

**From the Big Bang to a Sustainable Earth Community:
Working with the Universe Story in Australian
community and tertiary education**

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Lisa J. Jobson

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Abstract

In the context of increasing concerns about the health of the planet, this thesis set out to explore approaches that aim to empower people to preserve the life support systems that sustain not just humans but all living things. Inspired by the work of Thomas Berry and Brian Swimme, the thesis examines the proposition that gaining a broader sense of the cosmos and Earth can encourage humans to fundamentally re-think and value all of life in more celebrated, ethical and mutually beneficial ways.

The separate and combined work of Berry and Swimme is large and complex, but it is best exemplified in *The Universe Story* (1992), in which Berry and Swimme propose a respectful appreciation of the limitations of objective science that can transcend the dualisms that currently divide science and spirituality, and that perceive humans as separate from ecosystems and nature. This, in turn, can lead to the adoption of what they have called a 'functional cosmology', which conceives of all life as being subjective and interactive.

While the author has aimed to distil the work of Berry and Swimme into a concise set of concepts for the purposes of this study, the thesis does not aim to critique the work itself. Rather, the thesis explores a range of attempts that have been made in Australian community and tertiary educational contexts to put into practice the ideas put forward by Berry and Swimme. This thesis critically examines these efforts in order to ascertain the work's applicability and effectiveness across local social contexts, and the problems that arise in the attempts of four contrasting Australian educational contexts which work with ideas derived from Berry and Swimme, either directly or indirectly. The thesis is based on conversations with people within those educational contexts about how they have interpreted and worked with ideas selected from the body of work of the two theorists. The researcher was particularly interested in the extent to which these people are able to relate ideas taken from Berry and Swimme to their daily life practices. The focus on consciously changing daily practice led the researcher to adopt a phenomenological/critical hermeneutic approach to the research design. A blend of qualitative and quantitative research methods was used to enable the education participants to express their thoughts and feelings in a range of ways. Based on a wide-ranging review of international literature on ecological education, the researcher selected work that seems to complement or fill gaps in the work of Berry and Swimme. Ideas taken from selected scholars are brought into a final discussion of what can be learnt from the examination of attempts made to work with the ideas of Berry and Swimme in Australian settings.

Chapter 1: Introduction

My dream of a more compassionate humanity began at the age of seven after I saw a baby fur seal being clubbed to death in front of its mother. The scene came up unexpectedly on a music video on our black and white television set. While I could not see the blood as red, I imagined it that way for years. I was horrified by this barbaric act carried out for the fur trade for a society that already had plenty of options for warmth.

My secular Australian background did not prepare me for the revelation I experienced when I stumbled across the work of comparative mythologist, Joseph Campbell (1988). His account of how ritual is expressed in varying cultures ignited my mythic imagination. I learned that different cultures across the world enacted their myths in rituals, imagining and responding in a collective dedication to artful living. I was curious as to what my own culture's rituals were and what mythology they might be enacting. The closest enactment of ritual I could find was in the visual and performing arts. For ten years I was a professional singer, in blues, jazz and R&B and then finally opera. The operatic musical form was initially foreign, but it enticed me completely, particularly the sense of being immersed into stories that expressed a dramatic spectrum of human experience. But even while I progressed all the way to the Sydney Opera House, I realised that ultimately opera was only interested in stories of human experience, and it told mostly patriarchal snapshots of human history.

I left the world of high arts to enter motherhood. Giving birth and looking at the world my daughter was entering marked the beginning of a new chapter. In my new capacity as a performing arts teacher in secondary and tertiary colleges, and later in my capacity as a counsellor, I could see the human-centredness that excluded the needs of animals and the larger living world reflected back to me everywhere. Once she was past the picture-book stage, animals faded quickly from view for my daughter, except for the occasional school assignment on animal rights. It was clear that while most people care about animals and want the best for all life, they were often too busy or did not have the means to change their ways.

A new direction in life opened up to me after a significant mentor, Trudy, introduced me to Brian Swimme's 'Canticles to the Cosmos' (Swimme, 1995). Discovering the work of Thomas Berry and Brian Swimme was revelatory to me. Their work articulated a philosophy of life as miraculous and worth cultivating through

identification, care and stewardship. Trudy guided me to an awareness that one's psyche is inseparable from the psyche of the universe, and that it runs like gold thread through the matrix of all existence. As the only member of her family to survive the holocaust, Trudy was a wounded soul who had found a way to value all of life deeply. Trudy has passed on now and I wish she could know that I took all that we spoke of a step further. This thesis is that step.

1.1 Personal interest in this research

Encountering Berry's and Swimme's world view helped me see the world in a more profound way. It deepened my perspective and enabled me to recognise the genetic and biological structure of Earth as integral to the colossal blast of energy we know as the Big Bang. This brought about in me a powerful new awareness that we are all part of, and participating in, a creative cosmological evolution and that we are part of a matrix of interdependent life of unimaginable profundity. This helped me understand more clearly the role that empirical science has, within the constructs of its own domain, of revealing insights into the mystery of life. I found comfort in the recognition that the dynamics that impelled the creation of an estimated 100 billion galaxies of the cosmos out of a quantum of energy as big as a grain of sand will continue to drive life in the long term, and that my life is just a journey within a larger journey. I came to respect evolution as a remarkable mystery, and learned the value of celebrating the Earth in response to its majesty and mystery.

My experience of Berry's and Swimme's work engendered for me a new sense of place and being in the cosmos, the Earth and larger living world. This appreciation for its cosmological history made me cherish life in my inner experiences and in my interactions with the outer world, and motivated a desire for a powerful practice of sustainability and ecological restoration.

This research emerged because I wondered whether the work of Berry and Swimme could help others see the world with the profundity I had experienced. I wanted to find out what sorts of experiences others have when working with their ideas. I found their worldview difficult to narrate successfully to others, and I wanted to know how accessible their ideas were, and how easy they were to communicate. I was interested to discover whether Berry's and Swimme's ideas and the way they communicated them would be palatable to those not of a spiritual inclination. Did their ideas, in particular the notion of the 'Universe Story', make any sense to others? I particularly wanted to see whether Berry's and Swimme's ideas inspired people to value, cherish

and help improve the lives of animals and the health of the larger living world of Earth. All of the personal interests that have driven this research aim to contribute, clarify, simplify and enrich the ideas of Berry and Swimme, so that people may access them in varying ways and contexts.

2. Key aims of this thesis

This thesis evolved from the author's interest in the worldview underpinning the works of Berry and Swimme. It explores whether putting Berry's and Swimme's ideas into practice can stimulate shifts in thinking toward a commitment to all biological life. The thesis also critically examines the problems that may arise in the attempt to put the ideas of Berry and Swimme into practice. Hence, the thesis focuses on possibilities for the application of Berry and Swimme's principles, rather than critiquing their work and ideas. This exploration and critique of the applicability of their ideas in practice takes place in four very different social contexts in Melbourne, Australia.

Ultimately, the thesis aims to shed light on the extent to which various applications of Berry's and Swimme's ideas were successful in achieving the aim of shifting the thinking of participants as mentioned above.

It is necessary to note that the author has not been able to identify a widely-recognised term or phrase within the English language that adequately communicates her perception of Berry and Swimme's ontological orientation to the words 'cosmology' or 'evolution'.¹ Therefore this thesis employs these terms combined as metaphors to represent Berry and Swimme's ontological orientation² as 'cosmological evolution'³. The author's use of this term aims to communicate ideas of existence and living systems as a world view (Berry and Swimme, 1992) in this thesis. She understands this term as transcending mystical or mechanistic scientific orientations, in the sense of recognising the influence of evolutionary thinking on all

¹ 'Biosphere/ic' and 'evolution/ary' are not yet widely recognised as official movements¹, enough at least to immediately understand their context.

² The author understands that Berry and Swimme aim to capture the universe and Earth as an unfolding, dynamic that pulses as a hubris of life, as being derivative and inclusive of the mysterious phenomenon inherent to existence. Therefore 'evolution' and 'cosmology', for Berry and Swimme, means to interpret and experience evolution and the matrix of life as a subjective, enlivened, ongoing, phenomenon in space and time.

³ Cosmological evolution understood as infinitely more than a theory, system or hypotheses:
'A general condition to which all theories, all hypotheses, all systems must bow and which they must satisfy henceforth if they are to be thinkable and true. Evolution is a light which illumines all facts, a curve that all lines must follow' (Teilhard de Chardin, 1959).

aspects of culture and biological identification (Phipps, 2012). Underpinning the notion of ‘cosmological evolution’ is the ontology that understands and adopts the trajectory of cosmological evolution as a meaning-making process.

The use of this term intends to communicate a concept of the interrelationship between ‘local and global’ within an evolutionary context (Berry and Swimme, 1992) in a sense that has profound implications for the way we think about and live in the world.

3. Objectives of this thesis

3.1 Bringing the big picture into view

A key objective of this dissertation is to assess whether identifying with 15 billion years of genetic and biological inheritance can influence the thinking of human beings about the wider non-human world. It aims to determine whether this big picture orientation can help humans transcend their conviction that they are the primary beneficiaries of cosmological evolution. If this is the case, this thesis then aims to identify which strategies and techniques for communicating this picture are most suitable for Australian mainstream contexts.

3.2 Helping to see our dependency and embeddedness within a living system

Berry and Swimme (1992) argue that demonstrating to humans their dependency on and embeddedness within a greater living system can give people the opportunity to move deeply into the worlds of other beings and experience the biological dynamics of life. This has the potential to humble human beings. However achieving this is complicated by ‘ecophobia’ (Sobel, 1999) and a privileging of human culture that can result in alienating people from worlds other than human. Visits to the zoo or pet ownership may not be enough to give humans a true experience of the larger living world. Likewise, wildlife depicted in the media may also offer incomplete insights into the dynamics of a biological world, providing a two-dimensional understanding of animals and ecologies as being ‘out there’ and irrelevant to their own lives. The research aims to gauge whether the process of adopting a cosmological evolutionary approach can be a more effective way of encouraging humans to recognise their dependency on and their embeddedness within a wider living system.

3.3 Evoking mutually enhancing attributes

It is likely that apathetic attitudes towards climate change and species extinction as having ‘nothing to do with me’ may be a result of people simply not knowing how to respond to such developments. While it is not the aim of this thesis to interrogate attitudes towards climate change or species extinction, a stronger sense of being part of the greater biological world may be a starting point for addressing this kind of apathy or denial by building a sense of connectedness rather than abstract obligation to the wellbeing of the planet. The author aims to examine the extent to which applications of the work of Berry and Swimme might enable people to move beyond apathy and denial towards a positive sense of connectedness. A background question for the author is the extent to which these approaches can inspire in the participants an attitude of stewardship that will ultimately inspire a new approach to challenges such as climate change and species extinction.

3.4 We are living in the worlds of other: they are not just in ours

According to Swimme (1996b), identifying forests or oceans purely as a ‘resource’ fails to acknowledge that they are also the living environment of subjective others. The thesis aims to identify which factors might trigger or motivate human curiosity towards a greater empathy with those subjective others, and to recognise the impact of human actions on the experiences of subjective others. A background assumption of the author is that that when humans are fully and solely immersed in their own human worlds, they are able to ignore and accept the decline of the wider living world. However, the thesis can only focus on the extent to which applications of the work of Berry and Swimme can begin to break down that sense of disconnection.

To put it in terms discussed above the thesis aims to explore the extent to which cosmological evolutionary approaches can enable people to develop compassion and empathetic insight into life for the ‘other’, and recognise their struggle to survive in the difficult living conditions caused by humans. This research aims to ascertain whether or not participants in activities that are driven by such approaches can articulate a different new understanding of their relationships with non-human others.

3.5 Inspiring curiosity and a poetic basis of mind for the world

As mentioned earlier, the author has been inspired personally by the work of Berry and Swimme and in her role as an educator she has noted the energy and enthusiasm that children commonly display when they encounter the 'subjective other. It seems that this kind of curiosity about the world of the subjective other may be dissipated by the ways in which the non-human world is treated within formal education curricula, especially at secondary school level. Hence, the author has an interest in efforts being made to reawaken the childlike curiosity for the world of the subjective other without ignoring the importance of understandings derived from the physical and natural scientific disciplines.

Berry and Swimme (1992) have suggested that regarding the Earth and the subjective other in a more 'poetic' way could be effective in increasing human understanding of the subjectivity of other forms of life. They argue that embodying subjectivity cannot be a purely intellectual endeavour. For western cultures to adopt such a different way of thinking about the non-human world, Berry and Swimme suggest (1992), requires a 'poetic mind'. Although Berry was trained in both Christian and non-Christian theologies, he has insisted that gratitude and awe for the miracle and mystery of life do not need to be based on religious or even spiritual approaches (Berry, 1988a). The work of Berry, in particular, has been picked up by people with religious or theological training but this thesis is interested in the extent to which the work of Berry and Swimme can be accessed without reference to theology; using instead the secular scientific approaches that underpin the work of Swimme more than Berry.

4 An orientation to Berry's and Swimme's work presented in this thesis

This thesis is based on interviews with a wide range of people who have tried to work with the ideas of Berry and Swimme in a range of different settings. However, the separate and combined work of the two theorists is wide-ranging and complex and they made no attempt to produce a concise synopsis of it. In order to discuss the work with people who have been inspired by it, the author saw a need to begin by developing her own synopsis so that the identified key themes could then be discussed with interviewees.

This was no easy task because Berry and Swimme communicated their ideas and concepts in a wide range of formats, including audio, audio-visual, digital and

literary presentations. The author had been immersed in these works for many years before beginning the research for this thesis but she quickly reached the conclusion that it would be very difficult to discuss the work with others without a synopsis of key themes and concepts. The lack of a concise rendering of key ideas can be seen as a weakness of the combined work of Berry and Swimme. However, it continues to attract dedicated adherents around the world and the synopsis developed within this thesis reflects the kind of language and ideas that have adopted by such adherents. Of course, it needs to be noted that the synopsis of the work of Berry and Swimme that underpins this research is the work of the author and not of Berry and Swimme themselves. While this could be seen as weakness it enabled the research to proceed and the author struck no resistance from interviewees who had studied the work of Berry and Swimme about the way in which she had summarised their key ideas and concerns.

It also needs to be noted that Berry and Swimme undertook most of their work separately rather than together. Hence a synopsis of their work includes ideas and approaches that come from one of them rather than both. However, the author spoke with Brian Swimme in which he acknowledged that his ideas had been profoundly influenced by his collaborations with the older man and that the overlapping ideas are more significant than any separate insights. Swimme was particularly influenced by Berry's interpretation of the philosophy of Pierre Teilhard de Chardin while Berry was strongly influenced by Swimme's knowledge of physical sciences. It was the fusion of these two approaches that gave their combined work both philosophical depth and contemporary relevance. Of course, it is not easy to convey a complex body of work in simple and concise terms and Berry himself noted (1988a, p.91) that 'we do not presently have a terminology suited to a serious consideration of the Earth'. However, this thesis is interested in how people work with particular ideas and concepts and this requires a process of interpretation and articulation on the part of the interviewer and her interviewees alike.

Berry and Swimme did acknowledge the influence of a range of other philosophers and writers but not in a very systematic way. Marie George (2008) is among those who have suggested that there is a lack of rigorous scholarship in the work of Berry, in particular. With many years of theological and philosophical training behind him, Berry adopted a rather literary style of writing that frustrated critics looking for greater 'logical rigor' (George, 2008, p.2). However, as noted above, Berry defended a 'poetic' approach precisely because 'logical' approaches have encouraged a sense of

disconnection with the world of the subjective other. At the same time, Swimme's work has probably not received the scholarly attention that it deserves because much of it has been communicated in audio-visual works (1995, 1998, 2003a) that are complex, and often of long duration. His communication style may not appeal to many of those who share his interest in the physical sciences, however he has always been more interested in pitching his work at those who are outside the circles of scientific scholarship. Even his books (1984, 1996a; Swimme and Tucker, 2011) have been targeted at a non-academic audience and have been largely ignored by other scholars. Of course, the problem that Berry and Swimme have faced in choosing how to communicate their ideas to their target audiences is not a new one. Like many others they have wanted to reach a wide range of people with complex ideas based on many years of intense scholarship. Their shared solution was to focus on the narrative of the 'Universe story' and yet their work undoubtedly appeals to people with an interest in big ideas and rather complex concepts rather than those looking for a simplified story. Whatever its weaknesses, the combination of conceptual depth and narrative framing has won many admirers and adherents and that is a key starting point for this thesis. While the detailed synopsis of their work is presented in chapter 3 it is useful here to explicate that starting point a little more.

5. A brief introduction to the work of Thomas Berry and Brian Swimme

The key collaboration between Berry and Swimme is the co-authored book titled '*The Universe Story*' which was published in 1992. This text was the result of a ten-year collaboration which aimed to adopt a 'Big History' approach (see Christian, 2008) while shifting the emphasis beyond human experience. In their collaboration, Swimme agreed to Berry's description of evolution as being essentially 'bio-spiritual' (Berry, 1988a) while they added a new emphasis on the 'ecology' of the dynamics of the universe (Berry, 2006; Swimme, 1995).

The collaboration between Berry and Swimme is interesting because they came from such different backgrounds and training and so the following introduction to their work begins with their separate background experiences. Hereafter, references to their combined work refer to their key text ; *The Universe Story* (1992). Otherwise their separate works are stipulated in relevant citations. This thesis may refer to Berry's and Swimme's contributions as 'work', 'ideas' or 'model' in relation to the overall combination and separate ideas in their unified context. This is based on the rationale that these theorists' ideas are often interchangeable even though they may approach them in differing ways.

5.1 Thomas Berry: Berry's life experience

Thomas Berry (1914-2009) experienced a life altering epiphany at the age of eleven. A profound experience of communion emerged in his lifeworld (van Manen, 1990), as identifying with the majesty and mystery of the meadow he wandered across as it overwhelmed him (Toben, 2012). This encounter altered his consciousness and the effects of this experience Berry said, 'lay behind all his philosophy and religious awareness' (Raymond, 2010, p.24), that was to come in his life's works. This formative story of Berry's young life is important to help clarify his ontological attributes and illustrate his personal *daimon* (Hillman, 1996) as inherently poetic in the way he experiences the world, and as underpinning his ideas. This attribute, in its more mature form, can be identified in Berry's statement: 'Religion is nothing if it isn't poetry' (Berry, 1988b, Lecture 1). Berry holds this ontological position with unabashed feeling within the language of his writing (Berry, 1988a, 2006) and it underpins his choice of religiously based words such as 'sacred' and 'divine' (Berry, 2006, p. 26). Berry's primary orientation and rationale for his work is to 'renew our sense of the sacred in any sphere of human activity' as a means for the life renewal of the entire Earth community: 'We become sacred by our participation in this more sublime dimension of the world about us' (Berry, 1999, p.49)

Berry preferred to be known in the later stages of his life as a Geologist (centred on Earth) rather than a Theologian (centred on God) (Toben, 2012). He was a priest of the Passionist Order of the Catholic Church, travelled broadly and pursued his academic career as a cultural historian with particular focus on western intellectual history that progressed to a deep analysis of Asian religion and thought. His intellectual influences are numerous, but of particular significance are Giambattista Vico, Confucianism, Indigenous traditions (particularly Native American), Carl Gustav Jung, Mircea Eliade, Ilya Prigogine, Henri Bergson, Alfred North Whitehead and Pierre Teilhard de Chardin. A common thread to these influences was their development of planetary perspectives including various contexts of cosmological evolution (Teilhard de Chardin, 1959) and metaphysics (Prigogine, 1980; Bergson, 1931; Whitehead, 1960). Berry was strongly influenced by Teilhard de Chardin's evolutionary cosmology (1959) as a worldview, though this emerges with pre-1960's environmental sensibilities. Berry's evolutionary cosmology (1988a, 1999, 2006) critiques Teilhard de Chardin's anthropocentric orientation and suggests instead modernity's need to focus to an 'Earth community' (Berry, 1988a, p.66) context, as sensitive to the ecological concerns of our era (Phipps, 2012). Berry's primary orientation is to comprehensively rethink our worldview and mode of human-Earth

relations, with a view to adopting and embodying a metaphysical (Whitehead, 1960) understanding of the profound interconnection between matter and spirit (Tucker and Berthrong, 1998). Berry refers to Thomas Aquinas, whom he considered as doing the important work of restructuring Christian thought into a cosmological perspective (Berry, 2006), and quotes Aquinas as saying, ‘The order of the universe is the ultimate and noblest perfection in things’ (Berry, 2006, p.116).

This orientation holds similar lines of grandeur to ancient Asian traditions, in particular the Confucian tradition of East Asia (Tucker and Berthrong, 1998) that Berry was particularly influenced by. Mary Evelyn Tucker is a research fellow and lecturer at Yale School of Forestry and Environmental Studies and Yale Divinity School. She worked closely with Berry on projects that find ways forward in bridging religious imagination and ecological identification, within a context of ‘functional cosmology’ (Berry, 1988a, p.66). The following quote describes well the essence that Berry aspires to capture in his work to this end:

Religious world views are unique because they draw the world of nature into a wholly other kind of universe, one that appears only in the religious imagination. From the point of view of environmental studies, the risk of such religious views on one hand, is of disinterest for the natural world. On the other hand, only in the religious world can nature be compared and contrasted to other kinds of being—the *super* natural world or forms of power not always fully manifest in nature. Only then can nature be revealed as distinctive, set in a new light startlingly different from its own [Tucker and Berthrong, 1998, p.xii].

This illustrates Berry’s position, that only religious perceptions and sensibilities, or embodied sense of religiosity will enable our uniquely human imaginations, to fully realise ‘nature’ and our distinct place in it (Berry, 1988a, 2006).

5.2 Brian Swimme’s life experience

Brian Swimme (born 1950) was always inspired by the universe, even as a young boy, which led him to spend many years studying gravitational dynamics and mathematics. Although he had achieved his PhD and was working in the field of mathematical cosmology, he became disillusioned with conventional achievements. Swimme was deeply concerned about the state of the biological world and attributed his own domain of science as being a major cause for Earth’s decline (Swimme, 1987). In 1981 Swimme resigned his professor position upon his acceptance of an unexpected opportunity to teach one single class in Matthew Fox’s institute, The

Institute for Creation Centred Spirituality (ICCS) at Holy Names University in Oakland, California. Swimme's life direction changed substantially at this point, which eventually led him to be immersed in areas of his interest such as evolutionary dynamics of the universe (Prigogine, 1980; Bergson, 1931). Swimme describes his interests and work at the California Institute of Integral Studies (CIIS) as concerned with the 'relationships between scientific cosmology and more traditional religious visions, the cultural implications of the new evolutionary epic, and the role of humanity in the unfolding story of Earth and cosmos' (CIIS, 2013. para.1)⁴.

Swimme often uses his scientific knowledge and sense of religiosity to realise and interpret the universe as an 'unfolding creative event' (Swimme, 1995, 1996, 2003a). His influences are numerous but of particular significance Swimme draws on Pierre Teilhard de Chardin, Henri Bergson, Alfred North Whitehead, David Bohm, Eric Chaisson, Ilya Prigogine and Thomas Berry. These influential theorists share similar focuses to interpret evolutionary cosmology (Teilhard de Chardin, 1959), process philosophy (Bergson, 1931; Whitehead, 1960) and quantum theory (Bohm, 1980).

Swimme pays particular attention to narrating ways that may make humanity more psychically attuned to imagining what life might 'look like' from the point of view of animals and the actual subjective dynamics of the Earth and universe (Swimme, 1995). Swimme coined his 'Comprehensive Compassion' (Swimme, 2001) to understand gravitational attractions as being the dynamics inherent to phenomenal relationships throughout the cosmos and Earth community. He suggests that gravitational attractions bind the profound matrix of subjects of the universe, in a 'communion of subjectivity' (Swimme, 1996). Swimme illustrates this notion within human experience:

With our symbolic consciousness, we are very much like the ocean with its power to pour through boundaries. What we long for is profound intimacy of relationship. Our human imagination brought something radically new to Earth's life: the capacity to experience the world from another perspective. We call this empathy. With the emergence of humans we have arrived at an evolutionary breakthrough for being able to develop compassion, not just of our offspring, but for all beings of every order of existence. With this alone, Earth gave rise to the possibility of an empathetic being who could flow into and become one with the intimate feelings of any being. Our destiny is to become the heart of the universe

⁴ <http://www.ciis.edu/>

that embraces the whole of the Earth community [Swimme and Tucker, 2011, p.115].

Swimme maintains that our unique human capacity to feel and be conscious of comprehensive compassion is evolution's way of directing us to becoming more fully human (Swimme and Tucker, 2011).

Swimme (1995) argues that the work and worldview that he and Berry propose is not going to be suitable for everyone in its current interpretation, because this accumulation of ideas has really only just begun to solidify (Swimme, 1995). He also argues that aiming for everyone to respond to it in its current form is to ignore the dynamics of how life works; that there is no one way for anything in the universe to emerge or be responded to. He points to the 'promise' (Swimme, 1995) inherent to the embryonic synthesis of complex ideas within this worldview (Berry and Swimme, 1992; Berry, 1988a, 1999, 2006; Swimme, 1995, 1996b, 2007). However he notes that many creative approaches will be required to 'tell' the 'Universe Story' with their own dynamics and approaches and he suggests that these are still to emerge as unfolding out of the evolutionary creativity that we embody, as expressions of the 'Universe Story' (Berry and Swimme, 1992)⁵.

5.3 Berry's and Swimme's collaboration

Swimme refers to Berry as his 'teacher' and 'sage' (Swimme, 2008) in a respectful gesture for how he regards Berry's influence on him. Phipps (2012) refers to Swimme as having done his 'apprenticeship' with Berry, but also points out that Swimme 'brings out his own unique qualities to the intellectual heritage of Berry and Teilhard' (p.309). Swimme's expertise in mathematical cosmology in union with Berry's historical and religious understanding is complementary in the context of their shared interest to cultivate a 'functional cosmology' (Berry and Swimme, 1992).

The following illustrations of Berry's and Swimme's personal encounters are included as an entry point to capture a storied interpretation of their work as complementary to the more academic account that is to follow. These encounters are presented in a narrative style in accord with the methodologies adopted by this thesis (see Chapter 2).

⁵ The noted thoughts of Swimme's within this paragraph emerge mostly from his 'Canticle to the Cosmos' (1995) DVD series

The first encounter between the two came at a time when Swimme was trying to understand the conceptual divide between spirituality and science. During this discussion Berry noted that there were differences in their approaches to this shared end. Berry thought that Swimme was focusing on mysticism (Swimme, 2008) whilst he was focusing on nature. Berry said, ‘when Eckhart talks about nature, he talks about it in a general way, he probably doesn’t talk about genetics or natural selection’ (Swimme, 2008, Lecture 1). This perspective was personally ‘thrilling’ for Swimme yet he also realised his thinking was ‘completely dualistic’ which affected a ‘shattering’ realisation that had been steeped in western science (2008, Lecture 1):

Science and spirituality, I saw them as two different things and so bringing together Eckhart with Einstein was bringing together two things that were different. But Berry was simply saying ‘it’s not that way’. The difficulty isn’t with nature, the difficulty is with our minds. That’s where the challenge is; bringing together aspects of our minds [Swimme, 2008, Lecture 1].

Swimme recalls Berry illuminating different ways of apprehending reality; that science had humanity ‘flatten it out into a one dimensional materialistic way of apprehending reality’ (Swimme, 2008, Lecture 1). Berry maintains, in order for the larger living world to reverse its biological degradation, and for the web of life to regain its equilibrium, humanity must explore new ways of apprehending reality. A new way needs to simultaneously know the empirical realities of the phenomenal world, and interpret ‘its’ subjectivity as an expression of reality (Berry, 1988a; Swimme, 1995). Swimme offers an example to help us adopt this notion:

That insight leads a person to say something like this. The sun is a source of generosity. The sun by being itself is just ‘the sun’ transforming 4 million tons of itself into light every second. Science enables us to penetrate into the phenomenon and then there is the question of what’s the nature of it? That’s where the philosophical interpretation arises as ‘this is a form of cosmic generosity’ this isn’t something added, this is a general perception; a way of perceiving the depth dimension of the sun [2008, Lecture 1].

Berry and Swimme argue that when reality is interpreted in this way, we are in accord with the dynamic ‘principle pervasive in the universe’ (Swimme, 2008, Lecture 1).

On another occasion, Swimme reflected to Berry his thoughts on how German music and philosophy is, ‘so fascinating and yet the Nazis were also able to commit such atrocities as they did in WWII’ (Swimme, 2008, Lecture 1). Berry’s response was

surprising and devastating to Swimme. He said, ‘With respect to the Nazis, we are worse than the Nazis. The Nazi’s were horrific. They destroyed so many living beings, but we don’t just destroy living beings, we destroy birth, we destroy the conditions for life’ (Swimme, 2008, Lecture 1).

In conclusion, Berry’s and Swimme’s work is primarily interested in a worldview that ultimately evokes reciprocity with the larger living world, so that all life may flourish.

6. A synopsis of Berry and Swimme’s *The Universe Story* (1992)

6.1 A deep time worldview that consciously embodies cosmological evolution

Berry and Swimme aim for functional unity in human-Earth relations to enable biological restoration of Earth, and to celebrate the cosmos as an ultimately sacred reality (Berry, 1999; Swimme, 2001). They contend that adopting a perspective of cosmological evolution derived from empirical knowledge may evoke in people their own sense of place and mystique in the ‘creative unfolding dynamic event of the cosmos’ (Swimme, 1995, Lecture 1). This emerges as a deep time worldview (Dobzansky, 1973) synonymous with Teilhard’s (1959) claim that every experience, form or entity of life is subject and inseparable to the processes of cosmological evolution⁶.

Evolution is a general condition to which all theories, hypotheses, all systems must bow and which they must satisfy henceforth if they are to be thinkable and true. Evolution is the light which illuminates all facts; a curve that all lines must follow [Teilhard de Chardin, 1959, p.219].

6.2 Vitalizing an embodied sense of the cosmos

Berry’s and Swimme’s approaches essentially point to creating intimacy with the universe and Earth as processes of mystique (Berry, 1999, p.101). They ask humanity to learn and embody the ‘ancient laws of reciprocity’ (Berry, 1999, p.149), meaning that ‘nothing in the matrix of cosmic life exists in isolation’ (Berry, 1999, p.147). They maintain that humanity is currently behaving against these ancient laws by dominating the matrix of cosmic life to the point of Earth destruction. This threatens deep feeling for the mystique of the Earth and universe. These attributes typify

⁶ ‘A general condition to which all theories, all hypotheses, all systems must bow and which they must satisfy henceforth if they are to be thinkable and true. Evolution is a light which illumines all facts, a curve that all lines must follow’ (Teilhard de Chardin, 1959).

Swimme's and Berry's valuing human fascinations that may extend to embodying the mystery of existence, into what Jung identified as, 'the dream that drives the action' (as cited in O'Sullivan, 2001, p.3).

6.3 Mutually enhancing mode of human presence on Earth

Berry and Swimme argue for a 'mutually enhancing mode of human dwelling' (Berry and Swimme, 1992, p.ix). This begins by adopting the entire biological and interspecies population of Earth as a community, a 'single integral community of Earth' (Berry and Swimme, 1992, p.87). This context gives way to the needs and expressions of each entity of the Earth community, as subjects to be communed with and not objects for human use (Berry, 1988a). Berry and Swimme want humanity to be a nurturing presence within and for the fulfilment of the entire Earth community (Berry and Swimme, 1992, p.64) as central to their 'cosmological ethic' (Berry, 1999). They maintain that within that process, humanity may begin to reinvigorate a 'mystique of the Earth' (Berry, 1988a, p.175) which in turn may re-vitalise a much needed embodied sense of the larger living world (Berry, 2006). Therein lies Berry's and Swimme's most central theme; that the modern world has lost its sense of the Earth and cosmos, and of their sacred dimensions.

6.4 Interpreting the world as 'bio-spiritual'

Berry and Swimme propose within their '*Universe Story*' (1992) that an empirically based account of the universe should be interpreted as 'bio-spiritual' (Berry, 1988a) or as the 'new sacred story' (Berry, 2006). This proposal realizes the universe from the Big Bang as:

A psychic-spiritual, as well as physical-material, reality. Within this context the human activates one of the deepest dimensions of the universe and this is integral with the universe from its beginning. The universe story needs to be accepted simultaneously as the human story and the story of every being of the universe' [Berry, 2006, p.57].

This bio-spiritual position resonates well with mystical, indigenous and religious positions (*Evolutionary Spirituality 2010*, radio program, San Francisco, 13 May) only from a perspective that the mystery of life 'is' the ever-changing dynamic inherent within evolutionary creativity of the phenomenal world. This contrasts the position of mystical or religious ideas that foster the mystery of life as inherent to deities or a personified God. Although the mystery that lies behind existence is still not understood through science,

Berry and Swimme want for humanity to begin to align its own functioning with the ‘mystery’ inherent to, and with the geological, chemical and biological processes of the emergent life structures of Earth (Berry, 1988a).

6.5 Enriching all lifeworlds in reciprocity

Berry’s and Swimme’s work is fundamentally concerned with the embodiment of human/Earth relations as synonymous with O’Sullivan’s ‘Relational Totality’ (1984, 1999). This understands that our personal lifeworlds (van Manen, 1990) are only ultimately whole when we sense intimacies with the Earth community (O’Sullivan, 1999; Berry, 1988a; Swimme, 1996a). For Berry and Swimme, at the base of relational totality lies the attributes of ‘activating sensitivities’ (Swimme, 1995). Swimme interprets this as sensing the subjectivity and lifeworlds of the ‘more-than-human’⁷ world. This notion emerges as ‘reciprocity’, defined by John MacMurray as, ‘the person is at once subject and object, encompassing both modes simultaneously’ (as cited in O’Sullivan, 1999, p.154).

Berry’s and Swimme’s aim is to evoke the notions outlined above so we may embody reciprocity with the cosmos, within a context of ‘cosmological identification’ (Teilhard de Chardin, 1959). Warwick Fox describes embodiment of this context as ‘experiences of communion and communality that arise from the deep seated realisation of the fact that we and all other manifestations of existence come into being from a single-fold reality’ (as cited in Phipps, 2012, p.167). Cosmological identification is then ultimately intended to be motivated and energized to experience the grandeur and sacred mystique of existence (Berry, 2006), that is ‘*The Universe Story*’ (Berry and Swimme, 1992).

7 Background questions that enabled the researcher to formulate the set of research questions listed in section 8

This thesis focuses on how people, who may not otherwise have an expansive worldview, might come to see themselves in a bigger picture of life. In working towards a set of research questions the author began with the following background questions that interested her.

- How can we imagine ourselves as being part of a huge, vast and cosmological ‘journey’?

⁷ The term ‘more-than-human’ is taken from David Abram (1996)

- How might it be possible for someone to feel connected to, and part of, their own life journey within this ultimate cosmological ‘journey’ of the universe?
- What would it take to make these notions relevant to embodied experiences for anybody living in, for example, a suburb of Melbourne?
- Does identifying with a bigger picture of life inspire respect and a desire to protect animals and the larger living world?

7.1 What conditions and contexts capture Berry’s and Swimme’s worldview?

The thesis explores attempt to work with the ideas of Berry and Swimme in the context of four case studies in which the knowledge and applications of the work of Berry and Swimme vary considerably. The intention here was to find out the extent to which prior knowledge of the work of Berry and Swimme influences the outcomes in terms of what the case study participants derive from their experiences. So, for example, could approaches in which people have little or know prior knowledge of the work still result in a take-up of key ideas and concepts or is the work compromised if it is presented in simplified ways? In other words, can people be introduced to the work of Berry and Swimme in simplified or abbreviated ways without undermining the integrity of the work? Further, the thesis explores whether this work could be taken into cultural contexts ranging from a Catholic college to a secular environmental community education centre, where the ideas of Berry and Swimme are only introduced implicitly rather than explicitly?

7.2 Exploring an Australian context

This thesis explores the relevance of the work of Berry and Swimme in an Australian context. Analysing this research’s findings may help discern what is appealing in these ideas and what is not for people within Australian contexts. Similarly, this thesis investigates whether living in a ‘functional cosmology’ (Berry and Swimme, 1992) is actually accessible for people in these Australian contexts and, if so, it asks what types of contexts are most suitable for introducing the work. The key concern here is whether or not the work, which originated in North America, has relevance in Australian cultural settings. . The author was interested to explore applications of the work in community education work, however, the opportunity arose to also examine applications in a Catholic tertiary education institution. While this broadened the scope of the thesis it enabled the author to explore the adaptive flexibility of the work of Berry and Swimme.

The specific aim of this work was to remain open to any experiences that emerge in people's lifeworlds (van Manen, 1990) when they have either adopted or encountered the work of Berry and Swimme in Australia. This approach is in accord with the methodologies of this thesis (Strauss and Corbin, 1997; van Manen, 1990; Wadsworth, 2011), which leave the researcher open to things that may emerge from lived experience perhaps in unexpected ways. The research deliberately adopts a multi-method approach to the case study research in order to use a mix of complementary quantitative and qualitative methods. This creates the possibility of identifying effective strategies for working with the ideas of Berry and Swimme in a wide range of contexts. More will be said about the research methodology in Chapter 2.

7.3 Research conducted in North America

As well as conducting fieldwork with the four case study participant groups in Melbourne, I travelled to North America for two months and completed the following research activities:

- Attended a class of Swimme's at CIIS, his current institute of employment, and had occasion to discuss relevant topics with him, with particular reference to the Earth community and Absolute interdependence.
- Attended classes at Holy Names University, which is one of two foundational institutes where Swimme's developed his ideas with Berry and Matthew Fox. Swimme still offers intensives at this institute.
- Spent time with CIIS and Holy Names University students who have studied under Swimme for up to four years full time. Conversations and interviews offered the author unique insights into the students lifeworld experiences.
- Interviewed people who have had close association with Swimme from Holy Names University (J Conlon 2008, pers.comm. 10 August; A Sawyer 2008, pers.comm. 18 August).
- Viewed, discerned and gathered the most relevant audio-visual and audio lectures (1996b, 2005, 2006a, 2006b, 2008) given by Swimme yet unavailable to the public. These were made available to this researcher by the Sophia Centre in Culture and Spirituality (faculty of Holy Names University) founder Jim Conlon.
- Examined interviews conducted with Brian Swimme by other people. This involved a close analysis of a selection of audio interviews conducted with

Swimme by various interviewers over the years from 1986 to 2001. These were selected based on the criteria of capturing Swimme's clearest descriptions of his fundamental ideas, for example 'Comprehensive Compassion' (Bridle, 2001). Accessing and using Swimme's direct language and interpretations from his interviews helped build an accurate interpretation of his work within the synopsis developed for this thesis (Chapter 3). Discerned relevant information from groups that have affiliation with Swimme (2007, 2003b).

- Read and collected the most relevant papers, journal entries and relevant PhDs in relation to Berry's and Swimme's work that lay on the shelves of the universities where Swimme either has taught (Holy Names University) or is currently teaching (CIIS).
- Interviewed additional key theorist Mitchell Thomashow.

8. Research questions

The motivating research questions were introduced on page 17. These are expanded here into a set of 7 research questions that frame the thesis and are revisited in the concluding chapter. The research questions help facilitate the comparative analysis of all case studies and make possible a summary of the data in the conclusion. They emerge from the author's methodological orientations (see chapter 2) and her attempt to address the thesis's aims and objectives. The author's interpretation of the internal meaning structures of participants' situated life worlds (van Manen, 1990) also informed the development of these questions, as did her knowledge of cosmological evolutionary theories and other eco-philosophical approaches explored in this thesis. The task of formulating the questions required first listing preliminary ideas that were identified as gaps in either the theory or practical applications of Berry's and Swimme's work. The author then distilled the preliminary questions into a manageable and comprehensive format that enabled the research questions to be finalised.

1. Can the notion of a Universe Story enrich people's sense of place and being?
2. Can the notion of a Universe Story enable a better sense of the larger living world and of our biological embeddedness and dependency on it?
3. Does the Universe Story evoke appreciation of non-human beings as individuals, whose other ways of knowing and being can be appreciated and experienced in reciprocity?
4. Does the Universe Story prompt a sense of kinship with non-human beings, to see all species as one community to be valued, cherished and facilitated to flourish?
5. How might an understanding of the Universe Story promote mutually-enhancing relationships with non-human beings – in the context of everyday urban living?
6. Does interpreting the mystery that lies behind all life in a secular way inspire people to care for and celebrate life more deeply?
7. How can the ideas of Thomas Berry and Brian Swimme be adopted for use in Australian contexts?

9. Key words and phrases for this thesis

The key words and phrases are inherent to the interests of the research questions and necessary in order to analyse the research findings. The research explores people's lifeworld experiences (van Manen, 1990) in relation to Berry's and Swimme's ideas. Therefore the use of these keywords and phrases are part of a basis on which to critique the research data

As discussed in section 1.4, the author concludes that Berry and Swimme do not provide a concise set of ideas and words suitable for the purposes of this thesis. Therefore the keywords and phrases employed in this thesis are assessed, interpreted and compiled from the bodies of Berry's and Swimme's works solely by the author. The terminology reflects Berry's and Swimme's preferred terms or phrases. However, in instances where there is not a clear term for a concept discussed by them, the author will instead borrow terminology introduced by David Abram (1996).

The rationale and process by which the author distilled and decided upon the key words and phrases from the complete works of Berry and Swimme will be provided in section 10.2 of this chapter. This section will also address the issue of the researchers' subjectivity in relation to the research and the process by which she arrived at her interpretation of the key themes and phrases. An outline, explanation and rationale of the 7 key words and phrases employed to analyse the research findings are as follows⁸:

1. A sense of the cosmos (Berry, 1988a)
2. Absolute interdependence (Berry, 1999)
3. Earth community (Berry, 1988a)
4. 'More -than-human' life-forms (Abram, 1996)
5. Immersion in mutually enhancing relations (Berry, 1988a)
6. Sympathetic communion (Berry, 1988a)
7. A sense of the sacred (Berry, 1999)

9.1 Explanation and rationale for the selection of key words and phrases

9.1.1. A sense of the cosmos

Explanation:

Berry maintains that 'just as the Earth is a bio-spiritual planet, the universe is a physical, spiritual, biological reality' (Berry, 1999, p.31). Berry argues that the terms 'biosphere' as introduced by Vladimir Vernadsky (as cited in Samson and Pitt, 1999), 'noosphere' as introduced by Édouard LeRoy and Teilhard de Chardin (as cited in Samson and Pitt, 1999), 'Anima Mundi' as first introduced by Plato (Berry, 1988a), and 'Gaia' as introduced by Lovelock (1979) are not sufficient to describe his 'sense of the cosmos' (Berry, 1988a, p.22). Berry suggests that the single words 'cosmology' and 'geology' are too narrow to capture 'integral reality of the universe' (Berry, 1988a, p.90-91). He maintains that cosmology and geology are 'more empirical' but

⁸ Please note: Berry (1988a, 2001) employs the term 'auto-poetic' yet does not qualify its origin or definition. The author believes that Berry (1988a) uses the word 'auto-poetic' where 'autopoiesis' or 'autopoietic' could be substituted. This thesis employs Berry's choice of term in a conscious effort to accurately reflect him. Therefore, the term 'auto-poetic' is employed in this thesis in the way that others would use 'autopoietic' or 'autopoiesis', and assumes that these terms may be used interchangeably.

concludes that 'they are not quite what we need presently in dealing with the questions and concerns of the biological Earth and cosmos today' (Berry, 1988a, p.22). Indeed, according to Berry, 'we do not presently have a terminology suited to a serious consideration of the Earth' (Berry, 1988a, p.91).

