentation with what financial statements might look like if they were to reflect the wider environmental issues. Again, in a manner which echoes the social accounting experience, the value-added statements of BS/Origin (see, for example, Huizing and Decker, 1992), the environmental financial statements of Baxter Health Care (see, for example, Bennet and James, 1997b), Landcare Research's attempts to define sustainable costs (see, for example, Bebington and Tan, 1996; 1997; Bebington and Gray, 1997) and Ontario Hydro's experiment with incorporating externalities (see, for example, Environmental Protection Agency, 1996), expose both the limitations of current financial accounting theory as well as the grave difficulty of seeking to incorporate the full range of environmental issues into a simple financial statement.

The important issue for us, here, is whether or not the conventional measures of success (typically profit) are in conflict with environmental protection. As will have been apparent from the arguments considered above, there seems no doubt in our mind that profit as currently measured and sustainability are in profound conflict. This does not mean, necessarily, that all measures of profits need be in conflict or that it would not be possible to imagine a regulatory and fiscal structure within which profit as currently measured could not be in keeping with that sustainability. Our view is only that profit as currently measured demonstrates that conflict. Consequently, any research which appears to take the current form of financial statements as an unremarkable given, must (from this point of view) be demonstrating the managerialism which so concerns us.

But there is a further, related issue here. The financial statements have a dominant place in organisational performance. It is, we would argue, their very primacy as the measure of organisational success and the way in which that measure is founded upon fundamental assumptions we accountants make in our calculation of profit that is at the very heart of the causes (or, at least, implicated in those causes) of environmental degradation. (see, for example, Gray, 1992; Bebington and Gray, 1993; Bebington, 1997; Owen et al., 1997).

That is, we currently produce as the dominant measure of organisational performance a figure which inherently discourages environmental (and social) responsibility. Consequently, as most accounting research inevitably takes the financial statements for granted and examines the environmental crisis through that lens it offers no substantive challenge to environmental degradation. If, however, we placed either society or the environment at the heart of our analysis, we would expect that we would find it difficult to justify the financial statements (as currently understood) on the grounds of their contribution to environmental and social justice. This, it seems to us, leads to the conclusion that financial statements are at the heart of the environmental problem and, under current conventions, cannot be part of the solution. At a minimum, we would see that their primacy must be, therefore, reduced. In an 'ideal world, they would probably need to changed in profound and fundamental ways. This, it seems to us, is a perfectly respectable academic view but it is not one which commands widespread acceptance amongst accounting researchers, (as yet, see below on sustainability). For very understandable reasons, accounting academics seem (at best) reluctant to challenge the very core of financial accounting practice - even if that challenge can be shown to be in the best interests of the environment and society.

Auditing

Where issues are affecting the financial statements, the statutory financial audit must take notice. Despite this, researchers have, it would appear, been slow to pick up on the very real implications that environmental issues can have for the attestation of financial statements. Whilst professional accountancy bodies are addressing such issues - and even commissioning research into the area (see, for example, Kamp-Roelands, 1996) we are only aware of substantial investigation of this area in the UK. In the UK Collison (Collison, 1996; Collison and Gray, 1997; Collison et al., 1996) has identified a growing concern amongst auditors about the potential risk exposure they face as a consequence of the environmental impact on the business. Such concern, however, seems to be largely limited to the larger firms of auditors and this, in turn, seems to be explained by the firm's own level of awareness of the issues - the more one is aware of the potential impact of environmental issues the more anxious one becomes. The majority of audit firms do not yet, it seems, have a very detailed understanding of what environmental issues mean for their clients and their financial statements.

Equally, there are growing demands upon auditors to either include environmental data in their attestation of the financial statements and/or to attest independently to environmental data in, for example, an environmental report. These demands place additional strains upon the auditor and audit function (see, for example, Tozer and Mathews, 1994) and, given the especially poor quality of (so-called) independent attestation to environmental reports (See Stephens et al, forthcoming) these pressures seem set to grow. At the same time, we might begin to ask, yet again, about the purpose of financial statements and the auditors' attestation thereto. If the statements and audit report are purporting to present a fair picture of the organisation's performance but omitting one of - if not the - largest potential
threat to the continuance of mankind, we might well be anxious about the claims of the accounting and audit professions to be, *inter alia*, serving the public interest.

