Current Environmental Accounting Problematic: A Shift from Anthropocentrism to Ecocentrism

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Abstract

This study goes beyond celebration of catalogue of achievements in voluntary environmental disclosures in corporate annual reports, into actual commitment by the industrialised world in tackling environmental degradation. It critically evaluates the mainstream theoretical arguments, and contributions made by critical theory literature. Discussion then shifts to the failed promises of Marx and Habermas on ecological crisis. As a way forward, an ecocentric perspective is introduced, one that draws upon an ecologically informed philosophy of internal relatedness to narrow the gap between 'good news' environmental disclosures and actual commitment to environmental protection. The paper ends with some limitations of ecocentrism, followed by discussion and conclusion.

Introduction

There has clearly been no lack of attention to the deterioration of the global environment during the last decade, yet there are serious grounds for arguing on the lack of decisive action to protect the environment by the industrialised world. This, therefore problematises ecological confidence, and suggests that celebrations of achievements through voluntary disclosures in corporate annual reports might be misplaced. Numerous individuals and groups, including researchers in accounting have strived to keep the environmental discourse on the international agenda. Environmental accounting was at its infancy in the 1980s' but mid 1990s' witnessed a rapid rise in literature in the area. Currently there is no dearth of publications in academic and professional journals, conference presentations and ongoing research, including establishment of centres for research into environmental accounting (for example, the Centre for Social and Environmental Accounting Research at the University of Glasgow and the Asia Pacific Centre for Environmental Accountability based at the Australian National University). Doctoral research in the area has increased and accounting programmes in universities throughout the world incorporate social and environmental accounting as a separate subject or as part of the curriculum in accounting theory subjects (Deegan, 2002). Moreover, research results throughout the world demonstrate that voluntary disclosures on social and environmental issues in corporate annual reports have increased significantly.

It is evident in this post-modern world that corporate annual reports have moved away from narrow financial disclosures to the disclosure of a number of broader social issues for a larger audience on a voluntary basis ranging from information about employees, political and charitable donations, environment pollution, social audit and other social information. One needs to question the reasons for a sudden increase in these broader disclosures. Some may argue that such actions on the part of the preparers of corporate annual reports may be nothing but a giant public relations campaign. From a more critical perspective the above may be seen as 'celebrations' by researchers, accountants and corporate management. We call them 'celebrations' because corporate management and researchers/scholars are content to see a lot more voluntary disclosures in the present day corporate annual reports and other periodic circulations. Annual report of corporations these days are filled with information that

celebrate successful corporate actions but negative consequences of their actions such as externalities from pollution as costs to the society are never highlighted, thereby silencing injustices (Chwastiak and Young, 2003).

We argue that there is a need to go deeper into such voluntary environmental disclosures and understand the motives for their form and choice. We further argue that there is frequently a chasm of insurmountable proportion between voluntary social and environmental disclosures and the real commitment to act on such principles. The gap between voluntary environmental disclosure practices and the actual tackling or commitments to environmental performance of corporations cannot go unaddressed for long.

If the planet has not become any safer than say what it was last 30 years or so, and continues to deteriorate, then the catalogue of achievements with regard to voluntary environmental disclosures in corporate annual reports do not provide much grounds for celebration (see for instance, Gray and Bebbington, 2000, Gray, 2002, Gray and Milne, 2002). We continue to suffer from 'green planet blues'. Previous studies of the relation between the corporate environmental performance and environmental disclosure in financial reports consistently document a lack of significance (see for example, Ingram and Frazier, 1980, Wiseman, 1982, Freedman and Wasley, 1990). A recent study by Patten (2002) reports a significant negative relation between environmental performance and related disclosure in annual reports identified using both content analysis and a line count. The findings support the argument that companies with worst environmental performance records (highest levels of toxic releases) provide most extensive environmental disclosure.

Given the widespread variation in social and environmental disclosure, it is not surprising that a number of narrow, human-centred overlapping theories of such disclosure have evolved (for example, legitimacy theory, stakeholder theory and political economy theory). We argue that a thoroughgoing ecocentric theory on environmental issues is capable of providing a more comprehensive theoretical framework to the current ecological crisis. The central theme that runs through this study draws upon social and political theory literature, and argues in favour of a broader theoretical perspective that is sensitive to human and non-human world with a

view to providing a better theoretical framework for environmental accounting and reporting practices. We call this an 'ecocentric' perspective (Eckersley, 1992, Gladwin et al, 1995, Purser et al, 1995, Shrivastava, 1995)

From an ecophilosophical point of view, the most fundamental division in ecopolitical theory is between those who adopt an anthropocentric perspective and those who adopt a nonanthropocentric (ecocentric) perspective. The distinction could be best understood as representing a spectrum of thought rather than separate and distinct positions. The first approach focuses on human emancipation and fulfilment in an ecologically sustainable society, while the second examines the notion of emancipation in a broader context (emancipation-writ-large) that also recognises the moral standing of the nonhuman world (Eckersley, 1992). To date theoretical developments in accounting have focused on the former.

To date, emancipatory accounting project has not been realised. The ecocentric perspective briefly appeared in the environmental accounting literature in the early 1990s and was referred to as Deep Green Ecology (see Maunders and Burritt, 1991, Gray, 1992). Since then no major scholarly developments have taken place. We are of the view that an ecocentric philosophical orientation provides the most comprehensive, promising and distinctive framework to study today's environmental problems. This is not to claim that ecocentrism would solve all our environmental (accounting) problems. Instead, emphasis is on providing sufficient details of an alternative paradigm that could boost the present practice of accounting for the environment and provide a basis for a sustainable future.

Theoretical developments (mainstream and critical) in environmental accounting to date have been influential in giving priority to human interests over the interests of the non-human world. It is argued that the two interests are entwined and cannot be separated and therefore, philosophical and theoretical discussions on environment and environmental accounting cannot afford to lose sight of this interrelationship. But to date, social and environmental accounting scholarship has lacked a broad and coherent theoretical structure to guide research and development in the area (Deegan, 2002). We argue that social, political and economic discourse on environment and

environmental accounting need to be widened to include our relationship to, and impact upon, the nonhuman world.

