



**Accounting and Finance Occasional Paper Series**  
**ISSN: 22049-5528**

**No. 3/September 2014**

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# Accounting and Finance Occasional Paper Series ISSN: 22049-5528

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**September 2014**

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# **Environmental accounting in China: the case of a medium sized Chinese state owned enterprise**

John Margerison<sup>1</sup>

## **ABSTRACT**

**Purpose** – The purpose of this paper is to contribute to the discussions about the radical change that is required if any notion of sustainability is to hold in the future. It is hypothesised that developments in environmental sustainability accounting are likely to take place in China because it has both a tradition of harmony in its predominant philosophical schools and it has a political system based on strong government that is able to shape approaches to sustainability.

**Design/methodology/approach** –The paper contains a synthesis of the literature on environmental accounting and on episteme change. Using a Foucauldian epistemic framework and method, a case of a Chinese state owned enterprise is examined for evidence of developments in environmental accounting and of the attitudes of the accountants implementing changes to the accounting systems to incorporate such developments.

**Findings** – Developments in environmental accounting are found to mirror the developments in environmental management more generally. The influences on these developments are found to be rooted in a life-centred morality based on Chinese philosophy, invention using new technologies, removal of some of the barriers caused by specialisation and an awareness of issues linked to anthropocosmic (rather than anthropocentric) notions of world order.

**Practical implications** – A case such as this opens the door for Chinese organisations to move towards environmental sustainability and its associated accounting in ways that are not mimetic of practices in other parts of the world (i.e. the West). This means that China could lead the world in new approaches to accounting for sustainability that do more than reduce organisations' short term reputational risk.

**Originality/value** – This paper builds on the theoretical work on episteme change and the possibility of a new primal episteme by applying it to a Chinese organisation so as to test the theory as developed originally by Foucault.

**Keywords** - Environmental accounting, Sustainability, Episteme change.

**Paper type** – Research paper

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## **1. Introduction**

It is agreed by commentators (Ahmed, 2014) and organisations such as the World Business Council for Sustainable Development (WBCSD, 2010) that the current business model based on economic growth is not sustainable. WBCSD (2010) estimates that if we continue on the business-as-usual path we will be consuming the equivalent of the resources of 2.3 planets by 2050. Hence it is argued that the road to sustainability will require fundamental changes in governance structures, in economic frameworks, in business and in human behaviour. A recent project partially funded by NASA (Ahmed, 2014) highlighted the prospect that global industrial civilisation could collapse in the coming decades due to unsustainable resource exploitation and increasingly unequal wealth distribution. This NASA funded study (ibid) argued for solutions based around reduction in economic inequality so as to ensure fairer distribution of resources and a dramatic reduction in resource consumption by relying on less intensive renewable resources and reducing population growth.

Against this background, recent research and scholarship (Birkin and Polesie, 2011, 2012) has identified the possibility of episteme change taking place now with the “modern” episteme being superceded by a new “primal” episteme. This paper uses epistemic analysis, following Foucault’s (2002) method, to examine whether there is evidence of episteme change in China by using a Chinese company and its environmental accounting as a case study.

## **2. Literature review**

Research on environmental accounting has tended to focus on the reporting of environmental activities by companies (Patten, 1990, Roberts, 1991, Patten, 1992, Roberts, 1992, Lewis and Unerman, 1999, Adams, 2002, Deegan, 2002, Bebbington et al., 2008, Brammer and Pavelin, 2008,). This form of reporting has been explained using theories such as legitimacy theory (Patten, 1992, Deegan, 2002), stakeholder theory (Unerman, 2007), reputational risk theory (Bebbington et al., 2008), institutional theory (Larrinaga-Gonzalez, 2007) and critical theory (Gallhofer and Haslam, 1997). Recent research (Du and Gray, 2013) on the emergence of stand-alone social and environmental reporting in Mainland China begged the question as to what are the drivers pushing entities to disclose environmental information and suggested that there is much more research to be carried out in order to answer this question. Xiao (2006) suggested that environmental accounting and reporting in China was (and is) needed so that companies can integrate environmental issues into the business agenda and discharge their environmental accountability.