Environmental Reporting

If there is one area which accounting researchers have embraced with enthusiasm it is the phenomenal growth in environmental reporting by organisations. The research in this area has been dominated, initially at any rate, primarily by studies descriptive in orientation. Such studies typically employ some variant of content analysis, (see, for example, Milne and Adler, 1999; and Gray et al., 1995b). Both country specific studies and comparative studies have recorded an upward trend in environmental disclosure both through the annual report and through stand-alone environmental reports. However, analyses of the phenomenon (see, for example, Gray et al., 1995a; Hackston and Milne, 1996; Fekrai et al., 1996; Pava and Krause, 1996; Adams et al., 1998) confirm that such reporting is principally restricted to the very largest companies and is, to a degree at least, country and industry variant. Research into environmental disclosure is developing rapidly with examinations of the impact of pressure groups (Tilt, 1994) and other external forces (Gray et al., 1995; Deegan and Gordon, 1996), exploration of user's needs (Epstein and Freedman, 1994; SustainAbility/UNEP 1996; Deegan and Rankin, 1997), focus on particular aspects of reporting (such as environmental policies, see Tilt, 1997), exploration of the truthfulness of environmental disclosure (Deegan and Rankin, 1996) and much needed theoretical development (see, for example, Patten, 1992; Roberts, 1992; Gray et al., 1995a; Buhr, 1998; Adams et al., 1998; Brown and Deegan, 1998; Neu et al., 1998).

Environmental reporting takes place in a predominantly voluntary regime and with the continuing interest in voluntary guidelines for such reporting (see, for example, KPMG, 1997b), such surveys of practice are crucial in keeping attention focused on the doubtful quality and, especially, the global paucity of such reporting. If environmental reporting is important (for social accountability reasons even if it is of dubious 'financial user need' value) then the predominant view of business - that environmental reporting is adequate in a voluntary regime - must be challenged. Whilst the early research into environmental disclosure appeared to be so delighted that any such disclosure was taking place, this acquiescence has given way to a more critical analysis of practice. This analysis, primarily informed by the 'critical school' (Laughlin, 1999), comprises three main themes. The first two of these themes are, in essence, the same critique made of social accounting. First, accounts of any kind are necessarily partial and biased constructions of a complex world. Not only do such constructions, by making some things visible, make other things invisible (Broadbent et al, 1994) but they are most likely to limit and even destroy the essential nature of the thing accounted for. (See, for example, Maunders and Burritt, 1991; Maunders, 1996; Cooper, 1992; Johnson, 1998a; 1998b). Second, the critical theorists would argue that as environmental reporting is a voluntary activity it can only reflect those aspects of environmental performance which organisations are willing to release. It can, therefore, only be a legitimisation device and not an accountability mechanism. Consequently, the critical theorists argue, environmental accounting - including environmental reporting - is almost certain to do more environmental harm than it does good. These two themes are now developing into an important - if, as yet, unresolved - theoretical debate which seeks to counter the inherent managerialism of most accounting (and environmental accounting) research. The final theme in the critique of environmental disclosure develops the issue of the voluntary nature of environmental disclosure and brings a much-needed re-assessment of the importance and role of law in the construction of society. Specifically, Gallhofer and Haslam (1997) could be taken to use researchers' views on the role of regulation in governing environmental reporting as an indicator of the researcher's managerialist or alternative perspective.

In essence, a non-managerialist environmental reporting would have to challenge an organisation's legitimacy and, in particular, the legitimacy of the means by which it earned the reported profit and gained its growth. The critical challenges to environmental reporting are not ill-founded when they remark that too little environmental reporting research examines this question to any substantial degree.