We maintain that human emancipation by humans is problematic for there is always a 'risk of capture by dominant interests' such as capitalists, bureaucrats and technocratic elites to promote their own self-interests (Owen et al. 1997, p.183). The ontological nature of human beings deserves a close attention in order to understand better the problematics of emancipation. Heilbroner (1974) for instance saw human nature has fundamentally 'selfish'. Among others, some of the characteristics of humans that problematise emancipation include the role of human agents in production and reproduction of contradictions and conflict (for example capitalism), unintended consequences of their actions, their capacity to act otherwise, and loose-coupling among human agents (Giddens, 1984). It is argued that social and natural emancipation co-determine each other and the latter cannot be permanently accorded a background status upon which the human life unfolds (Eckersley, 1992, p. 2).

After having introduced the crux of the arguments of this study, the rest of the paper is structured along the following lines. The next section critiques the mainstream theoretical arguments that have been put forward on environmental accounting. This is followed by an analysis and evaluation of contributions made by the critical theory literature. Discussion then shifts to the failed promises of critical theory. The alternative 'ecocentric' perspective is introduced next, followed by its limitations, discussions, conclusion and implications for further research in environmental accounting.

A Critique of Mainstream Theoretical Arguments

Mainstream theoretical arguments for environmental accounting comprise the managerialist approach and the middle of the road theories (see for instance, Gray and Collison, 2002). The managerialist school of thought is based on neoclassical economics with positive accounting theory and agency theory, and capital market (decision usefulness) theories being prominent (see for instance, Belkaoui, 1976, Ingram and Frazier, 1980, Wiseman, 1982, Shane and Spicer, 1983, Freedman and Wasley, 1990, Patten, 2002). On the other hand, stakeholder theory (Freeman, 1984, Clarkson, 1995) and legitimacy theory (Dowling and Pfeffer, 1975, Lindblom, 1993) underlie the middle of the road approach, which has its origins in the work of Gray and colleagues (see Gray et al, 1986, 1987,1988,1991). We argue in this paper that these approaches favour an anthropocentric stance and concur with the arguments of the critical school in relation to the limitations of such approaches.

 Critique of managerialist approach

Firstly, it is evident that the traditional accounting model, although dependent upon a range of conventions, has restricted itself to two dominant elements: a restriction on monetary measurement and a focus upon a selected audience (Laughlin and Gray, 1987). The first is in line with the concepts of objectivity, verifiability, neutrality and the second recognizes the information rights to a selected few associated with the organization such as shareholders and creditors. The above are impedimental to social and environmental disclosures and this traditional orthodoxy of accounting needs to be challenged to accommodate social and environmental disclosures. But disclosure is just one aspect, the crucial question that remains unanswered is whether the inclusion of such disclosure will ameliorate the unintended consequences of western economic life. Hence the calls for more detailed reporting have been matched by a radical and critical analysis of the role of accounting as a social phenomenon (see for instance, Puxty, 1986, 1991, Tinker, et al. 1991, Lehman, 2001) discussed elsewhere in the paper.

Secondly, with respect to disclosure in corporate annual reports there seems to be some shared understanding that accounts should be prepared with users' needs in

mind (Laughlin and Puxty, 1981). This is based on a taken-for-granted assumption that the users' needs are known with certainty, and that social welfare and value of corporate financial reports will be enhanced if users' broad needs are satisfied. But who needs what has remained unclear, and has problematised welfare and value enhancement theses. Lehman (2001, p. 715) argues that 'still, there is no analysis concerning whether this (environmental) information is acted on by relevant publics, whether it reflects a qualitative improvement in financial reporting or whether it is just an ideological cloak to protect corporations'.

Shareholders/investors are seen as the primary users, their needs are known (wealth maximisation), and are paramount, and the needs of other users are secondary. This, from a management control perspective, ignores the control nature of accounting information, i.e. accounting information for management and organizational control. Given the need for organization survival and continuity, Laughlin and Puxty, (1981) argue that organizational information needs are paramount, and such needs to be catered for, first and foremost. With this line of argument, environmental accounting under the managerialist approach becomes important only if it affects the survival and continuity of an enterprise. To extend the debate on the importance of environmental accounting, some researchers have offered an expanded and more advanced liberal model under the banner of middle of the road theories. However, we argue that this approach is also restricted by the dominance of the mainstream accounting agenda.

Critique of Middle of the Road theoretical arguments

The middle of the road theoretical arguments for environmental accounting are ineffective according to the critical school (see for instance, Puxty, 1986, 1991, Tinker et al, 1991), largely due to the fact that social responsibility and profitability are at odds as a result of the neoclassical economics foundation on which the accounting process is based. This is clearly illustrated by the following statement by Milton Friedman, one of the early proponents of capitalism:

> "*Few trends would so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their shareholders as they possibly can*".
> (Friedman, 1962, p.133)

In developing a critique of mainstream theories, Tinker et al. (1991, p. 29) maintain that 'middle of the road theorising is prompted by concerns about what is politically pragmatic and acceptable; not what is socially just, scientifically rational, or likely to rectify social ills arising from waste, exploitation, extravagance, disadvantage, or coercion'. They further argue that the middle ground is problemtatic and a contested terrain that changes with contradictions, struggles, conflicts and tensions in society over time, with no assurance that today's middle ground will easily roll into tomorrow.

In spite of severe criticisms, middle of the road theorists defend their school of thought by questioning whether progress could be made under the critical approach. They state that while it is acknowledged that present practices in accounting are far from perfect, one must work within the system and slowly refine it to be reflective of social and environmental issues rather than completely accepting or completely rejecting current systems which have been widely accepted for centuries as a decision useful tool. The debate over whether a middle of the road approach or a critical stance should be the foundation of environmental accounting research has culminated in a series of academic papers (see for example, Gray et al, 1988, 1995, Puxty 1986, 1991, Tinker et al, 1991).

Emphasis under the middle of the road approach is on engagement, which has been criticized by the critical school as being subject to capture (Owen et al, 1997) by the conventional accounting process, and a small but well-defined elite. Puxty (1986) argued that provision for additional voluntary information failed to account for 'other' things and merely justified the accumulation of capital and met the demands of a few at the expense of the wider community. Lehman (2001, p.717) reports that middle of the road theorists have admitted their 'approach to be fraught with dangers, as powerful groups could manage information for their own purposes'.

To sum up, the critical school regards the middle of the road perspective as no different from the managerialist approach and stipulates that current environmental accounting practices based on the middle of the road perspective are captured by the accounting process. Tinker et al (1991) refer to this as falling into a hole in the middle

of the road. The critical school of thought espouses that current institutional, societal and political structures need to be rectified first and foremost if we are to address environmental issues under the accounting process.