Birkin and Polesie (2011) argued that there is the possibility of Foucauldian episteme change, from modern to primal, taking place now. The modern episteme (since 1800) is based around abstract, anthropocentric, logical belief systems and, they argue, has led to unsustainable development based on

consumer-driven capitalism. The primal episteme is based on the knowledge of things as they are created, a knowledge of primal processes. At the centre of the primal episteme is empirically grounded science (e.g. thermodynamic dissipative structures) with accompanying developments in mathematics (e.g. chaos theory). This leads to a new metaphysics, a life-centred morality (with nature seen as active and self-regulating). In a Chinese context this means going from the mathematically biased reductionism of the West to a more holistic “all under heaven” (tian xia) foundation (Zhao, 2005) based on traditional Chinese religion and philosophy (Taoism, Confucianism and Buddhism). Neo-Confucian thinkers have introduced an “anthropocosmic” aspect to their theorising (Tu, 2001). An anthropocosmic world-view (Tucker and Berthrong, 1998) sees the human as a microcosm situated in the macrocosm of the universe itself. This relates back to ancient Chinese cosmology (Oldstone-Moore, 2003) where the cosmos is seen as a sacred place and this sacredness is upheld by maintaining harmony between human beings and between humanity and nature.

Questioning the viability of the modern episteme, Birkin and Polesie (2011) use four sets of questions: questions around right and proper conduct; questions around specialization; questions around anthropologization (reduction to epistemological man); and questions around mathematization. Any new ordering of knowledge (episteme) has to deal with these questions of viability. They argue (ibid) that evidence of an emerging episteme is based around a new metaphysics (with strong connections to Chinese philosophical traditions), a revised mathesis (a universal science of measurement and order (Foucault 2002 p62)) linked to new science (e.g. developments in non-linear mathematics, dissipative thermodynamics) and a new ordering of knowledge with an integrated view of the universe.

### **3. Methodology**

This research uses a nominalist ontology in that the researcher looks at phenomena with a particular lens and hence another researcher could describe the phenomena differently. The researcher is by definition biased and partial, but the aim is to add to understanding of phenomena without pretending spurious causality or truth. In terms of epistemological approach this research uses a social constructionist epistemology in that sustainability (including environmental accounting) is seen as socially constructed and given meaning by people (Birkin, 1996).

The methods used in this research project are mixed: interviews and observation (leading to the development of case studies) and surveys. In this current paper one of the case studies is used to explore notions of episteme change and the emerging primal episteme. The case study is of a Chinese company (a state-owned SME with a turnover in 2010 of around RMB500 million (there are approximately 10RMB to £1) and 1,200 employees, based in Liaoning Province in North West

China). This case study fulfils two purposes, both instrumental and expressive (Yin, 2009). Instrumental in the sense that it aims to help to develop general principles and expressive in the sense that it highlights the unique features of a particular company which may or may not be generalizable. The interviews were of a semi-structured type with a schedule of questions but with allowance made for digressions so that interesting leads could be followed.

The analysis is based on the Foucauldian “archaeological” method (Foucault, 2002) where the observations and interviews are analysed using the four sets of questions that have been noted above to assess the viability of the modern episteme.

#### 4. Findings

The observation started on arrival at the company in early April 2011 when in the foyer the researcher noted and photographed the following posters:





The posters were all produced by the Liaoning Provincial Government and were displayed by the company. The dominant colour for the posters is green and the slogans said:

“Save energy. Let everybody take action now.”

“Have you used a green bag today?”

“An environmentally friendly life starts from me.”

The overriding impression given by these posters was that the company is one with an interest in green issues and the environment. It should be stressed that these posters were in a relatively bare foyer and so assumed a greater importance therefrom. As the company is a state owned company it could be argued that they must follow government initiatives (an institutional theory approach with coercive isomorphism (Larrinaga-Gonzalez, 2007)), but these posters were still on display in April 2011 when the government initiative was promoted in the week of 12-18 June 2010.

The second part of the observation was the evidence of extensive tree planting around the buildings making up the company. This was corroborated by the Chief Accountant during an interview when he mentioned that RMB 500,000 had been spent in the last two or three years on tree planting and the introduction of grasses.