Social Accounting and Reporting

One of the more inexplicable, although exceptionally welcome, consequences of the growing environmental agenda has been the re-emergence of a serious interest in social accounting. This is not the place to try and review, in any detail, the broad social accounting literature (see, for example, Gray et al., 1996) - although a few general observations seem apposite. Social accounting had its principal heyday in the 1970s but, although some researchers maintained an active interest in the field, it virtually disappeared from the popular consciousness of accounting academe during the 1980s and 1990s. Its re-emergence seems not unimportant that (a) a significant amount of social and environmental information is not currently reported in the annual report and through stand-alone environmental reports. However, analyses of the phenomenon (see, for example, Gray et al., 1995a; and Hackston and Milne, 1996). Work by Roberts (1992), Pinkston and Carroll (1996), Patten (1995), Epstein and Freedman (1994), Mathews (1995) and Robertson and Nicholson (1996) continues to keep the social responsibility/accounting debate moving forward whilst, simultaneously, we are starting to see a re-emergence of normative work designed to guide how social accounting might be accomplished and what it might look like. (See, Zadek et al., 1997; Gray et al., 1997; Gonella et al., 1998).

Accountants and Accounting Education

To see the foregoing developments in environmental and social accounting in a vacuum would be a mistake. There is still much work to be done on attempting to explain how, if at all, accounting research and practice in general (and environmental and social accounting research and practice in particular) reflect changes in broader society - and why they change in the way they do. Closer to home, however, there has been evidence that (to our mind at least) suggests a maturing process in the academic accounting profession (even if such a maturation is less apparent in practice). That is, underpinning much of the work we have so briefly reviewed above, is a growing - and critical - examination of the characteristics of accounting education and accountants themselves as well as the link, if any, between these two. Again this is too complex an area to rehearse in any detail here but it does not seem unimportant that (a) a significant proportion of research into accounting education and, especially, the ethical dimension of that education has involved social and/or environmental accounting in its enquiries; (b) that research into environmental accounting is finding accountants reluctant - and/or unable - to be innovative in the field; and (c) this has been accompanied, in turn, by increasingly anxious recognition of the negative role played by accounting teachers in the area. (For summaries see, for example, Bebington et al., 1994; Brown and Goulding, 1993; Francalanza, 1997; Gray et al., 1994; Guilding and Kirman, 1998; Humphrey et al., 1996; Lewis et al., 1992; Loeb, 1988; Mathews,
1995; Owen et al., 1994; Wang et al., 1997). The essence of the literature is that accounting educators indoctrinate their students through a slavish attachment to the professional syllabus and thereby produce students who are ethical immature, intellectually passive and largely incapable of innovation. That practitioners may find this result surprising is little surprise. Such concerns (particularly about education) go some way towards explaining why, despite the demands of both the corporate sector and the environmental movement, accountants' response to the environmental crisis remains fairly lukewarm and predominantly constrained by GAAP.

Such matters might concern us whatever our views. When faced with the exigencies of sustainability, such matters become importantly critical.

Sustainability

If there is one area of environmental (and social) accounting where the researchers' worldview is crucial is the area of sustainability. Although accounting and finance research is only just beginning to identify sustainability as an issue of concern, the literature is already showing an important dualism. On the one hand there are the explorations - both theoretical and empirical - which set out to try and understand sustainability from first principles. Mauders and Burnitt (1991), Hines (1991), Gray (1992), Bailey and Tozer (1993), Bebbington and Gray (1993), Burnitt and Lehman (1995), Tomimasu (1996), Milne (1996) and Lamberton (1998) all offer analyses which conclude that accounting is not only implicated in the environmental crisis and the growing levels of unsustainability but that accounting and business are, in their current form, fundamentally inimical to any serious attempts to move towards sustainability. Empirical work in the field is more difficult - another case of research absence - but empirical explorations by Rubenstein (1994), Jones (1996), UNCTAD (1996), Bebbington and Tan (1996; 1997), Bebbington and Thomson (1996) and Bebbington and Gray (1997) all provide convincing evidence that supports that point of view. And such conclusions are in accord with the wider, non-accounting, sustainability literature, (see, for example, Redcliff, 1992; Gladwin et al., 1995; 1997; O'Connor, 1997; Welford, 1997).