Both stakeholder theory and legitimacy theory, which underlie the middle of the road approach, could be subject to criticism as well. Stakeholder theory suggests that the most important stakeholders need to be managed (O'Donovan, 1999, 2002 refers to this as conferring publics), suggesting that the more "powerful" stakeholders such as shareholders would dominate an organization's environmental agenda. Less powerful stakeholders would not be catered under this theory while the theory also limits itself to human agency.

Legitimacy theory comprises of both the institutional and impression management (strategic) approaches (Elsbach, 1992, Elsbach and Sutton, 1994 Suchmann, 1995). The institutional approach underlies conformance to institutional and societal expectations. Conversely, the impressions management perspective involves positively portraying such a picture of the organization that it gains the support of its stakeholders. Thus, whether increased environmental disclosure is the result of environmentally sensitive business operations is unresolved under the impressions management approach to legitimacy. The bulk of studies on environmental disclosure to date have been based on this version of legitimacy theory (see for instance, Patten, 192, Deegan and Gordon, 1996, Deegan and Rankin, 1996, O'Donovan, 1999, 2002, Deegan et al, 2002), providing evidence of the unsatisfactory nature of the status quo of present practices.

In summary, it is evident from the above discussion that both the managerialist and middle of the road perspectives give priority to human needs. In essence, the mainstream approach towards environmental accounting prioritises human emancipation in such a way that the interests of the dominant elitists are catered for at the expense of other groups in society. This school of thought is silent on the other parts of our ecosystem and in some ways have contributed to the environmental misdemeanours of the past. Nature must be given priority over human interests rather than being merely reflected in financial statements and other measures of organizational success. Such measures of success are at the expense of our

environment and must be rectified if we are to have any hope of a sustainable future. As Hines (1991, p. 29) remarks:

> "*Nature can be given prominence in accounting reports without reducing it to a number. Quantifying our environment must inevitably further alienate people from nature.*"

A radical paradigm with a critical focus challenges the mainstream accounting assumptions based on neoclassical economic theory. The fundamental assumption of this critical perspective is that current practices (the contribution of the mainstream theoretical approach) are far from perfect but the future could be better (an emancipatory form of accounting, based on a critical approach).

Critical Theory Arguments

Critical scholars in accounting (see for example, Puxty, 1986, 1991; Tinker, 1985, Tinker et al, 1991 and Lehman, 2001) are of the view that by providing social and environmental information in corporate annual reports, such reporting practices merely justified wealth accumulation by capitalists, thereby meeting the demands of the wealthy class at the expense of the society as a whole. The conventional accounting concepts such as truth, fairness, objectivity, neutrality (among others) are problematised and, are seen as value-laden concepts as a result of accounting's role in promoting and protecting dominant interests through manipulations and mystifications in financial reports. Critical theorists argue in favour of a fundamental transformation of institutions that perpetuate many social injustices in the name of economic and social development.

In calling the prevailing order into question, critical approaches extend the environmental problematic from one which focuses primarily on institutions/corporations, the effective functioning of the market and processes of transfer and exchange to one that explores the environmental crisis in the context of questions about equity, justice and human emancipation. Critical approaches view economic and political interests not as intervening factors in an otherwise value-free and effective processes, rather they are intricately and inextricably bound up with the ways in which environmental problems are articulated and understood, with the

causes of environmental crisis and with the dysfunctions of the contemporary political and economic world order. Existing power relations that reflect and constitute the contemporary world order are perceived as an ecological 'double-assault' – a cause of the environmental crisis and a barrier to its resolution (Elliot, 1992). Strategies which continue to emphasise primarily state-centred governance or more effective implementation of liberal world economic order, are considered to be ineffective in the final analysis, for they do not embody the kinds of fundamental normative change considered necessary for a sound ecological future (ibid). Critical perspectives are also grounded in a widely held belief that it has become impossible to comprehend the causes of environmental concerns and the problems of environmental change within contemporary disciplinary orthodoxies, and this equally applies to the mainstream accounting. In other words mainstream theoretical models/frameworks are inadequate to incorporate the environmental problematic and offer only short term strategies and solutions.

Critical accounting theory arguments are grounded in political economy perspective, which carries several different interpretations. Political Economy in liberal sense refers to the '*social, political and economic framework within which human life takes place*' (Gray et al, 1996, p. 47). The critical theoretical paradigm for environmental accounting is based on the political economy of Marx (see for instance, Tinker, 1985, Tinker et al, 1991) and Habermas (see for instance, Puxty, 1986,1991). When viewed in political economy context, accounting reports serve as a tool for constructing, sustaining and legitimising economic and political arrangements, institutions and ideological themes which contribute to the corporation's private interests (Cooper and Sherer, 1984).

In line with the above, many critical theorists suggest that existing nature and structure of society are far from satisfactory, hence the need for a radical change. They emphasise the need to study accounting within a broader context; and within a more holistic framework, incorporating social and political dimensions of the economy, in addition to the present narrow economic focus. Critical approaches are directed to the social and political complex as a whole rather than to the separate parts. Environmental concerns and environmental accounting will therefore, need to be explored not in isolation but as a manifestation of and intimately connected in their

causes with a range of historical and contemporary social and political relationships. Rather than reinforcing the dominant mainstream paradigm, the critical approaches challenge established frames of mind and political conduct, driven by a desire to change existing social structures. Critical theory, often referred to as critical theory of the Frankfurt School, has Marxian roots, which can be traced back to works of Kant and Hegel. The next section examines in some detail the failed promises of critical theory (Marxism and the Frankfurt School) with regard to environmental crisis.

An Ecocentric Critique of Marxism and the Frankfurt School

In this section we present an ecocentric challenge to Marxism and the critical theory of the Frankfurt School. A complete overview of these works remains beyond the scope of this paper, and only key ideas/issues in ecological context have been considered. Gray (1992) argues that literature is far from clear about the extent to which Marxian analysis can be said to be compatible with or at variance with environmentalism. Marx focused on capital, labour, surplus value, class conflicts and so on, and this placed him closer to liberal economics than to environmentalism. As for Marx, environmental problems, like social problems are traced directly to the exploitative dynamics of capitalism and solution to such problems require revolutionary transformation of the relations of production. This combined with the development of a better theoretical understanding of nature and technological advances are seen as essential so that a complete social mastery of nature can be attained for the benefit of all, rather than just the privileged capitalist class.