Berry (2006) maintains that humanity now lives alienated from the cosmological order and phenomenal world, in a wholly 'human world, a world where all our values are human' (p.117). He aims for humanity to look at the universe not only in an empirical sense, but also with a sense that appreciates the cosmos as an emergent reality of wonder and imagination (Berry, 1988a). Furthermore, for Berry, a sense of the cosmos is the beginning of an identity that sees life poetically, as discussed by Anne Primavesi (2000), and as relating to the world in 'poiesis' (Heidegger, 1962). Essentially this is a way of knowing and must relate to epistemology as the inter-subjective realm, understood as not having physical, measureable attributes but nevertheless experienced as undeniably real (Berry, 1988a, p.24). In essence, Berry relates to the world in an inter-subjective way, as discussed by McIntosh (2007), and can only relate this to us in a 'poetic' way.

Berry then uses 'sense of the cosmos' to refer to any experience that enriches one's lifeworld by the embodiment of poiesis. This embodiment within inter-subjectivity is, for Berry, what constitutes an art of living that is worthwhile in a human life (Berry, 1988a). For Berry, such embodiment of a sense of the cosmos implicates the entire Earth community: 'the universe is our guide to understanding the sacred dimension of the universe. My thought is to celebrate the glory of the universe that is there before us' (Berry, 2006, p.125). His rationale for this is to offer a 'shared dream', a 'dream of the Earth' (Berry, 1988a, p.138) that may evoke a 'renewed deep feeling of the human soul which in turn helps re-invigorate the Earth community's internal vitality' (Berry, 1988a, p.5).

Rationale:

Berry's and Swimme's approaches to evoke entrancement for the cosmos and Earth are to often cast one's imagination out to the widest dimensions of imaginable existence (Berry, 1988a, 2006; Swimme, 1995, 2006b). My own personal encounters with the work of Berry and Swimme certainly broadened my understanding of ecology and provided more inspiration than Lovelock's rather static notion of Gaia (Lovelock, 1979). A 'sense of the cosmos' (Berry, 1999) also evoked a deeper desire in me to cherish and care for Earth.

For me, Berry's notion of the sense of the cosmos was more accessible than other similar notions, such as the Buddhist concept of Dharma or 'Anima Mundi' (Campbell, 1988). I perceived a different and deeper psychic dimension of the universe as a result of encountering an empirical account of it in *The Universe Story* (Berry and Swimme, 1992). Because Berry's term worked for me personally I was keen to find out if it worked for other people.

9.1.2. Absolute interdependence

Explanation:

Berry asserts that neither the human species nor any of its activities can be understood in any significant manner except in our role in the functioning of the Earth and universe (Berry, 1988a, p.87). He asserts that the unity of the total process of cosmological evolution are inseparable from biological Earth. Berry (1988a) maintains that within these processes is an 'unbreakable bond of relatedness that makes of the whole a universe' and that this empirical fact 'brings forth a virtue of relatedness' (p.91):

Everything is intimately present to everything else in the universe. Nothing is completely itself without everything else. This relatedness is both spatial and temporal. However distant in space or time, the bond of unity is functionally there and the universe is a communion and community [Berry, 1988a, p.91].

Berry asks that we appreciate the 'integral majesty' (Berry, 1988a, p.95) of the natural world, of the need that every life form has for every other life form. Furthermore, Berry maintains that to deprive any being of its own interiority is 'to disrupt the larger order of the universe' (Berry, 1988a, p.134). In physical terms this orientation recognises humans as genetically, related to and biologically dependant (Berry, 1988a, p.21) upon, Earth. Berry (1988a) argues for an awareness of minimum entropy whereby the inflow of energy and the outflow are such that the process is sustainable over an indefinite period of time: 'so long as the human process is integral with these processes of nature, the human economy is sustainable into the future' (p.71). Berry understands humanity's current situation as an 'undisciplined expansion and self inflation' (Berry, 1988a, p.44) that leads only to destruction. By this he implies a need to learn the basic biological law that every species, including humans, should have opposed species or limiting conditions that no one species can overwhelm others (Berry, 2006, p.27).

In terms of the psychic fulfilment of the Earth community, Berry stresses 'the value of communion', writing that 'every reality of the universe is intimately present to every other living reality of the universe and finds its fulfilment in this mutual presence' (Berry, 1988a, p. 106).

Rationale:

Berry's and Swimme's worldview showed me that human existence is found biologically within the creative dynamics of phenomenal existence. However, in contrast I observed that humanity was behaving as if we were separate and independent from the larger biological world. It concerned me greatly to see unregulated amounts of synthetic chemicals being poured into the constitution of the chemistry of Earth and wondered about the biological impact of such actions. Seeing many animals treated by humanity as if they are not necessary to the web of life's healthy function now became infuriating and threatening to me rather than just disturbing. What might it take to change these behaviours? I was interested to know if the idea of absolute interdependence could have a similar impact for other people.

9.1.3 Earth community

Explanation:

In its most whole and profound context, Berry's 'Earth community' is best understood as follows:

The Earth is a single if highly differentiated community, so too, every part of the universe activates a particular dimension or aspect of the universe in a unique and unrepeatable manner. Thus everything is needed. Without the perfection of each part, something is lacking from the whole. Each particular being in the universe is needed by the universe. With this understanding of our profound kinship with all life, we can establish the basis for a flourishing Earth community [Berry, 1999, p.78].

Berry describes his vision of an intimate Earth community as a 'community of all the geological, biological and human components' (Berry, 1988a, p. xiv) who are foremost 'kin' (Berry, 1988a, p. v). He wants for humanity to learn to live out this context in a virtue of 'grace', and says, 'To learn how to live graciously together would make us worthy of this unique, beautiful, blue planet that evolved in its present splendour over some billions of years' (Berry, 1988a, p. 12). He maintains that to be

alienated from this community is to become ‘destitute in all things that make us human and to damage this community is to diminish our own existence’ (Berry, 1988a, p.81).

Rationale:

‘Earth community’ as a concept was foreign to me prior to encountering Berry’s and Swimme’s world view. I had always been strongly involved in animal advocacy and felt an affinity with individual animals. However this key phrase enabled me to imagine the possibility of a unified but respectfully differentiated idea of community. Berry’s and Swimme’s insistence on embracing more-than-human life as ‘kin’ (Berry, 1999, p.v) resonated deeply with me. Hence the notion of the Earth community became a key idea for my research. This thesis considers this key phrase to be important and potentially useful to help humanity shift its thinking about ‘community’ to include more-than-humans (Abram, 1996), which may in turn begin positive shifts in people’s actions and behaviours for the Earth community.

9.1.4 More-than-human life-forms

Defining ‘more-than-human’:

Different writers think about and name animals and biological life in varying ways such as ‘non-human’, ‘non-human animal’, ‘other-than-human’, ‘more-than-human’, ‘other’, ‘animals’, ‘biotic life’, ‘biological world’, ‘living scapes’, etc. In this thesis I will work with the term introduced by David Abram (1996) – ‘more-than-human’ – to mean the whole of biological life, and ‘non-human animal’ to mean individual animal beings who are not human. Other terms will be used when quoting theorists who do not use ‘more-than-human’ as a term. Berry, to my knowledge, does not define ‘more-than-human’ explicitly, although it is implicit throughout his works. He made sense of Abram’s ‘more-than-human’ term in his later work (Berry, 2006). For example, Berry (1988a, p.9) speaks of more-than-human life as ‘gorgeous expressions of life’.

Rationale:

It has always been my observation that apart from experiences with domesticated animals, people often lack experiences and insight into the lifeworlds of other life forms. Seeing animals in particular as having individual needs, families, feelings and social needs has been a contentious issue in my relations with other humans my entire life. The works of Berry and Swimme did not particularly enrich this view,

however the Earth community can be understood as an immersion in the 'more-than-human' world. This seems to me to be a most respectful way to refer to non-human life.

9.1.5 Immersion in mutually enhancing relations

Exploration:

Berry's concept of 'mutually enhancing relations' (Berry, 1988a) within more-than-human worlds emerges in several ways under a central thread. Berry writes that 'the Earth is a sacred community and we need to understand, that in all our activities the Earth is primary, the human is derivative' (Berry, 2006, p.43). This implies that we must accept the larger living Earth community as our primary source of reality and value that understands the human as needing to fulfil a unique role within this community (Berry, 1999). Berry also writes that we need to present ourselves to the planet with courtesy, as the planet presents itself to us, 'in an advocacy rather than dominating relationship' (Berry, 1988a, p.14). Berry (1988a) maintains that this may happen only when humanity moves from an anthropocentric sense of reality to a bio-centric norm.

Berry (1988a) argues that mutually enhancing relations involve more than pragmatics, academic understanding, or aesthetic appreciation, rather it requires a 'deeper meaning of the relationship between the human community and the process' (p.10,) to emerge. He proposes that such relations will only exist in 'wonder, admiration and emotional sympathy' (Berry, 2006, p.34). Berry asserts that mutually enhancing relations means that every member of the living and non-living world has its own inner principle of being that is to be respected and allowed for the fuller functioning of the whole (Berry, 1988a). He maintains that modes of 'subjective intercommunion' (Berry, 2006, p.136) are also necessary for human psychic fulfilment and the ability to express our human-ness. Berry argues that 'to reduce any mode of being simply to that of a commodity within the Earth community of existence is a betrayal' (Berry, 2006, p.40).

Berry insists that mutuality should motivate all human systems and constitutions. For example he argues for new laws, education processes, and governance to be converted to a 'biocracy' where all humans 'will be sensitive to the needs of the larger Earth community' (Berry, 1988a, p.164). In practical terms, Berry says that 'participative bio-centrism' (Berry, 1988a, p.169) means respect for the rights of each

species to have habitats, migratory routes and a place in the Earth community. He argues for humans to not have rights that exclude any biological entity from its wellbeing in relation to the governance of the interrelated systems of bioregions (Berry, 1988a).

Rationale:

When I first encountered Berry's and Swimme's term 'mutually enhancing relations' it occurred to me that people in Australian cities, rarely encounter a wide range of non-human animal life directly— other than as domestic pets, or consuming them. It seemed to me that this lack of opportunity fuels apathy and human centred-ness because people do not get to know what other species are like. It had always struck me that ways of knowing and living with non-human animal life was diminishing. Berry's and Swimme's (1992) insight, that more concerted bioregional approaches were needed, and other such practical approaches to facilitate the livelihoods of more-than-human worlds was not particularly new, although it did differ to other models I was familiar with. What I had not appreciated was the penetration of webs of life into all life's waking consciousness (Berry, 1988a; Swimme, 1995). Adopting these contexts took on a new meaning for me, not only for my personal or human species existence, but also for the totality of life 'communing' (Berry, 1988a) in ways that maintained a psychic vitality. This point of immersion into varying aspects of more-than-human worlds is critical to this thesis, to transcend any tendencies of the human to indulge in psychic and species isolation.

9.1.6 Sympathetic communion

Explanation:

Confucianism has played an influential role in Berry's life and he draws upon a term used in ancient China called 'jen'; 'the interior binding force of the universe' (as cited in Toben, 2012, p, 58), as a way into 'sympathetic communion' (as cited in Toben, 2012, p.35) with life:

'Jen' is a way of speaking of qualities latent in the depths of oneself; it is a special way of feeling, of sympathetic communion: a compassion arises from the basic tendencies of our hearts as we journey to the centre where Love resides; shoots of goodness that need cultivation: a vision that was the guiding force behind their (ancient China) cultivation of 'a sympathetic presence' of all things to each other.

It described an order of goodness, love and compassion mutually beneficial for all [as cited in Toben, 2012, p. 36].

Berry wants people to embody 'sympathetic communion' to help cherish and care for the more-than-human world and to evoke a 'sense of the sacred'. He says, 'Understanding and appreciation are activated within us, which takes us to the world of the sacred' (as cited in Toben, 2012, p.34).

Rationale:

My personal interest in the notion of sympathetic communion has grown out of years spent in animal advocacy work. The idea of sympathetic communion includes Berry's general discussion of communion and Swimme's (2001) discussion of 'Comprehensive Compassion'. Extension of sympathetic communion to all living entities in the universe is seen as inherent to the order of the dynamics of the universe.

9.1.7. A sense of the sacred

Explanation:

Berry maintains that 'a sense of the sacred is at the heart of it all' (as cited by Toben, 2012, p.35). Berry believes that the Earth is in crisis because our modern world is 'desacralized' (Jung, 1964). Recovering a sense of the sacred is Berry's primary concern. Berry's 'sacred' denies any personal, monotheistic or transcendent orientations but it includes the embodiment of the inherent dynamics and creativity apparent within the emergent phenomenal material world (Berry, 2006). He states, 'the sense of the sacred in any civilization is precisely that which cannot be questioned, for the sense of the sacred is the unquestionable answer to all questions' (Berry, 1988a, p.149).

Berry maintains that everyone has the capacity to have a 'sense of the sacred' but that it must be cultivated, by which he means becoming outwardly aware of one's lifeworld, and being open to receive intuitive guidance of the otherness of existence (Berry, 2006). He suggests when this experience has emerged then the human and the natural world come together 'in a special way in which the universe is present in a moment of epiphany' (as cited by Toben, 2012, p.34). When this engagement has been embodied, then a sense of the sacred emerges as re-engagement with our psychic and spiritual dimensions. This begins to bond with the intimate qualities of

the natural world, evoking a natural interest to enable a deeper fulfilment for the Earth community (Berry, 1999) and actual Earth (Plumwood, 2001). Berry explains:

We find it as we stop and experience the full depth of the natural world as we look at it, listen to it, feel it in numinous moments in which, through our initiative awareness, we come into its mystery. We enter hidden realms of the natural world and they enter into us [as cited in Toben, 2012, p.35].

In this way, Berry implies in his 'sense of the sacred' what Andrew Harvey calls, 'Sacred Activism' (2013), which essentially means to be sensitive to the mystique of the Earth and existence, as inherent to being sensitive to the subjectivity and respectful of the Earth community.

Rationale:

Before encountering the work of Berry and Swimme, I had experience of a sense of the sacred in transcendental meditation (Sri Chinmoy, 1987, 1994). It was a revelation to me when I first encountered Berry and Swimme articulating the mystery inherent in life as being in the actual dynamics of the universe and every living entity within a context that diffuses the spirit/matter divide (Plumwood, 2001). I had also been influenced by Sri Aurobindo (1990) who spoke of 'the divine' in all matter. His language however required continual thinking and translation for his approach to be palatable and comprehensible to me. It was particularly Swimme's language and narrative style that clarified the implications of quantum theory (Bohm, 1980), process philosophy (Whitehead, 1960) and his own mathematical cosmology (Swimme, 1995) in ways that did not oppose the sacred. It was important to me to realise that Berry's and Swimme's approach was trying to evoke 'a sense', or an experience of, what has been called 'sacred'. That was essentially the thread of this argument; that the scientific account of the universe encourages, rather than dispels, mystery. This helped me feel more comfortable with the idea of the sacred as being embedded in my life world. This led to my interest in the idea of life as a miraculous event steeped in mystery.

An aim of the thesis is to relate 'sense of the sacred' to lived experience and encounters with the more-than-human world. Does a fascination for the mystery of existence and the psychic vitality of a flourishing world promote a desire to celebrate life as inherently sacred?

10. Additional key theorists

This thesis is squarely focused on efforts to apply the work of Thomas Berry and Brian Swimme in Australian contexts. The intention was not to situate the work of Berry and Swimme within broader bodies of literature but to focus on what can be learnt from attempts to apply their work. Of course, this approach to the work raises particular questions and concerns about its strengths and weaknesses and as these emerged the author drew on her extensive reading in the fields of ecophilosophy and ecological education in order to select the work of other scholars who might help to fill gaps or complement the work of Berry and Swimme in particular ways. In other words, references to the work of scholars other than Berry and Swimme was driven by the applied nature of this research project and no attempt has been made to present a comprehensive review of any particular body of literature. After considering a wide range of possibilities, the author settled on a selection of seven ‘additional theorists’ whose work seemed to share some of the starting points of Berry and Swimme while offering different ways of addressing them. Broadly speaking, these seven theorists operate in the field of ‘ecophilosophy’ and the author read widely in that field before making her selections⁹. The following sections introduce the relevant work of the selection ‘other theorists’ while a more detailed rendering of their work is included in chapter 4. It is beyond the scope of this thesis to examine the overall work of all seven selected theorists so attention is focused on the ideas that seem to complement the work of Berry and Swimme in some way.

10.1 ‘A sense of the cosmos’: in relation to the ideas of Mitchell Thomashow

Mitchell Thomashow (2002) works with the notion of the ‘biosphere’ (Bergson, 1931; as cited in Samson and Pitt) in thinking about entry points into an understanding of the big picture of life. Thomashow looks for ways to help us enter phenomenal experiences of Earth in terms of every person’s daily lived experience. Essentially for Thomashow, we may begin to think globally if we can see, experience and interpret the local. His suggestion is to perceive the ‘biosphere’ as being a part of you and you a

⁹ This included a review of the work of the following writers who were not selected for further attention in the thesis: Deborah Bird Rose, Libby Robin, David Tacey, John Ehnrenfeld, Charles Johnston, Christian de Quincey, Jim Conlon, James Hillman, Bernie Krause, Paul Shepard, David Whyte, Ted Benton, Joseph Campbell, Bill Plotkin, Craig Holdrege, Hans Jonas, Gregory Cajete, Alan Drengson.

part of it, and to know 'land, creatures and patterns' (Thomashow, 2002, p.13) clearly overlaps with Berry's emphasis on a 'sense of the cosmos'. Thomashow is much more explicitly secular in his approach to this topic and this provides a useful contrast to the approach of Berry and Swimme.

10.2 'Absolute interdependence' and 'Sympathetic communion' in relation to the ideas of Freya Matthews

Freya Matthew's (2005) work on strategies for 'reinhabiting' the ecological realities of the more-than-human world is clearly related to Berry's interest in absolute interdependence. She argues that becoming more sensitive to the subjectivity of existences may forge relational compassion within more-than-human lifeworlds, even in the midst of big cities. Her work may help to relate big picture cosmology to the realities of everyday suburban life.

10.3 'Absolute interdependence' in relation to the ideas of Val Plumwood

Val Plumwood brings a different language but similar intent to this topic of absolute interdependence. She maintains that humanity is in 'massive denial' (Saunders, 2007) about our participation in wider ecosystems. Plumwood argues that humanity is in fact 'radically dependant' on nature to support our lives, but claims human-centred frameworks are hiding the 'pervasiveness of that power' (2001, p.120). She argues humanity recognise that such a stance actually justifies a 'false sense of our own character and location that includes a false sense of autonomy' (Plumwood, 2001, p.7).

10.4 'More-than-human' life-forms in relation to the ideas of Jane Goodall and Marc Bekoff

Marc Bekoff and Jane Goodall separately and together focus on ways in which humans can learn to better coexist with other animals. They share an interest in the 'subjective, emotional, empathetic, and moral lives of animals' (as cited in Solisti and Tobias, 2006, p.33). To them, it is critical that humans pay close attention to what animals do, think and feel in the daily routines of their lives as a 'way of knowing' (as cited in Tobias and Solisti, 2006, p.33). Such details are not explicit in the work of Berry and Swimme. Related to the key phrases 'sympathetic communion' and 'more-than-human worlds', 'immersion' touches on the potential for people to have a deeper and informed sense of knowing more-than-human lifeworld attributes and realities. Bekoff argues that scientific data is only one way to know animals and that science as

a discipline now requires ‘science sense, common sense and heart’ (Bekoff, 2002, p.33). Bekoff and Goodall aim for humanity to recognise that animals have emotions because animals’ feelings matter (Bekoff, 2002, p. xx). Bekoff calls for a reassessment of how we interact with non-humans to be imaginative, compassionate, open, intuitive and responsive to animals needs as kin (Bekoff, 2002).

10.5 ‘Mutually enhancing relations’ in relation to the ideas of Anthony Weston

Anthony Weston’s (1994) book *Back to Earth: Tomorrow’s Environmentalism* largely focuses on ways to think about, and practically implement, embodied mutually enhancing relations with more-than-human life. Of interest to this thesis are Weston’s ideas about how ‘relations’ might actually play out on the ground. Weston offers an ontology and vernacular to help visualise the ‘headspace’ we need, to enable the embodiment of mutually enhancing relations.

10.6 ‘A sense of the sacred’ in relation to the ideas of Val Plumwood

In her book *Environmental Culture: The Ecological Crisis of Reason*, Plumwood (2001, p. 219) talks of ‘a spirituality of place’ which bears resemblance to Berry’s work on the sense of the sacred. For example, Swimme seeks ways, ‘to help find meaning and deep purpose in valuing the mystery in matter that does not separate spirit from matter’ (Swimme, 1996, p,8). Plumwood wants to help address ‘the ecological crises’ (2001, p.218) by exploring attributes and forms that might constitute a ‘spirituality of place’ (2001, p.229). Within her text, Plumwood argues that, in general terms, traditional western religions and non-indigenous spiritualities have contributed to ecological degradation. She suggests that these traditions have encouraged humanity to a ‘higher, non-earthly place’ as though a ‘higher immaterial world’ is the ‘real source of sacrality’ (Plumwood, 2001, p.219). Plumwood uses different language from that of Berry and Swimme, but her notion of a ‘spirituality of place’ might be seen as complementary.

10.7 ‘A sense of the sacred’ in relation to the ideas of Ursula Goodenough

Thomas Berry is clearly comfortable with religious vernacular in his use of the word ‘sacred’ and Swimme has taken this on board (Swimme, 1995). For example, Berry (1999, p.25) implies a sense of the sacred in this following quote: ‘There is a spiritual capacity in carbon as there is a carbon component functioning in our highest spiritual experience’. This thesis is interested to find out if this use of religious vernacular

helps or hinders access to the underlying ideas of Berry and Swimme. For this reason, Ursula Goodenough's *The Sacred Depths of Nature* (1998) is of interest because she approaches the topic as a biologist rather than a theologian. She describes the central message of her book as follows:

It is therefore the goal of this book to present an accessible account of our scientific understanding of Nature and then suggest ways that this account can call forth appealing and abiding religious responses: an approach that can be called 'Religious Naturalism' [Goodenough, 1998, p.xvii]¹⁰.

11. Situating this research in a learning domain

This thesis regards community education and its practitioners as a field of educational practice that contributes to the advancement of ecological awareness and community education (Foley, 2000). The research includes case studies operating in the domains of community and tertiary education. The case study organisations themselves are not critiqued as learning domains. This thesis does not discuss modes of learning (Foley, 2000) or analyse sociological and educational contexts in relation to the case study organisations.

In terms of situating the learning domain and educational philosophy, the nearest match employed by this thesis is 'transformative learning', as presented by Edmund O'Sullivan (2001). Edmund O' Sullivan's (2001) *Transformative Learning: Educational Vision for the 21st Century* extends Mezirow's (1991) 'Transformative Learning' by shifting the emphasis from personal interiority alone to transformational experiences in relation to nature. O'Sullivan considers the universe as a context for personal transformation (O'Sullivan, 2001). He accepts Berry's 'Eozoic vision' (O'Sullivan, 2001, p. 2-3) as such: 'my use of the term "transformation" is both rigorous and complex, because I am espousing an ambitious cosmological perspective' (2001, p.6).

¹⁰ The term "religious naturalism" appears in *Science and Religion: A Critical Survey* by Holmes Rolston III (New York: Random House, 1987) (as cited in Goodenough, 1998, p.197)

12. Case Study Selection

As already discussed, this thesis focuses on efforts made to work with the ideas of Thomas Berry and Brian Swimme. The intention was to identify a range of case study contexts in which this work underpins an education practice, either explicitly or implicitly. The focus is not on particular education programs or initiatives but rather on the experiences of individuals who are exposed in some way to the work of Berry and Swimme. The case studies focus on educational programs or initiatives that are offered by particular organisations. It is necessary to consider the ways in which the various programs and initiatives introduce participants to the work of Berry and Swimme. However, the focus of the thesis is not the design or outcomes of particular programs or initiatives but rather on what participants make of their exposure to ideas derived from the work of Berry and Swimme. The focus is on the lifeworlds of individual people and not the practice of education providers. In selecting case study situations, it was important to find programs that were sympathetic to the ideas of Berry and Swimme, even if the programs varied in regard to the explicit engagement with that work or to the extent of that engagement.

There are groups associated with the Catholic Church in Melbourne who have tried to work explicitly with the ideas of Berry and Swimme. In three cases, this involved a dictated study of their work, while others presented the work in an introductory way. Because this thesis aims to find out whether this work can be used in non-religious settings, it was also important to find a fourth case study context that was not associated with a religious institution in order to gain non-judgemental comparative insights. The CERES Environment Park was selected because of its clear and explicit interest in eco-philosophy even if the particular work of Berry and Swimme has only been used implicitly rather than explicitly.

All four case studies relate to programs or initiatives that share the aim of encouraging respect for the larger living world and engendering a sense of responsibility for the more-than-human world. The three case study contexts associated with the Catholic Church explicitly aim to do so by encouraging people to explore and adopt evolutionary cosmological perspectives. While each of these three contexts employ Berry and Swimme's work in different ways, their common approach is to interpret the cosmos as a subjective entity rather than an objective universe. They aim to encourage people to personally identify with cosmological evolution and create a felt sense of the cosmos.

CERES Environment Park was included because of its secular orientation and because the author wanted to consider the possibilities for working with the ideas of Berry and Swimme in an explicitly non-religious context. In particular, the author wanted to discover whether Berry's theological background, which influences the language used in his works, would create a barrier for secular organisations who may be interested in the Universe Story. It is worth noting that, unbeknown to the author, a number of people at this site either knew of the work of Berry and Swimme or had worked with similar ideas taken from other writers. As indicated, the case study contexts varied considerably in regard to how the works of Berry and Swimme are introduced to the participants, and the thesis works with the notion of varying levels of 'immersion' in the work. A 'levels of immersion' framework is introduced in chapter 5 to enable a comparative analysis across the diverse case study contexts. The notion of 'immersion' is consistent with the emphasis within the work of Berry and Swimme of wanting to enhance a sense of being immersed within the story of the universe.

Chapter 2: Research methodology and methods

1. Research methodology

As explained in chapter 1, this research was interested in the singular cosmological evolutionary worlds of individual people with their unique meanings developed within individual encounters that collectively make up that person's 'lived experiences'. Researching 'lived experience' immediately signifies the influence of phenomenology as discussed in the seminal text of Max van Manen (1990). Interest in objective-subjective and inter-subjective interactions is at the heart of this thesis, and it lies at the heart of the literature on research methodologies informed by phenomenology (van Manen, 1990) and 'dialogical hermeneutics' (Crotty, 1998). These approaches give primacy to the different ways in which people might make sense of their own experiences and the feelings that they evoke. This suggests a need to give people a range of ways and opportunities to express themselves. Phenomenological research implies deep respect for freedom of thought and expression and this often requires patience on the part of the researcher.

As discussed in chapter 1 this thesis focuses on some attempts made in Australia to work, either explicitly or implicitly, with the work of Thomas Berry and Brian Swimme. This focus on what can be learnt from the application of a body of ideas and concepts implies the need for comparative case study approach with the emerging findings driving the ongoing research of literature related to the work of Berry and Swimme. While the books by van Manen (1990) and Crotty (1998) offer a starting point for ways of researching lived experience, the author was interested in how interpretations can be built from the ground up ('grounded theory'), how human understandings can be contextualised within the context of wider living systems and how researchers can work with diverse modes of expression on the part of those who are recounting their lived experiences. Hence, the research methodology reflects a blend of five different influences:

- Human inquiry for living systems (Wadsworth, 2011)
- Phenomenological research (van Manen, 1990)
- Dialogical hermeneutics (Crotty, 1998)
- Understanding lived experience through narrative representation (Clandinin and Connolly, 2000)
- Grounded theory (Strauss and Corbin, 1997)

In keeping with Crotty's emphasis on the importance of dialogue the case study research focused on conversations between the author and a wide array of people participating in the selected educational programs or initiatives. At the same time, it was important to give the research participants a range of ways in which they could articulate their thoughts and feelings and so the author employed a mixed method approach that included interviews/conversations, short surveys, the collection of stories, and invitations for research participants to express their thoughts and feeling artistically, in either visual representations or poetic writing.

A 'grounded theory' approach was used to consider what could be taken from the work of the 'other theorists' to either complement the work of Berry and Swimme or to compensate for perceived weaknesses. While the thesis focused on attempts to work with the ideas and concepts of Berry and Swimme in Australian settings, the researcher was able to travel to North America to interview some people doing this work in the North American settings and to gain some experience of their education work. Research in North America helped the author to construct her synopsis of the key themes and ideas in the work of Berry and Swimme (see Chapter 3). The research has involved an ongoing effort on the part of the researcher to deepen her understanding of this complex and multifaceted work.

In a broad sense, this research is interested in how people make sense of their relationship with the living cosmos. It is never easy for individuals to articulate their own conception of what this means and those who are inspired by the work of Berry and Swimme often struggle to explain why it appeals to them. Berry and Swimme ask us to radically rethink our relationships with the non-human world and very few writings about research methodologies dare to contemplate such a widening of human experience. Qualitative research scholar Yolanda Wadsworth (2011) has made a bold attempt with her book titled *Building in Research and Evaluation: Human Inquiry for Living Systems*. Her use of the term 'lifeworld' automatically links this work to the phenomenology of scholars ranging from Edmund Husserl to Martin Heidegger. It build on the earlier work of van Manen (1990) This, then, makes a good place to begin an explication of the five methodological influences that have influenced this research.

1.1 Human inquiry for living systems

Wadsworth's (2011) approach treats humans as the 'same as any living organism' (p.276), and human groups as akin to an organism functioning within a broader 'living system' (p.273). She understands 'living system' to mean, 'an auto-poetic, organically complex, *systemicity* of relational moving, forming and acting' (2011, p.273). She suggests that this provides the starting point for research in which people situate themselves as being part of a larger living world. However, we need to take a further step from *situating* ourselves in this way to understand what this means for our own sense of being and this introduces a new degree of difficulty. Wadsworth suggests that we need to encourage people to trust their 'intrinsic' biological ways of knowing and she goes on to suggest that our own lived experiences cannot be separated from the 'intelligence', which she sees as being inherent to all biological entities and life processes (2011, p. 63). The problem remains as to how we might be able to convert this kind of 'intelligence' into the thinking and language of everyday life. For instance, it is surely not biologically intelligent for humans to want to dominate other forms of life within the Earth community. So how do we relate anthropocentrism to biological intelligence? How do we really shift the emphasis from domination to respectful participation? Of course, the starting point offered by Wadsworth leads on to such questions because we can hardly avoid the damage that we humans are inflicting on the integrity of the planet's life systems. As Wadsworth stresses, the important thing is to contemplate how we can *choose* to live in ways which are life-affirming, rather than destructive. However, this is easier said than done.

Wadsworth's 'life giving inquiry' (2011, p.64) seeks out human qualities that are life enhancing rather than life-destroying. Do our choices and actions 'give life', or do they 'take life', she asks (2011, p.66). She sees not only individual humans, but also human groups, as entities which encompass a 'living biological species' and it is this emphasis on biological inter-relationships which obliges us to operate as 'feedback-based organisms' (2011, p. 278). As biological organisms we are interested in creating the conditions in which we and others can evolve and ultimately thrive. Biological intelligence, then, requires a new kind of intelligence—or intuition—on how our own interior lifeworld 'feels' within our relationships to others and this, in turn, might drive a conscious desire to help others to evolve and thrive. In other words, we might become more conscious of the times when we are either giving to others so that they may thrive, or taking away for narrowly conceived self-interest. Put very simply we

can learn to ask ourselves constantly if our dealings and interactions with others is either life-affirming or life-destroying?

Wadsworth's approach begins to address humanity's habitual tendency to act unconsciously in ways that negatively impact on others and the more-than-human world. For her, a conscious choice for life-enhancing ways of living can lead to a style of enquiry that allows freedom and spontaneity within the dialogue between people, between a researcher and a research participant, or between humans and their phenomenal world. For example, a life-affirming dialogue can focus on an appreciation of many expressions of life and, for Wadsworth, this brings into play:

... deeply ethical business that gives life ... restoring maximum auto-poetic life participation, individuals who appear well rounded ... global enterprises that act persistently to contribute to the life of all, feeling better in ourselves and better together... being at peace with ourselves and each other on a planet we see primarily as our home in a cosmos we are able to think of as our universe [Wadsworth, 2011, p.278].

Wadsworth believes that dialogue between any two subjects needs to value spontaneous and enlivened feeling necessary to evoke authentically responsive and thriving living systems. She emphasises the importance of being open and sensitive to all our lifeworld experiences, allowing us to feel delighted, inspired and enlivened by life, and this, in turn, encourages us to think of ourselves as life giving. With this in mind, Wadsworth seeks committed inquiry which mimics life itself in impulsively unfolding towards a thriving living system (2011):

In short -- questions and methods that get us "right round the cycles of inquiry", doing justice to each stage result in a flow of "lifeblood" insights, ideas, beliefs, values, practices, responses, data, information, energetic impulses and nurturing responses that move through all the channels and capillaries of any big living system or eco-system, that is constantly growing, flourishing, repairing itself and transforming [Wadsworth, 2011, p.66].

Wadsworth's approach resonates strongly with the intent of this research, as outlined in chapter 1. The thesis takes from her the belief that research processes can allow authentic 'flows of lifeblood' (2011, p. 66), with the search for authenticity giving weight to the research outcomes. However, none of this is easy to put into words and the expressions of lived experience may take many forms, from interactive dialogue to various kinds of narrative expression. While Wadsworth's life-affirming inquiry

confirms the research intent, we can turn to van Manen (1990) for his elaboration of how a researcher can articulate and interpret diverse expressions of diverse human lifeworlds.

1.2 Phenomenological research

Van Manen (1990) notes the term 'lifeworld' was coined by phenomenologists to refer to the kinds of everyday lived experiences that rarely become part of our conscious thought. Each of us dwells within our own unique lifeworld and authenticity lies in our attempts to speak as directly as possible from our unique lived experiences. Van Manen notes that any attempt to separate 'insights' from their unique lifeworld contexts begins to strip away important structures of meaning (1990, pp.9-11). Instead of beginning with insights we need to consider how they arise from lived experience and it is the primacy of actual lived experience which gives phenomenology its name. Phenomenological research provides this study with a way of getting people to talk about their 'lived experiences' in trying to embrace the ideas of Berry and Swimme within their daily practices.

Van Manen (1990) maintains that bringing forth and thinking more deeply about our lived experiences helps us to become more 'fully human' in the world (p.12). He believes that we will understand more fully our human ways of being in the world when our genuine lived experiences are given significant attention. However, we need to find ways to help us identify and understand how intrinsically dependant we are on the larger living world. Van Manen takes his work a step further by saying that attention to lived experience will subsequently unfold into the intentional act of us 'becoming' the world (van Manen, 1990, p.5). Experiences of our 'becoming' the world may inadvertently help us to identify our dependency on, and place within, the web of life. However, an extension of consciousness to the more-than-human world cannot be simply assumed; rather knowledge of non-human life requires forms of translation that make sense to untrained humans.

The uniqueness of lived experience may be a common starting point for both van Manen and Wadsworth and our attention must turn to ways in which the experience is first perceived and then expressed (Kvale, 1996). Perception can only ever be partial and particular but van Manen argues that researchers can play an important role in helping people bring their perceptions of lived experience into the realms of

conscious thought and expression as directly and authentically as possible (1990, p.9).

To achieve this, he suggests that we need 'thoughtful and conversational relations' (1990, p.16) with each other before we can begin to relate to, and 'become', the world. However, it is important to consider settings in which people will be able to engage in this kind of reflection and conversation. Creating the most comfortable environment possible, for both the researcher and participant in the interview process, is critical to embody the necessary 'attentive practice of thoughtfulness' (van Manen, 1990, p.12). Van Manen insists that his approaches are required if 'authentic' expression is to be reached. Having laid the foundations on which to generate authentic and meaningful data, how do we then ensure that we are insightful in our descriptions of the way others experience the world?

Van Manen suggests that we need to focus on the 'internal meaning structures' of the authentic expressions of that lived experience (1990, p.10). To achieve this, he aims to explicate the 'meanings as we all live them in our everyday existence' (p.9) of our life-world. Van Manen notes that, there is not one objective essence or 'truth' to be derived. Rather, meanings are inter-subjective and 'constructed by the individuals' through the inter-being of consciousness (van Manen, p.9). This kind of meaning making is constructivist, and it raises ethical concerns about the ways in which researchers and research participants interpret experience through a form of 'co-inquiry'. The author was certainly aware of being a co-creator of an interview transcript and so was determined to make visible her interpretative presence in the meaning making process. Of course there is always a danger that a researcher will not be sensitive to the ways in which an interviewee perceives the world and this may reflect the lived experiences of the researcher more than the interviewee. However, as long as the subjectivity of the researcher and the research participant are both conveyed the reader can judge the extent to which meaning has been co-created.

The influence of phenomenology in this sense was employed in all dialogical engagements of this research. In this way, the author suspended her own lived experiences and assumptions, as much as is humanly possible, in order to allow the participant's perception and experiences. The author was acutely aware within the data generation research methods that her own situated 'lifeworld' is interdependently connected to the consciousness of its processes. She was therefore aware and sensitively responsive to diffusing as much of this inevitable interaction as

is consciously possible, within the implicit inter-subjective and constructive context present to all individuals in the meaning making process. Awareness and conscious 'editing' of the author's own 'situated lifeworld' was then necessary to consider in this methodology; to be as conscious as is possible of a susceptibility to a distortion of power within the dialogical practices of it. The same applies to the way the author has interpreted the work of Berry and Swimme, in particular, but this is openly acknowledged and it is left to the reader to judge the outcomes.

Phenomenology is also relevant to the intent of this research because it insists that lived experiences cannot be separated from real world contexts. Context is all important for the researcher who is interested in capturing expressions of lived experience. However, there is no magic formula for turning experience into easy-to-interpret expressions and this is where the researcher needs to be open to all possibilities. The important thing to note here — in relation to the work of both van Manen and Wadsworth — is that the context of human experience is always more than human.

Van Manen placed research on lived experience in the camp of constructivism — rather than positivism — because meaning is always contextual and deeply embedded within subjectivity. Perhaps too much can be made of the authenticity of expressions of unique lived experiences because van Manen did not adequately acknowledge the influence of the researcher in evoking or shaping the modes of expression. As van Manen noted, research on lived experience needs to shift from a single emphasis on subjectivity to an emphasis on meanings of inter-subjectivity and this means that phenomenological research can be seen as a form of dialogue rather than a search for 'introspective' reflection (1990, p.10). This is where it is useful to bring in Heidegger's notion of 'dialogical hermeneutics', as explained by Michael Crotty (1998, p. 96).

1.3 Dialogical Hermeneutics

According to Crotty (1998, p. 96), dialogical hermeneutics is still interested in the 'internal meaning structures' within diverse expressions of lived experience. However, it openly acknowledges the role that a researcher must play in evoking and interpreting the articulations of experience. This does not rule out the search for authenticity because it is critically important that researchers refrain from putting words into the mouths of interviewees or research participants, either deliberately or

inadvertently. Every effort must be made to allow people to find their own ways to give expression to their felt experiences, in whatever form they feel comfortable with. However, the researcher plays a big role in setting topics and the contexts within which lived experience is interrogated and in eventually bringing that experience into the language of interpretation. Language can both enable dialogue and lead to misunderstandings so attentiveness to language and the encoding of meaning within language must be handled very sensitively. At the same time, a respectful dialogue, which aims to capture and interpret experience in words, can enable the researcher and the research participant to explore previously neglected domains of experience and meaning.

Crotty (1998, p.96) argues that dialogue creates a 'common thread' between a researcher and a participant providing a basis for the interactive interpretation of research data. The creation of the common thread requires openness, empathy and a degree of affinity. At the same time, Rundell (1995) has noted that humans are continually interpreting the lifeworlds of others, and inter-subjectivity is part of our personal, cultural and historical orientation in the world. A similar point was made by van Manen (1990, p. 180) when he wrote that 'there is no such thing as un-interpreted phenomena' and, by inference, we can say that interpreting the lifeworld of others is intrinsic to being human.

The dialogical approach highlights — rather than disguises — the critical role of the researcher and Crotty notes that it challenges the reader to listen carefully, empathetically and patiently to what is being said or expressed. This work cannot be rushed and attention needs to be given to the sites in which relaxed conversations can take place. Time and context are both critical ingredients for success.

Although the lived experiences of the research participant are the starting point, meaning is constructed through interactive dialogue. Crotty's dialogical approach takes us beyond constructivism in acknowledging the importance of inter-subjectivity, although we need to remember that some people will prefer to use non-oral forms of expression to communicate their lived experiences.

1.4 Understanding lived experience through narrative representations

Van Manen (1990) explains that it is common for people to structure their lived experiences into narrative representations and that we are all accustomed to learning about the subjective experiences of other people through their narrative representations. Of course, narratives are often presented in textual representations but visual art can also be used to 'tell a story' and the research for this thesis was open to the different ways in which the research participants chose to tell their stories of lived experience. This is different to the kind of 'narrative inquiry' (Clandinin and Connolly, 2000) in which a researcher sets out to collect narrative representations. Wadsworth (2011) also noted that narrative representations sometimes enable people to communicate things that can be very hard to put into words, partly because they touch on relationships that we rarely take time to contemplate. The creation of stories, poetry or visual art can focus the mind without discounting lateral or unexpected connections. The interest here is again to uncover shared meaning (Crotty, 1998) in the interpretation of inter-subjective reflections (van Manen, 1990). However, narrative representations open up new possibilities for communicating lived experiences.

Berry and Swimme chose to adopt a narrative approach in their telling of *The Universe Story* (1992). This is evidenced in the fact that they use "The New Story" as an interchangeable phrase to describe their work (Berry, 1988; Swimme, 2006). Any focus on their work inevitably takes us into the domain of narrative representation.

1.5 Grounded theory

If Van Manen's approach opens a researcher up to a more perceptive appreciation of the lived experiences of research participants, that needs to become a starting point for building up a theoretical account of the derived meanings. This leads us to the concept of 'grounded theory' as articulated by Strauss and Corbin (1997). This approach was useful for dealing with both the articulation of participants' experiences and reflections as they made sense of Berry's and Swimme's concepts, and also with the author's own subjective biases as the observer. Grounded theory was employed in the sense that the author followed a pattern of 'immersion' in the field of practice, interspersed with withdrawal, to make sense of what she had experienced. Withdrawal and reflection was also necessary for building the author's

conceptual analysis in an iterative way, as she made sense of her own experience in relations with others' experiences in the field of practice.

Grounded theory (Strauss and Corbin, 1997) also informed the processes involved in constructing the framework from Berry's and Swimme's body of ideas, in order to analyse the data from participants' responses (see Chapter 1). Many years of the authors own withdrawal and reflection on Berry's and Swimme's ideas prior to this research were blended with the processes (Strauss and Corbin, 1997) necessary to follow a pattern of immersion and theorists' influence (Berry and Swimme, 1992), in the field of practice for this thesis. These attributes underpin the final Berry and Swimme distilled framework inherent to this thesis.

1.6 Selection of case study sites

Not surprisingly, the work of Thomas Berry and Brian Swimme is much better known in the USA than in Australia. In part the research was interested in efforts already being made to work with the ideas of Berry and Swimme in Australian contexts. This led to the selection of the case study sites discussed in chapters 5-7. The research was also interested in the potential for making more use of the work of Berry and Swimme in Australia.