Such literature, in its explicit recognition of an uncomfortable conflict between current accounting and business assumptions and the future of the planet contrasts starkly with a growing literature which is entirely business-centred. This latter literature can be characterised by the assumption that sustainability is a recent accounting and business phenomena, (that is, sustainability is not as yet) in the accounting literature, (but see, for example, Stone, 1995; Bebbington and Thomson, 1996; and Bebbington and Gray, 1997; for an analysis of this issue). However, the matter is treated in a much more explicit fashion in the business and literature where the divergence between fundamental analysis of sustainability and the "sustainability equals eco-efficiency" split is more apparent, (see, for example, Eden, 1996; Beder, 1997; Welford, 1997). This latter, managerialist, stream of the literature, so often underpinned by active business lobbying, seems designed to convey the message that sustainability is safe in the hands of business. This, in our view, is one of the most worrying developments in the literature and one in which accounting and accounting research is very heavily implicated.

The link between accounting and sustainability is not a direct one; it needs the intervening variable of business and economic organisation. To research such a link is, obviously, not straightforward. However, given that we know the critical role that accounting plays in business and economic organisation, if we could demonstrate that (i) business - in some sense - was taking over the environmental and sustainability agendas; and (ii) that it was doing so in a way which significantly failed to take full account of the implications of those agendas, then we would have prima facie evidence of accounting's implication in the process which was producing the acceleration away from sustainability. Furthermore, if we could show that "business" was not homogeneous and, even when it sought to pursue (what it thought of as) sustainability, accounting and financial systems were amongst the principal impediments, then, we believe, we would have fairly convincing evidence that a managerialist approach to accounting and accounting research was, indeed, working against sustainability. This is what we seek to achieve in the last part of the paper.

Background to the Study

This section of the paper reports selected data and analysis from a wider study whose purpose - at least superficially - was to explore the extent to which accounting and accounting methods were supporting or impeding TNCs in their attempts to embrace sustainability. Such a research purpose inevitably begs the questions - do TNCs know what sustainability means? and are they, indeed, seeking to embrace the agenda? Such evidence as existed prior to the study suggested that both questions should attract a negative answer. A brief introduction to that evidence is provided before we turn to the data itself.

It is well-established that the size and influence of TNCs is enormous, (Feld, 1980; Hamilton, 1984; Bailey et al., 1994a; 1994b; Korten, 1995; Hirst and Thomson, 1996). In accounting, the TNCs attract a significant proportion of practitioners and, typically, is employed as an analogue for eco-efficiency (which it clearly is not). Unfortunately, perhaps, because such use of sustainability is at the level of implicit assumption, its influence is more difficult to identify (as yet) in the accounting literature, (but see, for example, Stone, 1995; Bebbington and Thomson, 1996; and Bebbington and Gray, 1997; for an analysis of this issue). However, the matter is treated in a much more explicit fashion in the business and literature where the divergence between fundamental analysis of sustainability and the "sustainability equals eco-efficiency" split is more apparent, (see, for example, Eden, 1996; Beder, 1997; Welford, 1997). This latter, managerialist, stream of the literature, so often underpinned by active business lobbying, seems designed to convey the message that sustainability is safe in the hands of business. We will not attempt to analyse the range and subtlety of influences which these organisations wield but rather we will focus on just one aspect of their power - that relating to the sustainability agenda.

The sheer economic size of the TNCs, the range of their products and services, their influence on consumption, government and international policy and developing countries, amongst other things, are all sufficient to make a prima facie case that TNCs have very significant environmental impact and influence, (see, for example, Amba-Rao, 1993). Environmental-business commentators - most notable Paul Hawken - have gone so far as to suggest that businesses in general (and TNCs in particular) are the only mechanism powerful enough to deliver sustainability, (see Hawken, 1992, p44). It is a widely embraced point of view. This view was most crucially manifested in the run-up to the Rio Earth Summit in 1992 when business - through the machinations of (particularly) the International Chamber of Commerce (ICC) and the (now) World Business Council for Sustainable Development (WBCSD) - succeeded in removing business and, especially, TNC and environmental accounting issues, from the Rio agenda on the grounds that sustainability was "safe in the hands of business". (For more detail see Gladwin, 1993; Gladwin et al., 1995; 1997; Beder, 1997; Beder et al., 1997; Mayhew, 1997; Welford, 1997). What the ICC and the WBCSD mean by sustainability and how it might be "safe in the hands of business" has been well and widely expressed, (see Schmidheiny, 1992; Schmidheiny and Zorraquín, 1996; Williams, 1998). For ICC and WBCSD, sustainability is to be equated with eco-efficiency and environmental management systems. For them, the primacy of growth and profitability - "business as usual" - are not open to question. Their case for sustainability must rest entirely upon assertion - no substantial evidence is (or can be) offered. (For more detail see Gladwin, 1993; Gladwin et al., 1995; 1997; Beder, 1997; Beder et al., 1997; Eden, 1996; Mayhew, 1997; Welford, 1997). Whilst it should not surprise us that business would wish to be removed from the searchlight of the Rio Conference, there are, equaly, no grounds for being comforted by this.