Marx was only marginally concerned with environmental degradation with no systematic theory of humanity's relationship to nature. The overriding sense in which Marx characterised nature was as a medium for human labour. Given the concern for the pressing nature of environmental crisis, many Marxist scholars in social sciences including accounting have turned their attention to the relationship between environment degradation, capitalism and social justice, and more recently have embarked upon a critical examination of Marxist theory in view of ecological devastation. Environmental degradation had never been a traditional concern of Marxism, but a mere epiphenomenon of capitalism, rather than important in its own right. Some Marxists may have adopted an entirely defensive posture, but a growing

number have undertaken a more constructive role to respond to the environmental concerns. Efforts to develop a Marxist solution to environmental problems may be divided into two streams – 'humanist' and 'orthodox' which loosely map onto the works of 'young' and 'mature' Marx respectively. The former seek to harmonise the relations between the human and the nonhuman realms, while the latter make no apologies for being anthropocentric and are critical of the humanist tradition for being idealist, voluntarist and un-Marxist (Eckersley, 1992). However, as discussed below, both streams accept Marx's view of history and humanity as *homo faber,* thereby perpetuating an instrumentalist and anthropocentric orientation towards the nonhuman world (ibid, p. 82).

The above arguments seek to demonstrate that an ecocentric perspective on environment cannot be wrested out of Marxism without seriously distorting Marx's own theoretical concepts. Clark (1989, p. 250) argued ' to develop the submerged ecological dimension of Marx would mean the negation of key aspects of his philosophy of history, his theory of human nature and his view of social transformation'. This to a great extent explains why ecocentric theorists have chosen not to develop their ideas from a Marxist perspective, instead have sought ideas from other traditions of political thought, for example, utopian socialism, communal anarchism and feminism (Eckersley, 1992). To further reveal the historical limits of Marxism, Jung (1983, p.170) summarised three reasons why ecologically oriented theorists should abandon Marxist ideas.

> "*First, he was too Hegelian to realise that the gain of 'History' (or Humanity) is the loss of nature; second, he was influenced by the English classical labour theory of value which undergrids his conception of man as homo faber; and third, he was a victim of the untamed optimism of the Enlightenment for Humanity's future progress*".

Marx's conception of freedom was more comprehensive than his liberal counterpart. Whereas the latter grasped unfreedom, coercion or arbitrary rules in pre-capitalist societies, the former recognised the silent and objective compulsion of the economic laws of capitalism. However, with a few exceptions, neither liberalism nor Marxism has, in a substantive manner, acknowledged the unfreedom of the nonhuman world under industrialism. Eckersley (1992, p. 95) argues 'that Marx's notion of freedom as

mastery achieved through struggle, as the subjugation of the external world through labour and its extension – technology, as the conquering of mysterious or hostile forces and the overcoming of all constraints, can be achieved only at the expense of the nonhuman world'. However, there is a distinct subset of humanist Marxist thought – the critical theory of Frankfurt School, that warrants attention, and it is to this the discussion now turns to.

The critical theory of the Frankfurt School is not a single doctrine or a unified worldview. Sharp differences have existed for long time among critical theorists at the Frankfurt School, as evidenced by the increasingly heterogenous nature of their works. The first generation of Frankfurt theorists focused on different levels and dimensions of domination and exploitation through critique of instrumental reason, which also included critical examination of the relationship between humanity and nature. The early critique of instrumental rationality has been carried forward and extensively revised by Habermas, who has sought to show, among other things, how political decision- making has been increasingly reduced to pragmatic instrumentality, which serves the capitalist and bureaucratic system by colonising the life-world. It is argued that the above themes have implications on the green critique of capitalism, industrialism, technology and bureaucracy. Critical scholars in accounting have drawn upon Marxist and Habermasian themes to think and act about environmental accounting pathways. Yet to date, critical theory has not had a major direct bearing in shaping the theory and practice of the green movement, except in indirect ways. There are several explanations to this and the key influences are discussed next.

First, early Frankfurt School's critical discourse was pessimistic in outlook towards nature romanticism and was increasingly preoccupied with theory instead of practice. Secondly, a more fundamental explanation lies in the way critical theory developed in the hands of Habermas, who has, by and large, focussed on democratic socialism, thereby marginalizing green movement. Some may argue otherwise to maintain that green movement has not escaped his attention, and has analysed the emergence of new social movements including green concerns as a grassroots resistance to tendencies to colonise the life-world (Habermas, 1981). But with the exception of the women's movement, which Habermas does consider to be emancipatory, other new movements (e.g. ecology, antinuclear) are seen as essentially defensive in character

(ibid) requiring technical and economic solutions. This implies regulations and standards at a global level and implementation through administrative means. Bookchin (1982, p. 83) has accused Habermas of intellectualising new social movements 'to a point where they are simply incoherent, indeed, atavistic' with no sense of their potentiality. Eckersley (1992) argues that Habermas's aloofness from green movement goes much deeper and can be traced to his theoretical break with 'negative dialectics' of the early Frankfurt School theorists and their utopian goal of reconciliation with nature.

There are two other problematic aspects of Habermas's theses that deserve attention. One is that it separates and privileges good life for humans vis-à-vis the emancipation of nonhuman world. And the other is the claim that we know nature, through science and technology, only insofar as we can control it, thus legitimising continued exploitation of the nonhuman world. In this way Habermas endorses rather than challenges dominant anthropocentric prejudices towards the nonhuman world. As Eckersley (1992, p. 110) argued that 'according to Habermas' schema, a norm is considered 'right' if it is achieved via a consensus reached between truthful, uncoerced, and rational human agents'. 'It follows that if a 'speech community' agrees, after free and rational discussion, to direct technology in such a way as to continue to manipulate and subjugate 'external nature', then critical theory can raise no objection since its concept of emancipation has been exhausted (its exclusive concern being with human self-determination)'. Thus the principal objection to Habermas' social and political theory has been that it is human-centred, insisting that the emancipation of human relations need not depend upon the emancipation of nature.

An Alternative Ecocentric Arguments for Environment and Environmental Accounting

We begin this section with two caveats. Firstly, there is a diversity of views and approaches on ecocentricism. While central ecocentric beliefs are present in them, the manifestation of such approaches vary widely. For example, Eckersley (1992: 33) summarised the works of John Rodman and Warwick Fox as follows:

> *Whereas Rodman has sought to crystallise the major currents in the history of the environmental movement in order to uncover their complexities and ambiguities, Fox has developed a more general, analytical map that is intended to provide a close to exhaustive categorisation of the range of ecophilosophical positions.*

Secondly, there is no intention on our part to offer a detailed proposal on what an 'ecocentric accounting' might look like as this will amount to putting the cart before the horse. Instead, we argue in support of a broad, thoroughgoing framework, sensitive to both human and nonhuman world, and one that seeks 'emancipation writ large' which will provide a better and more meaningful theoretical basis for environmental accounting and related disclosures. We maintain that such a framework will greatly iron out the mis-match between environmental disclosures and actual environmental performance by organizations.