As mentioned above, context is very important for conducting research related to lived experiences of the more-than-human world. All four case study sites offered conducive settings for conducting interviews and research conversations. The case study organisations all share similar underlying philosophies in relation to their commitment to enriching personal knowledge and social functioning. However, more will be said about the common threads shared by the establishments in the introduction of the case study chapters 5-8.

1.7 Participant selection

The research methodology requires the building of trust between the researcher and the research participant. The first task was to convince potential participants that the research had important aims. Trust was also built by explaining the ethical standards requirements built into the processes for gaining participation consent. Participants were offered a range of ways for participating in the research; ranging from the completion of a survey to semi-structured interviews and/or contributions made in the narrative forms discussed above. Great effort

was taken to ensure that each participant felt comfortable about her/his contribution to the research. The views of the participants were treated with the utmost respect.

➤ Individual participants in Australia

The starting intention was to find at least six individual research participants in each of the case study settings described in chapters 5-8 and in each case the host organisation was asked to help recruit the participants. The initial invitations to participate were made by the host organisations before the author was able to discuss the terms of participation with those interested. A degree of familiarity with activities that are either directly or indirectly inspired by the work of Berry and Swimme was obviously an important criterion for participation. It was interesting to note that when the suggestion was made that participants might choose to represent their experiences in art or creative writing a number of them said that their experiences had already prompted them to express themselves in poetry or art. Some research participants agreed to participate in specific activities relevant to the research aims.

➤ Participant Group 1- Individuals sourced from Case study 1: 'EarthSong'

EarthSong is a community group that emerged from the Catholic Church. It presents as a relevant context to source individuals for this research because its founding members cultivated their project largely in response to Berry's and Swimme's concerns, teachings and visions. EarthSong intends to explore ways to re-inhabit the Earth by learning to live as conscious participating members of the Earth community. Important to this research, this establishment offers individuals activities that add insight and experiences that are committed to celebrating the entire universe and every living entity as a sacred, ongoing event (Berry and Swimme, 1992). Their activities encourage lifeworld experiences, inter-subjectivity with the more-than-human world in relation to a developing functional cosmology. The individuals who agreed to help me explore my research interests within this case study context all had deep and long-term exposure to the work of Berry and Swimme. They all happen to be women who were in their mid to later stages of life.

➤ Participant Group 2- Individuals sourced from Case study 2: ‘The Centre for Ecology and Spirituality’

The Centre for Ecology and Spirituality (CES) is a community group that also emerged from the Catholic Church. This organisation is relevant because its founding members cultivated their project largely in response to Berry’s and Swimme’s concerns, teachings and visions. CES intends to encourage attitudes and practices that foster ‘Earth spirituality’. The Glenburn teaching community describes this as a ‘holistic spirituality’ which beholds the nurturance of the ‘spiritual, mental and bodily health of sustainable living’ (Centre for Ecology and Spirituality, 2010). Important to this research, this group offers individuals activities that add insight and experiences committed to celebrating the entire universe and every living entity as a sacred, ongoing event (Berry and Swimme, 1992). The main site of CES is in a bushland location and lodgings are able to offer retreats to their participants. This environment allows participants the opportunity for close proximity to the lifeworlds of non-human animals and potential inter-subjectivity with them. Two of the participants sourced from this case study research were engaging in the works of Berry and Swimme at a medium to advanced level for up to 12 weeks in residence at CES. The remaining four participants were engaged in beginner to medium levels of immersion for much shorter periods of time with the same facilitator. The individuals in this participant group are four women and two men of mid-life age.

➤ Participant group 3- Individuals sourced from Case study 3: ‘The Australian Catholic University’

The Australian Catholic University (ACU) is a multi-state publicly funded university. The university welcomes dialogue between science and philosophy as a commitment to pedagogically exploring the relationship between faith and reason. At the Melbourne campus of Faculty of Education staff member employ aspects of *The Universe Story* (Berry and Swimme, 1992) within the pre-service teacher training courses. The experiences of the participants within this context are subject to the goals of the course, which partially focus on re-imagining science in order to help bring about the possibility of deep social change for a sustainable and peaceful future. Berry’s and Swimme’s work is introduced briefly to the students. The course aims to use this as an ontological framework for thinking about attitudes, behaviours and skills needed to live sustainably.

This establishment offers this research a group of individuals who have connected with Berry's and Swimme's work in a very different learning approach, delivery style, language and for a significantly shorter duration of immersion. This group's ages ranged from 20-40 and all were women. This presents a contrast to both EarthSong and The Centre for Ecology and Spirituality where the Berry and Swimme work is central and strongly emphasised.

➤ Participant group 4- Individuals sourced from Case study 4: 'CERES Environment Park'

CERES is a 4.5 hectare 'Community Environment Park' situated in Melbourne's inner northern suburbs. CERES is an acronym for 'Centre for Education and Research in Environmental Strategies'. A focus on stewardship and relationship with the Merri Creek that runs alongside the park, could be thought of as symbolic of all that CERES stands for; environmental, sustainable and community focused. It is a not-for-profit community based organisation. Its operations include sustainable agriculture with farm animal practices, organic markets, a restaurant and café, a permaculture and bush food nursery and community gardens. Events and festivals are also a central attribute of CERES community life. The site includes interest areas, for example, alternative technology, produce exchange, baking, chicken care, art and craft and bicycle riding. The basic ideas and core underlying pillars of CERES are to create a place to facilitate education and action on environment, social justice and sustainability issues.

This community education context offers this research a unique case study for it includes no explicit reference to Berry's and Swimme's work, yet they share very similar aims for ecological restoration. Therefore this case study offers the opportunity to explore secular and different approaches to interconnectedness and the idea of an Earth community (Orr, 1991; Bottomley, 2008). CERES is a place where many people of many religious denominations enter and it also offers insights into how a model with similar aims to Berry's and Swimme's may be used in a 'mainstream' setting.

➤ Survey participants

The emphasis in this inquiry was on the use of qualitative research techniques. This, of course, limited the number of people who could be interviewed and so an effort was also made to conduct a survey of additional participants at each of the host

organisations. It was possible to complete such surveys in three of the four case study sites; with 22 people being surveyed in each instance. However, it was not possible to conduct such a survey at CERES (see Chapter 8) and the research there relied on interviews.

2. Research methods

The research methodology discussed above prompted the need to use a range of different research methods for generating data that enabled the author to respond to the research questions outlined in chapter 1. The strongest insights probably emerged from semi-structured, inter-subjective interviews conducted with individual research participants across the four case study research sites. Surveys conducted in three of the four case study sites enabled some cross-checking of the insights emerging from these interviews. The author was pleasantly surprised by the quantity and relevance of the creative writing and visual art offered by the research participants. The research journey was also an exercise in self-discovery for the author—starting with a conversation with Brian Swimme and his students—and so the research findings are also informed by my participant-observations.

2.1 Semi-structured interviews

The interviews, on average an hour in duration, were undertaken in a manner designed to facilitate a natural flow of authentic reflection, sharing of insights, stories and lifeworld observations. They began with one formulated question posed at the start; 'Could you describe your ecological relationship?' Before each interview the author clarified the research aims and objectives with the interviewee to ensure that that the research interests were in the minds of both researcher and interviewee. Considerable effort was made to provide interviewees with opportunities to express their thoughts, feelings and narratives in their own ways. The author was aware of the importance of allowing the interviewee to lead the conversation where possible. At the same time, each interview was seen as a form of inter-subjective dialogue.

2.2 Opinion survey

The survey involved nineteen questions, focused on notions of the *The Universe Story* (Appendix 1), and framed simply to enable the participants to engage with it easily. Providing a snapshot of responses from a range of participants with varying

degrees of familiarity with Berry's and Swimme's work, the survey offered a broader perspective to augment the case study data.

2.3 Forms of narrative expression

Narrative representations were undertaken using various materials and creative forms. Participants' preferred methods in this research were:

- Art and poetry created within relevant activities of this research
- Narrative expressions of their lived experience of Berry and Swimme's work, in the form of poetry and visual art created by participants most familiar with Berry and Swimme were collected and colour photocopies made. These are included as appendices.
- Art created with the art making process the author developed.

The art-making process (outlined below) was included because the author had prior experience in working with visual representations. This offered ways of representing experience that were not anticipated by van Manen or Crotty. This art-making research method is consistent with the approach to lived experience promoted by van Manen (1990) and Wadsworth (2011), yet it was also a methodological innovation on the part of the author in relation to phenomenological research. The art-making approach is also reflected the interest in potency of narrative forms (Clandinin and Connolly, 2000). Art-making processes were particularly useful in working with participants sourced from CES and ACU because they had either not engaged in such activities before, were less familiar with *The Universe Story* (Berry and Swimme, 1992), or were less likely to create narrative expressions of their own volition. The fourth case study, CERES, did not involve any art-making processes for reasons discussed in chapter 8.

The art making process was triggered by the results of an interview, in that interviewees were given a copy of the interview transcript and invited to respond to it with an artistic representation. The aim was to give interviewees an opportunity to express feelings that may otherwise have remained outside the conscious domain. They were offered cameras, recording devices and art materials and invited to express themselves in any kind of soundscapes or visual representations. To stimulate their creativity the interviewees who accepted this mode of representation were provided with a selection of images and text taken from newspapers and

magazines and no particular timeframe was set. The seven participants who chose this method of representation favoured the use of art materials, although some chose to express themselves in creative writing (see Appendices).

2.4 Researcher's participant-observation

Where possible, the author shared the research activities, to help enrich her understanding of participants' experiences, thereby adding depth in the interpretation phases of this work.

3. Research limitations

The scope of this research has been limited to a certain extent by the fact that the work of Thomas Berry and Brian Swimme has been adopted by a relatively small number of associations in Australia. Of those organisations that have taken it up, most have had strong associations with the Catholic Church. In part, this reflects the fact that Berry's work was deeply rooted in the theology and philosophy of this particular religious denomination, even though he also embraced the secular science that underpinned the work of Swimme. It would be reductive to assume that ideas which emerge within a particular cultural or religious tradition cannot have relevance to a wider social context. Berry certainly made efforts to transcend his early religious training. However, the possibilities for successful transcendence became a focus of the research.

In this light, it was important to examine the possible relevance of the work of Berry and Swimme within an avowedly secular organisation such as CERES. It should be noted that a number of people at CERES either know of the work of Berry and Swimme or work with similar ideas taken from other writers. The author was interested in ascertaining whether the language used by Berry, because of his theological background, presented a barrier for secular organisations who may be interested in the Universe Story. In this way, the CERES case study enabled the author to consider the relevance of the work of Berry and Swimme within institutional settings where there is no explicit interest in theology or religiosity. This gave the research a wider purpose and relevance. A deep distrust of religious ideas and influences at CERES made it more difficult to recruit and motivate research participants, and as a result the research process was more constrained in this

particular case study site. However the author has taken great effort to make sure that no criticism is made or implied regarding the secular orientation of CERES.

Because it was more difficult to get people involved in activities at CERES to openly contemplate the work of Berry and Swimme, the inclusion of this case study imposed some constraints on the comparative analysis of the case study findings. However, this was outweighed by the benefits, for this research, in finding out whether ideas derived from the work of Berry and Swimme could have practical relevance in such an avowedly secular setting. Some conclusions can be reached by excluding the CERES case study from the comparison but the central interests of this research—as articulated in the research questions—were well served by including the CERES case study.

The limitations of this study also do not allow for a comprehensive discussion of the complete works of the selected additional theorists. As already established in chapter 1, a critical analysis of the work of Berry and Swimme and the additional theorists was not required for the research design of this thesis. The aim of the thesis was to critically examine the efforts to work in Australia with the ideas put forward by them.

While every effort was made to have relaxed interviews and conversations with research participants, time constraints inevitably came into play and in general the interviews were restricted to less than an hour. There were a few cases where individuals were able to participate in longer conversations or engaged in more than one conversation with the researcher. These have been highlighted in chapters 5-8.

The survey was used to complement the in-depth interviews, even if the sample size in each case was limited to 22 respondents. Taken alone, such a survey would have little value, however its value in this case was its role in complementing the qualitative research outcomes.

It needs to be noted that all the participants in this research were non-Indigenous Australians of European descent. This is not an accurate representation of the wider Australian population and other research would need to be undertaken to consider the appeal of the work of Berry and Swimme for Australians with other cultural or religious backgrounds. It also needs to be noted that the research participants included significantly more women than men. This was partly because more women

than men participate in the many of the programs run by the host organisations. This fact suggests another area of inquiry, which is beyond the focus of this research.

This research is situated in the exploration of cosmological evolutionary perceptions and approaches in an Australian context. The case study research was restricted to educational and learning centres in Melbourne, Australia. The author acknowledges that her perspectives as a white, female, middle-class researcher have an influence on the research findings and it is made clear in chapter 1 that the author has a personal attachment to the work of Berry and Swimme. However, the rigorous research process tested those attachments and the reader can make his/her own assessment of what emerged.

Chapter 3:

Synopsis of the work of Thomas Berry and Brian Swimme

1. Introduction

A wide-ranging review of theorists in the fields of ecological thought and education, cosmological evolution, phenomenology, metaphysics, big history, deep ecology, environmental and holistic sciences confirmed that the combined work of Thomas Berry and Brian Swimme is respected and highly innovative.¹¹ As mentioned in chapter 1, the author began with a personal interest in the work of Berry and Swimme but her extensive review of relevant literature also justified the selection of their work as a centrepiece of the thesis. It is the boldness of the effort made by Berry and Swimme to make cosmological awareness a guide for everyday life that has attracted the author's interest.

The synopsis of the work of Berry and Swimme presented in this thesis is a collection of key ideas drawn from the body of their works and, as mentioned in chapter 1, it was necessary to undertake such a synopsis because Berry and/or Swimme did not undertake a concise rendering of their key ideas. Berry's and Swimme's individual work (Berry, 1988a, 1999, 2006, 2009; Swimme, 1984, 1986, 1987, 1996a, 2001) and their combined book (Berry and Swimme, 1992) were considered as most relevant in terms of communicating the entirety of their ideas for the purposes of this research. Both Berry and Swimme have released audio-visual and audio work, however this synopsis has mostly drawn on the audio and audio-visual work produced by Swimme (1995, 1996b, 1998, 2003a, 2003b, 2005, 2006a, 2006b, 2008). Swimme's strong oral communication skills in these works serve to clearly convey his ideas, and his unique narrative approach offers a valuable way to access the work. On the other hand, Berry's key ideas are most comprehensively communicated in his written works.

The process of synthesising the work of the two theorists resulted in the nomination of 85 key themes that are presented below. The identification of these themes

¹¹ This included a review of the work of the following theorists: Henri Bergson, Teilhard De Chardin, Vladimir Vernadsky, Maurice Merleau Ponty, Edmund Husserl, Martin Heidegger, Henry David Thoreau, Alfred North Whitehead, Aldo Leopold, David Orr, Steve van Matre, Eric Chaisson, Stuart Kauffman, Stephan Harding, James Lovelock, Arne Naess, Lynn Margulis. Tim Flannery, David Christian, Jared Diamond, Charles Birch.

facilitated the selection of key phrases which are used for discussing applications of the work of Berry and Swimme in the case study contexts presented in chapters 5-8.

The delivery and writing style of this review aims to respect Berry's and Swimme's styles in their own work. This is important because both Berry (1999) and Swimme (Swimme, 2008; Swimme, pers. comm., 15 Aug 2008) steer away from strict academic interpretations, to try to consciously evoke an uninterrupted language for communicating a sense of story and poesis in relation to the complex ideas they are trying to simplify (Swimme and Tucker, 2011).

Inspired by the death of Berry in 2010, Swimme and Tucker produced a book, documentary and DVD project (2011) entitled *Journey of the Universe*, which is a trilogy 'package' of which the components correlate in conceptual structure, with the DVD containing relevant interviews. There is also now a fourth component— a supporting educational curricular supplement— that shares the same structure but in more advanced conceptual pedagogical detail. The supplement also has suggestions for creative processes to assist embodiment of the ideas.

In light of this, the author reviewed all four new components to see if there was anything different in the way that the work was now presented. It appears that Swimme and Tucker have captured a simplified narration of *The Universe Story* (Berry and Swimme, 1992) in both literature and audio-visual mediums. They do not overwhelm their audience with information, preferring to use stories when visiting significant locations, to narrate varying aspects of cosmological evolution (Swimme and Tucker, 2011). The delivery style of the documentary and DVD evokes the universe as sacred in poetic grandeur. The DVD moves into territory that has not been present in any previous material, to my knowledge. Tucker (2011c) conducts interviews with twelve people who speak of their embodiment of *The Universe Story*, (Berry and Swimme, 1992) and their involvement in emerging Earth communities (Berry, 1988a).

The trilogy came after the interviews for the case studies were completed, so it did not affect the individuals participating in this research, or add anything particularly new to this synopsis. Therefore the thematic framework distilled from the body of Berry's and Swimme's works for this research remains relevant and unchanged.

2. Key themes of Thomas Berry and Brian Swimme

2.1 A functional cosmology

A basic premise of *The Universe Story* (Berry and Swimme, 1992) is that over the last three centuries, humanity has convinced itself through intellectual disciplines, that the universe is mechanical. Berry and Swimme argue that this is why it is now commonplace for modern humans to have no significant relationship with the universe (Berry, 1988a, 2006; Swimme, 1996b). Berry claims that modern humans are functioning in an autistic way that essentially excludes the Earth and Earth community from our psychic and physical lives (Berry, 1988a).

Swimme adopts a phrase that the Navaho Indians use, to help us begin to imagine a significant relationship with the cosmos; ‘I watch the heavens so I may live’ (Swimme, 1995, Lecture 1). Swimme (1995, 1996b) says the Navaho lived a functional cosmology by relating with the mystery of life at an intuitive level. He maintains that this sense of the cosmos underpinned their individual and cultural health (Swimme, 2005) and is critical to what made their cosmology functional.

Berry argues that a functional cosmology needs to provide mystique in order to evoke a sense of vitality through an ‘integral Earth-human presence’ (Berry, 1988a, p.66), upon the Earth. This mystique, he says, will only be accessible when people embody a worldview that accepts all phenomena as inseparably ‘psychic-spiritual and physical-material’ (Berry, 1988a, p.66):

Such a mystique is available once we consider that the universe, the Earth, the sequence of living forms, and the human mode of consciousness have from the beginning had a psychic-spiritual, as well as physical-material aspect [Berry, 1988a, p.66].

For Berry, the phenomenal world includes all living entities that have unfolded out of the cosmos. He wants this notion to be adopted and embodied as a primary context for living today. He believes this must become our ultimate, dependable and unifying ethical context for the functioning of the Earth. Mystique is the inseparable binding attribute that grounds and guides human affairs in a cosmology that is truly functional (Berry, 1988a):

Neither humans as a species nor any of our activities can be understood in any significant manner except in our role in the functioning of the Earth and of the universe itself. We come into existence, have our present meaning, and attain our destiny within this numinous context. Neither the psychological, sociological, nor theological approaches are adequate. The controlling context must be a functional cosmology [Berry, 2006, p. 87].

2.1.1 An empirically derived account of the cosmos

Berry and Swimme (1992) maintain that an empirical account of the universe has only been possible recently because of modern science. Swimme (1996b) explains that empirical science is not the same as cosmology, even when the latter is deeply informed by science. He describes cosmology as the story of the birth, development and destiny of the universe, to help humans identify and embody their roles within the universe (Swimme, 1995).

2.2 A functional cosmology as ‘story’

A functional cosmology as a ‘story’ of the universe is, to Berry and Swimme, a narrative that explores the unfolding stages of cosmological evolution as an ‘ongoing event’ (Swimme, 1995). *The Universe Story* (Berry and Swimme, 1992) realises life as an emergent ‘reality’ (Swimme, 1996b), from the Big Bang, through to all life forms of the present day and beyond.

Swimme (1995) argues that the psycho-social and biological health of a human group will depend upon the cultural or cosmological story that it consciously or unconsciously lives by. He again draws from the Navaho to illustrate this; ‘That’s what was celebrated. Humans were brought into the story. If they were brought into the story they flourished, if they were sent out of the story, they were lost and confused’ (Swimme, 1995, Lecture 4). Berry (1988a) maintains that modern humans have lost our way because there has not been an adequate and relevant context, or story, to guide humanity through modernity:

It’s all a question of story. We are in trouble just now because we do not have a good story. We are in between stories. The old story, the account of how the world came to be and how we fit in, is no longer effective. Yet we have not learned the new story [1988a, p.123].

2.2.1 What is important about ‘stories’?

Swimme and Berry (1992) maintain that failure to look to the cosmos for a sense of place and being, has also evoked the human-centred orientation we mostly experience in our world today. For Swimme (1995, 1996a), this explains why modern humanity is able to denigrate and destroy biological life. He asserts that without a sense of the cosmos that is placed in a story, people cannot identify with being a part of a larger context (Swimme, 1995). Therefore, Swimme (2007) argues, people are unable to identify with caring for the larger living world of which they are a part.

Swimme argues that modern humans want to know that their reality is located in the ‘centre of organic reality’ (*Evolutionary Spirituality 2010*, radio program, San Francisco, 13 May). He and Berry propose *The Universe Story* (1992) as an embodied worldview; one deeply embedded in the centre of organic reality, yet capable of evoking ‘mystique’ of the universe and Earth (Berry, 2006; Swimme, 2006). This context treats the cosmos historically and empirically as a subjective phenomena, one which is viewed as a catalyst for people in embodying their own subjectivity, as part of this subjective phenomenon. Berry and Swimme (1992) extend this, to our being an integral part of a matrix of inter-subjective phenomena. This helps us understand ourselves as simply one part of the Earth community and not a dominating part.

For Swimme (1996b) this is a very different worldview to those held in eras previous to modernity, because it is only recently that we have come to know the functioning of cosmological and biological life empirically. Berry and Swimme argue that a modern cosmology still dreams and stories the cosmos in the same manner as a mythological context¹² (Campbell, 1972, 1988; Eliade, 1977). The former interprets an empirical account of the cosmos (Berry, 1988a; Swimme, 1995) and the later, a myth making account.

¹² The cosmos interpreted within a mythological context may be understood as giving rise to ‘myth making’ (*mythopoetica*), where identification with the cosmos as ‘object’ activates within ‘symbolic consciousness’ (Swimme and Tucker, 2011) a ‘meaning making’ (van Manen, 1990) process. This emerges as an experience of ‘participation mystique’, named by Levy-Bruhl (as cited in Jung, 1971) to describe a psychological connection with objects, and means that the subject cannot clearly distinguish himself from the object but is bound to it by a direct relationship which amounts to partial identity’ (Jung, [1921] 1971: paragraph 781).

Berry and Swimme (Berry, 1988a, 1999; Swimme, 1995, 2008) call for world history to acknowledge new historical contexts; to include the stages of cosmological evolution that place the human as only part of the integral whole:

The historians, even when articulating world history, deal not with the whole world but just with the human, as if the human were something separate from, or an addendum to, the story of the Earth and the universe [Berry and Swimme, 1992, p.1].

Berry and Swimme (Berry, 1999; Swimme, 1995) maintain that seeing ourselves as just one part of a larger narrative of the cosmos, offers a new, invigorated focus for living a modern life, with potential to transcend human centred-ness. It also affords a perspective of the larger living world that inadvertently acknowledges the disintegration of life systems (Berry and Swimme, 1992, p.3).

2.2.2 Imagining human cultural attributes within a new story

Swimme (1995) maintains that identifying with a story that holds a cosmological worldview offers individuals and society identity, clarity and direction. Berry (1999) argues that a new story needs to recognise the many people still practicing ‘classical traditions’ (p.171) or religions that have emerged from very different historical époques. These cultural forms, he says, derive from a time before awareness of the biological ecologies of the Earth had fully emerged (Berry, 1988a, 1999). He attributes this to the human species separating itself from other species, Earth and the cosmos (Berry, 1999). Berry and Swimme (Berry, 1988a; Swimme, 1996a) argue that a new functional cosmology needs to be adequate and acceptable to all manner of individuals, races, cultures, species and biological life.

2.2.3 The universe is fundamentally a story

Berry (2006), and Swimme (2003, b) adopt the notion that the universe itself is telling the story and that their own work is simply outlining this narrative:

Knowing the story of the universe, of the Earth, of life, and of consciousness, all as a single story, is where the synthesis is. The humans articulate the story in a particular human way, the whales do it in their way, the birds do it in their way, the worms do it in their way, the insects do it in their way. Every particle of the universe tells the story in its own context. It’s a kind of symphonic process. When

we exile the scientific telling of the story from the humanities and theology, we do not allow them to be an integral expression of the great story [Berry, 2006, p.31].

In this way, notions of *The Universe Story* (Berry and Swimme, 1992) come alive in one's lifeworld when the notion of all 'expressions of life' (Swimme, 1996a) as subjective, interrelated phenomena, having unfolded out of the cosmos and taking evolutionary shape, has been adopted. To embody this is to realise that everything in existence has also unfolded and self-organised out of the mystery of existence. This is *the* story of the universe. According to Swimme (1996b, Lecture 3); 'It isn't matter, it isn't energy, and it isn't consciousness. All that is part of the universe for sure, but the universe fundamentally is story, is a developing being. It emerged and now it has gone through these great vast eras'.

2.2.4 Embodying the universe as a developing being

Berry argues that we must embody the universe as a developing being. He (1988a, 1999) feels that *The Universe Story* (Berry and Swimme, 1992) offers an overview that helps us be aware of living in a universe. The point is to gain a perspective of the universe as being a profound matrix of subjectivity – the dynamics of cosmological evolution – that has unfurled over billions of years into innumerable elemental and biological forms (Swimme, 1995), as 'a single, if multiform energy event' (Berry, 1999, p.46).

Berry's argument frames this colossal deep-time trajectory of the cosmos as an emergent process that recognises the Earth as a privileged planet. Furthermore, he sees the whole evolutionary picture as 'evolving out of some cosmic imaginary process' (Berry, 1999, p.199). As an illustration of this, Swimme (1995) offers a short and long version of a narrative to capture the ontology of imagining cosmological processes:

It's really simple. Here's the whole story in one line. This is the greatest discovery of the scientific enterprise. You take hydrogen gas, and you leave it alone, and it turns into rosebushes, giraffes, and humans. That's the short version. The reason I like that version is that hydrogen gas is odourless and colourless, and in the prejudice of the Western civilization, we see it as just material stuff. There's not much there. You just take hydrogen; leave it alone and it turns into humans—that's a pretty interesting bit of information. The point is that if humans are

spiritual, then hydrogen's spiritual. It's an incredible opportunity to escape the traditional dualism—you know, spirit is up there; matter is down there. You have matter all the way through, and so you have spirit all the way through. So that's why I love the shorter version [Swimme, 1995, Lecture 3].

Berry suggests that such a perspective need not be overwhelming to interpret; rather a 'mystery' that holds a chance for humans to be fascinated by such unexplainable aspects of life (Berry, 1999, p.198). He (1988a, 1999) argues that in this context of grandeur, mystery has shaped the embodiment of human cultural expression such as poetry, music and religious scriptures. Berry maintains that to interpret the unfolding of the dynamic processes of the cosmos is to help establish an 'integral presence to the more profound depths of our own being or into the more powerful forces shaping both the universe and the planet on which we live' (Berry, 1999, p.198).

In conclusion, Berry and Swimme argue that to embody the universe as a developing being, is to participate in the same creative, dynamic processes of the unfolding of the cosmos; only now we can do it in conscious awareness. They ask for our participation in this creativity—listening, understanding, respecting and embracing all the 'characters', or life phenomena, within the story of the universe, as entities who can become more aware, respectful and 'present' (Berry, 1999, p.199; Swimme, 1995).

For Swimme, 'we are individuals who are part of cultures, but at the same time, we are a dimension of the entire universe' (as cited in Phipps, 2012, p.311). Berry and Swimme aim to have people realise that we are essentially all playing a role in the story, to suggest the universe as a whole is shaped by the creativity of its parts (Swimme and Tucker, 2011).

2.2.5 Embodying the story of the universe as a celebration of existence

Swimme believes that humans are 'seeking meaningful orientations in order to live an integral human life' (Swimme and Tucker, 2011, p.9). Berry (1999) adds that such a quality can be observed within so-called primitive worldviews, as modes of thinking which 'understand the universe primarily as celebration' (p.19). To this end, Berry and Swimme want all life phenomena of the universe and Earth to be adopted and embodied as a magnificent celebratory event (Swimme, 1995).

2.3 Cosmic Awareness

2.3.1 Implications of discovering an expanding universe

Berry and Swimme's entry point into the story of the universe is the Big Bang, interpreted as a colossal flaring forth of light and matter (Swimme and Tucker, 2011). Starting from this point, we can see all life as having unfolded, and as continuing its unfolding in the present. Swimme (2005) explains that empirical science reveals the universe to be an ongoing creative reality, born from a primordial flaring forth from a single point. Swimme states, 'all of space and time and mass and energy began as a single point that was trillions of degrees hot and that instantly rushed apart' (Swimme and Tucker, 2011, p.5).

Such an insight radically challenges previously held scientific positions that the universe was a static and vast place where matter didn't change form (Swimme, 1995, 2006b, 2007; Swimme and Tucker, 2011). Swimme (2006a) illustrates the implications of this using science's discovery that at least 100 billion galaxies make up a barely conceivable cosmos. Swimme (1996b) continues his description by drawing on Hubble's insight that the universe has been and continues to expand (Swimme, 1995). For Swimme (1995), the discovery of this cosmological situation evokes a realisation of ourselves as inseparable to all other elemental, biological and geological phenomenal entities.

2.3.2 Locating the creativity of the universe

Swimme (2006a) explains that the dynamics of evolutionary processes had their own way of knowing how to coordinate the elements, gases and all phenomena to create the universe as we know it today. He argues that humans need to realise that the dynamics of the cosmos have been able to create a universe, the Earth and all life through these 'powers' (Swimme, 2003a). Further, humans are a very recent addition to this 13.7 billion year process and must realise we are derived from these dynamics; we do not drive them. As Swimme (1995) points out, 'The universe knew what to do. We, the humans weren't there engineering it' (Lecture 4).

Swimme acknowledges the work of Prigogine (1980), drawing on the latter's term 'self-organising dynamics', to illustrate that there are subjective interactions between life entities. He points out that to have formed entities that expand and emerge as the

developing universe, these cosmological and dynamic interactions, must share an inherent creative bond (Swimme and Tucker, 2011). Berry (1988a) adds that empirical science fails to recognise the significance of what this insight (Prigogine, 1980) has revealed in terms of appreciation of the dynamic processes of the universe. Swimme (1984) shares a quote from Berry that illustrates this:

You scientists have this stupendous story of the universe. It breaks outside all previous cosmologies. But so long as you persist in understanding it solely from a quantitative mode you fail to appreciate its significance. You fail to hear its music. That's what spiritual traditions can provide. Tell the story, but tell it with a feel for its music [Swimme, 1984, p.2].

For Swimme it is important that we realise that the dynamics of the universe centre upon, or exist in, each place of the universe's existence. This means that the creativity of existence is central in each phenomenon throughout the unfolding 13.7 billion year evolutionary process (Berry and Swimme, 1992). If this can be adopted, Berry and

Swimme (Berry, 1988a, 1999; Swimme, 1995, 1996a) feel that we will be able to identify ourselves and all life as derived from the same source of existence, continuing to evolve in the same way that we have for millennia:

Though the originating power gave birth to the universe fifteen billion years ago, this realm or power is not simply located there at that point of time, but is rather a condition of every moment of the universe, past, present, and to come [Berry and Swimme, 1992, p. 12].

Berry (1999) draws from Teilhard de Chardin (1959) to explain that the expansion of the universe as a continually unfurling event is not a mere hypothesis, but a 'condition of all experience' (p.173). This orientation asks humans to embody the majesty and wonder of all subjective lives as the creativity inherent in the originating power that brought forth the universe (Berry and Swimme, 1992).

As Swimme (1984, p.3) elaborates, 'Consider the creativity acting throughout the universe. Look there and you will begin to understand how that same creative activity gathers you into its work as well'. The aim is to value life so that humanity may begin a process of identification with and ultimate stewardship, of that life (Berry, 1988a, 2006; Swimme, 2007; Swimme and Tucker, 2011).

2.4 A sense of the cosmos as 'bio-spiritual'

The Universe Story (Berry and Swimme, 1992) asserts that there is no place in the universe that is separate from the originating power of the universe (Berry, 2006; Swimme, 1995, 2003a). 'Originating power' in this sense, is interpreted as being the life force within any phenomenon of the universe (Berry and Swimme, 1992; Swimme, 1995). Berry and Swimme want to think of this sense of the cosmos as a 'bio-spiritual' phenomenon (Berry, 1988a), meaning a mysterious ecology of the creative dynamics of the universe. To this end, the Universe Story is intended to capture the original meaning of religion (*re-ligare*) or universe (*uni-versa*), as a 'turning back of the many to one' (Berry, 1999, p.175).

Berry writes of this sense of the cosmos as being a 'bio-spiritual' story (Berry, 2006, p.57):

There's no other way of discovering the role of the human in the universe. Just as the Earth is a bio-spiritual planet, the universe is a physical, spiritual, biological reality. Knowing the story of the universe, of the Earth, of life, and of consciousness, all as a single story is where the synthesis is [Berry, 2006, p.31].

Similarly he refers to 'the psychic dimension of the universe' (Berry, 2006, p.71), as transcending the spirit/matter dualism often personified as 'God' (Berry, 1988a, 2006):

Our main source of psychic energy in the future will depend in our ability to understand this symbol of evolution in an acceptable context of interpretation. We must however, come to experience the universe in its psychic dimension as well as in its physical aspect. We need to experience the sequence of evolutionary transformations as moments of grace, and also as celebration in our new experience of the sacred [Berry, 1999, p.170].

Combining an adoption of the universe as bio-spiritual, with reverence for its magnificence, will for Berry and Swimme, evoke an embodiment of a functional cosmology. They argue that when experiencing a sense of the cosmos in this way, attributes of a primordial sense of identity, being and kinship with all life, emerges (Berry, 1988a, 2006; Swimme, 1995, 2001). Swimme argues for such experiences to be consciously adopted so as to see ourselves as part of the unfolding dynamics of the universe. Berry and Swimme aim for a realisation that the universe becomes

conscious of itself through the form of the human, as a cosmological happening. Swimme narrates this profound perspective as follows:

The Earth wants to come into a deeper way of reflecting on itself. The invention of the eye is an example. It first invented eyes that were made out of calcite, a mineral. It was so desperate to see, it actually found a way to see using a mineral. Scientists estimate that life invented eyesight forty separate times. It wasn't an accident. It is as if the whole system of life was going to find a way to see one way or another. So what's the essence of life? Life wants a richer experience. Life wants to 'see'. And we come out of that same process. We also want to see, we want to know, we want to understand deeply. That is a further development of this basic impulse in life itself [as cited in Phipps, 2012, p.312].

2.4.1 Appreciating and embodying the dynamics of the universe

A framework known as 'The Fundamental Order', introduced by Berry (1988a), is his entry point to imagining and embodying the more profound aspects of this functional cosmology. Berry describes the Fundamental Order as the 'laws of the universe that hold everything together' (as cited in Toben, 2012, p.58). These emerge as three basic laws, being subjectivity, differentiation and communion (Swimme, 1995).

Berry understands 'subjectivity' as, 'that every being has its own interior, its own mystery, its numinous aspect, 'the authentic heart of every being' as it is said in Confucianism' (as cited in Toben, 2012, p.58). He views 'differentiation' as the dynamic law that unfolds 'vast multi-variant forms of immense variety within unity as the primordial energy dispersed itself' (as cited in Toben, 2012, p.58), or as every entity being different from another. The third term, 'communion' he describes as the interrelationship of the universe within itself and the inter-connectedness of each part with the whole or 'the interior binding force of the universe' (as cited in Toben, 2012, p.58).

Berry draws on Teilhard de Chardin's concept of 'seeing' (1959), to mean how we can embody the dynamics of the universe in our lifeworlds and in inter-subjectivity with our surrounding more-than-human world. Berry illustrates that the embodiment of the three functions of the Fundamental Order, may have positive implications for the more-than-human world:

For subjectivity, one must first acquire a capacity for interior presence to oneself. Through contemplation one sinks deeply into the subjectivity of one's own being to deepen one's personal sacred centre. This becomes the deepening of the capacity for communion with all things. Through this practice we acknowledge that we are integral with the universe. We then begin to see, to awaken to the universe in all its magnificent differentiation and a new consciousness comes with an understanding of the depth and diversity of things. We become truly present to other modes of being. As we practice this way of seeing, we come into a mutually enhancing relationship with everything and everyone strengthens the individual through the distinctive quality of things that brings about communion. This creates a deep bond of intimacy that is invisible but knowable, a presence that is palpable [as cited in Toben, 2012, p.59].

2.4.2 The neglected importance of deepening subjectivity

Berry argues that the subjective dimension of life entities cannot be underestimated. He argues that when we value the subjectivity of every life entity, we enter into a relationship of equalising Earth relations between different life entities. For him, 'the reality and value of the interior subjective numinous aspect of the entire cosmic order is to be appreciated as the basic condition in which the story (history of the universe) makes any sense at all' (Berry, 1988a, p.27). Berry and Swimme maintain that because human subjectivity is valued as the most important subjectivity, we tend to build a reality of the Earth and universe as having inferior subjectivities (Swimme, 1995). Valuing other life entities' subjectivity is to Berry and Swimme a 'rich and dynamic way' to help encourage humanity into bio and geo-centric ways of living (Swimme, 1995).

2.4.3 'Allurement' and embodied subjectivity

Berry and Swimme strive to show that even if the discovery of the birthplace of the universe and the entire cosmos is potentially revelatory (Berry, 2006), this is meaningless unless it comes alive within our lifeworlds (Swimme, 1996a). Swimme wants humans to understand themselves as a species that has evolved as capable of fascination, or of 'capturing the depth of things' (Swimme, 1995, Lecture 3). He feels that to be conscious of this, is for our meaning-making capacities to enter into a more fascinated and respectful relationship with other life forms. Swimme (1995) explains that 'deep passionate longings' (Lecture 9) within a person's lifeworld, are actually the universe centering itself within that person, as an evolutionary law, or embodied

subjectivity (Swimme, 2003a). He identifies this as a cosmological power (2006b) and describes this inter-subjective phenomenon as 'allurement' (2003a). He asserts that focusing our passions within an ethic that values the enhancement of life, may bring forth helpful realities for the Earth community (Swimme, 2007):

Our passions are not just our passions. Our passions are the universe moving forward. Human fulfilment in terms of allurement is becoming transparent to the way in which our allurements reveal to us components of our being, the beloved; that which draws out, that which is drawn out, is a component of one's destiny [Swimme, 2007, Lecture 5].

2.4.4 Differentiation: Our value is in our difference

Embodying 'differentiation' (Berry, 1988a) means to adopt realities and ways of living that differ from our own, as a means to help the larger living world. Wars, species-ism and lack of compassion are directly derived from human inability to accept difference, according to Berry and Swimme (Berry, 1988a, 1999; Swimme, 1987, 1995). Swimme (1995) maintains that to follow one's own allurement, is to be different from everything and everyone else, which can require tremendous courage and strength. According to Swimme (1995) to be who we are in our deep subjective truth is also to find that no-one is deeply the same as us. This he attributes to what often lies at the base of loneliness associated with great artists and philosophers, who immerse their lifeworlds in embodied subjectivity (Swimme, 1995). Therefore he says, we need to embody our subjectivity, and yet embrace the difference of others' subjectivity as 'differentiation'.

Berry and Swimme (1992) maintain that the two aspects of embodying the Fundamental Order are sorely needed for the Earth and the Earth community. We need to allow our own subjectivity to be different, but not superior to the difference and subjectivity within the more-than-human world:

That's what differentiation means; our value is precisely in our difference. If two people are identical one of them is not needed. It's the greatest contribution we can make; how we are different from everything else, because there are powers and people and events that will be activated by our creativity and no-one else's, you see, precisely because of the difference [Swimme, 1996b, Lecture 1].

2.4.5 Embodied communion

Cultivating our fascinations and subjectivity, and accepting modes of being that are different from our own, means, for Swimme, that we are one step closer to communing with non-human animals and more-than-human life in mutually enhancing relations:

You can just sit and watch fish and think of how they've developed over hundreds of millions of years and imagine what they're experiencing, and after awhile you've sunk into contemplation of ultimacy. This is what I think is the first step toward communion [*The Awakening Universe*, motion picture, The Pachamama Alliance, San Francisco, CA].

Berry (2006) offers another example of communing with non-human animal lifeworlds, in which he narrates his view of the importance of experiencing our 'individual delight in the song of the birds or the sound of the cricket' (p.139). He holds that when we allow this inter-subjective experience to emerge, we ease tensions between the unknown qualities of each other, and instead allow the song of the bird or the sound of the cricket to draw us into a shared, psychic life-world exchange, or inter-subjective realm. This is a highly regarded attribute in terms of Berry and Swimme's search for mutually enhancing Earth-human relations in embodied experience for both the human and more-than-human life. If humans develop our sensitivity to the living world around us more deeply, our capacities for imagination, creativity and celebration may flourish. As Swimme (2001, p.6) affirms, 'when humans dwell on anything, after a while they become fascinated by it'.

2.4.6 Embodied subjectivity as an implicit ethical position

Swimme and Berry (1992) suggest that in being fascinated by, and celebrating, the universe as a subjective entity, people may come to see, cherish and care for it in a different way. This implies entering into an embodied ethical relationship with the Earth. Swimme (1995) adds that every child can feel ethically engaged in the world by realising 'he or she has a contribution to make in this ongoing adventure of the universe' (Lecture 1). He feels this is possible if we tell children that the universe has been working for 15 billion years and has created out of itself what we see of the world. He adds that children can be told that the cosmic evolutionary process is what primarily gave birth to their human form, and their ability to function and live. This

approach could be foundational to enable children to embody an ethically-held feeling for the larger living world around them (Swimme, 1995, Lecture 1).

2.5 The universe is a communion of subjects and not a collection of objects

Berry (2006) suggests that individual human identity and humanity's activities need to be realised as primarily derived from the universe and Earth processes. He proposes that humans need to see that other life forms are also primarily derived from the universe and the Earth, as entities with their own subjectivity. Berry desires that such an understanding will break through humanity's tendency to consider life forms other than their own, as 'objects' rather than 'subjects'. To communicate this more simply, Berry places the following phrase centrally in his work; 'The Universe is a communion of subjects rather than a collection of objects' (Berry, 1999, p.4). He describes this phrase in relation to the concept of *The Universe Story* (Berry and Swimme, 1992) in the following way:

The humans articulate the story in a particular human way, the whales do it in their way, the birds do it in their way, the worms in the Earth do it in their way, the insects do it in their way. Every particle of the universe tells the story in its own context. It's a kind of symphonic process [Berry, 2006, p.31].

This quote is repeated for its strength to illustrate this concept succinctly. He and Swimme believe this notion to be one of humanity's most promising hopes for the future Earth community, if it were adopted and embodied seriously (Berry, 2006, p.122; Swimme, 1995).

2.5.1 Toward a mutually enhancing Earth community

Berry and Swimme argue for a normative reality that values a bio-centric or geocentric standard within all sectors, institutions and cultural endeavours (Berry, 1999). For example, Berry (1999, p.64) argues that one of the critical roles of the ecologist is to create language that gives 'a true sense of reality, of value and of progress', to enable a powerful ecological context to become a vehicle for a mutually enhancing Earth community. This reality is proposed in order to underpin a context in which humanity discovers a comprehensive community of the Earth, as 'all the living and nonliving components of the planet' (Berry, 2006, p.141):

We are just discovering that the human project is itself a component of the Earth project, that our intimacy with the Earth is our way to intimacy with each other. Such are the foundations of our journey into the future [Berry, 2006, p.141].

