



# An ecological worldview as basis for a regenerative sustainability paradigm for the built environment



Chrisna Du Plessis <sup>a,\*</sup>, Peter Brandon <sup>b</sup>

<sup>a</sup> Department of Construction Economics, University of Pretoria, Private Bag X20, Hatfield 0028, South Africa

<sup>b</sup> School of the Built Environment, University of Salford, Salford M5 4WT, UK

## ARTICLE INFO

### Article history:

Received 30 June 2014

Received in revised form

25 September 2014

Accepted 30 September 2014

Available online 13 October 2014

### Keywords:

Worldview

Ecology

Regenerative

Resilience

Biophilia

Holistic

## ABSTRACT

It has been widely argued that in order to move development into a positive curve towards sustainability, society needs to change the worldview/paradigm within which it currently operates; and that such a shift from a mechanistic to an ecological/living systems worldview is already happening. It is suggested that the purpose of the sustainability paradigm flowing from this worldview is not to conserve the status quo or meet ill-defined human needs, but to strengthen the health, adaptive capacity, and evolutionary potential of the fully integrated global social-ecological system so that it can continue regenerating itself, thereby creating the conditions for a thriving and abundant future – not only for the human species, but for all life. In this paper we explore the ecological worldview and the guidelines it provides for how we interpret sustainability; as well as the strategies for the production of the built environment we need to follow if we are to adapt to coming changes in the planetary system and regenerate the world. The question this paper asks is: how does this sustainability paradigm, with its focus on regenerating the whole of the social-ecological system within which we are working, change the way the built environment is produced? To achieve this objective, the paper synthesizes the findings of two separate studies: an extensive literature review to define the meta-narratives of the ecological worldview; and an analysis of in depth interviews with academics and built environment practitioners that aimed to find correlations between the practice and theoretical positions of the participants and the values and praxiology of the ecological worldview as described in the first study. Three main themes of the ecological worldview – wholeness, relationship, and change – provide a framework for discussing the implications of this regenerative sustainability paradigm for the production of the built environment – for how it is created, the technologies used, and how it is evaluated.

© 2014 Elsevier Ltd. All rights reserved.

## 1. Introduction

Thomas Kuhn, in his book *The Structure of Scientific Revolutions* (Kuhn, 1970), argues that the history of science demonstrates that it is marked by periods of 'normative science' interspersed with periods of rapid change where the paradigm of our culture, and indeed the current body of scientific knowledge, is broken. A new paradigm is created, which then becomes established and the circle begins again. His intention was to break the naive belief in the great chain of unbroken progress and perpetual revolution to which most scientists subscribed. Although his work has been debated by many, and particularly the followers of Karl Popper in the context of his

understanding of the growth of knowledge (Popper, 1963, 2004), it is still held to be true by many. New knowledge, new thinking, new technology is built by developing successful ideas based on a set of premises and values which remain true until they are challenged.

In the context of sustainable development it would appear that we are facing such a paradigm shift. It has been widely argued that in order to move development into a positive curve towards sustainability (and further into what some call *thrivability*), society needs to change the worldview/paradigm within which it currently operates, and that such a worldview shift is already happening. Edwards (2005:5) describes sustainability as "a revolution with a new value system, consciousness and worldview". Orr (2005:xiv) further describes this 'sustainability revolution' as "... nothing less than a rethinking and remaking of our role in the natural world. It is a recalibration of human intentions to coincide with the way the biophysical world works". Reed (2007:675) suggests that this new sustainability paradigm goes beyond current notions of increased

\* Corresponding author.

E-mail addresses: [chrisna.duplessis@up.ac.za](mailto:chrisna.duplessis@up.ac.za), [chrisnaduplessis@live.co.za](mailto:chrisnaduplessis@live.co.za) (C. Du Plessis), [p.s.brandon@salford.ac.uk](mailto:p.s.brandon@salford.ac.uk) (P. Brandon).

resource efficiency and reduced impact while meeting basic needs, to being based on the idea of whole or living-systems thinking, in which the “purpose of sustainability is sustaining life-enhancing conditions”. He proposes the following trajectory of increasingly whole approaches (*ibid.*: 677):

- restorative approaches that “restore the capacity of local natural systems to a healthy state of self-organisation”;
- reconciliatory approaches which “acknowledge “that humans are an integral part of nature and that human and natural systems are one”;
- regenerative approaches that engage and focus “on the evolution of the whole of the system of which we are part”.

While referred to as a new worldview, it is in reality emerging from an amalgamation of ancient worldviews and a new scientific paradigm based on the findings from both classical and new sciences. The past century has seen a number of surprising discoveries which have washed away much of what we thought we knew, leaving behind both more knowledge and many more questions. A number of these discoveries had to do with our basic assumptions about how the world works and the place of humans in the world. From these discoveries it has become clear that the reductionist scientific paradigm of Bacon, Newton and Descartes that dominated the world since the Enlightenment, does not adequately explain all of reality, especially in the realms of living systems and the sub-atomic world physics. In fact, it would appear that until the development of ecology and quantum physics, earlier paradigms, such as found in Eastern philosophy and indigenous knowledge systems, have been more accurate in their understanding of how living systems and existence at its most foundational level function.