Anthropocentricism and ecocentricism represent two opposing poles on a continuum, with different orientations towards nature, and major streams of modern environmentalism fall between these poles. It is argued that this classification enables an evaluation with regard to the kind and degree of anthropocentricism or ecocentricism that is manifest in green political discourses. Eckersley (1992: 34)), discusses at least four positions (resource conservation, human welfare ecology, preservationism, animal liberation and ecocentricism) on the continuum, moving from 'an economistic and instrumental environmental ethic towards a comprehensive and holistic environmental ethic'. The latter conforms to key ecocentric beliefs that recognises human and non-human interests, present and future within a more encompassing framework.

Ecocentrism draws upon an ecologically informed philosophy of internal relatedness that advocates that all organisms are not only interrelated with their environment, but also constituted by those environmental interrelationships (Birch and Cobb, 1981). Ontologically, under this perspective, 'the world is an intrinsically dynamic, interconnected web of relations in which there is no absolutely discrete entities and no absolute dividing lines between the living and the nonliving, the animate and the inanimate or the human and the nonhuman' (Eckersley, 1992, p. 49).

Ecocentric theorists emphasise on the absence of any rigid and absolute dividing line between humans and nonhumans to point out the logical inconsistency in anthropocentric models that justify exclusive moral considerations of humans and their superiority (for example, language skills, reasoning skills and technological skills). Some may argue that there are countless things that nonhumans do better (see for example, Fox, 1990) and to single out special attributes of human simply tantamount to human chauvinism. To critcise ecocentric orientations as 'anti-science', 'ecocentric theorists have pointed out how new scientific discoveries have served to challenge long standing anthropocentric prejudices' (Eckersley, 1992, p. 50), and further argue that the philosophical premises of ecocentrism are actually more consistent with modern science than the premises of anthropocentrism.

The key idea of dialectical interrelatedness of all phenomena under ecocentrism denotes that it is far more protective of the earth's life-support system than perspectives with anthropocentric orientations. As argued by Zimmerman (1979, p. 103) in addressing the practical consequences of anthropocentrism:

> *"If humankind is understood as the goal of history, the source of all value, the pinnacle of evolution, and so forth, then it is not difficult for humans to justify the plundering of the natural world, which is not human and therefore valueless".*

With the above, combined with technological advancement, the capacity of environmental destruction no doubt increases considerably, and can be seen as an ecological myopia with serious unintended consequences working against 'emancipation writ large'.

The concept of 'internal relatedness' upon which ecocentrism stands, equally applies to relations among humans, in a biological, psychological, and social sense. In other words, we are all constituted by our interrelationships between other humans, and our economic, political and cultural affiliations (Eckersley, 1992). Since birth, humans are constituted by, and coevolve within the context of such relations and cannot be separated from them. Based on this social interactionist model, which is not new in social sciences, humans are neither completely passive and determined nor

completely autonomous and self-determining, rather, are relatively autonomous beings, who by their knowledge, thought and action help constitute the very relations that determine who they are (Fox, 1990).

Further, it needs to be pointed out that ecocentric theorists are not against the central value of autonomy as depicted in Western political thought, they are concerned with the revision of the notion to incorporate into it, a broader ecological framework – a framework that incorporates individuals and social aspects in a more encompassing way. Eckersley (1992) argues that while the liberal idea of autonomy as independence from others can be seen as philosophically misguided (due to threat and loss of self), socialists tend to adopt a more relational model of self, but both are deeply embedded in anthropocentrism. The ecocentric reformulation of autonomy at no stage implies that the boundary between the self and others is removed, it rather seeks to emphasise the soft and flexible nature of line between them. This is what Kellner (1985, p. 99) calls a 'dynamic autonomy' – 'a product at least as much of relatedness as it is of delineation; neither is prior'. This is why ecocentrism regards individual self as forming part of a 'larger self' (ibid). Ecocentric foundation requires 'psychological maturity and involves a sensitive mediation between one's individual self and the larger whole' with a view to having 'a sense of competent agency in the world' (Eckersley, 1992, p.54). On the contrary, the quest of radical independence from others or power over others leads to an objectification of others, and a denial of their own modes of relative autonomy or subjectivity. What is new and adds strength to an ecocentric perspective is that it extends the notion of autonomy to a broader and more encompassing pattern of layered interrelationships that extend beyond personal and societal relations to include relations with the rest of the biotic community. In this way the nonhuman world is not posited in the background but recognised as having their own relative autonomy and their own modes of being. Zimmerman (1988, p. 17) made this comment : 'the paradigm of internal relations lets us view ourselves as manifestations of a complex universe; we are not apart but are moments in the open-ended, novelty-producing process of cosmic evolution'.

There are at least three varieties of ecocentrism that are consistent with a general ecocentric perspective. These are axiological (autopoietic intrinsic value theory); psychological-cosmological (developed under the name of deep ecology or more

recently as transpersonal ecology); and ecofeminism (Eckersley, 1992). An autopoietic approach provides a sound theoretical basis for ecocentrism as it attributes intrinsic value to all entities that display the property of *autopoiesis*, which means 'self production' or 'self-renewal' (Fox, 1990). It is precisely this characteristic that distinguishes living entities from mechanical systems. Being ends in themselves, autopoietic entities (population, ecosystem, living organisms) deserve moral considerations in their own right. In contrast to the autopoietic approach, transpersonal ecology proceeds by way of cosmological and psychological route, and is concerned to address the way in which we understand and experience the world. It is called transpersonal ecology because it is concerned to cultivate a sense or experience of self that extends beyond one's egoistic, biographical, or personal sense of self to include all beings. Thus its primary concern is the cultivation of a wider sense of self through the everyday psychological process (lived sense) of identification with others. Fox (1990) argues that the cultivation of this kind of expansive sense of self means that compassion and empathy naturally flow as part of an individual's way of being in the world, rather than as a duty or obligation that must be performed regardless of one's personal inclination.