Berry and Swimme want humanity to question our behaviours regarding our use of chemicals that are changing the biological structures of the Earth. Swimme points out that these behaviours are determining the future gene pool of life itself. This will continue to be the deepest kind of biological destruction humanity could evoke (Swimme, 1995). Swimme (1996b) explains that life forms are beginning to be born with abnormalities, to be passed on to untold generations, in an irreversible cycle. A deeper chemical and biological awareness, he says, is virtually nonexistent to the public and efforts to investigate and bring this into view are few:

That's the nature of our moment. Our power has gotten ahead of us, has gotten ahead of our consciousness. If you want to be terrified, just think of being in charge of how giraffes will look a million years from now. The kinds of environments we make for them are going to shape their muscles and their skeletons and all the rest of it [Swimme, 2001, p.2].

Berry (1999) explains that embodying a mutually enhancing relationship with the Earth-community-as-subjects, requires very practical applications. Berry and Swimme (1992) point to education for example, as needing a new context offering fresh perspectives and contact with the major Earth systems as its focus. Such an education would include finding our role in the universe, and building a viable, mutually enhancing mode of being on the planet. For Swimme (2001, p.3), 'This is real education, real human development'. Berry (1999) offers the topic of ecology as an example to illustrate the same assertion:

The difficulty can not be resolved simply by establishing a course or a program in ecology, for ecology is not a course or a program. Rather it is a foundation of all courses, all programs, and all professions because ecology is a functional cosmology. Ecology is not a part of medicine. Medicine is an extension of ecology and law, economics, humanities' [Berry, 1999, p.84].

2.5.2 Keeping our fascinations for the more-than-human world open

Berry and Swimme argue that clarifying our human attributes as a species is critical if humanity is to stop dominating the Earth community. They argue that the human species has emerged with unique capacities to see ourselves as that part of evolution that now unfurls consciously (Swimme, 1996b). This implies that as a species, humans inherently reflect and consciously act upon, what we ‘see’ (Swimme, 1995, Lecture 3), helps us to understand this in a narrative context; ‘There are all these creatures that live in nature, and then suddenly you have this one creature (the human) that looks nature back in the eye and says, ‘what exactly are you up to?’ Berry and Swimme see this capacity as a ‘mode of conscious self awareness’ (Swimme, 1995, Lecture 3), or a capacity to self-reflect that is fundamental to ‘humanity’s essence’ (Swimme, 2003a, Lecture 2).

Berry and Swimme maintain that this is a positive attribute but that its negative side emerges as our being ‘dazzled’ (Swimme, 1995, Lecture 3) by our human-ness as a species and with our own life-worlds (Berry, 1988a; Swimme, 1995). They argue that this bedazzlement with ourselves has actually caused us to lose our connections and fascinations for more-than-human attributes. Swimme explains that being fascinated by philosophy, science, architecture and other human pursuits, ought to be delightfully revered, for he says, these attributes ‘really are magnificently human’ (Swimme, 1995, Lecture 8). However he also argues that as a species we need to ‘get over ourselves’ (1995, Lecture 8) if we are serious about nurturing the Earth toward biological restoration, and to delight in and revere more-than-human attributes as magnificent and of value.

Swimme (1995) suggests that we cultivate our fascinations wholeheartedly towards the more-than-human world. He maintains that within those subjective fascinations we may find and respond to, the ‘deep trans-genetic structure’ (1995, Lecture 4) of life. The trans-genetic structure, he says, is the nucleus of what drives interactions between subjects in the systems of the natural functioning of the Earth. For example, he narrates such an interaction in the relationship between a hawk and a mouse ‘[the] trans-genetic structure can be seen in the way a hawk “knows” that it needs to hunt a mouse. Its eyes focus on the mouse and the laws of the universe are activated within the hawk. There is an activation to “be hawk” (Swimme, 1995, Lecture 3).

Swimme (1995) argues that once these sorts of fascinations, and the experiences of them, begin to unfold, a cycle of deepening fascinations inherently arises within human consciousness. Swimme argues that such sensitivities need to be activated for us to appreciate the infinite number of life forms and their realities that are different from our own. He hopes that this focus evokes fascination with the matrix of psychic dimensions of the universe (Swimme, 1995). He narrates one example to explain:

There is a face to the universe that is only experienced by dragonfly and if it had to survive with what I saw it would perish. So the dragonfly is buzzing over the lake. It is not buzzing over that (same) lake. If that dragonfly had my consciousness it would perish in half an hour. It would regard itself shackled with the dimmest view it's ever experienced in its entire life. It'd go 'what happened to the world?' Here's my point: I'm looking at the lake and I'm saying 'yeah that's the world'. The (same) lake for the dragonfly is much richer than the (same) lake I am activating. So indeed the dragonfly is over the lake but now the lake is an infinite bundle of riches and one of the faces is activated by the human and the other entirely by the dragonfly and another entirely by the horse [Swimme, 1995, Lecture 3].

2.5.3 Why it's important to realise the Earth is not just a human reality

Swimme (2005) feels we should not assume our human experiences and perspective of the world are necessarily how other life forms experience and perceive the world. For him, this narrow attitude reinforces human supremacist views, which ultimately supports a slow destruction of the planet out of the belief that 'everything is in our world' (Swimme, 1995, Lecture 3) and we can do whatever we like to it. Swimme (1995) argues that humans prioritise infinite amounts of time penetrating other humans psychically but asks, 'Who has really spent time penetrating into the world of the dragonfly?' (1995, Lecture 3). He argues that being involved in these types of open and inter-subjective encounters with other beings, in joy and respect, is one of the most creative possibilities for the future, in developing an Earth community that embodies mutually enhancing relations.

2.5.4 A genetic life and Earth economy

Berry and Swimme claim that we need to see other life forms as genetic 'kin' (Berry, 1988a; Swimme, 1987, p.87). Their intention is for deep relatedness, stemming from embracing ourselves as cosmologically, biologically and genetically interrelated with

all life (Berry, 1988a; Swimme, 1995, 2006, 2007). Berry and Swimme hope that this will help expand our idea of ‘economy’ to an organic economy that includes the entire planet. ‘Economy’ in this sense means that every species and biotic entity exists within its own life economy, and in reciprocity with other organic economies. For example Swimme says, ‘the birds have an economy, the whales have an economy—there are all these different ways of making a living’ (Swimme, 1996b, Lecture 2). We need to nurture the entire plethora of life including all economies in this sense, as critical to the whole. Swimme explains further:

We are such a stupid species because we don’t know what to do, we can’t get over that we are here. The whales and squirrels have an economic system that has allowed them to flourish for millions of years. Look at our economic system— it breaks down, we don’t know what we are doing, we’re confused [Swimme, 1996b, Lecture 2].

2.5.5 Jurisprudence

Berry (2006, p.149) proposed his ‘Ten principles of Jurisprudence’ as a bill of rights for the more-than-human world. He wanted these principles to be recognised in legal and industrial establishments, national constitutions and corporations, to try to bring about fundamental change in human governance systems. This stems from what Berry calls ‘Great Jurisprudence’ (as cited in Burdon, 2011, p.7), as an ethic of allegiance to a wider Earth community within legal systems. He employed this approach so that lawyers and domains of governance may have a unified focus to develop legal rights for the more-than-human world. Berry intended his jurisprudence principles to be applied within a deep time, cosmological context which includes, the ‘inherent law and lawfulness of the cosmos which structures and sustains all life within it. This lawfulness is written into the patterns of birth and death for all creation and into the rhythms of our lives’ (as cited in Burdon, 2011, p.7).

Similarly, Berry (1999, p.20) wants the way we think of property ownership to expand, so that humanity ceases to view land as ‘property’ for humans alone. He proposes that legally recognised use-rights could be shared between human and non-human animals. Berry explains that, ‘property rights are simply a special relationship between a particular human “owner” and a particular piece of “property”, which allow both to fulfil their roles in the greater community of existence’ (Berry, 1999, p. 150).

2.6 The art of living a functional cosmology

2.6.1 Clarifying humanity's aims

Berry (1988a) proposes naming our time in history as the 'Ecozoic Era', as punctuation to help bring a new beginning that prioritises the integrity of the Earth community (Berry and Swimme, 1992; Berry, 1999). Berry and Swimme (Berry, 1988a, 1999; Swimme, 1995, 2001) suggest that our central value and ultimate goal in how we live needs to include the well-being, fulfilment and joy of the entire Earth community. Swimme proposes that we should develop a central ethical question, as a check point that assesses the integrity of our choices; 'How are we able to participate and enhance the Earth community?' (Swimme, 2005, Lecture 2).

Swimme (1996a) admits that the embodiment of such aims may need courage, imagination and energy, because these focuses are diametrically opposed to the current values of the modern western world. Yet he adds that humanity has to start somewhere. Berry and Swimme (1992) suggest that *The Universe Story* needs to be told by artists, poets, mystics and nature lovers until a poeisis begins to emerge in the wider community. They suggest that all domains of human endeavour need to adopt the story of the universe, as a learned and celebrated event. Swimme suggests that narrative forms such as poetry, chant, dance, painting, and music may be well suited as a beginning point for telling the story, so that it reaches human consciousness and creativity:

The ritual of telling story is understood as a cosmic event. Unless the story is sung and danced, the universe suffers from decay and fatigue. Everything depends on telling the story: the health of the people, the health of the soil, the health of the sun, the health of the sky. We must encourage cosmic storytellers because our dominant culture is blind to their value [Brother David Steindl-Rast and Swimme, 1986, para.2].

2.6.2 Virtues for embodying The Universe Story

Berry and Swimme (Berry, 1999; Swimme, 1995, 2006a) believe the story of the universe can best be embodied by adopting the attributes of playfulness, fun and celebration, because the universe actually insists on this, within its own dynamic functions and self-organising qualities. Swimme asks us to embody the virtue of gratitude, as we realise that our bodies are only possible because of cosmological evolution:

We owe the very forms of our bodies to the creatures and life that have gone before us in an evolutionary sense. Even the processes of my organs, the way in which I'm digesting food right now was worked out billions of years ago by the micro-organisms. My lungs were established by the first fish, which created a way of breathing [Swimme, 2006b, Lecture 2].

Swimme tells the story of his own faith, emerging simply as the very dynamics that unfold evolutionary life. He explains that the elementary particles of the Big Bang, which were as small as a grain of sand, expanded into an entire cosmos of 100 billion galaxies and more. His faith lies in this fact; that the universe knew how to organise this phenomenon. This leads him to feel that he can have faith in the universe's dynamics and mystery, because it is the ultimate source of reality:

What shapes the universe primarily? Curvature of space time: Curvature of space and time shaped things so that everything else would come forth. People say 'what do you believe in? What is your faith?' And I learnt this from my teacher Thomas Berry; my faith is in the curvature of space and time [Swimme, 1995, Lecture 2].

2.6.3 Appreciating the life of Earth

Swimme and Berry (1992) advocate appreciating life in more conscious and deliberate ways that may bring into our awareness the dynamics of life that are all around us. For example, Swimme (1995) illustrates the self-organisation of a sequoia seed as a 'developing, self organizing reality that eventually becomes an enormous tree' (Lecture 6). He says that any seed 'knows' how to unfold and co-ordinate all of the structure and life inherent within it (1995, Lecture 6). These sorts of realisations, he says, need to be made conscious, so that we may appreciate life all around us and even our own lives. As he points out, 'Somehow it's all right there. It's not as if the seed unfolds with any given help; it's all right there inside it' (Swimme, 1995, Lecture 6). In this way Berry and Swimme (Berry, 1988a, 1999, 2006; Swimme, 1995, 2006b) ask that the splendour of existence and the mysterious qualities inherent to all life-forms, be more consciously celebrated.

2.6.4 Earth as a sacred community

Berry (2006) argues that we can only adopt the Earth community as sacred, when we realise the universe itself is the primary community:

There is a need for the religious traditions, on their part, to appreciate that the primary sacred community is the universe itself, and that every other community becomes sacred by participating in this primary community. The story of the universe is the new sacred story [Berry, 2006, p.57].

Swimme (1995, 2001) discusses the millions of people who gather to reflect on their relationship with the 'divine' (Berry, 1988a, 2006) each week in traditional religious ways, pointing out that we rarely find serious contemplation of the mystery of the Earth and universe as sacred. Berry and Swimme ask us to reframe our thinking, by focusing on an experience of the divine as intimate to Earth and to cosmological phenomena. Swimme (1996a) explains this position by drawing attention to primal human questions of existence, specifically within the context of the actual universe. For example, to contemplate the stars, topsoil, amphibians, and wetlands as inherently divine, within a context that adopts the subjectivity of phenomena as a mystery (Berry, 1988a, 2006; Swimme, 1995, 1996a). Berry and Swimme add that religious traditions may refer to the elements of the Earth such as water or Earth, but these references are largely symbolic and do not refer to literal entities (Berry, 1988a, 2006; Swimme, 1995, 1996a).

Berry (1999, p.122) asks for language to be cultivated that accommodates this orientation, in order to reach the secular world whilst providing a 'comprehensive context for the religious worlds'. He means to provide a platform that may help people commune with the Earth and universe as sacred entities, in their literal sense. For Berry (1988a), what is needed, and what can appropriately be considered here, is the deeper meaning of the relationship between the human community and the Earth process.

2.6.5 Embodying life as sacred

Berry and Swimme (1992) ask that our sense of the sacred be placed within the mystery of the psychic-material universe, within the dynamics that have organised the universe. Swimme (1996b) describes the universe as beginning as an 'eruption of space, time, matter and energy, out of an all nourishing abyss that is the hidden source of all creativity' (Lecture 1).

In order for us to embody this, Swimme (1995, Lecture 1) proposes that we 'activate the sensitivities of the human to respond to the sacred dimension of the universe'. For Swimme (1995, Lecture 1), activating the sensitivities of the human means to awaken our senses, fascinations, intuitive capacities and feeling for life, as themselves being sacred qualities of the universe within our life-world experiences. Berry and Swimme intend these attributes to be embodied for personal development and enjoyment. However, this also means engaging in practice as a 'bio'-spiritual discipline in everyday life, as Swimme explains in the following example:

What created this face, these hands? Twenty billion years of creativity. All of this work was necessary for this moment. The chemicals, where do they come from, of my body, the elements? They came as a gift from a star. What about my shape? Who gave me my shape, legs, arms, a head? The fishes, the reptiles, they are locked into this form. They invented this form. This shape comes from them. What about my lungs, my mind? All of this was fashioned by those that came before us. So in a real sense you could say, 'what is my body?' The answer, 'my body is the universe, the universe is my body', is a very ancient one [Swimme, 1995, Lecture 2].

Berry and Swimme (Berry, 1988a, 2006; Swimme, 1995, 2007) also mean us to embody life as sacred, to deepen our awareness of our surrounding world and Earth community as sacred entities and beings. They see this as helpful in developing new modes of being that may start to diffuse the current destructive modes of human activity, which seem to hold no reverence for the Earth as sacred. Berry (1988a) argues that we must open ourselves 'onto a larger life', by respectfully responding to every being as having 'its own interior, its self, its mystery, its numinous aspect' (p.134). For him 'to deprive any being of this sacred quality is to disrupt the larger order of the universe' (p.134).

2.6.6 A single religiosity

Berry (1999, p.122) suggests there is a great need for religion to ‘realise the transforming nature of the universe’ as a sacred, single evolutionary narrative (Berry and Swimme, 1992):

The Genesis story, however valid in its basic teaching, is no longer adequate for our spiritual needs. We cannot renew the world through the Genesis story; at the same time, we cannot renew the world without including the Genesis story and all those creation stories that have nourished the various segments of the human community through the centuries. These belong to the great story, the sacred story, as we presently know this sacred community [Berry, 1999, p.11].

2.6.7 Clarifying what humans can focus on for a better world

Swimme (1995) says we should not panic at the state of the world, but rather focus on becoming a maturing species that responds to the dynamics of the universe:

On the question of what to do, we need to move into an infinitely naked relationship with the heart, the creativity of the universe. It comes down completely to creativity, passion, artistic creativity. I don’t just mean painting. I mean life, everything. It isn’t by any means the individual work of the human. It’s the activation of the universe [Swimme, 1996b, Lecture 2].

Swimme (1995) argues that entering this creativity is a long way from the reality of modernity. He suggests that cultivating radical humility is important so that all of the Earth’s life-forms ‘may surface more profoundly again’ (Lecture 6). Berry and Swimme suggest that people simply asking ethical questions in our everyday lives would have us thinking about our actions, including questions such as, ‘will this choice allow life to flourish or perish?’ (Swimme, 1995, Lecture 12). Their ethical basis is a simple one. A choice or action that doesn’t enhance the flourishing of the life of the cosmos and Earth community is unethical. In Swimme’s words, ‘that which is good is that which enhances the adventure of the universe’ (1996b, Lecture 2).

Similarly, Berry (1999, p.13) argues, ‘Whatever preserves and enhances this meadow in the natural cycles of its transformation is good. Whatever opposes this meadow or negates it is not good. My life orientation is that simple. It is also that pervasive’. Berry wishes for this ethic to be adopted with the utmost urgency; ‘When we discuss

ethics we must understand it to mean the principles and values that govern that comprehensive community' (Berry, 1999, p.105). Swimme and Berry (Berry, 1999; Swimme, 2007) state that they are under no illusion as to the difficulty of this ethical proposal in a world in which an ethic driven by extraction and not by desire for a flourishing Earth community is deeply ingrained:

The difficulty just now is that the financial and industrial establishments have such extensive control over the planet, that change so basic as that suggested here would be extremely difficult. After identifying the order of magnitude of the difficulty before us, we need to establish a more specific analysis of the problems themselves [Berry, 1999, p.59].

Berry (1988a) asks that humanity begin to adopt and embody our biological and psychic dependency on the larger living Earth and cosmos. As Berry says, 'we cannot expect life, the Earth, or the universe to fit into our rational human designs of how life, the Earth or the universe should function. We must fit our thinking and our actions within the larger process. We must move from 'democracy to biocracy' (Berry, 1988a, p.161)—to mean moving from people (*demos*), to all life (*bio*).

2.7 Berry and Swimme's distilled thematic framework

Berry (2006) developed his 'Twelve principles for understanding the universe' (p.145) as a framework to help people understand his central ideas. A review of these principles reveals them to be too comprehensive to be a workable framework for this research. The attributes within these principles are included in a more simple way, in combination with relevant themes derived from the synopsis of Berry and Swimme's work, above. The following is the final distilled thematic framework employed in this research. For the remainder of this research, the general notion of a functional cosmology, inherent to the book, *The Universe Story* (Berry and Swimme, 1992) is referred to as the Universe Story.

2.7.1 Berry and Swimme research analysis themes

Cosmological evolution as a context for life

- 1.1 Every living entity continues to complexify¹³ out of the original energy of the Big Bang
- 1.2 The Universe Story demonstrates that all life entities are profoundly unified

Interpreting life's energy subjectively

- 2.1 Venerate all genetic and biological entities as primary, relational identities
- 2.2 Deepen our consciousness to move with the laws and dynamics of the universe
- 2.3 Cultivate intimacy with the mysterious spontaneity inherent in all life

Earth community etiquette

- 3.1 The Earth community is a communion of subjects and not a collection of objects
- 3.2 We must participate in mutually enhancing relations with the Earth community
- 3.3 Human self-reflective consciousness is unique but not superior
- 3.4 We are a species capable of profound appreciation of the preciousness of our planet

Single religiosity

- 4.1 The Universe Story provides a context for showing all religions as unified but differentiated parts of the same religiosity

The art of living this work

- 5.1 Celebrate and enhance all of life's flourishing as an inclusive cosmological ethic
- 5.2 Participate wholeheartedly with life's subjectivity and other ways of knowing
- 5.3 Marry reductive science to a language of subjective knowledge
- 5.4 Address the destructive implications humanity's pervasive industrial consciousness

¹³ Swimme (1995) employs the term 'Complexify' as the activity of complexity science (Prigogine, 1980); to mean 'the self organising dynamics that can be considered the very foundation of sentience itself (Swimme and Tucker, p.50, 2011).

Chapter 4: Additional key theorists

This chapter explores relevant aspects of the work of seven additional key theorists in order to identify their potential to fill gaps in Berry's and Swimme's work. The process for selecting these 'additional theorists' was explained in chapter 1. The extent to which their ideas can complement or fill gaps in the work of Berry and Swimme will be discussed in the latter stages of the thesis.

1. 'A Sense of the cosmos' in relation to the ideas of Mitchell Thomashow

For Mitchell Thomashow (2002), expansive worldviews are an important part of an individual's lifeworld, which help to enable an appreciation of and identification with, the larger living world. Thomashow (2002) argues that casting people's imaginations out into broad cosmological contexts as a principal approach may be unpalatable and ineffective for many people. In a personal conversation (pers.comm., 15 March 2009), he referred to Berry and Swimme's idea of a Universe Story as a difficult approach at our time in history. He attributed this to modern values, and to social and psychic orientations, which are incongruent to believing you can 'live in a universe story' (pers.comm., 15 March 2009). He concluded that most people are consumed in their everyday lives by ordinary, necessary activities that enable them 'to pay bills, the mortgage and raise kids' (pers.comm., 15 March 2009).

The idea that a functional cosmology is not easily adopted within modernity is supported by others, such as Remi Brague (2003) and Hermann Greene (in Burdon, 2011). Greene says, 'therein lies the problem, because modern thought is on the whole 'a-cosmic' (in Burdon, 2011, p.127). This critique is reflected in the research questions. However there are aspects of the work of Thomashow that can be seen as complementary to the work of Berry and Swimme.

1.1 Embodying the local in order to perceive the global

Thomashow's (2002) work is succinctly represented by the term 'globalocal' (p.8)¹⁴. He starts with the notion that 'Everyone's experience of the world is centred where they are', and conversely that 'everyone is aware that the world is much more than the place in which they find themselves' (p.8). To understand this more fully, this

¹⁴ Peter Warshall (1998) in *Whole Earth Review* has suggested the term 'globalocal'.

discussion draws upon Thomashow's (2002) book, *Bringing the Biosphere Home: Learning to Perceive Global Environmental Change*.

Thomashow's (2002) model essentially suggests that we embody the 'local' by knowing our 'living landscapes' (p.45) — our surrounding ecology — in our everyday experience. He feels this is possible if we regularly observe, critically 'perceive' and note any changes in our local places (p.13). He proposes that our personal experiences via such activities give rise to a natural platform for fostering a form of spiritual reflection. Furthermore Thomashow says, if a person is interested in observing the natural world around him or her, and is willing to experiment with scale and perspective in terms of the objects of their focus, then the scope of their vision of the biosphere will 'dramatically expand' (2002,p.3). Thomashow's ultimate aim is to move from local observation, to an ability to 'perceive the biosphere' (2002, p.5). He proposes that the best way to embody such a colossal worldview comes through observing and experiencing familiarity and intimacy with ones own local living landscapes.

This approach seeks activities that foster a way of knowing the land more intimately, by 'reading' it (Thomashow, 2002). It also provides impetus, opportunity and a reason, for modernity to return to a phenomenal, intimate experiencing of the creatures and land of our living landscapes. This is an important distinction from Berry and Swimme's (1992) approach. Thomashow begins his attempt to engender expansive worldviews, by allowing it to grow out of a self-reflective awareness of an individual's own senses and experiences of their lifeworld, or embodiment, within their 'local living scapes'. Berry's and Swimme's starting point on the other hand, is the furthest reaches and beginnings of the universe. Part of Thomashow's commitment to embodiment is his desire to develop and bring together tangible skills to enable individuals to begin this work. This may be an important entry point for co-existence with more-than-human worlds and non-human animals, beyond mere conceptual or emotional approaches alone.

Thomashow (2002) envisages this approach as a possibility for individuals and communities around the world, focusing on activities that are appropriate within their own respective living landscapes. Such a network of groups, observing and mapping changes and connections, in relation to the lives of non-human animals within their respective living landscapes, would, to his mind, offer bonding opportunities between groups of human and non-human animals. This kind of

networking and shared endeavour could in turn become a viable avenue for shared communication. Thomashow believes that communication via social media may lead to national and even global networks. He argues that the shared effort of noticing and collectively mapping an overview of ecological relationships and interactions could be a means for developing a detailed and accurate common understanding. He maintains this perspective may reveal practical ways of caring for Earth and non-human animals, whilst providing individuals and communities with impetus for continued experience and identification with local and global contexts.

There are citizen science networks¹⁵ that employ such approaches around the world. However Thomashow's (2002) model differs from them in several ways. Firstly he draws on Benedict Anderson's concept of 'imagined communities' (as cited in Thomashow, 2002, p.23) – the imaginary capacity of communities, not based on face to face interaction, but on shared belief in a socially constructed community such as a nation of which the members hold a common mental image. Thomashow, however, extends this idea to what he calls 'Imaginary linkages' (2002, p.24), where each observer forms a mental image of another place and land in order to make these connections 'real' (2002, p.26). His intention is that these imaginary linkages will help people connect to and interpret the meaning, value and interrelationships of living landscapes, both local and more widely:

What I wish to convey by explaining the concept of imaginary linkage is that it takes a chain of conceptual leaps and assumptions to perceive that an enormous globe filled with six billion people and several hundred countries has a shared destiny, a coordinated plot. What's more important is how you choose to interpret that linkage, the larger framework in which it fits....But this remarkable conceptual chain is also a magnificent learning opportunity, a way to interpret the meaning of these events and to achieve deeper global awareness [Thomashow, 2002, p.26].

Thomashow anticipates that such imaginary linkages will inspire people to acquire land care knowledge and skills that can support a grassroots movement, empowering Earth stewardship. He assumes that people will naturally want, and need, to gain scientific understandings of the biological and geographical attributes of their living landscapes, or what he coins 'biospheric knowledge systems' (2002,

¹⁵ For example 'Earthwatch Institute' <http://au.earthwatch.org/>

p.117). In this way he envisages ordinary people ultimately engaging in a deeply sensitive and responsive relationship with the needs of each local network's living landscapes.

Thomashow intends that the analysis of living landscapes will be interpreted imaginatively, with compassion for the subjective processes and 'patterns of land and creatures' (2002, p.53). He hopes to encourage people to open their senses to the 'multiplicity of biospheric creation' (2002, p.53), as much as opening pathways of adoptions that encompass the lifeworlds of non-human animals.

This model advocates an embodied emotional connection to life as a practice of global awareness, but also argues that to understand the Earth's functions, 'is both to place human life in the context of its ancestry and lineage, and to consider the biospheric function and ecological strategy of each of the five kingdoms' (2002, p.118). This is synonymous with, yet a more deliberate way of realising, human embeddedness in the larger living Earth, as employed by Berry and Swimme.

1.2 Deep time perspectives

While Berry, Swimme, and Thomashow share a conception of evolution and an appreciation for deep time, and arrive at a similar end, their approaches differ. Berry and Swimme narrate a cosmological overview of the geography of Earth, insights into the genetic and elemental/compositional phenomena of existence, and dynamics of the universe and cosmological evolution, to ultimately tell a 'story' of the universe. Thomashow, however, refers specifically to a scientific Earth 'geological time scale' (2002, p.118) and does not enter into any overt cosmological time scale. He also maintains that any reference or questions regarding the cosmological dynamics of the universe are best left to personal interpretation:

You can't travel through time without a fundamental awareness of the geological time scale. This involves understanding the major periods in earth history, the movement of the oceans and continents for each period, and the first appearances of various life forms. There is no other way to appreciate the magnitude of change and the dynamic flows of the biosphere. It is impossible to conceive of evolution and biodiversity without an appreciation for deep time. You can't fully assess the human condition without placing it in a 4.5 billion year perspective [Thomashow, 2002, p.118].

2. 'Absolute interdependence' in relation to the ideas of Freya Matthews

Thomashow (2002) illustrates the value for all of us, no matter where we live, of embodying experiences and intimacies with the natural rhythms of the places where we live. This transcends any suggestion that contact with more-than-human worlds is only possible via wilderness and wild locations. This research is concerned with how an embodiment of this sort can seem possible to a person who may be living next to a freeway in an inner city urban setting, who has little obvious contact with the more-than-human world, or for people who have little experience or interest in it?

The work of ecological philosopher Freya Matthews (2005) explores how we can see, feel and embody the 'poetic elegance of life' (p.15) that lies behind the often overwhelming materialist commitments of modernity. Matthews is interested in ecology and culture and she argues for a focus on the need to be sensitive to and inclusive of, the underlying subjectivity of life. Her argument is that a real attitude to reality will cultivate a 'culture in its entirety' (p.20). Based on this premise, Matthew's aims for a culture premised on 'sensitivity to the psychic dimensions of the world' (p.20).

2.1 Sensitivity to the psychic dimensions of the world

Matthews seeks a way to help clarify what being in 'communicative engagement' (2005, p.16), or attentiveness to different psychic and subjective lifeworlds to our own, might be. She asserts that by attuning our senses to the phenomenal world, we may also begin to be receptive, sensitive, compassionate and inclusive of lifeworlds different to our own that we find around us. Matthews hopes for this approach to be an entry point to adopt reciprocal embodied experiences with these different lifeworlds, within our daily, often urban, lives. She concedes that urban existence often blocks possibilities of dialogue and co-existence with more-than-human world because of the way urban design partitions and destroys coherence and interrelationships with them (2005, p.18).

For Matthews, sensing the phenomenal world may help us to see the psychic attributes of our own subjectivity, as also expanding our sense of subjectivity (2003). We can understand reality to mean that our own subjective lifeworld is different from that of others, yet at the same time they are unified. Matthews implies that the world, or lifeworlds, of other are in turn 'capable of responding to

us' (2005, p.25). This view is foundational for Matthews in developing modes of 'essential attentiveness' (2005, p.21). This notion invites us to open our experience, no matter where we are, to lifeworlds other than our own, so that we begin a dialogue of co-existence as part of our sense of place. This could mean expanding our awareness to the lifeworld of a spider, a bird, or grass growing out of concrete, in the most industrialized built environments.

There is a critical distinction for my interest in Matthews' work. She does not mean cultivating one's subjectivity for transcendental, spiritual, or emotional reasons. Rather, her interest lies in the possibilities inherent in our relationship to place and to the 'world' (2005, p.18). What is central here is Matthews' vision of developing ways to turn insensitive psychic dispositions into sensitive ones, which value awareness and inclusion of worlds other than our human worlds alone, but which do not exclude sensitivity to human lifeworlds.

In Matthews' work there is an implied interest in cosmological orientations, but she warns of the possibility of cosmological definitions being 'too wide' and solely biological in nature (2005, pp. 20- 26). Furthermore she argues that such a definition will 'usually turn out to be too narrow for environmental purposes' (2005, p.26). Matthews also asserts that eco-philosophers and eco-activists often refer to nature as elements or aspects of the world that have not been 'created or unduly modified by human agency' (2005, p.27). She goes on to argue that the radical environmental injunction that we can live with, needs to realise nature as including human agency, as an 'affirmation of the local' (2005, p.25), as places where we live. Matthews wants our abstract thought and psychic dimensions to be taken seriously. Exploring these aspects of ourselves, brings us closer to want for inter-subjective experiences of the more-than-human world.

2.2 Allowing all things to unfold according to the dynamics of life

Matthews implicitly supports the value of respectfully embodying a cosmological evolutionary perspective:

To recognise that in a panpsychist universe, everything is unfolding toward a greater end, an end of cosmological self-increase that is already immanent in the very source of Creation, clearly calls for an attitude of respect on our part: we

should acknowledge the basic rightness of things as they are, independently of our interventions, and allow them to unfold unimpeded [Matthews, 2005, p.25].

Berry (2001) and Swimme (1995) similarly emphasise the importance of realising the subjective dimensions of life and that we must learn to cultivate the sensitivities, humility and compassion to allow the dynamics of life within them, to unfold in their own way. Matthews (2005) concurs, saying, a materialist perspective will not allow life entities to unfold according to these dynamic laws. She argues for us to let go of trying to control these dynamics and 'let things be' (p.27), and humanity may begin to strengthen the larger processes of life on Earth.

Clearly Matthews' position is synonymous with central aspects of Berry's and Swimme's work. She explores the ideas however, with an emphasis on how we may embody this work, which is potentially relevant to this research to become conscious of, and include the lifeworlds of the more-than-human and non-human animal worlds. Her argument is clear; that abstract thought is about far more than merely supporting personal development or indulging in conceptual delight. Matthews' believes that strengthening our inter-subjective and psychic sensitivities with the more-than-human world will benefit non-human life.

3. 'Absolute interdependence' in relation to the ideas of Val Plumwood

The notion of humanity's embeddedness and dependency on nature is implicit in the works of Berry and Swimme. They (Berry, 1988a, 1999; Swimme, 1995, 1996b) place the human in context with the dynamics of the universe and living systems of evolutionary history. Some explicit references also arise, for example when Swimme (1996b) suggests that humanity needs to reflect critically on the notion that the 'human species is the centre of all reality and all value' (Lecture 2). Ecological feminist and philosopher Val Plumwood (2001) has the potential to enrich these notions in another way.

Plumwood considers humanity to be in 'massive denial' of our ecological embeddedness (Saunders, 2007), and unable to see ourselves as part of ecosystems. She (2001) argues that humanity is in fact radically dependant on the power of nature to support our lives, but she claims that human-centred frameworks are hiding the 'pervasiveness of that power' (Plumwood, 2001, p.120). Furthermore, Plumwood (2001) explains this by saying that the dominant habits of western

culture promotes the illusion that humans are outside of, and separate to, nature, which is ‘dangerously fostering a planet to be deeply anti-ecological’ (p.120). She argues for humanity to recognise that such a stance actually justifies a ‘false sense of our own character and location that includes a false sense of autonomy’ (p.7).

Plumwood (2001) maintains that our false sense of autonomy unfolds in ways that deny our dependence and embeddedness on the biological, larger living world, but deceptively reinforces the right to dominate nature as ‘inessential’ (p.121), limitless and there for human use. To this end, she argues that human centredness needs to be intensely and critically challenged. We need to see that to reduce the biological world to only what is useful to humans, is to blindly participate in acts of ultimate self destruction. Plumwood (2001) argues that ‘The resulting successes in commodifying the world are only too clearly related to our longer term ecological and ethical failures. We must change this culture or face extinction’ (p.5)

According to Plumwood (2001), while we may have an overarching interest in the more-than-human world, we need to clearly recognise non-human animal lives as autonomous, and as having their own distinct values, needs and moral social orders. Plumwood argues that these attributes may be significantly, and quite possibly entirely, different to our own, yet of no less value or importance. Furthermore, she articulates a useful idea that places our human centredness into a new context - i.e. our human attributes are uniquely responsible for the inclusion and care of the more-than-human world. This diffuses the inherent human tendency to dominate, by developing radical humility and simply accepting a facilitation role within the Earth community. Plumwood’s proposal sits well with Berry’s ‘absolute interdependence’, because it offers humans a way to respectfully think and proceed in a defined role, as only one part among many other parts, as mutual participants in the web of life.

4. More-than-human worlds in relation to the ideas of Jane Goodall and Marc Bekoff

This research explores the possibilities for re-imagining ourselves as ecologically embedded within mutually enhancing relations (Berry and Swimme, 1992) with the Earth community. It assumes that phrases such as ‘connected’ and ‘interconnected’ can be conceptually interpreted in a way that supports psychological comfort yet not necessarily be embodied in action. Plumwood (2001) expresses this succinctly when

she talks about, 'Re-imagining ourselves ecologically, as members of a larger Earth community of radical equality, mutual nurturance and support' in terms of 'Concrete practices of restraint and humility, not just in vague airy-fairy concepts of unity' (p.326). In order to transcend solely conceptual notions, I now explore how mutually enhancing relations may best be informed and embodied in actual terms via the individual and collaborative work of Marc Bekoff (2002, 2006, 2007, 2009, 2010, 2013) and Jane Goodall (Bekoff and Goodall, 2002; 2005).

Bekoff and Goodall share a dedication to the adoption by humans of compassionate relationships and co-existent modes of living with the 'subjective, emotional, empathetic, and moral lives of animals' (as cited in Tobias and Solisti, 2006, p.33). To them, it is critical that humans pay close attention to what animals do, think and feel in the daily routines of their lives, as a valid 'way of knowing' (as cited in Tobias and Solisti, 2006, p.33). In relation to his own professional domain, Bekoff (2006) observes that scientific data is only one way to know animals and that science as a discipline now requires 'science sense, common sense and heart' (p.33). This challenges the long held moral assumptions of reductive scientific research on animals (Midgley, 1983); that humans are the only species with feelings, beliefs, goals, expectations, the ability to think or feel pain, or the capacity to suffer (Bekoff, 2006). Drawing on his extensive career in biology and cognitive ethology¹⁶, Bekoff (2007) points out that it is 'bad biology to argue against the existence of animal emotions' (p.xviii). Instead, he insists that science must adopt scientific methodologies with intuition and common sense, in the hope that new tools for all interactions with animals may begin to include their emotional, social and moral lives as sentient beings.

Bekoff (2002) insists that, 'even though it may be difficult for science to prove beyond all doubt that animals have emotions, it is equally impossible for science to prove that they do not' (p. ix). To this end, Bekoff (2007) discusses animal emotions as part of his methodology for what he calls, 'Science sense' (p.5); a blend of behavioural data and anecdotal stories, social neuro-science and common sense.

Bekoff and Goodall ask not only science, but humanity in general, to replace unanswerable questions about, for example, an animal's cognitive abilities and emotions, with common sense and compassion that acknowledge that we

¹⁶ Cognitive ethology is the study of animal minds: 'the comparative, evolutionary, and ecological study of nonhuman animal minds, including though processes, beliefs, rationality, information processing, and consciousness' (Bekoff, 2006, p.40)

anecdotally and intuitively 'know' certain things when we 'look into their eyes' (Bekoff, 2007, p.49).

Both maintain that humanity must begin to develop bonded relationships with, and feelings for, animals (Bekoff and Goodall, 2002). They encourage us to find ways to deeply experience and know an animal's 'points of view' (Bekoff, 2007, p. 2) and playful attributes. Bekoff (2010) implores us to stop ignoring 'their gaze and closing our hearts to their pleas', and stop causing them unnecessary pain, suffering, loneliness, sadness, death and even extinction (p.1).

Bekoff and Goodall themselves respond to such pleas in varied ways, however what is common is their conviction that many people, if they believe that animals are lower than humans, will treat them accordingly. Yet if animals are believed to be 'subjects of life' (Bekoff, 2002, p.41), then perhaps respectful and compassionate interactions, with concern for their own subjective views of the world and their feelings, may emerge (Bekoff, 2002, p.41).

This approach (Bekoff, 2002, 2007, 2010) employs anecdotal stories as well as behavioural and neurobiological studies to communicate that animals share the primary emotions of fear, anger, surprise, sadness, disgust and joy. Bekoff (2007) argues that secondary emotions are also apparent but have been slower to be accepted by the scientific community, because 'one important function of science is to "objectively" validate direct, subjective experience' (p.11). In contrast, Bekoff (2007) argues for the importance of stories (p.121) that open people's emotions and imaginations to the lifeworlds of animals. He concludes that if people know and understand that non-human animals share the same emotions as 'human animals' (Bekoff, 2007, p. xvii), then a powerful opportunity emerges to allow, or psychically gives permission, for us to connect, consider and interact with them (Bekoff, 2002, 2007).

This argument is relevant to this research as it indicates a clear rationale for including non-human animals as sentient beings within our kinship sphere. Bekoff (2002) states that we can choose to be intrusive, abusive or compassionate, but that 'our animal kin' (p.30) depend on our good will and mercy. For Bekoff and Goodall (Bekoff, 2002, 2010; Goodall, 2005), compassion in action is critical if we are to come to terms with the need for humans, in a hierarchy of compassion, to be more responsible.

In this regard they present numerous useful frameworks for practical reference and suggestions to embody compassion in action. These feature in literature such as *The Ten Trusts: What we must do to care for the animals we love* (Bekoff and Goodall, 2002), *Harvest for hope: A guide to mindful eating* (Goodall, 2005) and *The Animal Manifesto: Six reasons for expanding our compassion footprint* (Bekoff, 2010). Goodall supports innumerable animal organizations that offer ways to practically engage in animal advocacy using relevant, action-based approaches and humane education. She also directs her ‘Roots and Shoots program’¹⁷ and ‘The Jane Goodall Institute’¹⁸ in a similar vein, and in collaboration with Bekoff in their *Ethologists for the Ethical Treatment of Animals: Citizens for Responsible Behavior Studies* organisation, which focuses on developing and maintaining the ‘highest of ethical standards in comparative ethology’.¹⁹ Bekoff is similarly associated with many advocacies, which complement his recent work *Ignoring Nature No More: The case for compassionate conservation* (Bekoff, 2013).

Essentially this new work seeks to complement the many forms of environmental and animal protection movements, with its aims and methodologies bridging science, ethics and compassion. This approach transcends the polarisation evident in conservation, animal welfare, environmental and other movements, by providing a unifying aim. Bekoff argues that individual animal’s welfare is often lost in the widely shared aim of preserving biodiversity (Tobias and Bekoff, 2013). Such an aim centralises conservation alongside compassion for animals as fundamental for conservation, because ‘poor conservation outcomes are often consistent with the mistreatment of animals’ (Tobias and Bekoff, 2013). Bekoff aims to place compassion alongside conservation in decision-making, to enable results in poor animal welfare and conservation to become more transparent and avoidable.

Interestingly, a critical aspect of Bekoff’s work draws on Berry (1999). Bekoff refers to having close association and lengthy conversations with Berry in 2010, before he died. However, to my knowledge, he does not refer to or advocate the Universe Story as a concept or approach in his prolific works. What he does draw upon repeatedly is the following quote from Berry (1999):

¹⁷ <http://rootsandshoots.org/>

¹⁸ <http://www.janegoodall.org/>

¹⁹ <http://www.ethologicaethics.org/>

In reality there is a single integral community of the Earth. In this community every being has its own role to fulfil, its own dignity, its inner spontaneity. Every being has its own voice....we have no rights to disturb the basic functioning of the bio-systems of the planet. We can not own the Earth or any part of the Earth in any absolute manner [Berry, 1999, p.4].

Bekoff places this quote in his *The Animal Manifesto* (2010) in a section entitled, 'Deep Ethology and Cosmic Justice: Creating a sense of Unity' (p.206). It's noteworthy that Bekoff values Berry's work as representing 'deep ethology'²⁰ and also as an entry point to succinctly cutting through to a 'cosmic justice'²¹ approach. It is also noteworthy that Bekoff refers to Berry's (1999) work when drawing together the notions of embeddedness and dependency:

Thomas Berry stresses that no living being nourishes itself; each is dependant on every other member of the community for nourishment and the assistance it needs for its own survival. This is likely the evolutionary seed of compassion [Bekoff, 2010, p.206].

In 'Embodiment and emergence: Blurred Boundaries' (Bekoff, 2002, p.194) he shares how his own lifeworld experiences with animals have influenced his view of himself in a cosmological context:

Interacting closely with many animals on their own terms has had a large effect on my own reflections on my place in the universe. These intimate encounters have naturally led to questions of self identity and human uniqueness [Bekoff, 2002, p.194].

This personal statement is illuminating and may be useful to this research, in that it indicates arrival at a personal identification within a cosmological context, through the embodiment of relational experiences with non-human animal life worlds. Similarly relevant is another of his lifeworld reflections, on how years of embodied relational contact has been 'essential' in drawing him deeper into the existential questions of existence and appreciating 'human spirituality' (Bekoff, 2002, p.194):

²⁰ Bekoff (2010) describes 'Deep Ethology', among other attributes, as being where humans need to recognise their responsibility to nature as moral agents, such that 'many animals have a broad set of feelings that function like social glue; these emotions are important for forming and maintaining social bonds among themselves and with human being' (p.207).