The activities of the ICC and WBCSD led us to question (i) to what extent do these bodies speak for TNCs? and (ii) to what extent do
companies - either passively or actively - acquiesce with the position of the ICC and WBCSD on the (entirely incorrect) meaning and implications of sustainability? A small, but increasing, number of corporations have publicly announced their opposition to the notion of "sustainability is safe in the hands of business". (For examples, see Bebbington and Thomson, 1996; Gray et al., 1995; 1998). Such public statements from high-profile companies such as Thorn EMI, British Telecom, Ciba-Geigy and IBM provide a powerful counter-hegemonic challenge to the ICC/WBCSD project. Whilst such statements may, of course, be treated with cynicism they do, nevertheless, demonstrate that (some) corporations wish to hand back responsibility for sustainability to nation states - where, indeed, such responsibility must reside if it is to mean anything.

The Research Study

The results reported here are derived from a research project commissioned by the United Nations Conference on Trade and Development's (UNCTAD) Intergovernmental Working Group of Experts on International Accounting Standards and Reporting (ISAR hereafter). The ISAR project - at least on the surface - sought to establish the role that accounting plays in the "incentives and disincentives for the adoption of sustainability by transnational corporations". The project was more subtle than this though. Whilst it is fairly well-established that current conventional accounting can contribute to a corporations' development of environmental management (as we have seen above and see, for example, Gray et al. 1993; Epstein, 1996), only imaginative reconstructions of "accounting" into, for example, environmental and social reporting, full cost accounting and sustainable cost calculations can begin to identify the very real conflicts between the exigencies of sustainability and the image of economic success presented by conventional accounting. If the project could demonstrate the impossibility - or, at least, extreme unlikelihood - of movements towards sustainability in an accounting-constrained and accounting-controlled environment then the study would have the political merit of clarifying that the removal of the TNCs and environmental accounting from Agenda 21 was a mistake and that assertions that sustainability was safe in the hands of business were incorrect.

The project sought to do this via reporting on case studies from "leading environmental corporations" in six countries and providing data from postal questionnaires returned by 116 corporate executives in 19 countries. The results, whilst clearly not generalisable, do offer a persuasive glimpse into the views No attempt to assess whether the functional specialism of the respondent influenced the results - in part because of the selection criteria and in part because of the very small numbers of non-environmental specialists. of many of the world's larger and "more-environmentally aware" TNCs.

Before moving to the specifically-relevant data, some descriptive results may be useful in setting the tone of the results. Figure 3 reports a selection of questionnaire respondents' views on the characteristics of sustainability.

FIGURE 3 ABOUT HERE

Figure 3: Corporate views on the nature of sustainability

(Percentages agreeing with the statement)

Breaking these results down into categories which indicate whether or not the statement is compatible with the sustainable development literature gives a useful insight into the extent of diversity of views about the subject. For example, whilst a large majority of respondents appear to be familiar with many of the basic assumptions of sustainability (as suggested by the large percentages shown in Figure 3 against the first statements), there are significant minorities of corporations whose views express either a "strong" sense of sustainability (over 22% doubt sustainability's compatibility with the profit ethic and over 30% doubt its compatibility with economic growth) or who clearly know little or nothing about the concept (as sustainable development, by definition, involves future generations, 31% of our selected TNCs clearly have no idea about the concept). What is clear from even this data is that TNCs do not speak with a single voice and that many TNCs have only the most basic understanding of sustainability.