Like transpersonal ecology, ecofeminism is also concerned with our sense of self and the way in which we experience the world. It proceeds from a process-oriented, relational image of nature and seeks mutualistic social and ecological relationships based on recognition of the interconnectedness, interdependence, and diversity of all phenomena (Ruether, 1975). But unlike transpersonal ecology, ecofeminism has taken the historical/symbolic association of women with nature, demonstrating a special convergence of interests between feminism and ecology. The convergence arises in part from the fact that patriarchal culture has located women somewhere between men and the rest of the nature, which has enabled identification of similar logic of domination between the destruction of the nonhuman world and the oppression of women. Like nonhuman animals, women have usually been seen as involved in lower level perishable transformation (i.e. regeneration and repetition of life) and men's activities have involved major transformation of nature and culture on a more lasting basis. A general emancipatory ecocentric theory must accommodate all human emancipatory struggles, including the women's movement, within a broader, ecological framework. Ecofeminism can provide an essential component of

a general ecocentric theory by pointing to the links between the domination of women and the domination of nature

To conclude this section, some common criticisms and misunderstandings of ecocentrism are discussed. All frameworks have limitations and ecocentric perspective on environment is no exception, particularly with its philosophical challenge to 'the pervasive metaphysical and ethical anthropocentrism that has dominated the Western culture with classical Greek humanism and the Judeo-Christain tradition since its inception' (Sessions, 1987, p. 105). It's challenge to social, cultural and political orthodoxy has been debated by critics, and resistance and misunderstandings manifest for a variety of reasons. The common ones being: it is impossible, misanthropic, impractical, and based on 'an all too convenient idealisation of nature' (Eckersley, 1992, p. 55). A common criticism of ecocentrism centres around its impossibility to perceive the world of nonhumans due to absence of language and speech acts, a reciprocity essential in all forms communications. We argue that even communication through language, and meanings, understanding and interpretation among human agents is also not unproblematic. Human actors cannot always communicate discursively meanings, motives, intentions and reasons for their actions (Giddens, 1984). Giddens views human beings as possessing different levels of consciousness, only some accessible through language, and not others. Unconsciousness motivation is a significant feature of human conduct that problematises shared understanding or consensus building among human agents. By understating the importance of unconsciousness, Habermas is unable to adequately account for the interplay between language, unconscious drives, reasons and desire (Elliot, 1992), thus failing to capture the sense of an 'inner foreign territory' in human agents. In critically examining Habermas' tendency to idealise 'communicative action', Turner (1988) argued that there is in much of former's work a utopian idealism which overlooks the fact that all communication (and interaction) is inherently distorted. Another common 'anthropocentric fallacy' is to conflate the identity of the perceiving subject with the content of what is perceived and valued on the grounds of instrumental rationality and communicative competence among human agents, thereby providing support to the argument that we can only ever perceive the world as human subjects.

Secondly, a misconception of ecocentrism is to interpret its sustained critique of anthropocentrism as anti-human and/or as displaying insensitivity to the needs of the poor and oppressed. The human species as a whole is blamed for the ecological crisis rather than singling out particular nation/state, group or class. Ecocentrism is not against humans per se or celebration of humanity's unique form of excellence, instead, it is against the ideology of 'human chauvinism'. Thirdly, ecocentric sceptics argue that it is not easy to translate it into social, political and legal rights and practice, the common question being: can we ascribe rights to nonhumans when they cannot reciprocate? As argued by Stone (1974) there is no a priori reason why legal rights cannot be ascribed to nonhuman entities, something 'not unthinkable' when legal rights are conferred on 'nonspeaking' artificial persons (for example, corporations, trusts etc.) who can enter into contracts, own/buy/sell properties and can sue and be sued. But there are other views that highlight the need for simpler and more elegant ways in which nonhuman world can flourish and prosper without resorting to political and legal modes of justice, equality and rights. For example Rodman (1977, p. 101) suggested that the liberation of nature requires not the extension of human-like rights to nonhumans but the liberation of the nonhuman world from 'the status of human resource, human product, human caricature'. John Rawls (1976, p. 512), while noting the limits of his liberal theory of justice stated as follows:

> *"It does not seem possible to extend the contract doctrine so as to include them [i.e. creatures lacking a capacity of a sense of justice] in a natural way. A correct conception of our relations to animals and to nature would seem to depend [instead] upon a theory of the natural order and our place in it."*

How far justice as fairness will have to be revised to fit into this larger theory is not possible to say, but does seem reasonable when broader relationships are considered (ibid). The above in no way is fatal to ecocentrism, which emphasises the importance of a general change in consciousness and suggests that a gradual cultural, educational, and social revolution involving a reorientation of our senses of place in the evolutionary process is likely to provide a better long term protection of the interests of the nonhuman world than legal revolution. Finally, to summarise the limitations, some critiques are cynical of ecocentrism, as it interprets nature selectively,

something that is essentially harmonious, kindly and benign, providing and all too convenient framework for human relations (Eckersley, 1992). But there is no need to depict the nature as such, and to judge the nonhuman world by human standards, we will invariably find it wanting, for nonhuman nature knows no human ethics, it simply is (Livingston, 1981, Eckersley, 1992).

Discussion and Concluding Comments

While voluntary environmental disclosures in corporate annual reports throughout the world are on rise, we have argued that these disclosures do not provide sufficient grounds for celebrations. One needs to go deeper and examine the silences in those successful stories in order to understand better the motives for such disclosures and more so, the extent to which corporations are actually tackling the environmental problems. It is the actual commitment to environmental performance that matters the most, for accounting and disclosure of such information will fall into its appropriate place when the former is taken care of. In seeking 'emancipation writ large' an 'existential attitude of mutuality' needs to be adopted simply because one's personal fulfilment is inextricably tied up with that of *others* (Birch and Cobb, 1981). The gap between voluntary environmental disclosures in corporate annual reports and lack of firm decisive actions to protect environmental by the industralised world will continue, as long as environmental philosophical enquiry favours human interests over the interests of the nonhuman world. To bridge the gap requires a comprehensive framework that is capable of providing a lasting resolution to the ecological crisis, and in this study we have argued in favour of an ecologically informed philosophy of internal relatedness in a dialectical sense, called ecocentrism.

Exiting paradigms for environmental accounting research have not been successful in reducing the diversity of environmental problems that exist today (see for instance, Gray and Bebbington, 2000, Gray, 2002, Gray and Milne, 2002). This is largely due to an increasing emphasis on human agency and emancipation (anthropocentrism). If environmental issues are to move beyond the marginal fringes of accounting, a much more broader framework will need to be envisaged. It is in this regard that the ecocentric paradigm rises to prominence.

An ecocentric polity requires cultivation of an ecocentric culture through substantive reforms to protect biological diversity and life-support systems. To some, many substantive reforms may appear threatening, bad for business, unnecessary or at the very least, premature. Long-standing and deeply held anthropocentric assumptions and prejudices need to be questioned to generate new ways of seeing and visualising society with greater ecological security. In this way the gap between environmental disclosures by corporations and their actual commitment to tackle environmental problems can be significantly narrowed, if not eradicated altogether.