²¹ The term 'Cosmic Justice' was coined by Gary Steiner (2008).

Learning about animals — how they spend their time, who they interact with, where they do what they do and how, intellectual and cognitive abilities, and their deep emotional lives — is essential for gaining a full appreciation of human spirituality and what it is to be human [Bekoff, 2002, p.195]

5. Mutually enhancing relations in relation to the work of Anthony Weston

Anthony Weston (1994) offers very practical ideas toward mutually enhancing relations with the Earth community that are not present in Berry and Swimme's work.

5.1 Participating with the underlying connections that life shares

Weston is not convinced that conceptually realising that we are 'connected' to the more-than-human world is enough to change human centredness, or in his words 'the closed circle of human life alone' (1994, p.85). He concedes that his approaches may well be 'tomorrow's environmentalism', yet persists with suggestions for living out his multi-species vision of a true Earth community:

What can we do? we ask. But there is everything to do. Watch the spiders. Watch the skies. Walk. Garden. Let the lawn go wild. Feed the birds. Learn the birds. Seek out the stories of your place, pay attention to the names, talk to the animals. Talk to the animals, talk about animals without that little pronoun 'it'. Pay attention. The earth is alive; there is magic everywhere [Weston, 1994, p. 171].

Weston (1994) describes more-than-human life as denied and destroyed largely because of cruel decisions, made because of humanity's lack of interspecies sociability and sensibility, which allows little or no space, for example, for things like wildlife corridors to be fruitful. He maintains that the 'unliveable corners' (1994, p.85) — which do remain and are tenanted by non-human animals — not only create extinctions, they also offer no opportunity for humans to create relationships or experiences with non-human animals. Weston (1994) attributes the adverse implications of this for the more-than-human world, to a lack of empathy; without real opportunities to connect with the other, humanity becomes autistic and ignorant of what he calls 'the real point' (p.9).

Weston's 'real point' means experiencing and participating in the underlying connections shared by all life-forms within living systems. He places the need for more expressions of 'the real point' at the heart of the redefinition of environmentalism. He (1994) suggests we explore deep sensory experiencing, embodied in urban contexts observing that, 'If we are to have any sense of more-than-human life, we must create co-evolved places²² within urban settings' (p.13). Weston argues that it is critical for our integration and inclusion of the more-than human world, for us to realise that the needs of non-human animals and their lifeworlds as very different to our own (p.27).

5.2 Practicing pedestrian wild ethics

Weston (1994) proposes a 'Pedestrian Wild Ethic' and 'Other Etiquette' (p.7) involving new ways of being, where encounters with more-than-human worlds can arise. He maintains that these experiences may help people to realise, and learn to participate in and not dominate the Earth community. These might be council parks, waterways, rural or private properties where people can go simply to focus on, experience, and respectfully reciprocate in, the more-than-human world. Weston suggests these zones should not be seen as merely 'parks', but that they be purposefully and pedagogically designed for conscious reflection and interaction with the more-than-human world. He wants us to avoid habitual inattentiveness to inter-subjective experiences with non-human animal and more-than-human life worlds of these places. (Weston, 1994).

Weston (1994) suggests such experiences may be enabled by carving out extensively planted nature and walking paths as a kind of 'mitigation corridor' (p.136) that is ecologically richer and thicker than our usual walking tracks. He proposes secured common laws that allow people to walk in appropriate, normally inaccessible, areas such as abandoned railway lines and walking across fields, observing that in the past, 'None of the farmers thought twice if you walked across their fields, gave their neighbours the use of these places, so that private property functioned, very discretely, as public open space' (Weston, 1994, p.136). Such a corridor system would also help ensure the safety of non-human animal lives, allowing them to move from place to place, away from traffic and other human-caused hazards.

²² The term 'Co-Evolved places' (Weston, 1994, p.128) is defined as; 'places whose shape is a joint product; places of human presence and activity but not domination; places that constitute or at least live within the margin'.

5.3 Opening intimacies with more-than-human life in our living places

Weston (1994) argues for more experiences of the ‘individual bond’ with non-human animals (p.35). He maintains that humanity needs to rethink and re-live the idea that nature is all around us, for example in a ‘cat’s glance’, and ‘the spider webs in the corner’ (Weston, 1994, p.35) The ultimate aim is for sufficient time in such places, to enable respectful interspecies sharing of each other’s particular modes of being, in a natural way. Weston reflects that we have real possibilities of connection all around us, but it is up to us to cultivate the necessary virtues, sensibilities and respectful ‘etiquette’ in order to allow the relationship:

Look up from your book, right now. There are birds flying and calling outside the window. It is not impossible to imagine that even we might come to understand bird calls and flight patterns as expressive and meaningful, rather than the random or simple-purposeful behaviour we usually imagine, if we notice them at all [Weston, 1994, p.23].

Similarly Weston urges us to build fulfilling cities, neighbourhoods and houses, by planning liveable spaces that allow other life forms to enter and flourish; for example patterned areas that bring the open countryside within a short walk or bicycle ride from human built areas. Weston (1994) proposes many ideas along these lines, and concludes that when these ‘ecological edges’ (p.119) are implemented, we will have begun to achieve a profound contact with more-than-human worlds.

Weston considers gardening to be an environmental ethic; arguing that growing a healthy garden requires a caring ethic that allows the cultivation of humility. Weston argues that humanity itself sorely needs to be cultivated ‘to respond to the great cycles of earth on its own terms’ (1994, p.123). He points to the potential for experiencing the other within a vegetable or home garden that has been created with the intention of co-habitation of a multi-species community of plants, insects and animals (1994, p.124).

5.4 Opening up to the idea of animal sociabilities

According to Weston, we sorely need humility to help open ourselves to the languages and moral and social aspects of more-than-human worlds and ways of relating. He turns to numerous instances of humans being adopted by wild animals,

such as wolves, gazelles, sheep and pig 'children' (Weston, 1994, pp.49-58). He concludes that it is humanity's habitual resistance to the idea of interspecies sociability, rather than the social potential of wolves, gazelles and similar animals, that divorces us from possibilities (1994, p.42). Furthermore, he feels we must acknowledge that we tend not to see animal environments as social environments at all:

The raising of a child by a wolf is not in itself of much scientific interest though the observable behaviour and personality of a child captured by wolves obviously is. However the general category of 'wild children who grow up in total or severe isolation' — as if being raised by animals is like not being raised at all [Weston, 1994, p.45].

Weston (1994) also thinks that accepting individual bonds between differing species can be indicative of the individual social and moral lives of the other. For example, elephants adopt rhinoceroses, buffalo and even ostriches. Cats and magpies, foxes and hens, cobras and mongoose, pilot whales and dolphins have also coexisted with obvious regard and delight in each other's company (p.40).

Another suggestion for getting to know the lifeworlds of other is to seek subjective accounts of 'real point' experiences from people who have had such opportunities. This acknowledges that many may never experience the lifeworlds of other. For example, Jim Nollman (cited in Weston, 1994) is a musician who uses music to create shared spaces between human and non human animals. His experiences of inter-subjectivity with the lifeworld's of particular other arise specifically from interacting on the others' terms and he has intensely documented his research history of co-evolved 'real points' with individual whales and dolphins. The depth of these experiences may not be possible for many individuals; however understanding the experiences people like Nollman's may go a long way to help keep our imaginations open to lifeworlds different to our own (Weston, 1994).

5.5 Communion: beyond human modes of language and communication

For Weston, realisation of the vastly different modes of communication of the other, requires sensitivity to a much more vast and profound modes of interchange. He describes this as, 'Something more like communion' (Weston, 1994, p.59). For instance honeybees can direct their bee comrades to food by the way they walk in darkness and whales can communicate with each other over hundreds of miles by bouncing their sound off the ocean floor. Weston (1994, p.52) suggests that these

examples remind us that 'communication is a vastly more complex and multi-sensory affair than we predominately verbal mammals usually take it to be'.

Being open to other modes of communication is also important to Weston, in so far as humanity may begin to co-evolve a shared world (1994, p.153). For example, he talks about what he calls 'the conversation of death' (Weston, 1994, p. 130), when humans are faced with bears in life threatening situations, or cultivating awareness of the 'conversation' between wolves and prey, where a period of stare is either a trigger or diffuser; being hunted or left alone. He argues for moving beyond verbal preoccupation as a means of communication and not expecting other animals to have the same sort of language patterns in their exchanges.

Weston suggests that we plan and implement new ideas for housing that open up relational possibilities with non-human animals. He proposes that we construct houses in appropriate areas that open us to more-than-human worlds, using design that allows 'ways of being partly inside, yet still connected to the outside' (Weston, 1994, p.120). He emphasises that building in this manner need not involve a colossal top-down social change plan. Rather, he proposes 'tinkering with zoning requirements, building or retrofitting our houses in small ways that may take time' (Weston, 1994, p.121).

Weston believes that addressing the implications of how places are named and the ontology of land itself needs reframing as another tool for change. For example, historically in America, terms such as 'working countryside and managed landscape' have been, and are, used to distinguish land that humans dominate for farming and habitation (Weston, 1994, p.127). Weston challenges the polarisation implicit in this, between human-use and 'nature' use areas, and draws on Michael Pollan's ideas (1991; as cited in Weston, 1994) in which he describes gardens as 'a middle space' (1994, p.125). Weston offers the term 'intermediate spaces' (1994, p.128) which infers a human-and-other space, where, he says, 'the usual assumptions are worn down and something more complex emerges' (1994, p.123).

This approach challenges the view of land as a possession. For Weston, this view engenders a psychological sense of righteousness and an orientation that breaks down the wholeness of land into mere commodified pieces for economic transaction (1994, p.103). He believes the economic view becomes self-validating and distances us from an attitude of ongoing care for and relationship with our inhabited areas.

He suggests that the way we name and address the places we inhabit and those we don't may be a critical starting point developing a deeper understanding.

6. A sense of the sacred in relation to the ideas of Val Plumwood

Berry and Swimme (1992) call for a sense of awe through deep celebration of the universe and of life. Berry's intention in describing the sacred dimension of the universe is non-theistic; yet he often uses words that come from a traditionally religious vernacular such as 'divine' and 'sacred' (1999, 2006). Swimme (1995) employs terms such as the 'all nourishing abyss' or the 'ultimate mystery'. Swimme (2003, 2007) also reverts to quite sophisticated explanations of a scientific nature, to try and help us see the mystery underlying the genetic nature of life. It is noteworthy that Swimme – in interviews or in responding to questions in lectures around the notion of 'God' (which inevitably emerges when talking about the mystery of the Big Bang) – continually tries to find ways to talk about the mystery 'behind' material life that are not steeped in scientific or religious, but in secular sacred terms (J Conlon, pers.comm., 21st August, 2008; Swimme, 1987, 2001). The following exploration of two key thinkers attempts to identify useful ideas or language for communicating more clearly, a less religious, vernacular expression of the secular sacred.

6.1 Towards a materialist spirituality of place

Plumwood (2001) feels that spiritual practices need to offer engagement with 'ecological forms of land connection' (p.219). To this end, she proposes a 'place-based spirituality' (p.221). She encourages us to identify with actual living entities and Earth as our reference for spiritual fulfilment, as opposed to ethereal contexts for spiritual fulfilment, which can encourage us to identify with abstract ideas of an intangible, immaterial world. Plumwood (2001) argues that to advocate faith in imagined, immaterial worlds is to further divorce our human experiences from respecting, embodying and revering the actual Earth.

Plumwood proposes that it must be recognised that contemporary non-indigenous culture has been looking in the wrong place for the sacred:

From the perspective of the land, the problem is not so much that contemporary non-indigenous culture lacks a concept of the sacred, as that it has mostly located the sacred in the wrong place, above and beyond a fallen earth [Plumwood, 2001, p.220].

Plumwood (2001) discusses what Berry and Swimme refer to as 'bio-spiritual' (1992) in her own language, in terms of illuminating what lies at the heart of the matter/spirit divide. She speaks about the importance of recognising Earth's elemental and biological life as primarily supporting our lives, but hopes that this can be recognised as an inter-subjective exchange that, in her words has a 'certain kind of communicative capacity' (2001, p.220).

A new form of place-based spirituality would, for Plumwood (2001), need to find sensitive and considerate ways of treating the Earth. She believes we can realise an Earth-based reference for accessing our spiritual human-ness, by deeply appreciating our dependency and embeddedness within the Earth. She argues that, in this context, any spiritual approaches that 'exclusively concern themselves with human well-being', or who 'find the 'sacred in other, higher worlds' (Plumwood, 2001, p.220), would ultimately have to be dismissed.

This position reinforces Plumwood's (2001) argument that we need to identify ourselves as a 'material body' (p.223); a biological body that is an embodiment of the Earth. She states, 'We need more materialism, not less, a better awareness of ourselves as materially embodied beings in a material universe in which we are all material (e.g. food) for one another' (Plumwood, 2001, p.223). Again, she argues that we need to see ourselves as unable to exist separately from the Earth and universe, which is more reason to consecrate a new spirituality in which our material embodiment as part of the actual Earth is central.

The placement of humans in a cosmological context emerges for Plumwood in reference to indigenous spiritualities. She highlights the value of reflection on birth and death, and on more-than-human life. Interestingly, she characterises her solutions outlined above as, 'A focus on practices that aim to create a new sense of the meaning of human lives by putting them into the larger contexts of the universe' (Plumwood, 2001, p.223).

To illustrate this, Plumwood (2001) refers to cultural sources of indigenous reverence for the ecological connectedness of the universe. She identifies the mental

states and qualities she thinks are necessary to avoid spiritual approaches that will distance us from a materialist spirituality of place. These include intentions and behaviours that include the more-than-human world: 'The inclination to honour, respect and acknowledge the elements of our universe (both physical non physical) that sustain and nourish our lives' (Sanchez, 1993; as cited in Plumwood, 2001, pp. 223-224).

It may be that Plumwood's (2001) approach of centralising our embodiment of the Earth as our source for reverence is useful in articulating a palatable Earth-based spirituality. Perhaps for some people this is more accessible than trying to identify with the subjectivity of each living entity as an unfolding mystery of cosmological evolution (Berry and Swimme, 1992).

7. A sense of the sacred in relation to the ideas of Ursula Goodenough

For Ursula Goodenough (1998, p. xvii), 'religious emotions' can be elicited by understanding our own biology in relation to the world's biological context. Then, she says, we will be solidly placed and will desire to find our 'sacredness':

In order to give assent to who we are, we need to understand who we are. We need to understand how biochemistry and biophysics generate the patterns that make us these pulsating organisms. And finally we will ask how we can locate the sacredness of our individual selves within this biological context [Goodenough, 1998, p.50].

This is Goodenough's (1998) rationale for seeking ways to communicate science so we may see into the biological nature of existence. For her, faith in 'supernatural beings is simply not available' to her lifeworld (p.139). 'Religious Naturalism' is a worldview (as cited in Goodenough, 1998, p 176), and it relies on science to inform and interpret the world as a subject. A person's lifeworld and feelings about the mystery of the world as sacred are included, resulting in the experience of a naturalistic spirituality that respects the Earth in a context of benevolent Earth stewardship (Goodenough, 1998).

This is accessible for Goodenough (1998), in its capacity to accommodate 'Earthly relationships' (p.14). Plumwood (2001) and Goodenough (1998) share this orientation to Earth embodiment, and also their desire to place the human within the larger contexts of the Earth and universe. However, Goodenough (1998)

emphasises the human need for ‘grand compelling stories’ and offers the ‘Epic of Evolution’ (p.174) as her preferred ‘story’:

Humans need stories — grand, compelling stories — that help to orient us in our lives and in the cosmos. The Epic of Evolution is such a story, beautifully suited to anchor our search for planetary consensus, telling us of our nature, our place, our context. Moreover, responses to this story — what we are calling religious naturalism—can yield deep and abiding spiritual experiences [Goodenough, 1998, p.174].

She stresses, however, that a cosmology can only work as a religious cosmology if it evokes ‘religious’ feeling (Goodenough, 1998, p.xvi). This resonates with Berry’s assertion that ‘Religion is nothing if it isn’t poetry’ (Berry, 1998b, Lecture 1). Goodenough’s (1998) language is perhaps less threatening in religious terms and outlines what these notions may look like in our lifeworlds, if we be in awe of how life simply is at the level of biological, material reality:

If we can revere how things are, and can find a way to express gratitude for our existence, then we should be able to figure out, with a great deal of work and good will, how to share the Earth with one another and with other creatures, how to restore and preserve its elegance and grace, and how to commit ourselves to love and joy and laughter and hope [Goodenough, 1998, p.74].

It is noteworthy that Goodenough recognises that once a ‘grand story’ is put into place to satisfy our biological identity, our humanness also requires stories of a more cultural form, as part of our millennia-old mythological nature:

And then, after that, we need other stories as well, human-centred stories, a mythos that embodies our ideals and our passions. This mythos comes to us, often in experiences call revelation, from the sages and the artists of past and present times [Goodenough, 1998, p. 174].

However Goodenough (1998) also argues that unless we understand the genetic and biological nature of reality, we may fall into human-centred mythos patterns from previous eras, which mythologise biological life to satisfy the psyche of the human. She maintains that by understanding how animals are biochemically constituted, we may succeed in recognising them as biological and not mythological, or merely useful commodities for human purposes. In this way, tendencies to anthropomorphize animals for their beauty, ability to amuse us or their usefulness

to humans, can be transcended because we now 'see them as they are' (Goodenough, 1998, p.74).

7.1 Storying the building blocks of life

'Storying biology' (Goodenough, 1998, p.xix) matters to Goodenough as a way to pacify fears and aversions to scientific understanding. She aims to narrate the literal biological processes of life's emergence as simply possible, to help us to realize and experience the colossal and stunning mystery of nature's creativity. Goodenough (1998) describes this as, 'the outpouring of biological diversity calls us to marvel at its fecundity' (p.157). It is then, she says, that we can 'take in how this process has created a deeply interconnected web of life' (p.64).

Importantly, Goodenough (1998) marries this orientation with reverence, at the realization of our humanness as a part of this biological 'marvel of fecundity'. However, she argues that we must wholly acknowledge that all 'lineages of the biosphere' are also 'a veritable sunburst of biological ideas' (p.157). Here, she begins to find a vernacular that speaks for the subjectivity of biological life. This insight encourages us to consider that biological life has its own 'evolution of awareness' (Goodenough, 1998, p.105) that responds intentionally in creative ways. As Goodenough (1998) states, 'Indeed, the Earth can be wonderfully thought of as a planet shimmering with awareness' (p.89). The following is a complex but relevant example:

Much of biological evolution can be said to entail the evolution of what organisms are aware of. The first awareness systems focused on the physical and chemical properties of the planetary environment, but once a sufficient number of organisms came into existence, they became intensely aware of one another as prey or predators or symbionts. And once eukaryotic sexuality was invented, sometime around the Cambrian, countless systems were devised to recognize a mate of the correct species and the correct gender [Goodenough, 1998, p.90-91].

Further, Goodenough (1998) explains evolutionary awareness, or intentional subjectivity of biological entities as having rolled out two specific organic capabilities:

- Organisms usually attach a value to the things they perceive – this is good, that is bad – which, in complex animals, is experienced via neural and hormonal emotional systems.
- Organisms usually attribute a meaning to something they're aware of, an ability that has for us become manifest in our capacity to think and act symbolically (p.105)

This kind of thinking offers a way to reflect on, expand and express a bio-spirituality (Berry, 1988a, 2006). It also offers a way to diffuse the matter/spirit dualist position in a more direct and simple manner than usual process theology approaches (Whitehead, 1960). Goodenough further simplifies the complexity of these examples and concepts, describing the abilities of biological entities in a way that shows us these subjective capabilities. She illustrates how equally aware and expressive other entities of the more-than-human world are, 'We are called to acknowledge that which we are not; we cannot survive in a deep-sea vent, or fix nitrogen, or create a forest canopy, or soar 300 feet in the air and then catch a mouse in a spectacular nose-dive' (Goodenough, 1998, p.86).

Even though her scientific discipline is infused with it, nihilism is not an option for Goodenough (1998), as an explanation of existence (pp.10-12). Rather, she has accepted that she does not need to seek an answer to the questions of the mystery of existence. She reflects that although objectifying sciences are convinced that life has emerged from biochemistry, she observes these domains as also implicitly sensing that there is a dimension of life that lies behind the observable world. Goodenough (1998, p.33) describes her observations of the scientific community, 'there is a sense that there is "something else" about life so widespread, and so deeply rooted, that it almost seems instinctive'.

Goodenough (1998) chooses to experience the wonder of life within a context of microbial and elemental detail, understanding that phenomenal life still remains a mystery. Experiencing storied biology, and embodying the feeling for life that this interpretation brings, is her commitment to life, as a biologist:

The realization that I needn't have answers to the Big Questions, needn't seek answers to the Big Questions, has served as an epiphany. I lie on my back under the stars and the unseen galaxies and I let their enormity wash over me. I assimilate the vastness of the distances, the impermanence, the fact of it all. As a

religious naturalist I say 'What Is, Is' with the same bowing of the head, the same bending of the knee [Goodenough, 1998, p. 12].

Goodenough (1998) implicitly suggests approaching the 'ultimacy' of existence by articulating a 'covenant with mystery' (p.167). For her, we can embody a feeling for life within the stories of biology, as they narrate the marvel and mystery of life on Earth and of the cosmos. For example, to realize that all life on Earth has diversified from a conservative single-celled organism (p.79), or, when we look at the stars at night, we can realise that the cooling down process of the Big Bang was the origins of chemistry (p.18). Essentially this is Goodenough's spirituality: to revert to our covenant with mystery, with empirical knowledge, imagination and a commitment to celebrate life. She describes reverting to her covenant of mystery as responding, 'to the emergence of life not with a search for its Design or Purpose but instead with outrageous celebration that it occurred at all' (1998, p.29).

Chapter 5: EarthSong

1. The Context of 'EarthSong'

This first case study involved individuals sourced through 'EarthSong' – a Catholic eco-spiritual organisation in Melbourne, Australia.

EarthSong is a Melbourne community project that offers participants varying learning experiences aimed at promoting identification with cosmological and ecological perspectives²³. The project was developed in response to Berry's concerns and visions (Berry, 1988a, 2006), with the specific goal of offering insights and experiences of topics such as Earth literacy, spirituality and Earth ethics²⁴.

EarthSong aims to raise awareness around Berry and Swimme's (1992) new cosmology and the growing communion between the various aspects of human knowledge and endeavour in the light of this cosmology. This includes developing new ways of honouring and celebrating the sacredness of all creation (Berry, 2006) as an interconnected Earth community. EarthSong promotes a new ethical structure that recognizes and protects the integrity of all life forms on planet Earth (Berry, 1988a).

The work of Berry and Swimme is imbued with the suggestion that immersion in the Universe Story should change the ways in which humans act towards their non-human 'kin'. As such, their work is aimed at enhancing and promoting a form of 'activism'. Organisations like EarthSong clearly have a social change agenda which promotes 'Transformative learning' (O'Sullivan, 2001) married to implicit and explicit forms of activism aimed at increasing environmental responsibility. This commitment to activism was an important criterion in selecting EarthSong as the setting for a research case study.

²³ Sourced from the 'EarthSong' pamphlet 2011, made for public circulation.

²⁴ Earth literacy is described by EarthSong (2011) as 'a field of study that acknowledges the sacredness and interconnection of all creation that is informed by recent scientific knowledge and discoveries and that reflects on and draws from the wisdoms of the past'. They define Earth ethics as a 'set of principles that recognises the intrinsic values of all creation, honours the rights of all to the wise use of the planet's resources and preserves the health and vitality of the planet for future generations'

EarthSong's aims and philosophical orientations indicate that its underlying philosophy on personal knowledge and social function directly influences the way the organisation operates. In other words, whether implicit or explicit, EarthSong's work is aimed at enhancing and promoting the kind of 'activism' that is highly relevant to the efforts made by Berry and Swimme to reframe environmental activism.

As mentioned in chapter 1, this thesis does not focus on the educational philosophies or pedagogical approaches of the organisations in which the case studies are situated. However, it is important to know the context in which individuals have the personal experiences that are the focus of this research.

2. Participants

The individual participants sourced through EarthSong are clustered into two groups for this case study. These individuals experienced differing activities and levels of immersion in Berry's and Swimme's work. Group 1 consists of six people who had adopted advanced levels of immersion into the Universe Story; Group 2 is a single individual who entered this research as a novice to the Universe Story; Group 3 are the survey group of 22 who have beginner to intermediate levels of immersion into the Universe Story:

Group 1: 'Advanced participants' - six individuals

Group 2: 'Additional participant' - one individual

Group 3: 'Survey participants' – twenty two survey participants

2.1 Advanced participants (Group 1)

These six participants experienced activities of Berry's and Swimme's work at an advanced level for an average of ten years in relation to the establishment EarthSong. Due to this long time-frame, it is not possible to stipulate the exact activities they experienced. However it has been possible to gauge the nature and degree of these participants' engagement with Berry's and Swimme's work, through discussions with them and sourcing archived EarthSong programs of the last 10 years. This information is summarised as accurately as possible in the outline of gatherings and activities below. These gatherings and activities were regularly attended by these six individuals.

Similarly, the exact topics outlined below are also impossible to specify, because only anecdotal accounts or printed material that summarises EarthSong program contents inform it. The topics, however, were all explicitly concerned with communicating and embodying the broad-reaching and detailed ideas inherent in Berry's and Swimme's work. Examples include:

- the story of the evolving universe (Berry and Swimme, 1992),
- metaphysical interpretations of the universe (Berry, 1988a; Swimme, 1995),
- ecological spirituality,
- Earth stewardship, ecological conversion and global justice issues,
- mutually enhancing relations and practical approaches to this,
- discussion of the role of humans in the modern world,
- sustainable living focuses.

2.2 Activities relevant to these six participants (Group 1)

➤ **Ongoing, intensive programs** that explored varied aspects of adopting and embodying the Universe Story (Berry and Swimme, 1992). For example, EarthSong programs such as:

- 'New Heart and New Mind',
- 'Eco-Justice',
- 'Exploring the New Cosmology' and
- 'The Themes of Creativity'

These programs are intended to help participants embody the core principles of Berry's and Swimme's works, via activities including lectures, group discussions, prayer, art, poetry, writing and movement workshops, reflection and contemplation.

➤ **Monthly reading circles** on the Universe Story (Berry and Swimme, 1992) and topics this group considered relevant to it. These included ecology, theology, ecological spirituality, mystic and indigenous people's perspectives, poetry, food ethics and sustainable living skills.

➤ **Ongoing group committed to exploring Berry's guiding principles²⁵.**

This group is especially focused on religious responsibility and is engaged in advanced conceptual adoptions of Berry's (2006) guiding principles. These individuals regularly develop creative and practical applications of these principles.

➤ **Viewings of Swimme's DVD series** followed by intensive discussions and workshops in relation to adopting the principles and ideas contained in them (Swimme 1995, 1998, 2003a). In particular, this group explored in advanced detail the concepts of the 'Powers of the Universe' (2003a). They explored in detail Swimme's interpretations of evolutionary cosmology and metaphysics as outlined in his 'Canticles to the Cosmos' (1995).

➤ **Nine years of annual symposiums**, the focus of which was dedicated to particular, often Earth-based themes, using creative, festival-style community gatherings and events. Examples include:

- 'A celebration of the southern skies',
- 'Celebrating biodiversity' and
- 'An encounter with the forests of eastern Australia'

These symposiums offer activities such as the opportunity to listen to, and engage, with guest speakers presenting relevant topics in relation to Berry's and Swimme's work. They include for example, scientists discussing forest ecologies, and astronomers and Aboriginal speakers offering perspectives on cosmology. The symposiums typically include intensives and workshops, to help people find ways to embody Berry's and Swimme's work, in an Australian context.

➤ **Residential retreats** which are often experienced at the Centre for Ecology and Spirituality, at Glenburn. These include advanced intensives looking into theoretical aspects of Berry's (1988a, 1999, 2006) and Swimme's (1984, 1995, 2003a) work. They also include exploration of other relevant theorists (Campbell, 1988; Chaisson, 2005; DeQuincey, 2005; Gebser, 1985; Teilhard de Chardin, 1959). This work is intentionally combined with creative activities that help participants embody experiences of these theoretical aspects, in their own life-worlds. Other focuses are:

²⁵ For example Berry's (1988a) 12 Principles and (1999) Jurisprudence principles

- Sustainability practices,
- art experiences,
- labyrinth walks
- nature walks,
- celebrations of Winter and Summer Solstices, Spring and Autumn Equinoxes,
- gardening
- tai chi
- astronomy observations within a context that regards the universe as subjective.

➤ **EarthSong newsletter and quarterly magazine.** Participants are in close contact with, or regularly contribute to, EarthSong’s monthly newsletter ‘E-Notes’ and quarterly magazine, ‘EarthSong Journal’. This publication offers relevant inspirational quotes, prayers, essays, photography, poems, relevant book suggestions, and thoughts in relation to Swimme’s (1995, 2003a), and in particular Berry’s (1988a, 1999, 2006) ideas.

2.3 Additional participant (Group 2)

The additional participant included in this case study context had never heard of, or participated in activities of Berry’s and Swimme’s work previous to this research so I co-created with him a list of activities for him to be involved in for this research. As this person was unfamiliar with Berry’s and Swimme’s work and Universe Story (1992), he experienced varying relevant activities at EarthSong.

The additional participant chose two of his activities from EarthSong’s annual program. This enabled him to engage in activities that focused on Berry and Swimme’s basic notions (1992). In addition, this participant requested immersion in Berry’s book, ‘Dream of the Earth’ (1988a). However, he subsequently found himself unable to spontaneously engage with this book, and therefore abstained from this activity. He requested to view three of Swimme’s DVD lectures (1995) within his own time frame, to help him adopt some of the deeper notions of Swimme’s central ideas.

2.4 Activities relevant to this participant (Group 2)

➤ **EarthSong introductory evening** This two hour introductory evening was presented by three EarthSong facilitators. The main activity of the evening involved listening to, and engaging with, material presented to them in a lecture format that gave a basic and accurate account of the Universe Story. The following are examples of central notions presented on the evening:

- All elemental life forms of Earth, wind, air and soil preceded both the original indigenous inhabitants of Australia, ourselves and non-human animal lives and as constituting a critical aspect of our very existence.
- Evolution as part of their own ancestry, adopting every living entity of the continually unfolding universe, as part of their family tree. For example, one facilitator said that every ‘tissue and atom’ in existence is biologically and genetically ‘related’ to every other tissue and atom. It was emphasised that this is based on scientific knowledge and not to be confused with any mystical connotation.
- The universe is a subjective entity that experiences its own self-reflectivity through the form and creativity of humans. For example, the group was asked to consider that the universe evolved to now be able to look at ‘it-self’ through the self-reflective consciousness of humans.
- The ‘story’ of the universe is actually the ongoing, unfolding life entity known to us as the universe or cosmos. This was told as a story of life and of the universe, as being bio-spiritual in nature.
- Modern science is ‘a prolonged meditation on the natural world’.
- The human species does not need to dominate the Earth community.

Another activity involved viewing a condensed version of the story of the universe, created by the facilitators, and delivered through verbal and audio-visual narration. The narration began from the Big Bang and progressed through the first gases of existence, the formation of the planets and the Earth, to the living systems of Earth, the emergence of humans, and finally to describing the endeavour of humans into areas such as science, philosophy, mathematics, language and culture.

A basic, non religious, ritual took place for participation. A plate of strawberries was passed around the group, which had formed a circle. Each person took a strawberry,

and the strawberry was described as symbolising our biological ancestors – that all creation is intertwined as biological and genetic kin. As each person bit into their strawberry – the group was asked to reflect upon the biological relationship that was being shared through the very act of eating the flesh of the strawberry – that we and the strawberry are made of and are an independent matrix of the same ‘stuff of life’.

The participant, as part of the attending group, was encouraged to experience the activity of writing down any of his insights and experiences in relation to the evening’s activities. He was given the opportunity to verbally reflect anything he wished to share with the group.

In order to give a sense of the thinking and feeling environment experienced by the additional participant during the evening, it may be helpful to share some of the phrases – on that evening – used by EarthSong facilitators, and also those of some of the other participants.

Phrases spoken by the facilitators during this activity:

- ‘We ought to have gratitude for microbes for without them we wouldn’t have oxygen’,
- ‘The planet takes care of us. We haven’t been taking care of it’,
- ‘Bless the person next to you, as literal yet bio-spiritual stardust’.

Phrases spoken by other participants during this activity:

- ‘I feel a new sense of living in place’,
- ‘Rhythmic dance of life’,
- ‘Beauty and wonder’.

➤ **EarthSong’s Astronomy Symposium** The additional participant also attended EarthSong’s symposium ‘A Celebration of Southern Skies’. The emphasis of the weekend was to ‘follow the stories of our sky through the eyes of Indigenous Australians, as well as through the insights and discoveries of modern astronomers’.

The activities experienced by the additional participant were mostly him listening to, and engaging in, lecture formats and included the following:

- A lecture on aboriginal astronomy, reflecting on the challenges it presents to the ideas of western science.

- A lecture by an Australian scientist/astronomer on astronomy. The lecture explored the trajectory of astronomy's evolution from empirical science during colonial times, to modern astrophysics. The subject matter had a clear existential orientation, with the presenter observing, 'When you get to this level of cosmology, it's where faith starts'. This provided a segue into the presenter's question to the group of how existentialism and the phenomenon commonly known as 'God' often crosses over in the domain of astronomy'. He further posed the direct question, 'How do non-religious folk deal with this level of astronomy?'
- A lecture entitled 'How big is the universe? Is there life out there? Where is God?'
- Musical interludes and basic rituals focusing on personal identities as integral parts of the larger living world and cosmos
- A conversational group session allowing personal reflection and exploration of insights in response to the symposium activities. This session – experienced by the participant – involved the facilitator asking the group to discuss focuses such as:
 - ◆ Reflecting on his own personal story of connection to the Universe Story and the topics included in the lectures over the symposium weekend.
 - ◆ Discussion with the group about what is the main link that assists ones own experience of the Universe Story.
 - ◆ Contemplation of the Earth and his relationship with it, using a plastic globe of the Earth and imagining 1) being on it and 2) beyond it in space looking back to it.

In order to give a sense of the thinking and feeling environment experienced by the additional participant during the conversational group session, it may be helpful to share some of the phrases used by some of the other participants during this event.

Phrases spoken by symposium group participants during this activity:

- ‘Overwhelmed with the enormity of such a large world view’
- ‘In awe of the enormity of such a world view’
- ‘Numbers and large world views don’t mean much because they need to be internally processed’

➤ **Viewing a selection of Swimme’s ideas** This participant experienced the activity of viewing lectures 1, 3 and 4 of the DVD series ‘Canticle to the Cosmos’ (1995), written and presented by Swimme. Each lecture runs for approximately forty-five minutes to one hour. The subjects of these lectures are outlined briefly below:

- **Lecture 1:** ‘The story of our time’: Offers a deep time overview of cosmological evolution.
- **Lecture 3:** ‘Feast of consciousness’: Explores metaphysical dimensions of the more-than-human world, as embodying consciousnesses.
- **Lecture 4:** ‘The fundamental order of the universe’: Explores in detail Berry’s and Swimme’s assertion that the universe is a matrix of three universal laws: Subjectivity, Differentiation and Communion.

2.5 Survey participants (Group 3)

This is a group of 22 participants who meet for monthly reading circles. The participants range from beginner to intermediate in terms of their level of immersion in the Universe Story.

2.6 Activities relevant to this cluster of participants (Group 3)

This group’s activities included discussion and reflection at a beginner to intermediate level of immersion in relevant introductory topics such as ecology, theology, ecological spirituality, mystical and indigenous perspectives. They also engage in creative processes such as art and poetry, as well as gardening and sustainable living skills, as part of their efforts to embody the Universe Story in everyday ways.

3. Participants and Data Collection:

Snapshot of Research Participants and Data Collection Methods

Participants	Age range	Gender ratio	Religion	First Language	Ethnic Background	Data numbers and type	Interviews
Group 1 (6 participants)	50-70	F x(6)	CAx (6)	ENG	NIA	ST x (6) AP x (3) PO x (3)	(6)
Group 2 (1 participant)	25	M x(1)	ND x(1)	ENG	NIA	ST x (1) AP x (1)	(1)
Group 3 (22 participants)	N/A	N/A	N/A	N/A	N/A	SV x (22)	N/A

Narrative Data Key: ST = stories, PO = poems, AP= art piece, N/A=not available, F=female, M=male, CA= Catholic, ND= non-denominational, ENG= English, NIA= non-indigenous Australian, SV= survey

4. Findings in relation to the distilled Berry/Swimme themes

4.1 Cosmological context findings

4.1.1 Every living entity continues to complexify out of the original energy of the Big Bang.

Five of the six advanced participants reflected on their own existence as derivative of the original ‘material’ of the Big Bang. For example, participants 2 and 4 reflected:

If you ask the philosophical questions, like, Who are you? What are you here for? What are you connected with? You’ve come; you’re the same material; that’s a huge thing. The atoms, the same material has been around since the beginning of time. Who we physically are has comes out of the Earth and we are going to go back into the Earth [Participant 2].

The fact that we are stardust is classic, whether it’s Brian Swimme or Thomas Berry or whoever you want to quote. Just that’s where our origins are. Just makes it real where we have evolved from [Participant 4].

Five advanced participants spoke of their own life intrinsically evolving and ‘expanding’ with all life through cosmological evolution, as participant 1 illustrates:

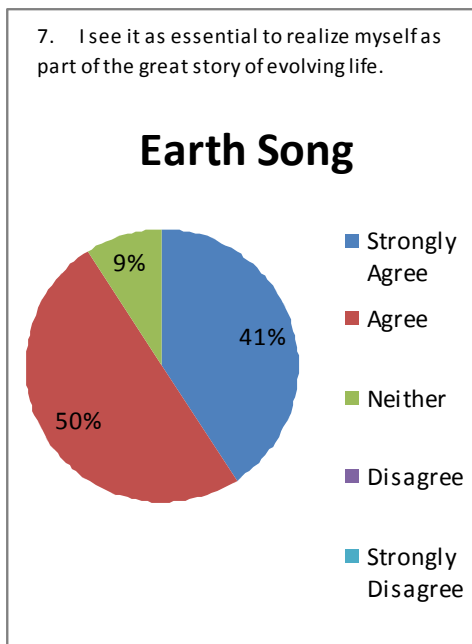
I see life in that evolutionary kind of way. That just as the universe doesn’t have boundaries around it, we’re an expanding universe, somehow that’s not something that I am not. If I let myself be ever expanding, because it happens it’s not something that I am separate from. We are going to be part of this expanding being.

Participant 4 reflected on this theme in her poem, as expressed in the lines; ‘Earth: star dust and molten lava and now singing opera’, to suggest life as ‘complexifying’:

Those prayer days
Those happy days
Come dance with me
That daily invitation to tread lightly in precious Earth and feel its heart beat
Earth: star dust and molten lava
And now singing opera
We danced in profound joy
Reflecting goodness and compassion
The God in me honours the God in you
Namaste

The additional participant, in his own language, spoke of having adopted a broader perception of the cosmos, and ‘the way it all works’. He attributed this insight to watching the Swimme lectures:

The times when I’ve had larger ideas about the universe and the way it all works, when you and I have looked at the Brain Swimme material and that got me thinking a bit more about it. I found Brian Swimme is a good way of shifting to that mind set.



Of relevance to this theme was survey question 1.7: 'I see it as essential to realize myself as part of the great story of evolving life'. This question captures the notion of this theme simply, as a way to collect survey respondent's experiences.

The results confirm participant's experiences of the notion of this theme were similar, regardless of differing immersion levels, with a total of 91% agreeing with this notion.

4.1.2 The Universe Story demonstrates that all life is profoundly unified

All advanced participants reflected their adoption of this theme into their lifeworld. For example participants spoke of 'honouring the whole and allowing for all', and 'life as being interconnected'. Participant 4 related to life as being 'linked up' within the context of the 'Cosmic story':

It's not the climate change that needs to be talked about; they'll get plenty of that. It's the Cosmic story, of plants and animals all being linked up. But it's hard to break the ice there. You've got to be in a certain context. It's not 'save our planet' stuff it's awareness that is a gentler approach that is needed. To do some more work on awareness.

Participant 6's poem specifically identified the 'Earth community' as 'we are one':

From our own home shores of Australia
to the vast continent of America and indeed across the entire Earth planet
the same expansive spirit calls us again and again
in the words of the song:
We are one, we are one, we are one human family, Earth community
a common destiny for all

Three advanced participants spoke of Berry's and Swimme's work influencing their view of social justice issues. For example, participant 1 spoke for the justice of 'the whole of creation':

I just talk about justice. It's justice for the whole of creation. Be it the humans, social, political or educational, ecological, environmental – whatever you want to label it; but because we are all one.

Similarly, participant 4 reflected on how she plans to approach her group work in relation to the trafficking of women:

I've been asked to facilitate a group next year and it will have a flavour of it (*cosmology*) I know. Whether it's the prayer setting or the music I use, or images: I'd have to set it in that context. It's about trafficking of women so it's a very important group that I am facilitating the work, but I will want to widen it.

Participant 3 commented on her realising 'how we relate to others', and how evolution has her appreciate racial difference, as understanding skin colour simply being to do with the temperatures and lands that humans evolve in:

We are part of an extraordinarily large cosmos that both in time and development is a wonderful experience to just find our part in it – where we come from, possibly where we are going, how we relate to others. I was looking at someone's skin the other day and I thought that is an interesting evolution according to the temperature that they've had. Yet in Africa I can nearly pick the differences between the states. It's to do with the colour of their skin a bit and body structure; just how they've evolved.

4.2 Interpreting life's energy subjectively

4.2.1 Venerating all genetic and biological entities as primary, relational identities

Two advanced participants consciously spoke of this theme, for example participant 1 expressed her gratitude for biological, but not genetic, entities within the context of 'the whole evolving story':

It's just the whole evolving story of me being connected to, for instance, the stromatolites in Western Australia. I am grateful to them for oxygen. I know the scientific facts and can bring it into something that means something to me.

Participant 3 reflected her identity and veneration for biological and genetic entities in her poem, for example her expressing, 'the mystery of the photons, neutrons and electrons that have exploded their genes into the atmosphere':

I've been happening for 15 billion years - wow and here I am still happening
I'm happening because of the energy of the trees that breathe life with me
I am happening because the water flows its energy into the thirst of the Earth
I am happening because the healthy worms nourish the Earth as they
fashion the compost for my garden
I am happening because the mystery of the photons, neutrons and electrons
have exploded their genes into the atmosphere
I am happening because my only vision of this vast universe ever to witness
this place, this autumn beauty, this wonder of nature at this moment
I am happening because my body is the only body ever to enjoy this place of rest
this autumn leaf cushions, this cool refreshing breeze right at this time
I am happening because the ultimate mystery of the creator's mind
thought about me, delighted at this thought and here I am
I am happening because I continue to happen in an embrace of mystery
en-fleshed and dispersed because I am
The secret of all this at-one-ness as this divine happening repeats its words
in the fire of passion that burns its presence in a holy sacred spot

The additional participant commented on 'what he got' from the EarthSong introductory evening, as he consciously realised a new context for humans and an appreciation for his biological body within cosmological evolution:

What I got from it was the understanding that we didn't create ourselves, we can't take credit for being humans and do the things we do; we are just one of the latest unfolding's. As part of one of the unfolding's we must have some sort of reason for being and it's a bit of an awakening to stop dicking around with this amazing machine we've got inside the human body and try and figure out why we are in it. What good can come of it rather than how we can amuse ourselves in it?