This sense of there being three broad groups of views expressed by corporations emerged from the both the interviews and from other work (see, for example, Gray et al., 1998). That is, we might hypothesise that there is a substantial minority of businesses which is fully committed to the ICC/WBCSD line of reasoning; a smaller minority which fully understands the issues surrounding sustainability and has severe doubts about business' ability to deliver it; whilst, in the middle, there is a large group of undecided (and perhaps ignorant) organisations. It is the hearts and minds of this middle group that are going to determine the outcome of the sustainability "debate". It is for the hearts and minds of this group that the battle is being fought and whom the ICC/WBCSD is seeking to inculcate to their point of view. We return to this below.

With this broad grouping of businesses in mind, we can move to a closer examination of the respondents' views

Of particular interest are the factors that respondents cited as supporting or impairing the ability of their company to embrace sustainability (however understood). Taking the results as average scores across all the respondents, the following influences stood out. Extant law, market opportunities and national governments were all scored as the most important factors encouraging the pursuit of sustainable development. Indeed, only two factors were scored as discouraging sustainable progress and these were, significantly, the financial accounting system and other parts of the organisation. Relatedly, the three factors which were scored lowest in terms of the encouragement they provided for adoption of sustainable development were suppliers, capital markets and financial institutions.

Thus, even from a first, descriptive pass through the data we can conclude that TNCs do not speak with a single voice, many have little or no depth of understanding of sustainability, and yet, despite this, TNCs see the crucially important mechanisms of accounting and finance as offering either the lowest levels of encouragement or actively discouraging moves towards sustainability.

Respondents were asked a wide range of further questions about accounting and reporting. The diversity of responses held no surprises in that the sample appears to contain the normal range of companies - from those organisations in which the accounting and finance function dominate through to those where it is relatively passive. There was a substantial majority in favour of environmental reporting (as should be expected given that it is the large transnationals which are leading this development) but there was a greater diversity of views on social reporting. Accounting was seen as principally serving environmental management and, as previous surveys have shown, (see, for example, Epstein, 1996), there is a diversity in both the extent to which environmental management systems have been implemented and the extent to which accounting practices are supporting the development of EMS.

These responses do, at a minimum, demonstrate a diversity of views and practices - a diversity that we were unable to relate, statistically, to the size, industry, country of origin or diversity of operations of the respondent corporations. That is, we were unable to reject the hypotheses of no statistical associations between: (i) views on sustainability, (ii) views on environmental management, (iii) perceived influences on the company, and (iv) the role of accounting; with any of variables: turnover; industry; number of countries of
operation; or country of origin; at 5% level of significance or better. The one exception to this related to opinions relating to "hard sustainability" (see below) which was correlated with country of origin at 95% confidence (p=0.019). This seems to resonate with something which we instinctively expected to find. That is, experience here and elsewhere (see, for example, Gray et al., 1995; Welford, 1997) suggested that a "hard sustainability" response would reflect a corporate culture which itself would, most likely be the product of one or two senior executives. Some countries are, we speculate, more likely to throw up such executives - they certainly exist in Britain, Denmark, the Netherlands and Germany.

However, more relevant to the present paper were the results derived from a more detailed analysis of the views expressed. There were six major variables from the study that were of particular interest to us. These were:

- The level of respondents' agreement with statements associated with "soft" or "hard" visions of sustainability. This produced two respondent scores for "soft sustainability" and for "hard sustainability" respectively. The scores were statistically significantly inversely correlated with each other at the 99% confidence level (p=0.0048) - as should be expected if the measures are robust.
- The importance which respondents attributed to the work of the ICC, the WBCSD and their own industry associations on their (and the company's) view on what sustainability actually meant. This is subsequently referred to as the "ICC/WBCSD score".
- A summation of the importance attached by respondents to the role of accounting in each of a range of general business decisions. (These included such matters as strategy, investment decisions and performance appraisal). This variable is subsequently referred to as "the importance of accounting".
- A summation score of respondents' professed familiarity with newer "environmental and social accounting" methods that can, we might claim, offer some challenge to the way in which conventional accounting inevitably tends to ignore - or at least down play - the exigencies of sustainability. These methods included such issues as full cost accounting and social auditing. This variable is referred to as "accounting knowledge".
- A summation of respondents' views on the extent to which a range of accounting - including more conventional environmental accounting - and financially-related techniques and activities contribute towards helping the organisation move towards sustainability. (This included such matters as environmentally-screening investments, identifying contingent liabilities and financial risk assessment). This variable is referred to as "accounting help".