The third part of the observation noted that lights were not switched on in the office (during the interview with the Chief Accountant it was stated that the company has a policy of no lights during the day) in order to save energy. This was accompanied by a policy of not switching on the air conditioning until the temperature went above 25 degrees.

It was established during a series of interviews with three of the company’s accountants that the company has a policy of minimising water usage and energy saving. The reasons put forward by the

accountants for this policy were twofold: the business case in reducing costs, but also the company culture of responsibility to employees and society that seemed to come down from the President of the company.

In terms of environmental accounting, an investment appraisal activity was noted around a thermal pumping project which the company had committed to recently. This involved an expenditure of RMB 7.8 million and had been justified partially in terms of an annual saving of coal for heating of 5,000 tonnes. Although it was acknowledged on being prompted that this also led to a saving of carbon dioxide emissions, this was not uppermost in the minds of the interviewees and no data could be provided on this saving. The accountant was able to provide additional numerical data after the visit which supported the information given at the interviews.

Overall the evidence presented was of a company which was taking an active interest in environmental initiatives and had an accounting system that could both help with planning, appraisal and with day to day recording of spending on environmental matters. So there was plenty of evidence that internal environmental accounting mechanisms were strong and that they both provided assistance in decision making and allowed spending to be monitored and controlled. However, the interviews also provided evidence that the company did not report publicly on its environmental activities and so was not being accountable in the traditional sense. Questioned on why this reporting did not take place, Interviewee 3 (vice director of the accounting department) said: “first we need to do it, we must provide leadership and only when we have successfully implemented environmental initiatives will we move to promote and report on what we are doing”. The interviewees gave the strong impression that to self-promote and report was not a good thing and not part of their tradition. Research by Gray (1988) on cultural influences on accounting suggested a tendency towards secrecy in reporting activities (as opposed to transparency) in certain countries and this company’s approach appeared to fit into a culture of secrecy.

The main reason given in the interviews for developing the internal environmental accounting was to support the environmental management activities and in particular to highlight savings that were being made as a result of the company’s environmental activities. However, another strand of the interviews was to ask the accountants whether their personal philosophy on the environment influenced their environmental accounting work. The answers to this question demonstrated that each of the three accountants held deep seated philosophical values. The chief accountant cited Buddhist and Socialist values with an emphasis on harmony and the sense that the company is an extension of the family, so that everyone should be comfortable working at the company. The second accountant cited Communist values with a desire to do something for Society. The third accountant cited an old Chinese tradition where waste was minimised and one saved as much as possible. They all saw



environmental accounting as an important part of ensuring that environmental management activities were planned and managed and that these activities stemmed in part from the desire to maintain a harmonious society. The chief accountant said: “Accounting is an instrument for more environmental activities, it helps us to make a case to our leaders” and “provision of better data – on money saving for example – means that we can tell our leaders and have more developments in the future to save energy and have environmental protection” and “accounting is hand in hand with environmental protection.” Comments such as these support the suggestion by Birkin and Polesie (2011) that China is a fertile ground for primal epistemic thinking. There was a real sense of social and environmental responsibility which was supported by the accounting function along with a strong desire to reduce costs (possibly for a business-case reason) and to account for these reductions. The environmentalism of the company was stimulated by government (see the posters above). Government as represented by the Ministry of Environmental Protection (at city, province and national levels) was acknowledged by interviewee 3 as an important influence on environmental management activities by the company and also the key to encouraging more environmental accounting through legislation and accompanying regulation. The accountants understood that their role was to provide accounting information on the company’s environmental activities and they did this both for business reasons and also, more importantly, for philosophical reasons.

## **5. Analysis**

Four headings are used in this analysis based around the work by Birkin and Polesie (2011): development of a life-centred morality; invention as in the emerging mathesis; disappearance of specialization; disappearance of anthropologization. They were put forward by Birkin and Polesie (2011) as pre-requisites of an emerging episteme. The findings above are grouped around the four headings or themes. (It should be stressed that the findings are an illustration of possibilities based on one case. They do not purport to offer generalizability in any way).