4.2.2 Deepening our consciousness to move with the laws and dynamics of the universe

Four of the advanced participants reflected their adoption of this theme. Participant 1's findings were similar to others:

But I think if the deeper thing happened within, I'm thinking of the principles of the universe, living your own story, being your own self, the best you can: well I wouldn't worry about anybody else if you have that respect. Again it's the way you see. It's a whole interior transformation and I think it's got to happen.

Two participants referred to specific terms of Berry's (1988a) and Swimme's (2003) that are relevant to this theme. For example, participant 3 spoke of attuning ourselves to 'allurement' (Swimme, 2003) and the 'fundamental order' (Berry, 1988a):

That is what teaching is if you can see the balance in everything; allurement and the fundamental order, in relationship, rather than in just human relationship. But human, plant, ant on Earth: I think that is what it teaches us.

4.2.3 Cultivating intimacy with the mysterious spontaneity inherent in all Life

Four advanced participants spoke of their reverence for the 'mystery' of life, and another spoke of the mystery inherent in individual biological or genetic life. Participant 1 offered her view that science has informed a mystery that she is comfortable to call 'God', which to her is at 'the heart' of an expanding universe:

I've gone through many stages as to how I name God. What I firmly believe is that at the heart of the universe there is a mystery that I call God. I think that Swimme's idea of this expanding universe is great because, it's not just an idea but science tells us that the universe is expanding. At the heart of that, what ever that is, is the mystery of life. I call that mystery God.

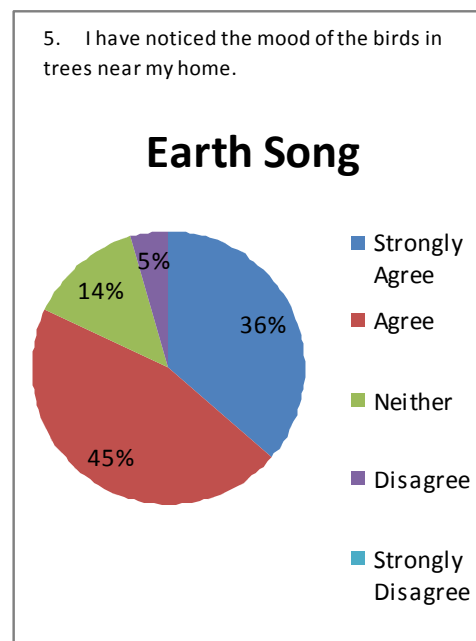
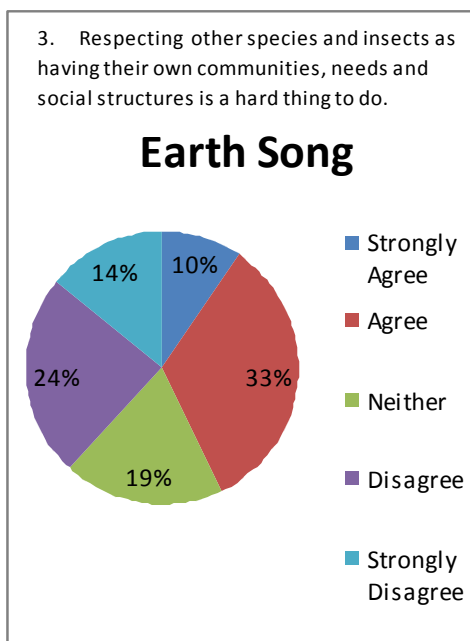
4.3 Earth context findings

4.3.1 The Earth community is a communion of subjects and not a collection of objects

This central phrase of Berry's (1988a) was not explicitly named by any EarthSong participant. Adopting more-than-human life as subjective was indicated by all participants, for example, 'I've got a couple of pigeons who think they own my clothes line. They make me smile every time I meet them' (Participant 2). Three advanced participants told stories of recognising the autonomies, including and 'honouring' more-than-human life. For example, participant 4 spoke of a ritual adopted within an EarthSong occasion that celebrates 'all of creation being in sacred communion'.

The additional participant indicated this theme within his narrative art piece (see Appendix 2). I sought verbal clarification of possible implied emotions and messages within this image, to which he replied it was not guilt but 'deep respect'. This person was predisposed to this position before of this research process, however he indicated that his connection to this work had confirmed and heightened his sense of compassion and realising more-than-human life as 'beings'.

Two significant survey questions emerge as question 1.3, 'Respecting other species and insects as having their own communities, needs and social structures is a hard thing to do', and question 1.5 'I have noticed the mood of the birds in trees near my home'.



The result finds 81% of this survey respondent group are aware of the mood expressed by bird life near their homes — which suggests they are implicitly aware of them as subjects. Question 1.3 reflects the notion that non-human animals have autonomous, socially structured lives. A significantly smaller 43% of this same respondent group were able to relate to more specific ideas of the more-than-human world's needs and social structures as 'community'. The outcome of these findings suggests that this respondent group identified more strongly with the subjectivity of other species than they were aware of their needs as individuals.

4.3.2 Participating in mutually enhancing relations with the Earth community

All advanced participants spoke of 'relating' with non-human animals, or of creating 'mutually enhancing relationships', typically illustrated by advanced participant 1:

I think probably the most influential is 'The Great Work' (1999) of Thomas Berry and his challenge to say what we are on about. The 'Great Work' is to create mutually enhancing relationships. So I suppose as Presentation sisters we've always said that relationships are an important part of who we are and what we are on about as women of religion. So, we were seeking to develop just relationships and hospitable relationships so to have *mutually* enhancing relationships with all of creation. That just sits well with me.

All advanced participants reflected this theme as being embodied in their lifeworlds, for instance participant 4's experiences; 'I talked to the stromatolites. I talk to the birds each morning. I smell the tomatoes are alive. That's a relating'. Similarly, participant 5 tries to 'be very aware' of the life that has died for her 'nourishment':

I'm still working out our connectedness to them, our relatedness to them. But when you eat there is death and that happens all the time. So I suppose in the nourishment of food. I try and be very aware when I am eating it that something has died for me to be having this food.

Participant 6 spoke of her awareness of the 'interspecies dimension' of her community:

We have a small informal community, three properties trying to influence other property owners. We will create this habitat for animals. So there's a social dimension and an interpersonal dimension. So there is the social dimension as well as the interspecies dimension.

All participants expressed, in their own language, mutually enhancing relationships, in terms of equality for all life and in being open to learning from entities of the more-than-human world. For example, participant 3 said, 'the tree has something to teach me and it's mutual. The shift for me is the master and caretaker to saying "we're in this together."'

Participant 1 told a story that offered insight into the level of commitment she, and a group of women she lives with, have to non-human animals having their autonomous needs and lives met with respect. She spoke of a family of Plover birds living in a tree near their home that she took great care to ensure no mower or visitors disturbed them. The story continued to illustrate the level of commitment this group of women have, which includes two other advanced participants, have to mutually enhancing relations. They refused a 'princely sum' for the land, upon learning that the prospective buyer had misaligned intentions for this land:

We were actually approached by a man to buy our property at a princely sum. He said we could continue to do what we were doing on it but that he would build an equestrian centre on it. We said 'no way'. It wasn't an easy decision to come to because we are cash strapped now because we're getting older, fewer of us are working, ... so it was attractive but then when we looked at what he intended to do and he actually said, 'I'll put the trees in' and we had this image of trucks arriving with full grown trees and wilderness overnight. We said 'that's not what we are on about. This land has been spoilt for a long time with farming and cleared and farmed and there is something here that wants to grow'. We want to release it, so we said 'thank you very much but no thank you.'

They progressed to restoring the land to create a 'place' for all to 'share'. She attributes this intention and action to the 'influences' of Berry and Swimme (1992):

So we've developed a project and it is wonderful to see what has happened to it in the last 3-4 years. We've planted 5500 trees of different species of tree. I don't think that I would have committed to stay with this project in Pakenham if I hadn't of had those influences. Five of us put our hand up and said 'we'll do some work on it'. That whole notion of walking the land, being on the land and letting

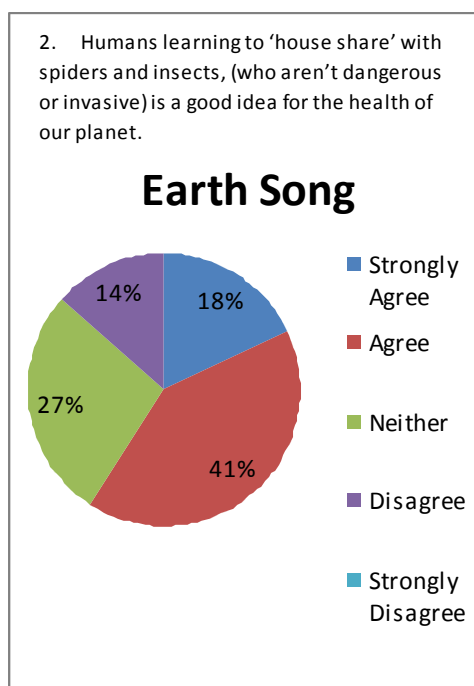
the land speak to you, we went and spent time on it. We try and be a little in tune with it.

The additional participant indicated this theme in four art pieces (see Appendices 3, 4, 5 and 6). These images were inspired by him understanding the research activities (Swimme, 1995):

Using visual imagination actually helped me understand the concepts intellectually. The basic imagery sprung to mind during sessions of Brian Swimme and Thomas Berry, which would then lead on to brainstorming sessions about particular themes that I wanted to approach through illustration.

Appendix 5's central message is of an enterprising human, envisaging monetary profit at the expense of non-human animals homes, indicating no regard for mutually enhancing relations. He then illustrates the opposite scenario in Appendix 6. Appendices 3 and 4 narrate a clear intention; to replace human greed by including non-human animals in the rations of food.

Survey results relevant to this theme emerge in question 1.2: 'Humans learning to 'house share' with spiders and insects (who aren't dangerous or invasive) is a good idea for the health of the planet'. This question focused to the idea of 'house sharing', with less tolerated yet common beings humans tend to encounter in their homes, as a way to capture participant's commitment to adopting the notion of 'Earth community'.



The results show that individual participants and survey respondent's adopt the notion of this theme in similar levels of acceptance, regardless of levels of immersion in Berry's and Swimme's work. This is further evidenced in the survey result which finds at least 59% of respondents made sense of, and agreed that 'house sharing' with spiders and insects is helpful to the health of the planet.

4.3.3 Identifying human self-reflective consciousness as unique but not superior

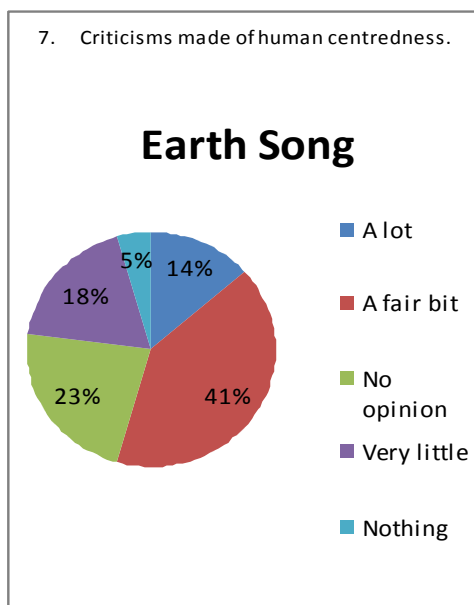
All six advanced participants reflected upon their resistance to thinking of themselves as ‘above’ or superior to the more-than-human world. For example, participant 4 spoke of being ‘open’ to the human as a species not being the ‘top’ species, ‘You read books that we are at the top but I’m not sure that we are. I’m open to whatever.’

Two participants reflected in their own language, the distinction of self-reflective consciousness inherent to this theme. For example participant 6 offered her view that humans need to learn to ‘sit down and shut up’ in an attempt to transcend humans dominating Earth, but also spoke explicitly of the ‘place of the human’ as the ‘self-reflective consciousness of Earth’:

It’s the Earth speaking to us. So it’s us not being the dominant ones. We’ve got to sit down and shut up and be quiet and listen. So it’s really turning upside down. Yes and they have a certain kind of consciousness ‘cos the cattle look at me’, ‘Am I friendly or not friendly?’. But the human is the self reflective consciousness of Earth that’s the human stance. Which is part of the diversity of the universe and the place of the human is self reflective consciousness of Earth.

The additional participant reflected this theme in two of his narrative pieces, that supremacist behaviour being a dominant factor for women and non-human animals. Appendix 7 depicts a white, ‘greedy man’ holding the Earth away from the grasp of women and animals. A tie around his neck symbolizes his interest in wealth accumulation. Appendix 8 indicates the overweight male as having slimmed down and he has removed the money tie from his neck. This male now joins the female and other-than-human beings as equals around the Earth. This visual narration implies a sharing of the Earth that has diffused gender inequality, human supremacy and greed.

The survey question relevant to this theme was designed to ascertain awareness levels of the concept ‘human centred-ness’— a concept resonant to the specific notion of this theme ‘self-reflective consciousness’. This approach enabled a way to capture survey participants’ reflections of this concept who are less familiar with Berry’s (1988a) and Swimme’s (1995) work. To this end, the survey participants were asked how much they knew about question 2.7: ‘Criticisms made of human centred-ness’.



Approximately half of the survey respondents were either not very familiar, or unaware of human centred-ness as a concept. This result shows as markedly different to high levels of awareness and adoptions of it reflected by advanced participants. This could indicate minimal-medium levels of immersion of Berry's and Swimme's work directly impacts lower levels of understanding and adoptions of human centred-ness.

4.3.4 A species capable of profound appreciation of the preciousness of our planet

This theme did not emerge from any participant, in the sense Berry (1988a) and Swimme (1995) might want; for us to be aware of this attribute within ourselves. However, three advanced participants expressed their own embodied 'profound appreciation' of Earth and the universe. For example, participant 3 spoke of 'the creativity of the garden'. I get out there and say, look at it, look at it, look how Brussels sprouts grow'. Participant 3 offered the following prayer before a shared meal, in conscious appreciation of the food about to be eaten as 'gifts' of the universe and Earth:

This meal is a gift of the Earth and the work of human hands
 The universe has laboured long and hard to prepare the meal
 in which you are about to partake
 Earth has been the alter of transformation as Earth, water, wind and sun
 are wed to birth this delicacy
 Let us eat with a sense of gratitude and connectedness to all that it speaks to us

Participant 5 spoke about and painted, (see Appendix 9), her increasing identification of Berry's profound relationship with 'the meadow' (Berry, 1988a) and of her profound relationship with 'the paddock' where she lived, 'as she delighted in its light' and could 'see the beauty of the sun dancing on the paddocks':

I painted this quickly with great passion wanting to celebrate the uniqueness and beauty of what I behold and love. In a way I was beginning to understand why Thomas Berry had fallen in love with his meadow. It was that kind of connection with this place. The fall of the light at different times of day and the birds who also love this part of the world. This place has become my place of delight.

4.4 Single religiosity

4.4.1 The Universe Story provides a context for showing all religions as unified but differentiated parts of the same religiosity.

Four advanced participants initiated the topic of the Universe Story as being an ultimate context for differing religions. They indicated in varying ways that each religious group keep and embrace their religious context and tradition, yet also adopt an ‘integrating’ and ‘equalizing’ evolutionary and historical perspective. For example, participant 2 suggested that this ‘rightfully places’ each religious ‘story’, and similarly participant 3:

The Cosmic Story equalizes people. So what if you are whatever denominations in terms of religious preference? It’s all the one God. I say that every now and again to people. It’s just different interpretations to me and how they live it in the Cosmic Story, evolution, Universe Story is instrumental for integrating faiths. [Participant 3].

For three participants, the Universe Story was a catalyst for moving their image of a personal God to a phenomenal ‘God’. Participant 4 spoke of the Universe Story as being ‘for real’ and that adopting identification with a personal God is no longer appropriate for her:

I have found it (Universe Story) of better relevance because we are seeing more and more that the bible has anecdotes or parables, whereas I know that the Universe Story is for real. But it’s the ‘God the Father’ bit that made the world, bearded man on the sky: that’s gone.

The additional participant touched on this theme when he first was involved in this research. He indicated that he was not interested in being involved with overt ‘religious rhetoric’, in response to his first impressions of an EarthSong (2008) brochure. However, upon a closer look at the wording, and experiencing the event, he

recognised the people as spirited persons who, whilst exploring new teachings, were still respecting and putting the Catholicism into a broader context, that being the Universe Story.

I guess that the Catholic world is very much about a particular language, a ritual and it's pretty brave of them to be able to step outside of that. That's the big thing I came away with I respected how brave these women were, to break out of the mould. I guess Catholicism is one of the harder things to break away from. It's pretty heavy in the ritual and 'you've got to be on our team' type of mentality.

After he experienced all of his relevant activities to this research, he concluded that he was most comfortable with Swimme's approach to the Universe Story, being synonymous with metaphysics:

For me it's (EarthSong) run by people of the church for people of the church. The difference between that and say Brian Swimme; he seems to come more from a science, more secular kind of spirituality. So in a sense I guess to be honest, with the McKillop EarthSong crowd, and me not having come from that church background, it almost feels like the process they need to do to get their people out of that box is just hindering someone like me who is already out of the box and more ready to run.

Lastly, this participant referred to Swimme's *Canticles to the Cosmos* (1995) DVD series as 'standing apart' from the work of Berry because of its orientation to 'quantum physics' and 'free of any religious attachments':

Yeah I'm annoyed that the Canticles are so hard to get — you really do have to seek it out. I know people who'd love to watch the Canticles but it is inaccessible. If it can be put out there in a way that is free of any religious attachments, it needs to be free from all of that stuff. I think the Brian Swimme work has to stand on its own apart from religion. People like me won't go to Glenburn or EarthSong 'cos in my mind if it has that attachment they have already chosen to reject it, that whole association. In my mind the whole Brian thing is locked in with the quantum physics thing so maybe it's his connection with Thomas Berry.

4.5 The art of living the work of Berry and Swimme

4.5.1 To celebrate and enhance all of life's flourishing as an inclusive cosmological ethic

Participant 4 spoke of Earth as not needing to be 'saved' but rather 'cared for in the service of creation'. Furthermore, she implied that the universe is celebrating itself in all life forms and that this orientation is intended as celebratory; 'How we can celebrate the Eucharist, you don't have to do that in four walls because we live in a Eucharistic Universe'.

Participant 1 spoke of wanting to diffuse human supremacy by centring on loving 'other', to enable the 'expansiveness' of other:

Again I am just thinking about the way you see it. The way you see, because we had control on the other. This is letting the controls go. Because we were so self centred and I suppose it is other centred. So it's the expansiveness of that other. It's hard to put words to it. It's a new way of seeing, loving the Earth.

4.5.2 Wholehearted participation with life's subjectivity and other ways of knowing

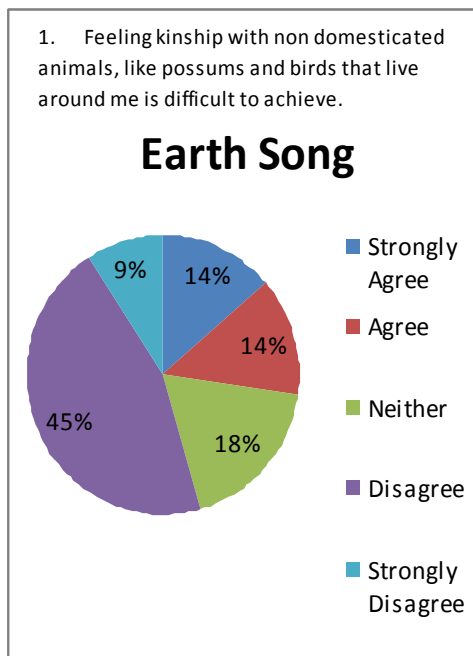
Experiences of this theme were spoken of by three of the advanced participants. For example, one person spoke of experiencing inter-subjectivity with the universe, as allowing a 'deepening of an experience of what was happening':

We were quiet and we all sat down next to this old tree stump and sat there for absolutely ages. It was the kind of experience that lulls one into silence. We all spontaneously found our place to sit and there was a still-ness but it was an empowering kind of a thing [Participant 5].

Three participants offered stories illustrating their valuing silence, contemplation or ritual as a practice for entering into an experience of more-than-human worlds. For example, participant 1 spoke of creating a labyrinth and holding gatherings of people as an opportunity to help 'tune into' the 'land':

This year we've had a ceremony to celebrate our commitment to the land. We had a lovely ritual and invited people to walk around and feel and smell and listen to what was happening; birds coming back.

The additional participant reflected on this theme in Appendix 10. On the left hand side of the image it shows three white, male humans gorging themselves on any manner of life that lies before them, as they make their way up an orchard hill. This half of the art piece explicates humans as having no regard for the autonomies of more-than-human life. This tone is then clearly opposite on the right side of the image, where there is obvious flourishing of the more-than-human world on this side of the orchard, as opposed to no sign of more-than-human life on the opposing 'crude' side of the orchard.



The survey question relevant to this theme asks respondents if, 'Feeling kinship with non-domesticated animals, like possums and birds that live around me is difficult to achieve'. This approach aims to gauge the survey respondent group's willingness to participate with the more-than-human world around their homes and living spaces.

The result shows 54% of this group reflected either 'Strongly agree' or 'Agree' — indicating that over half of this group find it difficult to feel kinship with non-domesticated animals that live around them. This outcome also

indicates lower levels of survey respondents adopting notions of this theme compared to the advanced participants. It is possible that differing immersion levels experienced of Berry and Swimme work directly implicate adoptions of this theme.

4.5.3 Marrying reductive science to a language of subjective knowledge

The advanced participants did not specifically speak of this theme within the methods relevant to this research although the notions of subjective knowledge are implicit across the EarthSong activities they create.

4.5.4 The destructive implications of humanity's pervasive industrial consciousness

This theme was expressed in varying ways by five of the advanced participants. Concerns that modernity is too focused on money, the economy, and greed were recurring themes. Yet three people spoke of the Earth as 'everything we need really' and that the Universe Story may be of benefit to this end:

The Earth has provided everything and we have abused it. We are in this moment in history where globally, where people like you and I have an understanding of the Universe Story, new creation story. To let it all filter through, we are going to have to live through this time [Participant 3].

One person however identified that a 'huge sense of responsibility' also comes in knowing the 'whole New Story':

I think the whole New Story blows our brains into not just an 'ah ha' moment but it's also a kind of challenging, its huge it's a sense of responsibility, it's a sense of amazement, crises, more to learn how little you know, how important it is for the New Story to be told as it is and how sad it is the people's view of our world and Universe, our situation, our connectedness with all creatures is so lopsided because of greed or lack of information or whatever I suppose [Participant 5].

5. Additional outcomes

5.1 Consideration of big picture perspectives

Adopting timeframes over billions of years, as a context for living, emerged for three people in line with participant 1's comments, that a timescale as colossal as cosmological evolution was 'liberating' yet 'beyond my capacity'. Conversely, advanced participant 3 implied that adopting a view of Earth as essentially a self-governing super-organism actually helps her to diffuse any alarmist views of the state of the world:

The Earth speaks her own story, her own thing. So I believe you look at climate change and this is Earth speaking. She is going to make herself known. We are only little things running around on her. So we are not listening and we are going to become extinct and another kind of being will be created. Earth will survive. I used to worry about that but I don't worry about it any more. Seeing the bigger picture.

The additional participant spoke of his experience – when he participated in an EarthSong exercise – that had him hold a basketball sized plastic globe of Earth whilst imagining the Earth ‘within’ in the context of the cosmos. This exercise, he said, gave him a ‘nice shift for the moment’.

The globe for a moment, I saw myself as a small expression of the overall, and for a moment I stopped identifying myself with this body I’m walking around in. For a moment I was just a body with a window for the universe to look at itself from. I’ve had that before but it’s hard to get happening in my head. Holding the globe, she said ‘imagine that you are looking down’, or where my mind went was trying to imagine yourself on this huge thing, outside of it for a moment and you are just this tiny speck on it. This whole globe is just this revolving system. That gave me a nice shift for a moment.

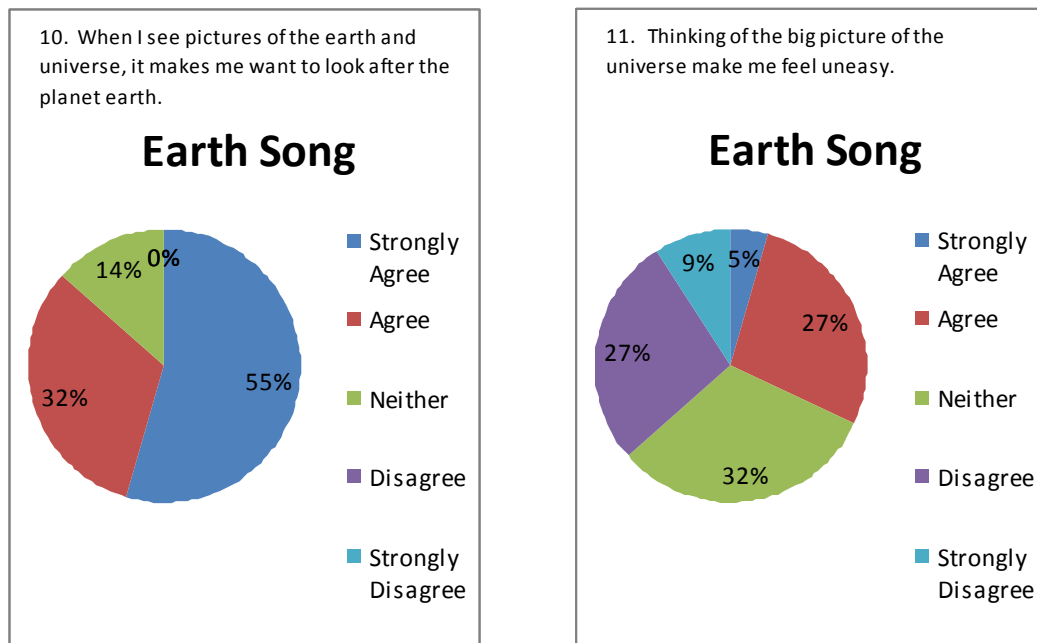
This exercise also inspired him to see ‘one’s place in the scheme of things’. He indicated experiencing perspectives of the cosmos as helping to see whether ‘something’ can be cared for or not, implying this perspective as superseding everyday difficulties:

I think from wherever you’re from, if you’re able to view the Earth as a bigger picture or a bigger picture within a smaller picture, and something which can be either taken care of or ruined then it makes the process a bit easier to comprehend. It also puts you outside of yourself for a moment too I think. I guess part of the process would be to imagine yourself just as this tiny speck buzzing around down there on the surface of it and the heavy day to day dramas aren’t the extent of everything. It seems to be a bit of a disillusion of self [Additional participant].

Further, he also described ‘cosmology’ as his ‘definition of insanity’ if explored too deeply, and implied that boundaries are necessary for psychological health:

The Universe Story can be taken as simply as it needs to be. You don’t need to be a physicist to understand it. If you did want to take it into detailed scientific realms then it could go there. But cosmology is like a carrot on the end of a stick, it’s my definition of insanity. It’s like the drive to try and achieve a final answer. I know people who have ended up in psych wards who get caught up in never ending circles and spirals—it’s kinda the same [Additional participant].

Survey questions for this theme gauge minimal-medium immersion participants' levels of adopting big picture perspectives. Survey Question 1.10 asks, 'When I see pictures of the Earth and universe, it makes me want to look after planet Earth', and Question 1.11: 'Thinking of the big picture of the universe makes me feel uneasy'. The results are as follows:



Survey respondent results for question 1.10 reflected similarly in strength to the advanced participants sourced from EarthSong – reflecting 87% of survey respondents choosing 'Agree' or 'Strongly Agree'. Question 1.11 differed in that the advanced participants reflected a high level of ease when adopting big pictures of the universe (see above). On the other hand, 41% of survey respondents reflected thinking about big pictures makes them feel uneasy. The results of these questions together suggests minimal-medium immersion participants are more likely to adopt big pictures of the universe when stewardship values are associated with it – compared to simply thinking of the big picture of the Universe.

5.2 Inner work and the Universe Story

Two advanced participants spoke of the need for, and experiences of, inner ‘transformation’ in relation to being involved with the Universe Story. For example:

So I think it will take extraordinary patience and respect for those, where everybody’s at in their own journey. This transformation, whatever language you want to put on it, is something beyond language and words. It’s a whole interior transformation and I think it’s got to happen. It happens extraordinarily differently amongst different people [Participant 6].

5.3 Sustainability behaviours and skills in marriage with evolutionary cosmology

Five advanced participants spoke in varying ways of adopting the Universe Story in marriage with practical, sustainability approaches (Edwards & Orr, 2005). For example, participant 2 spoke of people who ‘just want to come in on a sustainability level’, preferring ‘the real foundation’, of a ‘story’ that is ‘deep enough’ to motivate engagement with sustainability:

I am in a sustainability group and they talk about light globes and water and all that’s important. But I want it to come from the real foundation. I get exasperated because people just want to come in on a sustainability level. You can’t be just in one world. It would be a lie. I think you need something to ground you. If you dig deep enough there must be a story that motivates.

Three advanced participants spoke of the importance of sustainability ‘action’ and the positive influence that can have within communities. For example, participant 3 admired a group of older people being ‘motivated by the New Story’ to undertake ‘practical down to Earth stuff’:

I remember about all of that, that will always stay with me; is people who are so much older than myself, how they in their late 70’s and 80’s became passionate to their connection to Earth, universe and about practical down to Earth stuff that they were doing. The amount of letters they were writing and places they were going to talk. I was blown out about it. By their ability to go beyond their limitations in terms of age and agility because they had been motivated by the New Story.

5.4 The matter of story

The additional participant reflected that he, as a young western male at this time in history, found it difficult to identify or accept consciously abiding, to or living 'in a story':

I think the fact that it is being called 'The New Story' just makes me think 'I don't need another story'. I'm more in the process of getting rid of them; understanding a few stories which all generally say the same thing; Tao teachings, ideology, religion. I don't feel I need to take on new explanations because it's already there but it's nice hearing different versions of it. Some people need a story, probably a lot of people do, but I don't think I do.

When asked if there was value in Berry's and Swimme's work for him, he appreciated it to be 'as close as you'll get to a non-story'. He recognised the Universe Story as a blend of 'science and spirituality', that doesn't have to 'wow them':

I like that this, even though it is a 'Universe Story', is as close as you'll get to a 'non-story' as there is, where it is just an appreciation of the spirit within reality, whatever that is. The fact that it is science and it is spirituality at the same time it is neither of the two. It just is what it is. It hasn't created deities and heavens and hells or places which is conceptual. It's more like 'we've figured out so far through science and theory and spiritually and isn't that amazing? We don't need anymore than that'. Just the basic story if that is enough and we don't have to wow them. I do like that about it.

He also implied that the Universe Story was more a conceptual story to 'remember' and 'have in your head', but disconnected from everyday life:

Yeah, I guess the reasons their (indigenous) stories were important was because it was all about which time of the year to go up the river and catch fish. The stories, even though they were mythologized and deities were created, it always came down to practicals. Again it (*The Universe Story*) is something to remember and something to try and have in your head and try and hold onto even though it may have nothing to do with your day to day life. But you have to convince yourself that it does.

5.5 Difficulties with Berry's and Swimme's work

Five advanced participants spoke of Berry's and Swimme's work as a 'whole new language', or as being language difficult to communicate. Participant 1 summed up in a phrase, the sentiment of these five peoples' experience; 'When others don't know what you are talking about, oh my God, where do you start?'

Participant 4 illustrated this as a big enough to stop her from presenting the work:

I find it easy to incorporate but I don't find it easy to use the language. I've been with EarthSong since the beginning, and a couple of times they have said 'you might be able to present with us?' But I would never take that on because I don't feel it is part of me enough, the words. The ideas are and the living by it is, but I'd be nervous that I wouldn't have the language.

Four participants felt that a person needs to take a lot of time to absorb the work, and of needing to be personally developed enough, or ready' to do so. This point was interpreted positively, in terms of a person's personal 'journey', yet also as a difficulty, in the sense that not everyone will take the time, or have focuses to allow them to be 'ready'. For example, participant 2 said, 'People's lived experience; people take a while to get into that. It depends where a person is grounded. Maybe you can put a few signposts or stepping stones around that they may or may not take. It's readiness'.

Two advanced participants pointed to the scientific dimensions (Swimme, 1995, 2003a) of the work as difficult. Participant 1 and 3 spoke Swimme's language as 'very scientific' and 'difficult':

I think the Brian Swimme stuff is absolutely magnificent, but it is very scientific. I am very scientifically educated and I'm theologically educated. So you have a language, an epistemology that other people don't have. And I think is it because of the language? There are all sorts of people [Participant 1].

My frustration at the moment is even to get my contemporaries to take that step. At Christmas time we go to Geraldine for our holidays and I took down Brian Swimme's Canticles. I put a note up to say it will be showing at such and such a time each day. I do believe that the first one is off-putting. If I did it again I would not use the first one. Because he tries to do an overview and it's too

scientific. There were three people who kept coming. But they said it was too difficult for them. I can understand that [Participant 3].

5.6 Recommendations for the work

Four advanced participants believe introducing the Universe Story to new people needs to offer experiences of it, that accommodate different people's realities and learning styles. For example:

It needs to come from people's experience and with people's needs and reality. It has to ask what is happening, put there in front of people in their face from the newspaper, which then draws them into a whole other area of cosmology [Participant 5].

Participant 2 recommended that set programs of this work, or 'thinking up some process' would not work. She believes a person's life-world will be affected by the Universe Story when their own life story can be experienced as integral to cosmological evolution as 'story'. This, she says, allows a person to 'follow a journey themselves':

You can't leap or jump from here over to there. You've got to take small steps. I'm not too sure how much of a final goal you hold. You probably would need one but it is a destination you probably won't reach. One thing I would not do is set up a program that you taught year after year. Each program would be different because there would be different participants. When I ask people about their stories, I ask them for layers. I ask them for a description to situate me in the story. Then I ask them to reconstruct that scene and reconstruct that scene which is re-experiencing and ask them to recall all body sensations.

Participant 1 implicitly recommended Berry's and Swimme's work as a transformational tool to help shift our personal consciousness, toward a shift that positively affects the world. She said, 'We have tried to always use poetry, art, music, song, dance, ritual as part of this interiorising of it, so that it's not just a head transformational learning. I think it was Pope John the 23rd that talked about ecological conversion; I see it's a consciousness conversion'.

Suggestions for experiential approaches emerged in varying ways, for example:

- Inter-subjective experiences with the more-than-human world, and linking that experience with a narrative of the ‘cosmic story’. For example, participant 4 said, ‘I’d have them looking at the stars, they’d be looking at soils and animals. Then I’d extend it into where all of these take place in the cosmic story’.
- Experiences that allow immersion into sensate experiences. For example participants’ 6 and 2 suggestions:

I would work with live-in weekends with adults. I would use my art therapy stuff as well and integrate the two. Put them into a sensate experience. It might be just sit for half an hour still and see what is happening around you. You might see a trail of ants around you. Things happen when you are still and you are in there [Participant 6].

I would prefer them to have an experience and for the learning to come out of the experience. Sometimes a good video can do that but I would prefer anytime – like when at the beginning of the day we went for quite a long walk along the top of the river bank. We stopped at different stages and looked at things – you’ve got to smell see and touch I believe [Participant 2].

Three advanced participants spoke of experiencing Berry’s and Swimme’s work in conscious contemplation, or reflective processes, and of needing to allow time for deep immersion:

I have heard of groups watching *Canticles* in a weekend. Well we took a year to, so it or more because we tried to look at it, think about it, to associate it with our world, to reflect on our own experience in the light of that, so we talk about our own experience, so we try to do it in a fairly contemplative way. So that it was reflective, thoughtful and unrushed.

While we have done a lot of study like *Powers of the Universe* [Swimme, 2003a], it’s transforming us and it’s a slow work, you can’t rush it. People have got to be ready. It takes a lot of washing and mulling and reflecting on and letting it touch you and transform you.

The additional participant recommended experiential approaches to the work. He found the EarthSong symposium lectures too conceptual, where the ‘facts and numbers that got piled on’:

Those two lectures, I felt like I would have understood it more if I had of just read it out of a book in my own time. So that was a bit of a drain. The information would have been too much, in one ear and out the other for most of the people there. One of the younger women I was talking too said it was hurting her brain to try and take it in, which I think it is a good indication of what's happening there.

Further, he believed the work needs to be presented in ways that are 'enjoyable', and need 'humour' and 'dance and music':

It needs to be something enjoyable which is where the experiential stuff comes into it. There should be music and dance from the stuff because that's all a big part of life as well. It's not just about reading or listening to lectures. It definitely needs to be felt and there needs to be humour involved.

He thought that 'a culturally acceptable way' would need to be 'young, cool and vibrant'; that contemporary artists are communicating similar ideas:

There's this whole culture of cool. For it to be taken seriously by younger people it would need to be presented in a way that has to be young and vibrant without trying to look young and vibrant. That's where John Butler and people like that really hit the nerve of the young crews. Xavier Rudd and people like that are all singing and talking about pretty much the same sort of stuff, but they are doing it in a culturally acceptable way. There's also some really intelligent and positive messages coming from the hip-hop world which tap into themes of ecology and spirit. So I don't think the ideas need to come in any particular musical form, it just needs to be genuine.

Additionally, as an artist, he would approach communicating the work in an animated style that was 'humorous and cool' through illustrated books and comics:

Through illustrated books and comics; the stuff that I know how to do and I would do it with a great deal of humour and an equal amount of light and darkness. So a humorous take, but it would have to be real and balanced. Not necessarily sugar coated or safe. Definitely not politically correct.

Researcher: So a 'cool' narrative?

Yeah, and a cool format so not just text but imagery and realms of animation. You really need to keep people from getting distracted these days. It needs to be something that will keep their attention.

Advanced participant 2 also favoured exploring music and multimedia approaches: 'I would also offer something visual – music and visual, and get them to do a song. One Earth, one family, we are one. I'd probably teach them a little movement. I think multimedia, learning through the sense as much as our heads'.

Participant 2 maintained that 'this work isn't for everyone', or 'not even desirable' because some people simply need to experience the larger living world unconsciously, or are 'simply enjoying it':

One thing that has stayed with me; was that because of our origins, like up trees and in caves, we can't actually live unless we are connected to that still in our psyche somewhere. But not everybody has to experience it. But there are some people in the community who bridge that. I just don't think that possible or even desirable. If you've got it and you want to do that, where do they naturally go to? Go to the Botanical Gardens on a weekend, there are people everywhere simply enjoying it. Go to the beach, the forest.

Three advanced participants recommended focusing the work on small groups of people who are already enthusiastic, or in advanced participant 1's word's, 'enthusing the enthusiastic':

I think I'd set it up for people who were already curious about the whole bit. I wouldn't be trying to impose anything on anybody. Initially I wouldn't want big numbers but people who were really curious because to me that is a pre-requisite for learning.

The following suggestions emerged implicitly and explicitly on how to best adopt this work:

- Linking the Universe Story to something challenging now; for example the issue of climate change; 'You'd want to link it to something now. Climate change is really important' (Participant 4),
- To not take an activist approach or try to indoctrinate people; 'Don't try to indoctrinate people' (Participant 2),
- To consider posing questions that have people think of the state of the future; 'That ad, that used to be on with the grandfather and the boy. They were walking through a forest that had been mowed over and burnt out. I don't know what the question was but something like;

‘what is going to be left? That really is a poignant question’
(Participant 5),

- To consider using religious education as a catalyst for discussing the Universe Story; ‘That’s your starting point. One of the things I’d do in RE was look at the basic questions — that’s a great step in looking at the big philosophical questions — who am I? Where do I come from? Where am I going? They are the basic ones. They are the fundamental questions from which myth has been born. How do I fit in?’
(Participant 2).

Chapter 6: The Centre for Ecology and Spirituality (CES)

1. The context of the Centre for Ecology and Spirituality

This second case study involved individuals sourced through programs offered by the Centre for Ecology and Spirituality (CES) – an organisation of the Christian Brother Network— at Glenburn, north-east of Melbourne.

CES describes itself as ‘an expression of the ecological movement, of the Australian Christian Brothers’²⁶. It regards the desire to reconnect with Earth values, as a form of spirituality and has adopted *The Universe Story* (Berry and Swimme, 1992) in response to Pope John Paul II’s call for ‘Ecological Responsibility’ (Pope John Paul II, 1990).

CES is located in Glenburn, where its permanent residents include three Christian Brothers, one of whom is Brother Parton. CES is committed to collaborating with other groups and offers workshops and retreats at its bushland location. Programs offered by the Centre, aim to combine knowledge with contemplation and lived experiences of the Berry and Swimme model, and to encourage approaches promoting spirituality that recognises the ‘ecology of creation’.

As mentioned in chapter 5, case study contexts were selected in order to consider the implications for the ways in which Berry and Swimme suggest a reframing of environmental ‘activism’. Like EarthSong, CES has an explicit interest in promoting Transformative learning (O’Sullivan, 2001) and environmental activism through deepening ecological understanding and this aim explicitly underpins their educational work. As with EarthSong, CES provides an educational context in which participants are encouraged to contemplate activism and this, therefore, satisfies one of the key criteria for selecting research case studies.

As with EarthSong, the Centre for Ecology and Spirituality’s aims and philosophical orientations clearly reflect its underlying philosophy on personal knowledge and social function and this provides an appropriate context for aims of this research.

Once again, this thesis does not focus on or critique the educational philosophies or pedagogies of the host organisation; however it is important to understand the

²⁶ Sourced from ‘The Centre for Ecology and Spirituality’ pamphlet 2012, made for public circulation.

context that has been provided for the individual experiences which are the focus of this thesis. All individual groups were facilitated by the same person, Brother Trevor Parton of CES, so a brief outline of his ontological orientation is relevant at this point.

1.1 The role of Brother Trevor Parton

Brother Trevor Parton encourages an experience of the cosmos through the notions of Berry's and Swimme's work, by observing the stars and embracing a reverence for all life as being 'non-theistically sacred' (Parton, 2011, p.45). His poem, 'The Fire' (Parton, 2011, p.66) illustrates his relationship with the Universe Story well:

The Fire

I gazed into the fire
And wondered
What is this energy?
Coursing throughout the veins of history
Like blood,
And bathing me with warmth?
This is its last gasp,
For heat is the end of the energy line;
Entropy, disorder, waves end, dissipation.
And what did this energy do
After its journey from the sun?
It warmed the earth around the seed,
Made sugar in the leaves,
Wood in the stems and trunks
Until the tree stood up and said
"I am, I am, I am."
A tree that is, and carbon, oxygen and
sunlight too,
and bits of you.
And I am supanova too, and galaxy,
And whatever came before that
I am, I am, I am, I am...

Brother Parton values theoretical and scientific exploration of the cosmos, interpreted as being a subjective, self-organising, emergent phenomenon (Berry and Swimme, 1992). He seeks to assist the adoption and embodiment of the

mystery of this phenomenon, as intrinsic to, and inseparable from, the Earth and cosmos. He interprets this as a bio-spiritual happening, to be revered in celebration (Parton, 2011).

2. Participants

The individual participants sourced through CES are clustered into three groups for the organisation of this case study. These individuals experienced differing activities and levels of immersion in Berry's and Swimme's work. A fourth survey group consists of anonymous individuals:

Group 1: 'WellSpring participants' - three participants

Group 2: 'Christian brother participant' –one participant

Group 3: 'Glenburn participants' –two participants

Group 4: 'Survey participants' – twenty two survey participants

2.1 (Group 1) Three participants

These three participants were sourced from activities experienced at the 'WellSpring Spirituality Centre', Ashburton, Melbourne. This Centre had engaged Brother Parton of CES to conduct a short course called 'Ecology and Spirituality' (CES, 2010). This group typically presented as adopting minimal to medium levels of immersion in the Universe Story.