From the themes discussed in the paper, there are a number of relationships between these variables that we would expect to find. The most important relationship we expected to find was that positive views on "soft sustainability" would be highly related to the ICC/WBCSD score. That is, respondents subscribing to a soft sustainability point of view would be more likely to be in accord with and, probably, more influenced by the ICC and WBCSD. Initial analysis did not reveal such a relationship but, considering the data more carefully, if the ICC/WBCSD scores were grouped into "high", "medium" and "low", ANOVA allowed us to reject the hypothesis that the ICC/WBCSD score is unrelated to soft sustainability (p = 0.006). ANOVA did not, however, allow us to reject the hypothesis that the ICC/WBCSD score is unrelated to hard sustainability (p = 0.563). Further analysis suggest that this is a highly robust conclusion. For example, if the medium and low ICC/WBCSD scores are combined, regression shows soft sustainability significantly correlated with that score (p= 0.0013).

This important and robust conclusion (especially given the doubts one might have about the data) gives a great deal of confidence with which to support suspicions about the influence of the ICC and WBCSD. There seems to be little doubt that amongst a significant number of TNCs, attachment to a business-as-usual "sustainability" owes much to the ICC and WBCSD activities.

The potential role of the accounting variables is now relevant. It seems highly likely (see, for example, Gray et al., 1995; 1998) that organisations within which accounting is dominant ("the importance of accounting") are less likely to be able to conceive of sustainability in other than financial (i.e. ICC/WBCSD) terms. Similarly, we expect that organisations which see accounting as helping ("accounting help") moves towards sustainability will, equally, be of a more accounting orientation and more likely to be see sustainability in exclusively "soft" terms. This is, largely, what the respondents' views demonstrate.

Whilst the importance of accounting is not, as far we can assess, correlated with soft sustainability (a result for which we are unable to offer a robust explanation) it is highly correlated with the ICC/WBCSD score. A multiple regression with the importance of accounting as the dependent variable and soft sustainability and ICC/WBCSD as the explanatory variables shows that ICC/WBCSD "explains" 57% of the variability in the importance of accounting (regression coefficient has p = 0.0009). A simple regression, omitting soft sustainability, increases the explanatory power to 58% (regression coefficient has p = 0.0006). Relatedly, accounting help "explains" 26% of the variability in soft sustainability with a significant regression coefficient (p= 0.0155), while ICC/WBCSD "explains" 79% of the variability in accounting help with a significant regression coefficient (p = 0.0045).

As we explained above, we have restricted ourselves to reporting only the persuasive results. With data such as this, less persuasive results are as likely to be the result of "noise" in the data. By corollary, to have results of such persuasiveness in the circumstances is quite compelling to our mind. What seems apparent from this brief report of the data is that there is a very clear and significant interplay - even if we have not succeeded in fully modelling it from the data - between accounting orientation, soft sustainability and the influence of the ICC/WBCSD. That such a relationship exists and can be demonstrated lends relatively compelling support to our initial conjectures that the role of accounting and the lobbying and propaganda activities of the ICC and WBCSD are strongly implicated in pursuit of "soft sustainability" by business. That such an implication can be demonstrated seems to us, sufficient for our purposes here.

However, it is appropriate to note that we were unable to identify any influence of the variable accounting knowledge. Whether organisations know about the newer and/or more sophisticated accounting methods for introducing the harsh realities of sustainability into organisational information systems seems, as far as we can tell, to be an irrelevant factor in influencing TNCs' responses to the sustainability agenda. We have no wholly convincing explanation for this.