This research responds to calls by Gray (2002) to embrace more thorough and useful scholarship into environmental issues, which would assist in enhancing the quality of life for future generations. Thus, it has theoretical, practical and policy implications. At the theoretical level, this research posits a possible paradigm that could provide a framework for researching present environmental accounting practices. At a practical level, the paper calls for a closer examination of basic human attributes and morality such that emancipation for mankind is not at the expense of other parts of our ecosystem and future generations. Policies for sustainable development must also transcend beyond polluter pays principles (Lehman, 1996) to encompass broader ecocentric beliefs.

Finally, ecocentricism will either stand or fall on its ability to generate practical alternatives to current environmental problems resulting from advanced industrialisation. It needs idealists and pragmatists, creativity and critical analysis, grassroots activity and institutional support to achieve its long-term goals (Eckersley, 1992: 186). In this way deeply held anthropocentric assumptions, values and prejudices will be questioned, creating an opportunity to view the world through ecocentric lenses. A corporate reporting framework encompassing ecocentric themes has the potential to provide a better and more meaningful theoretical basis for environment accounting and related disclosures. We reiterate that such a framework will iron out substantially the mis-match that currently exists between environmental disclosures and actual environmental performance by organisations.

Bibliography

Belkaoui, A (1976) "The impacts of the disclosure of environmental effects of organizational behaviour on the Market" *Financial Management,* Vol. 5, No.4, pp. 26-31

Birch, C and Cobb, B. Jr. (1981) *The liberation of life: from the cell to the community*, Cambridge University Press, Cambridge.

Bookchin, M. (1980) *Towards an ecological society*, Black Rose, Montreal.

Bookchin, M. (1982) "Finding the subject: notes on Whitebook and Habermas Ltd"., *Telos*, Vol. 52, pp. 78 – 98.

Chwastiak, M and Young, J. J. (2003) "Silences in annual reports", *Critical Perspectives on Accounting* Vol 14, pp. 533-552

Clark, J. (1989) "Marx's inorganic body", *Environmental Ethics*, Vol. 11, pp. 243 – 258.

Clarkson, M (1995) "A stakeholder framework for analysing and evaluating corporate social performance", *Academy of Management Review*, Vol. 20, No. 1, pp. 92-118

Deegan, C. (2002) "Introduction, The legitimising effects of social and environmental disclosures – a theoretical foundation", *Accounting, Auditing and Accountability Journal,* Vol. 15, No. 3, pp. 282 – 311.

Deegan, C and Rankin, M; (1996) "Do Australian Companies Report Environmental Information Objectively: An Analysis of Environmental Disclosures of Firms Successfully Prosecuted by the Environment Protection Authority" *Accounting, Auditing, and Accountability Journal*, Vol. 9, No. 2 pp. 50-67

Deegan, C. and Gordon, B. (1996) "A Study of the Environmental Disclosure Practices of Australian Corporations" *Accounting and Business Research* Vol. 26, No. 3 pp. 187-199

Deegan, C, Rankin, M and Tobin, J (2002) "An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory" *Accounting, Auditing, and Accountability Journal*, Vol 15, No. 3, pp. 312-343

Eckersley, R. (1992) *Environmentalism and political theory: towards an ecocentric approach,* State University of New York Press, New York.

Elliot, A. (1992) *Social theory and psychoanalysis in transition*, Blackwell, Oxford.

Elsbach, K (1994) "Managing organizational legitimacy in the Californian cattle industry: the construction and effectiveness of verbal accounts" *Administrative Science Quarterly* , Vol. 39, No. 1, pp. 57-89

Elsbach, K and Sutton, R.I (1992) "Acquiring organizational legitimacy through illegitimate actions : A marriage of institutional and impression management theories" *Academy of Management Journal* Vol. 35, pp. 699-738

Fox, W. (1990) *Towards a transpersonal ecology: developing new foundations for environmentalism*, Shambhala, Boston.

Freedman, M., and Wasley, C. (1990) "The association between environmental performance and environmental disclosure in annual reports and 10Ks", *Advances in Public Interest Accounting*, pp. 183 – 193.

Freeman, R. E (1984) *Strategic Management: A stakeholder approach*, Pitman Publishing,Boston,MA.

Friedman, M (1962) *Capitalism and Freedom* University of Chicago Press, Chicago, IL.

Giddens, A. (1984) *The constitution of society*, Polity Press, Cambridge

Gladwin, T.N, Kennelley, J.J and Krause, T (1995) "Shifting Paradigms for Sustainable Development: Implications for Management Theory and Research *The Academy of Management Review* Vol. 20, No. 4, pp. 874-907

Gray, R. (1992) "Accounting and environmentalism: an exploration of the challenge of gently accounting for accountability, transparency and sustainability", *Accounting, Organisations and Society*, Vol. 17, No. 5, pp. 399 – 425.

Gray, R. H (2002) "Of messiness, systems and sustainability: Towards a more social and environmental finance and accounting" *British Accounting Review* Vol. 34, pp. 357-386

Gray, R.H and Bebbington, J (2000) "Environmental accounting, managerialism and sustainability: Is the planet safe in the hands of business and accounting?" *Advances in Environmental Accounting and Management*, Vol. 1 No. 1 p. 1-44

Gray, R.H and Bebbington, K. J (2001) *Accounting for the environment* 2nd edition Sage London.

Gray, R.H and Collison, D (2002) "Can't see the Wood from the Trees, Can't see the Trees for the Numbers? Accounting Education, Sustainability and the Public Interest" *Critical Perspectives on Accounting* Vol. 13, pp. 797-836

Gray, R.H and Milne, M.J (2002) "Sustainability Reporting: Who's Kidding Whom?" *Chartered Accountant's Journal of New Zealand,* April, pp. 66-70.