2.2 (Group 1) Activities relevant to these participants

The relevant activities they experienced were part of two evening sessions and one afternoon session. Each session was essentially a lecture format, with some time allocated to allow the group personal reflection and discussion around the themes raised in the lectures. The total contact duration was around 8 hours.

The specific session topics were:

- The Universe Story (3hrs)
- The spiritual challenge of the ecological age (2hrs)
- Mysticism and/or activism (3hrs)

The activities experienced by these participants centred on observing and listening to Brother Parton, who presented the sessions using oral and audio-visual approaches. The following are examples of central notions presented to the participants in these activities:

- The origins of the universe through visual interpretations that included a digital re-enactment of what the Big Bang may have looked like, followed by images of the cosmos such as nebula and galaxies. The universe was described as an irreversible emergent process, that is 'ever becoming' because cosmological dynamics govern how life unfolds in its ever changing forms.
- The history of Earth and cosmos over the 14.7 billion year cosmological time-scale, delivered in a concise and engaging manner. This began with the 'event' of the Big Bang, then moved through the first cosmological gases, formation of planets and Earth, the development of living systems of vertebrate, reptilian and human life forms, to a description of human endeavours into science, philosophy, mathematics, language and culture. All these historical events were shared as having 'unfolded out of' the creativity of the mystery of the universe'. The interpretation of this historical trajectory, framed the phenomenon of existence as being primarily a 'sacred story' (Berry, 1988a).
- The patterns of creation described as beginning at the Big Bang and as unfolding into all the evolutionary stages of existence, as a common 'sharing of genetic life'. Participants were invited to consider the Earth as having its own biography, as a 'great chain of being'.
- To consider that their primary identity arises from their personal place in the 'story' – having unfolded out of – and as part of these biological and bio-spiritual universe processes. To this end, participants were invited to ask themselves 'who they are, where they are, and where they came from?' in terms of cosmological evolution.

- Modern science described as ‘a prolonged meditation on the natural world’.
- The origins of the universe as a context for adoption of the notion that humans play an integral role in the matrix of life, not a superior one.
- A need for a change of consciousness in the world, so that humans engage in greater self-reflection; humans need to step up and responsibly start to shift their consciousness. Brother Parton also spoke of humans needing to become more open and to experience other ways of being and knowing, which are different to human ways of being and knowing.
- Introduced to some of Berry’s (1988a, 1999, 2006) ideas which seek new approaches to act in more committed ways, to avoid further ecological degradation of the Earth.
- Introduced to Berry’s idea (1988a) that religious groups could consider keeping their own faiths and practices, but in a way that marries these with an adoption and embodiment of *The Universe Story* (1992), forming a unifying religiosity.

Phrases spoken by Brother Parton during this activity:

- ‘Wherever you go the macro-phase reflects the micro-phase’
- ‘Chance favours only the prepared mind’
- ‘Evolution is a light illumining all facts that must be followed’
- ‘The universe yearns for differences’
- ‘Our love in beauty becomes an ecstasy’

Phrases spoken by other participants during this activity:

- ‘The universe really expresses itself doesn’t it?’
- ‘The universe is reflecting magnificence’
- ‘The universe is reflecting horror as itself’
- ‘The universe is a whole expression radiating succulency’

2.3 (Group 2) One participant

This participant was sourced through CES. He experienced up to 40 hours of varying levels and types of immersion in *The Universe Story* (Berry and Swimme, 1992). This participant typically presented as adopting medium levels of immersion in the Universe Story.

2.4 (Group 2) Activities relevant to this participant

A discussion with this participant confirmed him as having experienced the following activities, notions and topics:

- Attending several conferences that explored matters of concern to the Christian Brothers. Among them were sessions conducted by Brother Parton, which explicitly focused on bringing attention to *The Universe Story* (Berry and Swimme, 1992). The sessions were also intended to help participants adopt Catholicism as one religion among others, within the context of a unifying single religiosity involving the Universe Story. Activities included listening, observing and discussion.

- Following the sessions, this participant sought counsel and personal discussions with Brother Parton, to further explore his unrest and his interest in the ideas rose during the conferences. Their discussions explored many themes around religion and Berry's ideas (1988a, 1999, 2006) in particular. This inspired the participant to read some of Berry's work (1998, 2006), and to view Swimme's DVD series (1995, 2003a).

2.5 (Group 3) Advanced participants

The two advanced participants experienced at least 300 hours of varying activities during the CES twelve week, residential course. These participants typically presented as adopting advanced levels of immersion in the Universe Story.

2.6 (Group 3) Activities relevant to the advanced participants

Due to this long timeframe, it is not possible to stipulate the exact activities they experienced. However, it has been possible to gauge the nature and degree of these participants engagement with Berry and Swimme's work, through discussions with them, sourcing CES programs and confirmation from Brother Parton. He confirms that all the activities outlined below, aimed at supporting individual life-world adoption and embodiment of Berry and Swimme ideas, were experienced:

- Extensive private reading, theoretical exploration led by Brother Parton and group discussions of Berry's ideas and works (1988a, 1999, 2006).
- Viewing Swimme's DVD series (1995, 2003a), theoretical exploration led by Brother Parton and group discussions of its notions.
- Private discussions of relevant topics with Brother Parton.
- Art and poetry sessions dedicated to embodying feelings in relation to the theoretical notions outlined above.
- Walking meditations on the CES grounds.
- Contemplation and engagement in private 'spiritual' practices.
- Permaculture and sustainable living skills.
- Forest day retreats.
- Exploration of the insights into other theorists often associated with Berry and Swimme, for example Teilhard de Chardin (1959), Joseph Campbell (1988). Mystics such as Hildegard (1151); Schillebeeck (1990), David Bohm (1980), Jean Gebser (1985), Charlene Spretnak (1991), Alfred North Whitehead (1960).

Additional experiential influences included in this activity:

- The Sabbat Walk – a walking path with eight designated stops that signify seasonal transition days throughout the year, for contemplating ones relationship with seasonal changes and cycles.

- The Cosmic Walk – a creative, reflective process developed by Sister Miriam McGillis²⁷ as a catalyst for experiencing the magnitude of the sequential unfolding of the universe.
- The Chartres Labyrinth – a large scale labyrinth for reflective contemplation.

2.7 (Group 4) Survey participants

This is a group of 22 people who have attended numerous groups and activities of CES. The participants typically ranged from minimal to medium levels of immersion in the Universe Story.

2.8 The survey groups

This group's activities included discussion and reflection at a beginner to intermediate level of immersion the Universe Story, and relevant introductory topics such as ecology, theology, ecological spirituality, as introduced by Brother Parton.

3. Participants and Data Collection:

Snapshot of Research Participants and Data Collection Methods

Participants	Age range	Gender ratio	Religion	First Language	Ethnic Background	Data numbers and type	Interviews
Group 1 (3 participants: Participants 1, 2 & 3)	38-50	F x(2) M x(1)	ANG x (6)	ENG	NIA	ST x (3) AP x (1) PO x (3)	(3)
Group 2 (1 participant: Participants 5 & 6)	50	M x(1)	CA x(1)	ENG	NIA	NO x (1)	(1)
Group 3 (2 participants. Participants 5 & 6)	60-70	F x (2)	CA x(2)	ENG	NIA	ST x (1) AP x (1)	(2)
Group4 (22 participants)	n/a	n/a	n/a	n/a	n/a	sv x (22)	n/a

²⁷ 'The Cosmic Walk', developed by Sister Miriam Therese McGillis of Genesis Farm in New Jersey, is a symbolic re-enactment that helps us enter personally into the (Universe) story. Participants walk along a long rope laid out in a spiral that represents the entire story of the unfolding and gradual differentiation of the Universe and the Earth from the beginning to the present. The major events in the history of the Universe and Earth are marked along the rope by small candles at appropriate distances. (<http://www.rainforestinfo.org.au/deep-eco/cosmic.htm#background>)

Narrative Data Key: ST = stories, PO = poems, AP= art piece, n/a=not available, F=female, M=male, CA= Catholic, ND= non-denominational, ENG= English, NIA= non-indigenous Australian, SV= survey, ANG= Anglican, CHE= Church of England, NO= narrative other

4. Findings in relation to the distilled Berry and Swimme themes

4.1 Cosmological context findings

4.1.1 Every living entity continues to complexify out of the original energy of the Big Bang

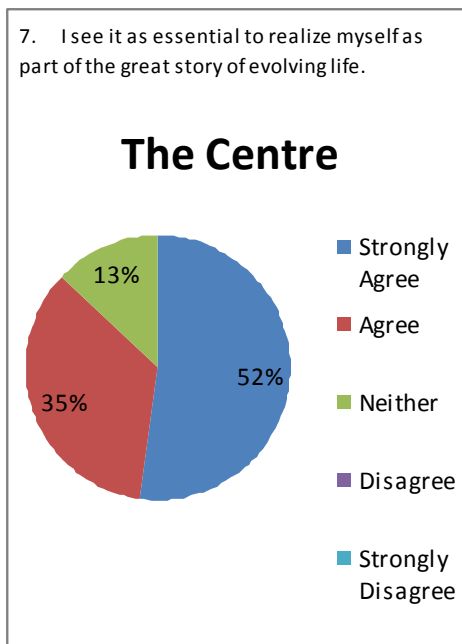
Five participants adopted this theme as, for example, being ‘made from stardust’, ‘right from those early gases’, or ‘how we’ve come from stars’;

I have become much more aware of the whole story of the universe and the place of human beings in that, how we’ve evolved right from those early gases and the great flaring forth of the universe. You could say that I’ve come to a growing awareness of the whole story of the universe [Participant 6].

I think when he [Brother Parton] was talking about stars and how we’ve come from stars. Now that was a completely new thing to me, it was revolutionary. I’d never thought of that. This is amazing. Then it made sense as we talked about it. And I thought, ‘there’s a lot in this’. So that was a very defining moment [Participant 3].

Participant 4 offered his reflections of this theme as ‘a challenge to my Catholic beliefs’:

I think now that we are just a member, and I am struggling with it, and I believe it that each, the trees, everything; that I have a relationship, is part of creation. Trees, sky, sun moon and belief; that we all came from the same molecules as the whole thing exploded into life.



Of relevance to this theme was survey question 1.7: 'I see it as essential to realize myself as part of the great story of evolving life'. This question captures the notion of this theme simply, as a way to collect survey respondent's adoptions of it. The results show 87% of this survey group could relate to this notion closely associated with this theme. This outcome reflects similarly to its high level of adoption for the advanced participant group. This may mean that the notion of this survey question is adopted easily regardless of differing immersion experiences.

4.1.2 The Universe Story demonstrates that all life is profoundly unified

Three participants either explicitly or implicitly indicated that they had adopted this theme into their life-world. They saw themselves as only part of the matrix of life and not exclusive to it. For instance, participant 3 now sees herself as 'part of the whole of the cosmos':

The value to me is that I see myself as part of the whole of the cosmos. I feel a part of it. Therefore, I am not a little individual running around on my own with some of my own little ideas. I am actually part of something far greater than myself. There is a sense of security in that somehow. My thinking changes because the world is part of me. I want to look after it and care for it.

Five participants when asked what they had generally gained from the activities, talked connected to all life on the planet'. For example:

The main thing that comes to mind is connectedness. How we are all connected. When I say we, not just we people, but how all life is connected. Connectedness and a wholeness; of being part of everything that is. [Participant 6]

We are part of everything. We are all connected with whatever happens. Whatever you do in one part of your life is affecting people and animals and birds and plants in other places. [Participant 1]

4.2 Interpreting life's energy subjectively

4.2.1 Venerating all genetic and biological entities as primary, relational identities

Two participants mentioned biological veneration for non-human animals and water. Participant 4 spoke of his growing awareness of his 'sacred' relationship with the subjective life of water. He questioned how he could be a 'brother to water'. He said, 'If I am really brother to water I can't waste it. Am I attentive to it? Do I hear it?'

Participant 5 told a story of how Brother Parton had influenced her to respect non-human animal lives; 'We would often see wombats that had been hit up on the highway near Glenburn. Trevor would always stop and take the body to somewhere where the body could be left to rest'. Similarly, four other participants spoke of this theme in terms of biological life, but not genetic. For example:

When I used to look at crocodiles, I'd think, 'oh my God they are horrible'. Now I think, 'what's it like to be a crocodile. So I think there is much more empathy for living creatures; the rocks. I think it's about respect for each individual living being [Participant 1].

The other thing is whenever there is a natural disaster that is creation being creation. Sometimes we lose human life because of it, but we lose other life as well. We lose tree life, animal life; for want of a better word, we are part of the animal life too — but realising we are losing koalas, kangaroos in the fire, which we never say this is the cost of a bush fire, but we count the human or money cost [Participant 4].

4.2.2 Deepening our consciousness to move with the laws and dynamics of the universe

Two participants spoke of trying to live by the 'principles of the universe' (Swimme, 2003a) in lived experience. For example, participant 4 spoke of his increasing identification with the dynamics of the universe, and of 'listening to the patterns of

life'. Participant 1 recalled Swimme speaking of being 'respectful' of the dynamics of the universe:

I remember something Brian said about relativity, in terms of wherever you are the universe is expanding outwards. Even just that you could unpack out for a week – he said it doesn't matter if you are a tree or banana or an ant you are at the centre of your universe. So yeah it is very respectful, there is a place for everyone, everyone is important and everyone does have their own view of an outward flowing universe.

4.2.3 Cultivating intimacy with the mysterious spontaneity inherent in all life

Four participants used their own language to describe their relationship to this notion. For example participant 4 spoke of his struggle to identify with a 'spirit that is formless':

If I went back 2 or 3 years, I would have said 'God is my brother who walks with me'. I don't feel I could say that with confidence anymore ... But there is this sense that there is this spirit that is formless that at times I believe to be human but I don't always stay with that image anymore. Sometimes it's like that and sometimes it's not.

Similarly, participant 6 spoke of her transition to seeing 'God' in 'the connection between' leaves and people, and no longer 'out there' as a personal God. Participant 1 spoke of Swimme's influence as giving her 'permission to have another world view', and recognised that he 'doesn't really mention God':

I think he (Swimme) gives permission to have another view of the world, permission for another experience of the Earth and what's amazing about the Brian stuff is that he doesn't really mention God, he doesn't necessarily talk about spirit, but it's the way in which he communicates engages your spirit without labelling it. It's very clever the way he does that.

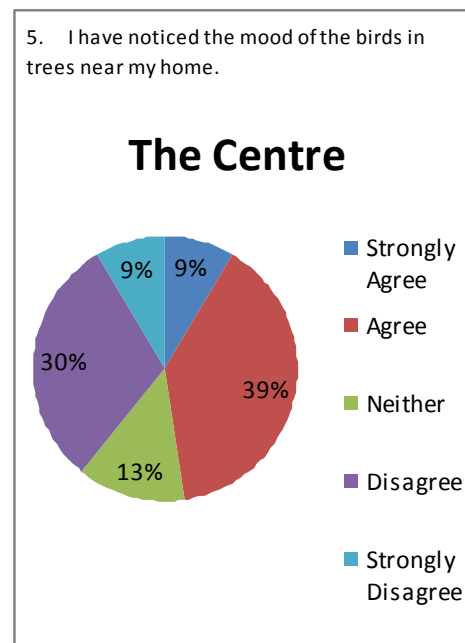
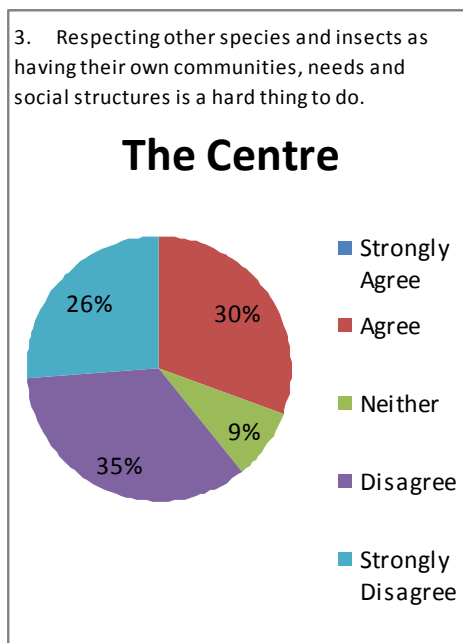
4.3 Earth context findings

4.3.1 The Earth community is a communion of subjects and not a collection of objects

This central phrase of Berry's (1988a) was not explicitly named by any CES participant. Adopting the more-than-human world as subjective was mentioned by three participants, for example participant 6 recognised herself as a member of the community of life on the planet':

In my 20's I was keen about being a good citizen and I was involved in being involved in community projects. Currently I see myself as a member of the community of life on the planet. That is my basic stance and that I am connected to all life on the planet. Earlier in my life I would have thought that I belong to my family and this group of people [Participant 5].

The two important survey questions emerge as question 1.3, 'Respecting other species and insects as having their own communities, needs and social structures is a hard thing to do', and question 1.5 'I have noticed the mood of the birds in trees near my home'.



Question 1.5 found 48% of the survey respondent group as aware of birds' moods close to their homes. Question 1.3 reflected 61% of the same survey respondent group found it more difficult to relate to the more specific ideas of the more-than-human

world having needs, social structures and as ‘community’, totalling. This outcome suggests that minimal-medium immersion levels of this work did not in this instance reach adoption levels of more specific understanding of the needs and social structures of the more-than-human world.

4.3.2 Participating in mutually enhancing relations with the Earth community

The specific notion of participating in mutually enhancing relations with the Earth community was not mentioned by these participants. Four people talked in their own language of their adoption of this theme. For instance, participant 3 referred to being ‘observant of the life around you to see and knowing those rhythms of life’, and of ‘what ants and spiders were doing in order to read the weather’.

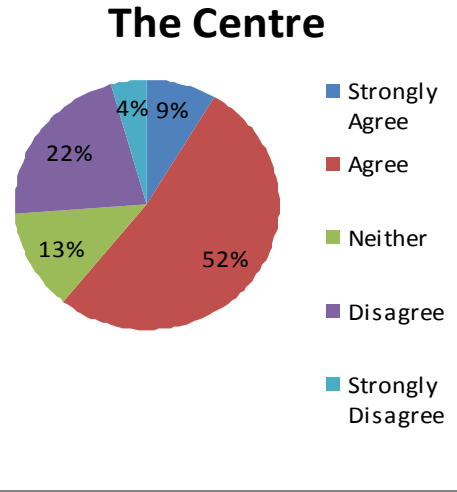
Participant 4 spoke of his effort in leaving leaves on trees as a new experience for him:

Once upon a time if I walked down the street I’d rip off a leaf and start playing with it. Well I don’t do that anymore. I think ‘well that leaf is there for a purpose’. There are things like that, but I’m mindful, particularly of plants; plants and water. Do I leave things on or off? Somewhere there is energy being used so it’s just being wasted.

Participant 6 hopes that humanity can behave in ways that include non-human animals, but said that people in her circles at least, would not embrace this stance: ‘As I see it, the majority of the people I mix with, I can’t see it making it just for their sake. No I can’t. As long as the insects are OK we’ll be OK. It’s not making it OK for the insect’. Participant 2 offered his view that humanity does not value being in ‘relationship with other creatures’ and of his wish for respectful interdependence and dependence on the ‘ants, flies, bacteria and all that stuff’:

I think we live in a very ambivalent relationship with other creatures. We live with pets that we spend a lot on. We also have people go on wildlife tours and all that sort of thing. I think it’s really good for people who can afford those sorts of things. But we’re pretty hardwired to think ‘they’re not important and we are’. Yet we are totally dependant on the ants, flies, bacteria and all that stuff.

2. Humans learning to 'house share' with spiders and insects, (who aren't dangerous or invasive) is a good idea for the health of our planet.

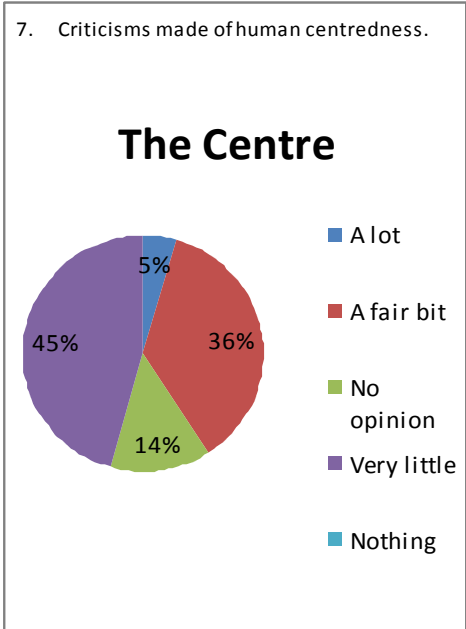


Survey question 1.2 helps gauge minimal-medium immersion participant adoption levels of relating to the idea that they 'house share' with spiders and insects (who aren't dangerous or invasive) – to be a good idea for the health of the planet. The findings show 61% of survey respondent's adopted this idea. This outcome indicates the notion of theme 4.3.2 is adopted relatively easily regardless of levels of immersion in Berry's and Swimme's work.

4.3.3 Identifying human self-reflective consciousness as unique but not superior

The specific focus of identifying human self-reflective consciousness did not emerge in this group of participants. Five people did however imply or speak directly about human centredness. For example, participant 5 spoke of her experience:

I saw citizenship as a high value. I am a nun and I am a member of a religious community and that was my focus. I was a teacher. In recent years since I have retired, I have become much more aware of the whole story of the universe and the place of human beings in that [Participant 5].



Survey question 7 ascertained awareness levels of criticisms made of human centredness from this survey respondent group. The result showed 41% either knew 'A lot' or 'A fair bit' about such criticisms. This result shows significantly lower awareness levels of this notion from this minimal-medium immersion group, compared to the outcomes of it for the

advanced participants. This finding could indicate higher levels of immersion into Berry's and Swimme's work help people to understand and adopt the generally notions of human centred-ness more readily.

4.3.4 A species capable of profound appreciation of the preciousness of our planet

This theme did not emerge in the sense that Berry (1999) and Swimme (1995) might hope; for us to be aware of this attribute within ourselves. Three participants offered their varying personal appreciations of life. For example, participant 1 spoke of Swimme's impact on her. When he described the elemental composition of the early gases of the cosmos, and how they, with their own 'intelligence', eventually became planets, as 'miraculous'. 'It's a miracle we are here, our existence', she said. Similarly she recalled the strong appreciation for life she felt when Swimme posed the question: 'Do you really think all this wonder and creation happened to create a consumer society?'

4.4 Single religiosity

4.4.1 The Universe Story demonstrates all religions as unified but differentiated parts of the same religiosity

Five participants spoke about Christianity in relationship with the Universe Story. Participant 6 told the story of her inspiration to adopt this theme when first hearing Swimme say there are many 'stories of creation'. She said, 'that was the other thing that struck me about Brian, is that we've all got a story of creation. You can look at it from a purely scientific point of view and it's logical. I still think there is a story there'.

Four participants also spoke of this theme as challenging, at least initially. In response to this 'struggle', participant 5 approached Brother Parton for guidance in how she might unify Christianity into a cosmological, evolutionary context (Berry and Swimme, 1992):

I approached Trevor and asked him about my struggle to fit the 'Story' in with Christianity and where does Jesus fit? He said, 'Just see Jesus as part of the great unfolding Story'. Immediately I thought yeah that's really good, 'cos when you grow up with what the church says, you get the sense that life started when Jesus

was born. I always struggled thinking about that. So I thought, 'yeah, that makes perfect sense, it really does.

Three participants spoke of challenges still present within religious congregations when trying to introduce 'a new belief pattern'. Participant 2 observed people interpreting the 'whole evolutionary story', as posing a personal threat to them, because it is 'deconstructing things people haven't asked to be deconstructed'.

Conversely, participant 3 offered her personal experience of transcending her 'conservative Christian background' within her own Anglican church. She is of the view that 'people are asking questions and not being thrown out as a heretic quite so much':

Having come from a conservative Christian background, I've stretched out past a lot of that because I think I wanted to ask deep questions about the universe and myself. And not just 'poo poo' people who have these ideas or New Age or this or that. I got to a point where I feel I can be more comfortable with unanswered questions. I don't know how many people would believe they have come from stars but all that is coming in, there are more people coming in and asking questions about do we just take what the Bible says or the core arm? Or is there something else? I think people are asking questions and not being thrown out as a heretic quite so much. Comfortable to think that we come from the stars. I think there might be something in that.

4.5 The art of living the work of Berry and Swimme

4.5.1 To celebrate and enhance all of life's flourishing as an inclusive cosmological ethic

There were no explicit comments on this theme. It was implied once, not in the sense of celebrating but as enhancing:

Look at the Aborigines and they've lasted for hundred and hundreds of years and how they have lived on the land. They have used nature wisely. Now we need to look after our world because it's so important, we are part of it, the whole thing [Participant 3].

4.5.2 Wholehearted participation with life's subjectivity and other ways of knowing

The two advanced participants told numerous stories of their experiences of non-human animals, implying that they recognised their subjectivity. For example, participant 6 spoke of 'just being quiet in the bush':

There was a spot down there I used to go, I called it my sacred spot. There was a sawn-off tree to sit on. Most days I'd spend some time just sitting on that log. Sometimes you'd see a wombat come by. If you didn't move, the wombat would be quite content to sniff around a bit. Then slowly walk away and not scare the animal. That has had a profound effect.

Participant 5's stories revealed her cynicism about 'chickens' prior to her experiences with the CES activities. She explicitly said, 'after this week', she felt ashamed for negatively judging a friend back home for having bonded relationships with her chickens:

I felt ashamed of myself where one of our country sisters had to move from a farm not far out of Newcastle. She said to me 'but there is nowhere for my chooks'. She has nowhere to put them. I said to her 'are you going to take the chooks?' She said 'of course. They give me life'. I found myself feeling sorry for her, for needing the chooks to give her life. But after this week I am ashamed of myself for even thinking it. If chooks give you life then chooks give you life. One day I'm going to tell her I am ashamed to even be thinking it.

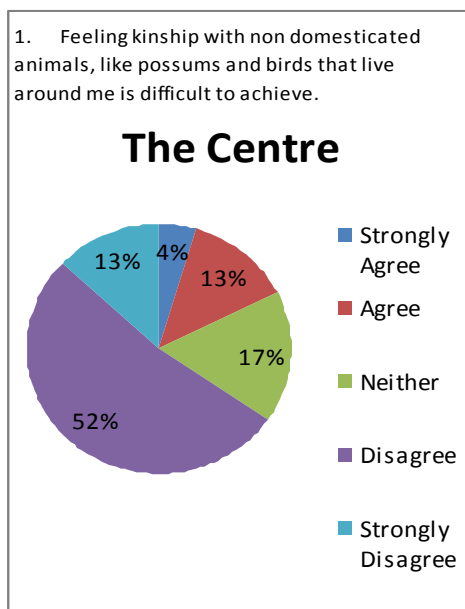
Four participants who did not experience the Glenburn site, also offered relevant stories of personal change in relation to the more-than-human world. For example participant 5 spoke of a change in her 'respect for living things' since her contact with Swimme's ideas, 'I think that this has been a shift since watching Brian; definitely seeing much more respect for living things'. Participant 4 experienced a shift in awareness of other ways of knowing:

The change for me is, well what boundaries do I put on things? Can I sit on the same table and talk to someone who might have diametrically opposed view to me? They're the things that changed me but they are the things that I started to listen to stories like what are the boundaries of the universe?

Similarly, he spoke of adopting ‘brothers and sisters of the Earth community’, and of observing the sky as being ‘mindful of the patterns of the larger living world’. He said, ‘One thing I do is stare at the sky a bit more, watching clouds patterns’.

Participant 1 expressed her experience of ‘allowing the universe to speak’:

I’ve been doing this thing lately where I just allow myself to be open to whatever nature is telling me. I just sit there and think what might the trees, birds, leaves be communicating? There’s something about being open to the universe where answers come. I think Brian confirmed in ‘Powers’ (Swimme, 2003a) get out and get a bird feeder and watch the birds eat or watch a sunset. That really resonated with my sense of allowing the universe to speak.



Responses to survey question 1.1 indicate 17% of this minimal-medium immersion survey respondent group believe it is difficult to feel kinship with non-domesticated animals, like possums and birds that live around them. Therefore 65% of respondents in this survey group were able to feel a sense of kinship for non-domesticated animals living around them. This outcome is similar to the advanced participants’ findings, who reflected this notion as strongly adopted. This could mean that people make sense of, and adopt notions of this survey question and theme 4.5.2 regardless of the immersion level of the Universe Story they experience.

4.5.3 Marrying reductive science to a language of subjective knowledge

Participants did not speak of this theme. One participant implied this theme, as she recognised it, but grappled to articulate its notion in her own language, to what subjective knowledge is:

That’s where some of this stuff is coming. People who have been involved with science and discovery. But it’s more than that. It’s also a bit of philosophy as well. But it’s also part of feeling. That deep, more than an intellectual ascent. It’s that

gut feeling, that intuitive gut feeling that sometimes humans we poo poo a bit. But it's very much a part of who we all are. Because I am a creative and intuitive person, I don't always understand the science of what Swimme is saying but there is something telling me that it is OK, that it is something good here [Participant 3].

4.5.4 The destructive implications of humanity's pervasive industrial consciousness

Five participants were aware of this theme in varying ways. For example, participant 3 spoke of how being too busy is a deterrent to enjoying and 'observing plants and trees', and, in her capacity as a teacher, how talking about animals with young people sometimes gets lost because their parents focus on 'other things in life that are "more important"'.

Participant 2 spoke of people not having the 'time to cultivate their own depths', while participant 1 spoke of her 'consumer awareness' as stronger after Swimme's influence:

I think the consumer awareness, and repulsion of it is stronger after Brian. It was an eye opener in terms of how much we do consume. How much we let ourselves be defined by the things we buy. I don't need a plasma TV to make me feel good. I don't care what supermarkets have on special. I hate shopping centres.

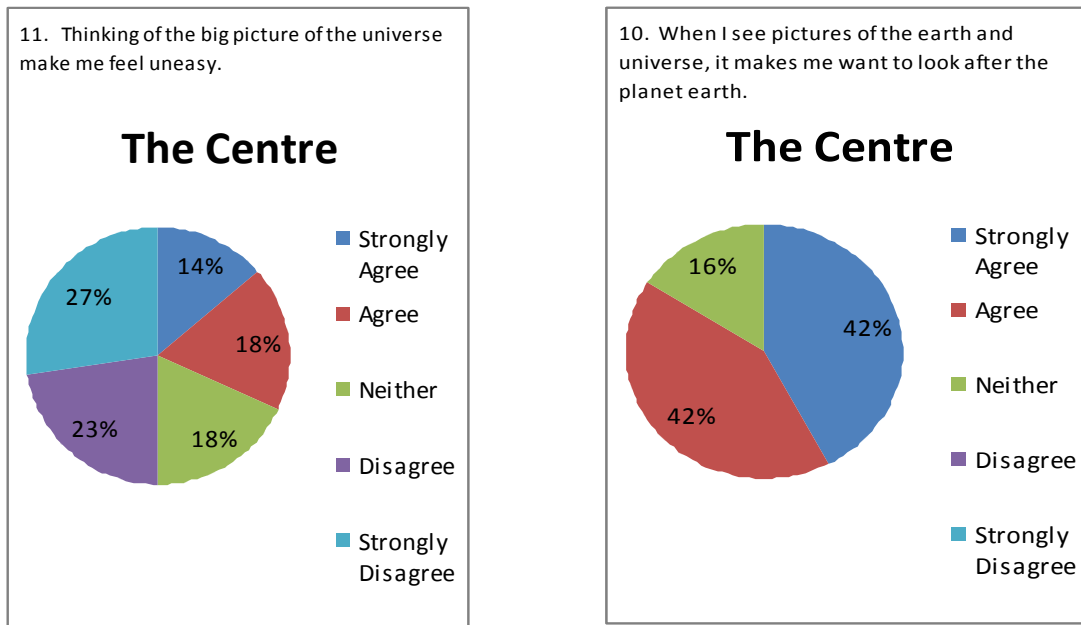
5. Additional outcomes

5.1 Consideration of big picture perspectives

This theme emerged for three participants suggesting that big picture perspectives are difficult to adopt and embody. Participant 2, seeing the Earth from space, said it was like looking at the 'symbol of the Earth's consciousness'.

Participant 2 reflected that it's hard to 'understand millions of years', to suggest this makes adopting the Universe Story more difficult; 'But the new cosmos story makes it even bigger because we are talking about billions of years. Most people probably can't get their head around it, I can't. As we get our imagination around it or allow it to stretch it out a bit'. Participant 4 spoke similarly, of it being 'just too big'.

Survey questions for this theme captured a range of minimal-medium immersion participant’s reflections in response to survey questions 10 and 11, which ask; ‘When I see pictures of the Earth and universe, it makes me want to look after planet Earth’, and ‘Thinking of the big picture of the universe makes me feel uneasy’.



The results to question 10 indicate 84% of this survey respondent group are comfortable adopting a big picture perspective when it is associated with ‘looking after’ the Earth. However 32 % indicated feeling uneasy when they simply think about the big picture of the universe, while 50% adopted simply thinking of this big picture context. This outcome contrasts the advanced participants’ results who mostly reflected this same notion with a level of ease (see p. 126). This result may relate to higher levels of immersion offering people time to explore more explicit ideas of them being only a part of a colossal universe.

5.2 Inner work and the Universe Story

Four people indicated their recognition of ‘inner work’ as necessary to adopt and embody the Universe Story. Participant 3 expressed this as, ‘there needs to be change inside you for anything to happen. It has to change something, a spark has to happen’. Participant 5 and 6 spoke of learning to listen ‘within, at a heart’ level, is important and also challenging: ‘You read stuff at a head level but how that changes at a heart and lived experience level is challenging’.

Participant 1 told a story to illustrate how 'patience is everything' when embodying the notions of the Universe Story in everyday life. During her stay at Glenburn, everyday she would walk to visit a horse nearby. She recognised that as each day passed, and as she immersed further into the activities she was experiencing, that she increasingly valued and wanted the horse to trust her. She realised she was cultivating patience, 'you have to wait for things to happen. I learnt to wait and just to be. It's OK to wait and you don't have to be doing things all the time.

Participant 2 noted that the experience had changed some of her personal attributes, 'I knew everything connected but this became my new way of looking at the Earth. It completely changed how I dealt with people and became more patient and tolerant. It changed the whole way I looked at things'.

5.3 Sustainability behaviours and skills in marriage with evolutionary cosmology

Four people suggested that either sustainability skills, or the Universe Story alone, are not enough to fulfil their concerns; they want a marriage of the two. Participant 6 said that after her experience of the story of the universe at Glenburn 'hitting her suddenly', she became interested in 'saving the planet in little ways', such as not using serviettes and of being mindful of 'what sort of soap' she uses':

A few years ago I would have said 'what difference does it make?' But it does make a difference. Being there this week I feel more passionate about it still. I'm planning to start a conversation on our internet conversation link within our sister congregation, there are things that we can do, make a little group, do something.

Participant 3 spoke of her wish for Brother Parton to speak with her work colleagues about evolutionary cosmology in marriage with sustainability skills in their workplace. She thought that CERES staff would not embrace what she was hoping for, rather that Brother Parton would bring 'a whole different level of stuff' to her workplace:

I wanted Trevor to come and then I wouldn't have to explain it. That was part of my dream because he does it in such a beautiful way. I thought that it would be good because if CERES came out, I think it would be good but you are not going to get anything like that; it is just a whole different level of stuff.

5.4 Difficulties with Berry's and Swimme's work

Four people said they find the work of Berry's and Swimme's difficult in some ways. For instance participant 6 spoke of the book *The Universe Story* (Berry and Swimme, 1992) as 'too heavy':

I hadn't read it, so I borrowed it and tried to read it. It was very theoretical and it wasn't until I'd seen more of the videos that Trevor has and discussed it more that I understood. When I say theoretical, it seemed too far out there for me to even comprehend. I thought this is too heavy. I want to get something more human. I went through it but didn't memorize or comprehend it.

Similarly, participant 4 spoke of the 'immensity' of what Berry and Swimme are saying is difficult for him:

I find that I can only read a little bit at a time because to me there is a whole lot of meaning behind it and I am at the prep level at all this. I have years to go. I like what I read, I think I limit what I read so that I can try and understand it. When Brian Swimme's talking I can take in 5 minutes and I feel that I need to unpack that. But it draws me in. It's the immensity of what they say.

Two participants found the 'concept' very difficult to conceive and communicate. Participant 3 and 5 spoke of these difficulties:

I'm still trying to grasp it myself. So if people ask me what I've read and seen that I am so much a part of the universe, 'I've come from stars'—and I've been looked at like 'hang on!' But to explain it I think I need to learn more about it. I don't have answers [Participant 3].

It's a hard concept to explain. I come across people who were like me, in church, it's like the penny has to drop and there's really nothing you can do or put words around it can help until you have your own moment of 'ah ha-ness', but I find it really difficult. I can't find anywhere I think that's why I have been preventing it, to find a way to try and explain it. I get these blank looks, like 'yeah, yeah' [Participant 5].

Participant 5 experienced people as being hostile and retaliating when trying to present the notions of the Universe Story. She said they were 'hung up on academic' or mechanistic definitions.

Not everyone will embrace this stuff. Like when I presented Brian at church. I had 30 people and one or two people engaged and saw the same stuff I did. The rest of the room were too hung up on academic definitions. You think everyone will embrace it [Participant 5].

She described the majority of the audience as ‘confused’ or unable to identify or move beyond a dualist position that separates the ‘metaphysical’ and ‘science’:

First thing anyone said was; ‘I have a problem with anyone who is a scientist, I don’t have a problem with the science but I do have a problem with when the science is trying to explain the metaphysical’. Afterwards I was reflecting and I thought ‘well why not?’

Participant 2, as an Anglican minister, maintained he could not imagine exploring the Universe Story with his own congregation:

People don’t make the time in a church community for that, so it tends to stay on the fringe of things. The strength of what he [Brother Parton] was doing was helping people open up their imagination, helping them get some information and using a story form to do that. I have done things around ‘green Earth’, but I always have issues I’m tracking like the big issues of God. People start to realise that ‘he’s not talking about the God I’m talking’ about, the father figure or whatever.

Two participants experienced a lack of community who might adopt the Universe Story as a worldview. Participant 3 identified the few people who do share this worldview as ‘safe people’. Participant 5 expressed her loneliness to trying to find a community to share embodiment of her preferred worldview.

This is what one the most difficult things the lack of community, the sharing, trying to explain it to people is almost impossible. Unless you’ve seen Brian or watched the videos, there’s kinda nowhere to go with this. It’s like I’ve had this transformational change and I can’t find many people [Participant 4].

5.5 Recommendations for the work

During the research at CES, various suggestions emerged about how to ‘teach’ the Universe Story. This section is structured in two parts:

- Section 5.5.1 will briefly discuss participant's reflections on how they think the Universe Story may be more easily adopted.
- Section 5.5.2 is a list of emergent suggestions.

5.5.1 Focuses and activities

Five participants reflected or offered ideas to how they would approach helping others to adopt Berry's and Swimme's work. For example, participant 1 suggested that it is best to be 'finding spaces, relating with the sun, reading, talking, gardening, painting, being creative and to recognise life'. She attributes Brother Parton's approach to have her experience her relevant activities in many ways, in praxis, as influencing her to follow her own 'journey' with the work. She said, "There weren't any strict practices or rules with this course; it was "whatever helps, do that".

Participants 3 recommended an emphasis on experiencing the more-than- human world in everyday places such as one's yard, or a 'nearby park, tree, river or by going places', but also 'connecting' with 'nature' through media sources. Participant 2 valued observing and embodying experiences of the more-than-human world around us in conscious ways:

I think it's important to observe nature. We [students] talked about it and I'd go around and see each one and say "You've got that there. Have a look. Do you see anything else there? What is that part of the insect do you think? Look at those little lines and marks you see". And the pictures that came from my class were brilliant. The kids would say, we never thought there'd be so many colours and little things and this and that; where as before it's 'just a stick insect'. That's a locust' and that's why I feel they have to be taught [Participant 3].

Participant 6 reflected on how she now values creating opportunities to experience 'living' the Universe Story, as opposed to just being intellectually engaged with it. She said of her Glenburn activities, 'It was good living what we were studying. It wasn't just book stuff. It was living it'. Participant 6 expressed a need to model consistently to others what 'connectedness' is in experience. She said, "The biggest thing I have learnt in all my learning is being consistent. Talking about interconnectedness without acting on it means nothing to me. It has to come from the ground up. It has to establish that and then teach it'.

Participant 2 suggested something similar only in the context of actions being more important than 'belief' in an ideology, or worldview. He said, 'I'm involved in a small group called Progressive Christianity, that wants to do a number of things. The Universe Story is part of the backdrop of that and trying to work out practices for people who say, 'how we behave is more important than what we believe'.

5.5.2 Emergent suggestions

Participants' emergent suggestions encompassed strategies for presenting and engaging people with Berry's and Swimme's work:

- When facilitating groups or speaking to individuals about Berry's and Swimme's work, move away from conceptual instruction, by helping people open up their imagination with some information and use a story form to do that.
- To encourage community opportunities to find ways for people to experience the Universe Story, in new engaging ways that do not 'scare people'.
- To recognise and work with people, 'religious or not', who 'don't much like ambiguity', particularly around religious historical contexts and understanding and accepting other worldviews.
- To ensure conversation time is available for people to discuss challenging and changing worldviews when programming facilitation.
- To use visual imagery in presenting the Universe Story
- To talk to people more about the care of animals; 'What animals need, the wild animals. That's a slow way but sometimes it's a good way' (Participant 3).
- To talk about and have immersion in the work of Joseph Campbell (1988), as a means to help give context to big picture perspectives that may be confusing or difficult; Participant 3 said, 'One lady I saw yesterday said I don't know where I fit in anymore because I believe so many things now. I'm just happy to go with these ideas. This is where I feel that Joseph Campbell is very important' (Participant 3).

Chapter 7: Australian Catholic University

The third case study involved individuals sourced through the Australian Catholic University (ACU) in Melbourne.

1. The context of the Australian Catholic University

ACU is a multi-state public funded university that offers teaching and research within the Catholic tradition. It is committed to a 'continuing exploration of the sacred, the value of the human person and the common good' (Hudson, 2012a, p3). Environmental sustainability is promoted as a central part of the university's mission. The science-education faculty encouraged them to explore alternative perspectives that identify human existence as part of a larger cosmological existence (Berry and Swimme, 1992), rather than an ultimate expression of it.

This approach is intended to expand human-centredness into bio-centredness, and marry the study of science to reflections on the deep nature of the mystery of life (Berry, 1988a). The point is to move from an objective approach to science, towards a view of science as subjective, creative and meaningful. Pre-service teachers are given an opportunity to engage in this dialogue, using Berry and Swimme's (1992) *Universe Story* to explore chapters of the Catholic rendering of Genesis.