### **Development of a life-centred morality**

The evidence from:

- The posters in the foyer of the company head office
- The tree planting and introduction of grasses

gave the impression of a company that considered issues beyond the traditional profit motive. Further to this, the philosophical orientation of the interviewees with the emphasis on harmony and doing

good for ‘society’ showed a possible return to traditional philosophical notions of life-centredness with humans being seen as just one species sharing the planet with myriad others.

### **Invention as in the emerging mathesis**

Bearing in mind that this company was mainly involved in the design and manufacture of safety modules for use by miners (mainly in the coal mining industry) most of its activities are firmly placed in the modern episteme. It is interesting to note that in terms of social matters the safety equipment helps to ensure that miners are protected from life-threatening disasters. The development of thermal pumping systems suggests a use of new technology in the area of thermodynamics. This is one of the new scientific areas referred to by Birkin and Polesie (2011).

### **Disappearance of specialization**

The comments made about the role of accountants (traditionally a very narrow area of specialization) reinforce the idea that the accountant is also involved with environmental management. The accountant’s role is becoming more diverse and less specialized. The way that the company presented itself to me during the visit was one where all had an interest in sustainability, indicating that environmental concerns were not the preserve of a special department but rather the concern of all employees, with a strong message to this effect coming down from the Chairman.

### **Disappearance of ‘anthropologization’**

Tu (1998) introduced the concept of ‘the anthropocosmic spirit’ with its notion of harmony between the human species and nature. In this case it is possible to find evidence of this notion in the philosophical orientations of the interviewees. Traditional philosophical views were held by the interviewees. Also the privacy and action on environmental matters suggests a deeper understanding and more altruistic reasons for the initiatives rather than seeking to reduce reputational risk or to gain spurious marketing and reputational gains.

## **6. Concluding comments**

It should be noted that the case study in this paper represents a pilot study in the early stages of this research project (there are 20 further interviews in different organizations; two more case studies and a survey of Chinese academics and accountants in the environmental accounting field). These comments are based on a pilot study and no attempt at generalization has been made. As Yin (2009) would agree they represent an attempt to highlight features unique to the case which may not be generalizable but which are interesting in their own right.

It should also be noted that in using a nominalist ontology the researcher is aware that the analysis cannot be objective in the true sense as it is influenced by the perspective of the researcher. In this case the researcher has a background in new thinking on environmental matters in the West (Carson, 1962, Leopold, 1968, Lovelock, 2000, Harding, 2006) and also an interest in ancient Chinese philosophy nurtured during a period of living in China from 2006 to 2008. These influences created a normative perspective with the view taken that the world needs to change direction if the human and other species are to survive and with a strong desire to see China lead the way forward on environmental matters and the accounting thereof.

To conclude, this paper has sought to explore the influences on environmental accounting activities in a Chinese context. It has done this by looking at a case study of a Chinese state owned medium-sized company with both observation and interviews being used to gather data during a one day visit in April 2011. The key reason identified for environmental accounting activities in this company was to support its environmental management activities. The second clear reason was to follow government policy and to make the relevant financial case for environmental initiatives. However, underlying the environmentalism of the company there appeared to be a raft of philosophical influences, from senior management to the accounting personnel, that position the company as one that is part of a harmonious society (with the wellbeing of employees being uppermost in the mindset of management). These philosophical influences varied from Buddhist to Communist and have been the subject of a series of other interviews with Chinese accountants by the researcher in recent years (Margerison, 2010).

Using a Foucauldian epistemic analysis (Foucault, 2002, Birkin and Polesie, 2011), the developments in environmental management and environmental accounting in the case study were found to be rooted in a life-centred morality based on Chinese philosophy, invention using new technologies, removal of some of the barriers caused by specialisation, and an awareness of issues linked to anthropocosmic notions (rather than anthropocentric notions). These characteristics of a new primal episteme, it can be argued, are more likely to hold sway in China with its ancient, yet still relevant, philosophies, its strong government and the clear pressures for change caused by the pollution in major cities and nearby industrial complexes.

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