Gray, R.H.; Owen, D.L.; and Maunders, K.T (1986) "Corporate Social Reporting: The way forward" *Accountancy* December pp. 108-109

Gray, R.H.; Owen, D.L.; and Maunders, K.T; (1987) *Corporate Social Reporting: Accounting and Accountability*, Prentice-Hall, London

Gray, R.H; Owen, D.L; and Maunders, K.T. (1988) "Corporate Social Reporting: Emerging Trends in Accountability and the Social Contract", *Accounting, Auditing, and Accountability Journal*, Vol. 1, No.1, pp. 6-20

Gray, R.H.; Owen, D.L.; and Maunders, K.T; (1991) "Accountability, Corporate Social Reporting and the External Social Audits" *Advances in Public Interest Accounting* Vol.4 pp1-21

Gray, R.H.; Kouhy, R. and Lavers, S. (1995) "Corporate Social and Environment reporting: a review of the literature and a longitudinal study of UK Disclosure" *Accounting, Auditing, and Accountability Journal*, Vol. 8, No.2, pp. 47-77

Gray, R.H; Owen, D.L , and Adams, C (1996) *Accounting and Accountability: Social and Environmental Accounting in a changing world* Hemel Hempstead, Prentice hall

Guthrie, J. & Parker, L.D; (1990) "Corporate Social Disclosure Practice : a Comparative International Analysis" *Advances in Public Interest Accounting*, Vol. 3, pp. 159-175

Habermas, J. (1981) "New social movement*s"*, Telos, Vol. 49, pp. 33 – 37.

Habermas, J (1987) *The theory of communicative action, Life-world and systems: a critique of functionalist reason*, vol. 2, translated by Thomas McCarthy, Boston.

Heilbroner, R. L. (1974) *An inquiry into the human prospects*, New York, Norton

Hines, R.D (1991) "Accounting for nature" *Accounting, Auditing, and Accountability Journal* Vol.4, No. 3, pp. 27-29

Ingram, R. W., Frazier, K. B. (1980) "Environmental performance and corporate Disclosure", *Journal of Accounting Research* Vol. 18 No. 2 pp. 614-622

Jung, Y. (1983) "Marxian, ecology and technology", *Environmental Ethics*, Vol. 5, pp. 169 – 171.

Laughlin, R. C., Puxty, A. G. (1981) "The decision-usefulness criterion: wrong cart, wrong horse", *AUTA Review*, 13, 1, pp. 43 – 87.

Laughlin, R. C., Gray, R. (1987) *Financial Accounting: methods and meaning*, Van Nostrand Reinhold, London.

Lehman, G. (1996) "Environmental accounting: pollution permits or selling the environment", *Critical Perspectives on Accounting,* Vol.6, pp. 667-676

Lehman, G. (1999) "Disclosing new worlds: a role of social and environmental accounting and auditing", *Accounting, Organisations and Society*, Vol. 24, No. 3, pp. 217 – 241.

Lehman, G. (2001) "Reclaiming the public sphere: problems and prospects for corporate social and environmental accounting", *Critical Perspectives on Accounting,* Vol. 12, pp. 713 – 733.

Lindblom, C.K (1993) "The implications of organizational legitimacy for corporate social performance and disclosure", *Paper presented at the Critical Perspectives on Accounting Conference*, New York, U.S.A.

Livingston, J. (1981) *The fallacy of wildlife conservation*, McClelland and Stewart, Toronto.

Maunders, K. T., Burritt, R. L. (1991) "Accounting and ecological crisis" *Accounting, Auditing and Accountability Journal*, Vol. 4, No. 3, pp. 9 – 26.

O'Donovan, G (1999) "Managing legitimacy through increased corporate environmental reporting: An exploratory study" *Interdisciplinary Environmental Review* Vol. 1, No. 1, pp. 63-97

O'Donovan, G (2002) "Environmental Disclosures in the annual report: extending the applicability and predictive power of legitimacy theory" *Accounting, Auditing, and Accountability Journal*, Vol 15, No. 3, pp. 344-371

Owen, D., Gray, R., Bebbington, J. (1997) "Green accounting: cosmetic irrelevance or radical agenda for change", *Asia-Pacific Journal of Accounting*, Vol. 4, No. 2, pp. 175 – 198.

Patten, D.M; (1992) "Intra-industry Environmental Disclosures in Response to the Alaskan Oil Spill: A Note on Legitimacy Theory" *Accounting Organizations and Society* Vol. 17, No. 5, pp. 471-475

Patten, D.M (2002) "The relation between environmental performance and environmental disclosure: a research note"**,** *Accounting Organizations and Society* Vol. 27, No. 8, pp. 763-773

Purser, R.E, Park, C and Montuori, A (1995) "Limits to anthropocentrism: Towards an Ecocentric Organization Paradigm" *The Academy of Management Review* Vol. 20, No. 4, pp. 1053-1089

Puxty A.G. (1986) "Social accounting as immanent legitimation: A critique of a technist ideology" *Advances in Public Interest Accounting* Vol.1 pp. 95-112

Puxty A.G. (1991) "Social accountability and universal pragmatics" *Advances in Public Interest Accounting* Vol.4 pp35-46

Rawls, J. (1976) *A theory of justice*, Oxford University Press, London

Rodman, J. (1977) "The liberation of nature", *Inquiry*, Vol. 20, pp. 83 – 145.

Ruether, R. (1975) *New woman new earth: sexist ideologies and human liberation*, Seabury, New York.

Sessions, G. (1987) "The deep ecology movement: a review", *Environmental Review*, Vol. 11, pp. 105 – 125.

Shane, P.B and Spicer, B.H (1983) "Market response to environmental information produced outside the firm" *The Accounting Review* Vol. 58, No. 3, pp. 521-538

Shrivastava, P (1995) "Ecocentric management for a risk society" *The Academy of Management Review* Vol. 20, No. 1, pp. 118-137

Stone, C. (1974) *Should tress have standing?: towards legal rights for natural objects*, Kaufmann, California.

Tinker, A.M (1985) *Paper Prophets: A Social Critique of Accounting* Holt Saunders, Eastbourne.

Tinker, A.M; Lehmann, C; and Neimark, M. (1991) "Corporate Social Reporting: Falling Down the Hole in the Middle of the Road" *Accounting, Auditing and Accountability Journal* Vol. 4 No. 1 pp. 28-54

Turner, J. (1988) *A theory of social interaction*, Polity Press, Cambridge.

Wiseman, J. (1982) "An evaluation of environmental disclosures made in corporate annual reports", Accounting, Organisations and society, *Accounting Organizations and Society* Vol. 7, No. 1, pp. 53-63

Yankelovich, D (1972) *Corporate priorities: A continuing study of the new demands on business* Stamford, CT

Zimmerman, M. (1979) "Marx and Heidegger on the technological domination of Nature", *Philosophy Today*, 23, pp. 99 – 112.

Zimmerman, M. (1988) "Quantum theory, intrinsic value, and panentheism", Evironmental Ethics, 10, pp. 3 – 30.