In order to understand how this new worldview will change the way we deal with the problems of our time, it is necessary to provide an understanding of the worldview itself: how it describes the way the world works and how humans should engage with the world so that their intentions coincide with the way the world works and enable the regeneration of its systems. In this paper we explore the ecological worldview and the guidelines it provides for how we interpret sustainability, as well as the strategies for the production of the built environment we need to follow if we are to adapt to the coming changes in the planetary system and regenerate the world.

## 2. Methodology

The paper synthesizes the findings of two separate studies. The first study (Du Plessis, 2009) is an extensive literature review that used a combination of critical theory, grounded theory and wide reflective equilibrium in an iterative process to define the meta-narratives of the ecological worldview according to a worldview framework proposed by the Centre Leo Apostel (Aerts et al., 2007). This framework was populated through four rounds of reading that provided input from multiple perspectives and sources of knowledge, as well as preceding worldviews (as described in Fig. 1). The source of data for the study was a wide range of both representative and seminal texts, and texts that challenge mainstream perspectives, spanning different disciplines, discourses and knowledge sources – in total over nine hundred texts spanning three thousand years of recorded knowledge generation and much older oral traditions were analysed.

A first reading of key sources defining the emerging ecological worldview (e.g. Capra, 1983, 1997; Berry, 1990; Rees, 1999; Wilber, 2000a; Sterling, 2003; Lazlo, 1987) identified certain themes (categories) within each of the aspects of the worldview complex. These themes were then used to identify additional literature and

knowledge sources and further structure the reading. A second reading drew on 21st century science, particularly theoretical physics and complexity science, ecology and other life sciences, and neuroscience. These provided a current *scientific understanding* of how the world works and practices for generating knowledge. A third reading drew on Eastern and Western philosophical traditions, providing a *reasoned understanding* of how the world works, how one should engage with such a world and what would constitute knowledge. The fourth and final reading drew on spiritual traditions, especially ancient traditions found in indigenous knowledge systems in Africa, Australia, the Americas and pre-Roman Europe. This provided an understanding of how the world works and how one should engage with this world, based on an *experiential understanding* that has stood the test of time, in some cases (such as Australian aboriginal traditions) for at least 40 000 years. Each of these layers added to and reinforced an emerging picture of the world. The last step was an iterative process of *reflection* and validation through external review that made this picture explicit in a coherent description of the worldview.

The second study (findings of which to be published as Hes and Du Plessis, 2015) provided empirical data, using qualitative content analysis to analyze fifty two in-depth interviews with academics and built environment practitioners identified as working from within an ecological worldview. Participants were identified based on their contribution within the literature (publication and citation in peer reviewed highly referenced journals) and built environment (well known in the industry for their regenerative and innovative work). This analysis aimed to find correlations between the practice and theoretical positions of the participants and the values and praxiology of the ecological worldview as described in the first study. The specific approach is defined as directed content analysis in which initial coding starts with a theory or relevant research findings with the aim to validate or extend a conceptual framework or theory (Zhang and Wildemuth, 2009).

## 3. Worldviews and paradigms

While the terms ‘worldview’ and ‘paradigm’ are frequently used as fully interchangeable synonyms in the popular literature, they can also be viewed as a way of looking at the world (worldview) that requires a specific set of tools to study the phenomena of this world from this particular perspective (the associated scientific paradigm).

A worldview can be defined as a coherent collection of concepts, theorems, images and basic assumptions that provide an image of and way of thinking about the world (Kearney, 1984:41; Aerts et al., 2007:8). It describes the structure, function and nature of the world, and provides guidance on the general principles by which we should organise our actions within this world: how we are to act and create, and how we can influence and transform the world. As such it not only engages with our scientific understanding of the world, but also with our value systems and ideologies, as well as our ideas about sense-making, problem-solving, decision-making and correct action based on how we evaluate reality and the possible futures to which these actions may lead. It is therefore far more than a scientific explanation of the physical universe.

While a worldview is a coherent image derived from inner experience, practical interaction and interpretation of history and of scientific knowledge (Aerts et al., 2007:9), it is limited by its ontological and epistemological boundaries, and is therefore not necessarily accurate. Thus every worldview adopted as the basis from which to study the phenomena of the world reveals only partial knowledge of the world as it describes only what it can see through its particular lens. This does not mean that the knowledge it provides is suddenly no longer valid when a different worldview

Download English Version:

<https://daneshyari.com/en/article/1744495>

Download Persian Version:

<https://daneshyari.com/article/1744495>

[Daneshyari.com](https://daneshyari.com)