The survey demonstrates that amongst the better informed TNCs (we have to maintain that the sample shows this) there are a significant proportion who do not, cannot or will not accept the principal exigencies of sustainability. Even amongst those who would appear to recognise these exigencies, there would not appear to be - at least systematically - any willingness to follow through on those views in a manner which would threaten the conventional, financial and economic existence of the organisation. This is unsurprising, of course: as several of our interview respondents suggested, how can they as individuals, embrace a sustainability which, whilst they know it to be correct, threatens the organisation for which they work? These individuals must exist in a situation of cognitive dissonance
Concluding Comments

Our primary purpose in this paper has been to provide a brief introduction and review of the burgeoning environmental accounting literature. We have sought to give this review a focus by exploring the extent to which this new literature adopts - albeit implicitly - the traditional concerns of accounting and thereby adjudges its efficacy by the extent to which it is successful in aiding the pursuit of the traditional goals of business and economic organisation. For many, perhaps the majority, of academic accountants there is little or no conflict between an accounting which serves business and an accounting which serves the public interest. To justify this position, we need to demonstrate that business and economic organisation successfully serves that public interest. We find this difficult to justify.

Such a difficulty is more difficult still when one considers environmental issues and, most particularly, if (as do most environmentalists) we view environmental degradation as a systemic matter - the inevitable consequences of our system of organisation. If that is the case then it becomes very difficult indeed to demonstrate that our current systems of business and economic organisation are capable of delivering more environmentally (and socially) benign outcomes. To develop this thesis, the paper employed the lens of managerialism, sought to demonstrate the problems that may arise through a managerialist orientation and reviewed the environmental accounting literature in order to illustrate its managerialist - or at least managerialist by default - orientation. The final part of the paper sought to illustrate the consequences of this orientation by demonstrating that TNCs are, in all probability, incapable of delivering sustainability. The conclusion we draw is that if business cannot deliver sustainability and accounting - including environmental accounting - seeks to serve business then accounting (including environmental accounting) is almost certainly acting against the interests of a sustainable future.

This is not, however, intended as a counsel of despair, far from it. In the first place there is not any theoretical closure here. Whilst it seems to us that conventional accounting and business are essentially environmentally inimical (albeit, perhaps, systemically and unintentionally) this does not mean that accounting need act in this way. There are a number of positive messages to be taken from the environmental accounting literature. In the first place, it is almost certainly the case that reducing environmental impact and, in the longer term, ecological footprint, is a highly desirable activity. Accounting systems can help here but - and it is a major 'but' - accounting researchers must beware of believing that alone can deliver sustainability. It almost certainly cannot. Secondly, it is almost certainly the case that environmental reporting has been especially successful in opening up new areas of discourse and, together with the newer approaches to social accounting, begun to change the terms of the debate between business and society. Central to much environmental concern is the need for new discourse ethics and new terms of the 'social contract'. This is a new and difficult area - not least because it still doesn't get around the major power differences between the organisations and the public. Nevertheless, it seems that environmental (and social) accounting has a subversive, developmental, discourse role to play here. This, in very different ways, is the essence of the arguments of, for example, Lehman (1995; 1999) and Arnold and Hammond (1994). Arnold and Hammond demonstrate the way in which different interest groups employ "social accountings" to bolster their ideological position. Thus social (and thus environmental) accounting can be deployed in support of or in opposition to corporate interest. The key point is that hegemony is never complete and, carefully applied, environmental and social accounting has the potential to disrupt and change discourse in the public interest. From a different, communitarian, point of view, Lehman has explored the way in which the newer accountings - like social and environmental accounting - can be potentially crucial in the development of a more democratic civil society but that, again, the deployment of these accountings must be undertaken with an explicit recognition that its function must be society- (or environment-) centred, not implicitly and unconsciously business-centred.

Thus, environmental accounting has the potential to act as a legitimating device, bolstering extant business and economic organisation in the pursuit of the traditional goals - goals which, we believe, can all too easily be environmentally malign. However, this need not be the case. An environmental (or a social) accounting has a counter-hegemonic potential but that is a potential which can only be exploited if researchers and others involved in the development and deployment of the accounting act in a way which pays explicit attention to challenging potential of the accounting. Environmental accounting has considerable potential to open up new discourses around the business-society-environment boundaries and to renegotiate those boundaries (Power, 1994; Gray et al., 1995b). It is our contention that environmental accounting research has yet to fully appreciate - and rise to - this challenge. If it does not do so, then environmental accounting may - despite its honourable intentions - be encouraging environmental desecration. If environmental accounting is not to become an "environmentally destructive accounting" - as opposed to an environmentally-benign accounting - it must pay serious attention to its fundamental assumptions and be more self-consciously aware of its radicalizing and challenging potential.

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