As mentioned in relation to EarthSong and the Centre for Ecology and Spirituality, the thesis is interested in how the work of Berry and Swimme might serve to reframe notions of environmental activism and so care was taken to select case study contexts in which education participants are encouraged to contemplate what environmental activism might mean for them. As a tertiary education provider, the Australian Catholic University does not promote activism as explicitly as organisations such as EarthSong and CES but many of its courses and programs promote the idea that personal action is needed to make human society more environmentally sustainable. This orientation to personal 'activism' is more implicit than the approaches taken by EarthSong and CES but an emphasis on personal responsibility and action makes ACU a suitable context for examining how education participants might respond to the kind of activism promoted by Berry and Swimme. As a Catholic institution, ACU certainly has a more explicit interest in personal responsibility and action than secular universities. ACU was chosen because one of its academics explicitly used the work of Berry and Swimme in her courses. Her students were not given the same

exposure to the work as the participant's in programs at EarthSong or CES but this makes the comparison relevant within the overall aims of the thesis.

The research focused on how particular students enrolled at ACU were introduced to the Universe Story and the sense they made of it. The reflections offered by the students were passed back to the academic who had introduced them to the Universe Story for future reference. Once again, the aim was not to focus on the educational philosophies or pedagogies of ACU or even of the academic introducing her students to The Universe Story. Rather it is aimed at what the individual's students made of their experiences.

All groups were facilitated by the same ACU Faculty of Education staff member, so a brief outline of her ontological orientation is relevant at this point.

1.1 The role of the ACU facilitator

The facilitator was a central ACU staff member. Her background is in chemistry, which she has come to see as a domain that perverts the natural world and human nature along with it. Within her interview (conducted on 23 August 2010) she spoke of her training in science, which she believes inherently narrowed her perspective into a dualistic one, and promoted damaging, inappropriately solution-focused approaches at the expense of integral ones. A change in the direction of her personal and professional interests led her to eco-feminism, environmental and social sustainability skills, and permaculture which, together, have given her a new way to practice and teach science. She has also adopted Berry and Swimme's (1992) Universe Story as a complementary model capable of facilitating this new blend of interests in her approach to teaching. She maintains that this approach helps people to expand their perspectives and experiences of science, as integral to living sustainably on the Earth:

So you've got the very big picture which is the Universe Story. Then you've got the planet and how the planet is right now – us living unsustainably and those sorts of things. Then you've got what are some possible ways that we can work with this? Some of those really practical things come out of, say permaculture and reducing your footprint. But I like people to see them as part of that big picture. I guess that's where I've gotten to now. Again it's reflecting back and whatever you do with children, talk about where their place is in this stuff. How

what they are doing right now, how planting seed, is part of the bigger picture.
[Facilitator interview, 23 August 2010].

The facilitator also draws upon O'Sullivan's (2001) *Transformative Learning* as a tool for futurist visioning and planning. Her aim is to evoke a hopeful and creative appreciation of the Earth, and develop skills to assist the Earth to function in a biologically healthy way.

This facilitator uses the word 'spiritual' to mean a feeling within oneself for life and the mystery inherent within life. She only speaks of religion in terms of cultural evolutionary contexts. Her aim is to find ways to inspire people to adopt a grand overview of existence that may expand a human-centred worldview into a bio-centred one. She believes such approaches need to be experienced, adopted and embodied within an individual's life-worlds, if the pursuit of a sustainable and peaceful future is to be realised:

So it's not that they are outside looking into this stuff. It's part of them. That's the cosmology. The hope is that if they see themselves as part of it, they'll see themselves as part of the Earth and the whole natural system; being very much intimately a part of it and the interdependence there and all those sorts of things. All the time we are trying to say 'you are part of this story. This is your story. The universe evolution is your evolution; it's our evolution' [Facilitator interview, 23 August 2010].

2. Participants

The individual participants sourced through ACU are clustered into two groups for the organisation of this case study. These individuals all experienced the same activities and levels of immersion in Berry's and Swimme's work within the activities they experienced at ACU. This includes the twenty-two survey participants. Three of the participants in group 1 initiated additional readings of Berry's (1988a, 1999) work, and experienced some private discussions with the ACU facilitator about the Universe Story. These activities differ slightly to the other three participants although they have been clustered into the same group. Conversations with them confirm that the level of immersion was significant enough to show they were of a slightly higher level of adoption than the other three participants. However there was not a significant enough difference to warrant separating them as a group because they essentially all shared the same activities. There are some indications of this difference in the data.

Group 1: 'Participants' - six individuals

Group 2: 'Survey participants' – twenty two survey participants

2.1 (Group 1 and 2) Six individual participants and twenty-two survey participants

These participants were sourced from activities experienced at ACU. All participants are pre-service teachers.

2.2 (Group 1 and 2) Activities relevant to these participants

The relevant general activities this group of participants experienced were part of university courses. The total contact duration was around 3 hours per week for one semester, as well as two full weekends intended to offer contrasting city and rural/ bushland experiences. An outline of the general activities is as follows:

- Observing, listening and experiencing lectures by the facilitator.
- Group discussions where participants were encouraged to contribute.
- Encouragement to keep an 'eco-journal' to note their personal experiences and observe any changes in their thinking and behaviours in relation to their ecological footprint.
- Immersion in theoretical understanding and practical applications of sustainability.

Central topics explored within the relevant activities were:

- The notion of cosmology as a scientific 'story'.
- The role of humans in the modern world.
- Science, evolution and religion.
- Genetic engineering.
- Ecological literacy, as introduced by Fritjof Capra (1996) and David Orr (1991).
- Biophilia as introduced by Edward. O. Wilson (1984).
- Approaches to sustainability, with healthy biological ecologies as a main focus.
- Sustainable living, with human consumption footprints as a main focus.

- Indigenous perspectives on sustainability.
- Permaculture.

The activities relevant to this research centred around the following themes:

Cosmological evolution

- Viewing of The Cosmic Journey DVD (Silleck, 2002), which explores the universe from a scientific micro-biotic perspective through to the dimension of the scientific macro-universe-galaxy.
- A slide show of digital images of galaxies and Earth, using narratives of astronauts' epiphanies and life-changing spiritual experiences.
- An exploration of human history in relation to a cosmological evolutionary timeline.
- Participation in a meditation on the Universe Story. One meditation was experienced in the city, interspersed with the participant's preferred chapters from Genesis. Another meditation was experienced in a rural /bushland environment.

Sustainability and permaculture activities

- Exploration of the Victorian Environmental Protection Authority website²⁸ to acquire personal ecological footprint auditing skills.
- A visual and oral demonstration that cosmology and Earth's biological compositions are integral to each other. The aim was also to promote a realisation that food webs and ecosystems are interconnected. Humanity depending on the health of the Earth as our food source was highlighted as part of this demonstration; humanity's dependence on food producers.
- A context of cosmology was presented as gratefully acknowledging that the Earth, biological and human systems can only exist because of the sun.
- Exploration of Aboriginal science and ways of knowing, as another perspective to assist in the realisation that the Earth and cosmos are integral to each other.

²⁸ www.epa.vic.gov.au

- Exploration of waste awareness and reduction, soil and erosion, composting, worm farming, gardening in schools, water cycles and biodiversity.
- Exploration of awareness of the role that oil, fossil fuels and nuclear energy are playing in our lives.

Weekend camp activity

The participants experienced a weekend rural camp. This offered them a chance to appreciate the larger living world, in contrast to urban living. The aim of camp activities was to enable experiences inherent to a context of the Australian bush.

Reflective activities during the camp

- Participants experienced the reading of three poems — one each by David Suzuki, Thomas Berry and Bob Brown — and were asked to silently reflect on these poems in a candle-lit, reverent atmosphere.
- When meals were served during the weekend, the group was asked to reflect and acknowledge that the food they were about to eat was primarily derived from the Earth. The aim was to facilitate the experience and embodiment of this notion which had been explored theoretically in other lecture activities.

Participants were given an opportunity to personally reflect upon their Australian 'bush' experience by sitting in silence in a designated bushland area for fifteen minutes. There was opportunity for participants to dialogue with others, and to reflect personally on their ecological identities and personal relationship with the land.

Camp activities to enable participants to experience the larger living world

- A daytime visit to both healthy and unhealthy forested areas, to enable observation and experience of the contrasts between these. Participants were asked to look for non-human animals, listen for birds and to draw a picture to illustrate their experience of this activity.
- Groups of four participants each selected a two square metre plot in the healthy forested area, with the task of observing and recording

any non-human life forms found within that area. This activity lasted 20 minutes and was experienced in silence, with participants encouraged to focus intently and to respectfully see, hear, smell or touch any life found within the plot.

- Substantial attention was given to extinction rates of more-than-human life.
- Participants observed the night sky while experiencing a commentary on the cosmos by an astronomer.
- Participants visited a local farm, and experienced planting a row of trees. The farmer told stories of the condition of the land when he first occupied it as having been cleared of trees. He expressed his commitment to rejuvenating the ecology of the land by replanting trees.

Phrases spoken by the facilitator during this activity:

- Reference given to Andromeda galaxy; that it took 2 million years for the light to travel to Earth as ‘amazing and worth thinking about’.
- ‘If every family ate one less red meat meal per week, then it would equal the same as changing to an electric car’.
- ‘We are intimately part of ecosystems’.
- ‘Thanks to cheap oil, we do all the things we do’.
- ‘The great work of our time is to raise consciousness’.
- ‘In terms of ecoliteracy, humans in western culture are quite illiterate’.
- ‘The universe gives us a sense of enchantment and of the beauty of nature’.
- ‘Respect and be aware of this ecosystem. We are entering other beings homes’.
- ‘The great story of the universe is the First Curriculum’.

Phrases spoken by participants and the collective group during this activity:

- ‘This is a unique experience. We will remember this’.
- ‘I thought there’d be more species’.

- ‘Where are all the insects?’
- ‘There’s evidence of morons on motorbikes’.
- ‘There’s so much human intervention’.
- ‘I gained a personal deeper appreciation of nature and also practical gains’.
- ‘I gained insight into my own place in the world’.
- ‘I gained a better understanding of how the world works as a whole’.
- ‘Planting the trees made me feel like I was acting on climate change’.

3. Participants and Data Collection:

Snapshot of Research Participants and Data Collection Methods

Participants	Age Range	Gender Ratio	Religions	First Language	Ethnic Background	Narrative Data Numbers and Type	Interviews
6 Individual Participants	23-45	F x (6)	CA x (4) ND x (2)	ENG x (6)	NIA x (6)	ST x (6) AP x (5)	6
22 Survey Participants	n/a	n/a	n/a	n/a	n/a	SV x (22)	n/a

Narrative Data Key: ST = stories, AP= art piece, n/a=not available, F=female, CA= Catholic, ND=non-denominational, ENG= English, NIA= non-indigenous Australian, SV= survey.

4. Findings in relation to the distilled Berry and Swimme themes

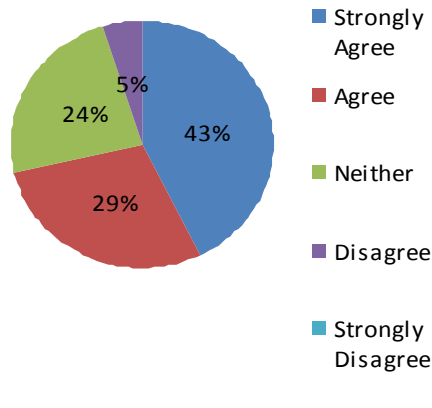
4.1 Cosmological context findings

4.1.1 Every living entity continues to complexify out of the original energy of the Big Bang

Three participants expressed in their own language an adoption of this theme by referring to the Big Bang as ‘the beginning of things’, and of ‘how the world began’. For example, participant 1 said, ‘Everything comes back to that Big Bang. The Earth that we are on, the trees grow from it, everything comes back and it is a cycle that keeps going around and the models come from that’.

7. I see it as essential to realize myself as part of the great story of evolving life.

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Survey question 7 captures the notion of theme 4.1.1 simply and is employed to collect and gauge survey respondent's adoptions of it. The results show a majority of 72% of this minimal-medium immersion survey respondent group as readily adopting the general notion of this theme. This is a high percentage for this group, which interestingly reflects a higher average to the individual minimal-immersion participants sourced from ACU. It is hard to know why this outcome emerged in this way.

4.1.2 The Universe Story demonstrates that all life entities are profoundly unified

Four participants spoke of this theme in their own language. For example, participant 3 reflected that cosmology 'really opened up, in a conscious way, just how important it's been to the millennia of creatures and people'. Similarly participant 1 offered her adoption of this theme:

It all came back to that whole Earth, where we came from, well I felt that it did. It all came back to that cosmology was the crunch of it all. So the sequencing was good, 'cos it all came back to that crunch, Big Bang, the Earth; whether genetics, disabilities: because we've changed over time. The ice caps, melting snow, climate change: it all came back to what we've done, to that initial product that we had.

Appendix 11, created by participant 5, relates to this theme, in her image of a planet, which one could confidently assume as being Earth. There are images of animals, reptiles, trees, butterflies and humans as all inhabiting Earth, with a chain linking through all of them.

Three participants said that their introduction to the Universe Story had impacted their life-worlds. For example participant 2 said that the activities she experienced were 'the start of the real soul searching stuff, of what it all means to me and the meaning of life. Why are we here and how are we all connected?'

4.2 Interpreting life's energy subjectively

4.2.1 Venerating all genetic and biological entities as primary, relational identities

Two participants spoke of this theme within the context of 'the magic of nature'. For example participant 2 referred to the ACU facilitator's influence upon her in relation to this theme as, 'She does it in a really indirect kind of way where she can convey the beauty, the awe in nature; the wonderment, all of that kind of stuff. You don't need to call it spiritual, but just the magic of nature, without even saying it'. Participant 3 had an appreciation for life at a genetic level, having experienced a relevant activity that demonstrated the destructive implications of genetic engineering on life's 'gene lines'. She said, 'Certainly for me and for most it would be the first time we had heard of it. She [ACU facilitator] had someone from ACF to speak about the implications for genes. That I can pretty much put it down to as one of those 'ah ha' moments'.

This participant also told a story to illustrate her appreciation of the biological life within any ordinary tree. She said, 'To look at a tree with new eyes and know that 'you' (*the tree*) are doing so much work. You are not just a pretty tree, you are a home to millions of insects and organisms and you're helping the reeds grow'. Participant 1 also gratefully recognised the processes Earth has been through; 'Just the process of how the Earth came to be and what it has been through to get to this stage, and now here we are wrecking it so to speak. Like it's been through so much to get to this, and we are so lucky to be here'.

4.2.2 Deepening our consciousness to move with the laws and dynamics of the universe

There was no indication of this theme.

4.2.3 Cultivating intimacy with the mysterious spontaneity inherent in all life

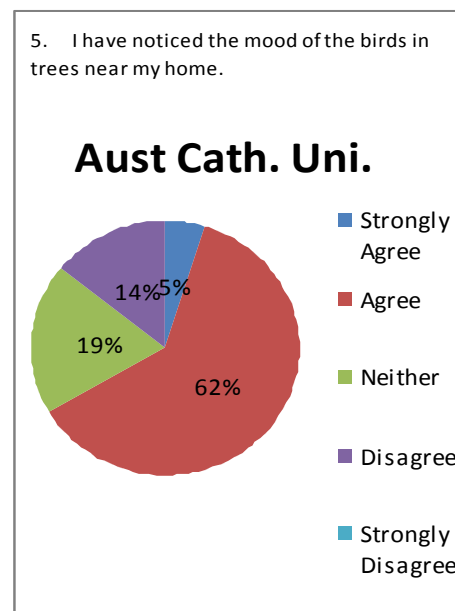
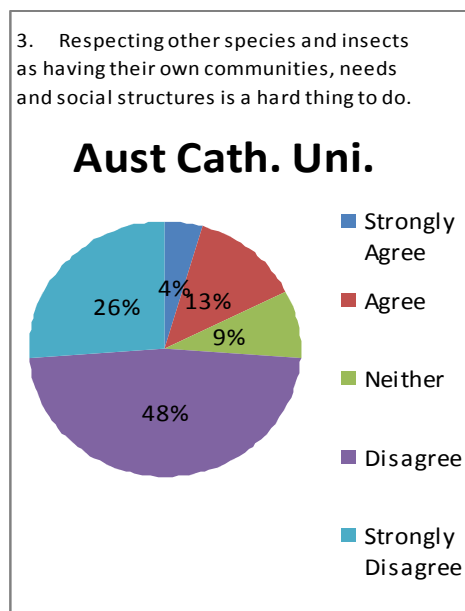
There was no indication of this theme.

4.3 Earth context findings

4.3.1 The Earth community is a communion of subjects and not a collection of objects

The specific notion of this theme did not emerge although two people implied their adoption of the more-than-human world as subjective in their own language. Participant 2 referred to Berry as including people as well as ‘the Earth’, and participant 6 implied her adoption of it in her flow of words within her narrative data as follows: ‘a desire for respect, love and communication, Yes, roles, life, connection, ecosystem, dependence, love, care, respect, harmony safety, being, togetherness, animal > people >plants >communication’ (see Appendix 12).

Two survey questions emerge as relevant to this theme and are employed collect data from a bigger group to deepen insight into adoptions of this theme. Question 5 asks minimal-medium immersion survey respondents to respond to the idea, ‘I have noticed the mood of the birds in trees near my home’, and question 3 – ‘Respecting other species and insects as having their own communities, needs and social structures is a hard thing to do’.



The results for question 5 found 67% of these respondents were aware of the mood of birds close to their homes – implicitly indicating awareness of birds’ subjectivity. Interestingly the results for question 3 showed 74% of this group as relating to the notion of non-human animals having autonomous, socially structured lives. These

findings again indicate a stronger percentage than the outcomes of individual participants' sourced from this case study. This is a surprising result because individual and survey participants experienced the same research activities.

4.3.2 Participating in mutually enhancing relations with the Earth community

Four participants implied this theme within the context of 'sustainability' and 'biodiversity'. For example, the three people who participated in a focus group spoke of the 'environmental' impacts of eating meat. Participant 5 reflected on her fearing spiders less since she had learnt that spiders are an 'important part of diversity':

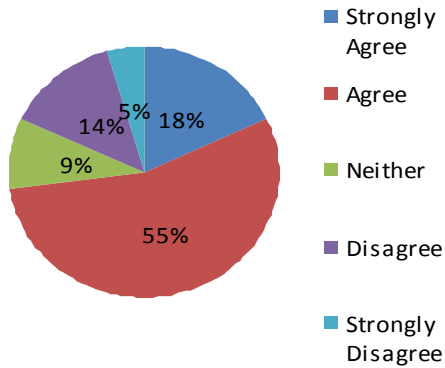
You know what I have found is weird is that my fear of spiders has decreased. Like just learning how it's an important part of biodiversity. Before I'd just 'whack' with the 'get rid of the spider, I don't want to know'. But now I still don't like them but I've actually put spiders outside.

Appendix 13, created by participant 6, depicts her art piece as the western world being immersed in a capitalist, supremacist mode of existing, that 'ignores the natural world and its beauty'. This image inspired her to suggest practical ways to improve the way humanity 'learns to live off the land, harness passion and adopt alternative energy sources'. She also spoke of her respect and adoration of Earth and wish for sustainability outcomes to include non-human animal life.

Participant 5, in her own language, spoke about this theme as humans needing to learn to participate with, and not against 'nature'. She said, 'So I think sometimes we need to leave it to nature because we've done so much to destroy it. Nature has a way of fixing itself but we just have to let it be to be able to do that'.

2. Humans learning to 'house share' with spiders and insects, (who aren't dangerous or invasive) is a good idea for the health of our planet.

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Responses to survey question 2 show 73% of this survey group could relate to the notion of humans house sharing with spiders and insects (who aren't dangerous or invasive) is a good idea for the health of the planet. This strong result reflects similar findings to the individual participants sourced from this same case study establishment. This outcome could mean that minimal-medium immersion is effective in communicating this theme, enough that participants can make sense of, and often adopt it.

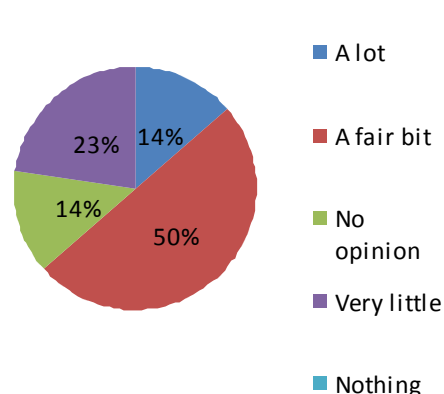
4.3.3 Identifying human self-reflective consciousness as unique but not superior

Five participants mentioned human suprematism, but did not discuss this theme specifically. For instance, participant 3 suggested that 'we are not superior beings' and, 'So acknowledging we are equal citizens of nature, we are not superior beings, we are not exempt from trees, rocks, insects, mammals, marsupials; we are sharing the planet and why we are here. She also articulated the human as 'uniquely human' in the context of the 'new Cosmos-Universe Story':

We need to create for ourselves, what Thomas Berry calls 'a new cosmology', our new Cosmos/Universe Story. In order to do this we need to free up our minds of overtly 'rational' thought, which has got us into a lot of trouble, and unite all things that are incredibly and uniquely human; our head, our hearts and hands.

7. Criticisms made of human centredness.

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Survey question 7 found that 64% of this survey group were familiar with criticisms of human centred-ness. This outcome is similar to findings for the individual participants sourced from the same case study. It's possible that the minimal-medium immersion of the work they experienced contributed to their making sense of this survey questions notion.

4.3.4 A species capable of profound appreciation of the preciousness of our planet

Five participants expressed their personal appreciations of life but this theme did not emerge in the sense that Berry (1999) and Swimme (1995) might hope for us to be aware of this attribute within ourselves. For example participant 2 spoke in the negative sense of her frustration at people 'looking down' and not 'seeing life' when they walk, while participant 6 realised her 'love for the beautiful world around us'. Participant 1 spoke of her appreciation of the Earth and suggested that the Universe Story notions she adopted within the relevant research activities, deepened this experience within her life-world:

The whole how it's come to be was just so amazing. It just gave me an even deeper appreciation of what I am standing on. Just made me realise 'my gosh, this is amazing'. It made it more amazing. Before I thought yeah 'I love it', but it just gave me a deeper 'ah-ha' feeling of how it came to be.

4.4 Placing religion within a cosmological context

4.4.1 The Universe Story provides a context for showing all religions as unified but differentiated parts of the same religiosity

Three participants said that they did not know how to bridge formal religion with the Universe Story. Participant 2 initially discussed her Catholicism as being separate to cosmology, however when she spoke about this topic she was naturally beginning to refer to this theme in her own way, and concluded, 'actually I think one needs the other':

I don't know, I kinda believe in both of them [Catholicism and the Universe Story]. They both have a significant meaning behind them and they both make sense to me. I don't feel that I am informed enough or spiritual enough to be able to wipe one out over the other. I don't feel strongly enough to say 'no, that's not right'. I accept both and share the knowledge of both. It's up to each individual how they would like to interpret that and what they'd like to take away with them. I feel people should be informed of both. I didn't know, no-one told me about that. It hasn't changed my religion, I just feel more informed. I think, 'what else amazing is out there?' Actually I think they connect, I think one needs the other.

Two participants thought that Berry comes from a ‘particularly spiritual perspective’ that they find ‘beautiful’, and yet were shocked at the knowledge that Berry was a priest:

I remember her [ACU facilitator] saying that this is good reading (Berry, 1988a), this will give you more answers. I don’t think she told me he was a priest. I got a bit of a shock, ‘cos I know she [ACU facilitator] is spiritual but not religious, but I think that is my own interpretation of what spiritual and what’s religious, going by my upbringing, Catholic, this is what you do [Participant 3].

Then there’s the Catholic Church and Thomas Berry. That’s why I struggle with some of his stuff. Initially I was thinking, ‘this is just beautiful’. Then when I read the dust cover, it was like, he’s a Catholic priest. Hello! That doesn’t sit with me [Participant 2].

4.5 The art of living the work of Berry and Swimme

4.5.1 To celebrate and enhance all of life’s flourishing as an inclusive cosmological ethic

Participant 1 mentioned her need to look after the Earth in a similar vein to a mother cherishing a child:

I wanted it [class presentation] to be an environment where it was very serious. Not so much a presentation, it was more of a reflection on what the Earth has been through to what it is now. And you have to look after it. It’s like a mother having a baby. You go through so much so you cherish that child. That’s how I look at it. It takes so much to be born, so you look after it and you do everything that you can to appreciate what has happened.

4.5.2 Wholehearted participation with life’s subjectivity and other ways of knowing

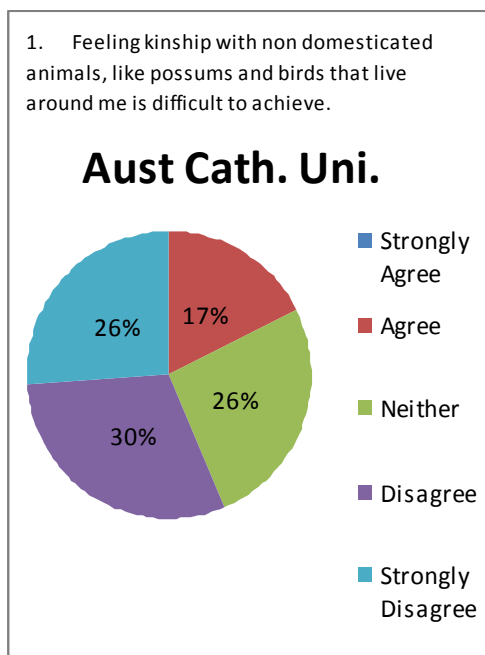
Participant 3 spoke of the ACU facilitator and Berry’s ‘readings’ (1988a) as influencing her to realise trees and herself as similarly ‘just living their life’:

It’s therefore easier to reflect on it because I understand where I’m coming from which comes back to my study and her [ACU facilitator] influence on me because it helped me understand where I’m coming from: like the readings from Thomas

Berry and all of that has actually given me the light globe effect; like ‘this is where I’m at. This is what I am doing, but I didn’t realise I was doing it. It’s like I was a tree shedding its leaves and sending up saplings. It doesn’t realize its doing that either — it’s just living its life.

The reflections on this theme were couched in negative form. For example, participant 2 spoke of her observations of people not ‘realising what is around them’ in urban environments and that we ‘have a lot to learn from indigenous peoples and culture’:

We probably have a lot to learn from indigenous culture as well, where they have such an intimate connection with the land and animals, a lot of people do think that we should be caretakers of the land and not owners of the land. I think that Aboriginal and indigenous people had that idea and that’s what we need to get back to.



Survey question 1 results found 56% of the survey respondents could feel kinship with non-domesticated animals, like possums and birds that live around them. A high 26% however chose ‘neither’ in response to this survey question, which could indicate them not understanding it. The overall outcome of this survey question reflects similarly between the minimal-medium immersion individual participants and survey respondents. This could mean the notion underpinning this survey question and theme 4.5.3 was reflected across the spectrum of participants and respondents because they were generally able to pick it up within this level of immersion.

4.5.3 Marrying reductive science to a language of subjective knowledge

This theme was not spoken of specifically although its notion was implied by three people in various ways. Participant 3 expressed in her own language that she is ‘not

interested' in 'hard science' as an interpretation of her relationship with ecology, rather it is an 'intuitive relationship':

We can rationalise through hard science and that's a way of explaining it to disbelievers or people who haven't yet gotten there, but really for me it is very much an intuitive relationship.

Participant 2 told a story of a discussion she had with an ACU science teacher from a faculty different from the one of the ACU facilitator, who maintained that the approach to science she was learning in the activities relevant to this research, 'was not science':

I had to see one of the lecturers at the lab at uni, I was in early. He said 'what are you doing?' I said I'm doing science for education. He said 'that's not science'. He teaches physics and biology for nursing. He said what we were doing wasn't science. He happened to be my science teacher in Year 10. That realisation in week two, I thought 'yeah, she's [ACU facilitator] different'. Even though she's got a science background, she talked about her orchard.

4.5.4 The destructive implications of humanity's pervasive industrial consciousness

Five participants noted that the current state of the Earth is mostly degraded and in high need for ecological restoration. For example, exasperation at 'people' being uncommitted to sustainability measures, awareness of 'greed' and frustration and outrage at human behaviour and attitudes emerged in interviews. Appendix 14 was created by participant 2, and its intense message reflected negative effects of consumerism upon the world, choosing a newspaper heading stating, 'bye, bye, bye, sell, sell, and sell'.

Four of the six interviewees expressed strong views around the theme of city life being too energy hungry and highly ignorant to impacts modernity has on the Earth. Participant 6's Appendix 13 also reflects this theme — she described her narrative expression directly as — 'the majority of the population is at', of being selfish with 'resources' and of 'taking over nature':

This is where we are, or the majority of the population I think is at; the idea of greed and inequality, disparity and distribution and resources. The idea of what's important in life; what makes real beauty. Is it those gorgeous mountains or is it the girls with the big boobs and the blond hair? The idea of being the ruler of everything and taking over nature?

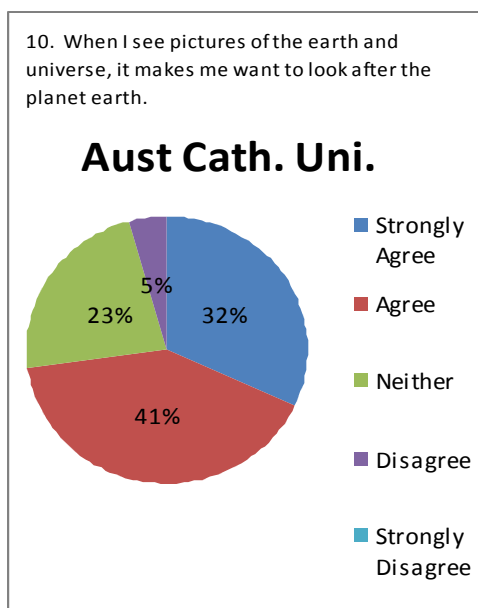
Participant 1 spoke of her observations of her friends who are essentially too busy, house proud and not genuinely engaged in sustainability measures. She attributed her ACU experiences to her awareness:

It's very quick fix, 'me' orientated, and I feel guilty when I'm in their home and they are operating like that. That has come from being informed by Sarah. I would had never realised it if I hadn't of done science at ACU with Sarah. I knew that it was something special being shared with me, I realise now how special it is.

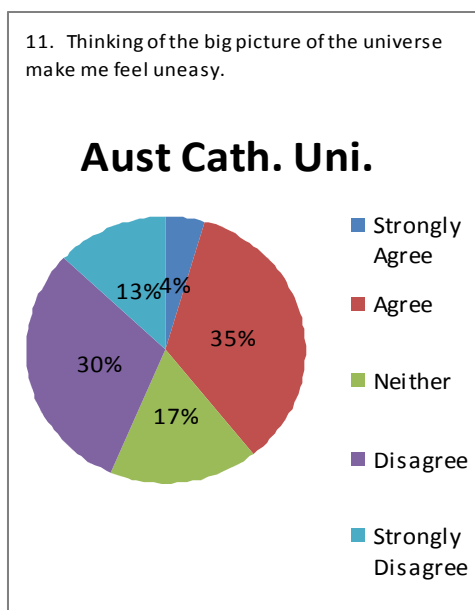
5. Additional outcomes

5.1 Consideration of big picture perspectives

Two participants made reference to this theme. Participant 5 included the phrase 'Conflicting news and outlooks — take a step back and look at the big picture', as a way of finding 'harmony and balance' in her narrative representation. Participant 1 told the story of comments people had made after a school presentation on cosmology, to conclude that they were in denial, 'affected' or not mature enough to handle what is 'really going on in a big perspective'.



Survey question 10 asks, 'When I see pictures of the Earth and universe, it makes me want to look after planet Earth', and Question 11: 'Thinking of the big picture of the universe makes me feel uneasy', explored how larger perspectives of the Earth and universe may affect people.



The results are as follows: 72 % of survey respondent's reflected question 10 as they more readily adopting 'looking after the planet Earth' in relation to a big picture perspective, compared to only 43% of respondents who reflected being at ease when thinking of the big picture of the universe. This outcome may show that minimal-medium immersion has not enabled this group to comfortably adopt and embody their place within the context of the universe.

5.2 Inner work and the Universe Story

Three participants spoke of their personal difficulties in dealing with accurate and overwhelming information on the state of the biological world presented in the relevant research activities. For example, participant 3 spoke of her struggle when she adopted an alarmist interpretation of the state of the world after the camp weekend. For a few months she talked of 'letting it take over me' and of how she observed 'many people burning out and being no good to anybody':

I guess you're at uni' and writing essays about it and even although we had incredible weekends away; making a conducive part of my life that is totally who I am, what I think, why I vote. I can safely say that that weekend made me a lot more 'gung ho', more heady, more fiery about it, more determined and feeling a sense of urgency and like I have to convince everybody today, and if I don't then I have failed. I kinda lost the plot over the subsequent two months.

Two people talked about cultivating 'self-sustainability' as important, to mean managing their inner life to deal with high degrees of awareness and responsibility to change the state of the world. For example:

You can't teach sustainability without being sustainable yourself. So that's when I really thought that self-sustainability is of the utmost importance because if I burn out, I'm not there to educate people, I'm not there to live it myself. So since

then it has been a lot more moderate in a way, because it needs to be to be more sustainable, but I've never gone backwards [Participant 3].

Three participants spoke of experiencing difficult emotions when facing people who are complacent about the state of the world. For example, participant 1 expressed tensions of feeling 'guilty' for her not enabling change more effectively, yet she also spoke of gaining 'much more confidence' from the relevant activities:

I realised I am on my own journey, perhaps an odd journey, a bit different, but she [ACU facilitator] has given me the confidence to actually follow the journey that I am on and it is a really good journey. The only negative that would have come out of it is that I feel so frustrated that people don't know about it, they are so blind; it's all too hard, and I feel that is really sad. That makes me sad to see that they don't really care.

Finally, participant 1 offered her view that 'cosmology' is one way in which a teacher can explore a child's 'inner self – the heart and soul of their being'. She maintains that cosmology is valuable, as a meaningful way to tap into children's 'thoughts, feelings and emotions':

The cosmology story is one topic that can be focused on to help encourage reflection and insight as to where we all come from. Connecting to cosmology and our own hearts, that enable us to function as human beings, has many similarities. The cosmology story is the beginning on our own Earth where we live whilst our heart and its beat is where we began and end.

5.3 Sustainability behaviours and skills in marriage with subjective evolutionary cosmology

Three participants found that engaging in a blend of cosmology and sustainability skills, resembled 'basic sustainable living'; to mean a way of being that responds in common sense to the natural systems around our homes outdoor spaces. For example participant 1 spoke of how her grandmother 'just knew' what 'sustainability' was:

My grandmother, she is 103 and still amazes me. She introduced really basic sustainable living which we just thought was normal; living where her whole diet revolved around the seasons. You don't waste anything. Even before water became precious. She was always mindful of where things came from. Everything was appreciated, precious and valued to its full life span.

‘Basic sustainable living’ in this context also included reciprocity with the more-than-human world surrounding this participant’s grandmother’s home:

They all play a special role, for example lady bugs were special, they are a sign, they killed off aphids, cicadas meant that it was nearly summer. When the ants are there so it’s going to rain, don’t stand on the ants ‘cos they’re doing their business, they are busy like we are. They used to have those sticky strips; they were never into sprays, they didn’t like the idea of it going all over everyone. The idea of having a dog in the back yard wasn’t right. Animals had their own life to live and leave them alone [Participant 1].

Participant 1 feels that the cosmology she experienced in the relevant activities only ‘reinforced’ what she already knew from her grandparents about basic sustainable living. She asserts that immersion into basic sustainable living evokes ones ‘philosophy’ in lived experience. Similarly, three participants spoke of blending ‘cosmology’ with sustainability skills as what resonated most strongly from their relevant activities with the ACU facilitator:

In a very short time I had a feeling about her. If it hadn’t been for her, I don’t think that impetus would have been fired off properly. It may have been there, the whole go green marketing thing, but I really don’t think it would have change me the way it has [Participant 2].

Yes, like sustainability consciously just became a part of my life. Cosmology to me is just an obvious and necessary part of what sustainability is. Of course when I am teaching it, I am doing it in a conscious way and I am breaking it down like she did, but in a life way; ‘it just is’. So I think cosmology can be bought together with everyday stuff, eating, and it has to for people to understand it. So in that sense, cosmology can be made practical [Participant 3].

5.4 Difficulties with Berry’s and Swimme’s work

One participant found it difficult to explain ‘cosmology’ with ‘sustainability’, even though it is embodied in her life-world. She said, ‘I guess cosmology is my vehicle through which I teach, feel and learn about sustainability. It really informs and empowers me, keeps me going. But when it comes to explaining it, it is a lot harder’ (Participant 3).

Three participants experienced either negativity or have observed other people's discomfort in exploring a bigger worldview. For example, participant 1 reflected, 'I think a lot of people sniggered about it all, especially when we presented ours the way we did. In the cosmology, there were groans around environmental negativity'.

Participant 2 said that it will take a long time for her to embody the Universe Story in her everyday life, in view of her busy life, and because there is still 'so much she doesn't know'.

Three participants spoke of their difficulties in knowing how to include the Universe Story concepts into their teaching, even though they want to. For example participant 2 described her difficulties; 'Because I want to do the right thing from an academic and professional point of view, I want to tick all the boxes, rather than doing it from me. That's where I really struggled this semester; I found it really hard to step outside myself'.

The ACU facilitator spoke of students and teachers not scientifically educated about evolution, as potentially 'problematic' and this is a 'new space to deal with'. She said, 'If they haven't done much science since then, certainly not evolution, they've never thought about it since. Then they come to us and we talk about the Universe Story and they go "this isn't what we are meant to believe"'.

5.5 Recommendations for the work

During the research at ACU, various suggestions emerged about how to 'teach' the Universe Story. This section 5.4 is structured in two parts:

- Section 5.4.1 briefly discusses participants' reflections on how they think the Universe Story may be more easily adopted.
- Section 5.5.2 is a list of emergent suggestions

5.5.1. Focuses and activities

Participant 3 had attempted Berry's book *Dream of the Earth* (1988a), finding it inspiring, but dense to read. She hopes the 'original integrity' of the work (Berry, 1988a; Berry and Swimme, 1992) may reach a broad public in simpler ways:

So I guess I am thinking of a watered down version but not compromising because that's been done as well and green washing – mainstreaming it too much. I think society is ready to go beyond that but not too esoteric and not too high brow [Participant 3].

The ACU facilitator spoke of her approach to teaching the Universe Story as embracing 'a new science and cosmology' – which she believes activates and belongs with long term sustainability:

The cosmology story talks about the beauty of the earth and how we need to sustain and live within it – so this leads to sustainability. Then you've got 'what are some possible ways that we can work with this?' Some of those really practical things come out of say permaculture and reducing your footprint. But I like people to see them as part of that big picture. I guess that's where I've gotten to now. Again it's reflecting back and whatever you do with children, talk about where their place is in this stuff. How what they are doing right now – how planting seed – is part of the bigger picture.

Three participants spoke of blending concepts of the Universe Story with 'hands-on' activities:

It is super important to have hands-on practical things so when we talk about things that I can't explain, why I understand the Earth the way I do. That confuses some people and they need things to hold on to. Yes, talking about it whilst you are doing it, but not just talking about it and not just doing it. I see those two things going on all the time everywhere. Its one or the other, it's not the two [Participant 3].

Participant 2 believes professional support and planning are important to teach 'cosmology' – to help create conducive atmospheres for students, and parents should they be uncomfortable with notions of the Universe Story:

To plan teaching around philosophical ideas and ideals is a tricky area, one that your people in positions of responsibility need to be on board with it. When it comes to the Earth connection, the cosmology of our being, I think it is up to the individual to create this environment, but it has to be done in a way that parents are willing to accept what it is you are teaching their children.

The ACU facilitator reflected similarly – to respect peoples differing reactions to the Universe Story:

I don't know that it [cosmology] is there for everybody. I think it certainly is there for a lot of people that are receptive and to see yourself as this one big thing is wonderful. It makes you feel very much at home in some ways, at home in the universe. Although other people have said it makes them feel very small, insignificant and is scary. I know another ACU staff member has been trying with year 10's and they don't want it.

The facilitator spoke of some religious students who are uncomfortable with the existential notions of the Universe Story — when interpreted as a 'creation story'. To counteract this, she employs religious education teachers to talk about 'single religiosity'. She also encourages her students to view the Universe Story as a 'way of seeing the world' — a new, different way to experience science — as a philosophy of science and of history:

The idea is to firstly get them to see that science is a human endeavour — it's what human beings do. Secondly it's cultural. They come in believing it's a bunch of facts and equations and things they've got to learn. Whereas we try and deconstruct that and show them that humans have developed this stuff and it's subject to change and it's a particular way of seeing the world — that it's not the only way of seeing the world, that there are western sciences and other kinds of sciences.

Participant 3 believes a teacher 'has to feel' the Universe Story as their 'truth' to be effective — to interpret it in a 'straight forward way' — not 'airy fairy', or forthright:

I guess the facilitator has to feel that. You can't teach something like cosmology without it being your truth. Even talking about cosmology can be done in a straight forward way. It shouldn't be airy fairy. You don't have to say the word spirituality; you don't need to say those types of things. It's just the interpretation.

The ACU facilitator reflected that starting with the 'local', extending to the 'global' is another approach she endorses when teaching the Universe Story:

I think that this is incredibly important. They talk about act local, think global. Well I think that may be a cliché but it speaks a lot about how we can do this stuff. I know Janet [another ACU staff member] talks about the water cycle and that starts by drinking a glass of water, which I think is fantastic. It's part of you, that being local and knowing your local environment. All the time we are trying

to say you are part of this story. This is your story. The universe evolution is your evolution — it's our evolution.

Five participants suggested that outdoor activities enabled them to experience the Universe Story, beyond theory:

You can sit in a lecture theatre and learn about it, but getting out there and doing it, which is what she [ACU staff member] did for us absolutely — and that was the first time I really got her on a whole other level. It [Universe Story and sustainability combined] had been confined to theory until she got us there into the sticks, and I saw her and interpreted her on an entirely different level as well [Participant 3].

Participant 3 has engaged children in notions of the Universe Story by inspiring their imaginations of historical contexts, in the schools garden:

Yeah, even talking about and doing role plays about people who used to live on the land and different ways of living on the land. Talk about how mono-culturalism came about. We had ten patches that were constructed in vastly different ways, some poly-cultural. So just teaching kids and exposing them to different ways and letting 'them' come to what makes sense.

5.5.2 Emergent suggestions

The participants provided suggestions for ways of presenting the Berry and Swimme works to new audiences:

- To develop a more simple approach to Berry's (1988a) theoretical work, without compromising its original integrity.
- To present the Universe Story in a straight forward way.
- To integrate sustainability skills with notions of the Universe Story.
- To integrate 'hands on' experiences with notions of the Universe Story.
- To integrate a way of seeing the universe and Earth, in poesis – to focus on the beauty of life and inspire imagination and an appreciation for life – leading to authentic, deep feelings of love and care for Earth and for life.
- To present the Universe Story as a 'way of seeing the world' — a way to experience science differently — a philosophy of science and history.

They also made recommendations for facilitation:

- Find alternate ways of presenting the Universe Story as a worldview — to offer people experiences that change between local-global and global-local in their focus.
- Experiment with imaginative approaches to the Universe Story, that contextualise history in lived experience.
- Avoid becoming ‘evangelistic’ when teaching the Universe Story.
- The Universe Story is best suited to being facilitated by those with a genuine feeling for it as a worldview. It is interpreted best by facilitators with authentic sensibilities for the ontology intended by Berry and Swimme.
- Exercise understanding, patience and respect for those who may be reactive to a worldview which they may not wish to, or know how to, interpret.

Chapter 8: Centre for Education and Research in Environmental Strategies (CERES)

1. The context of CERES

This fourth case study involved six individuals participating in activities run through CERES in Melbourne. It also includes the reflections of a former staff member of CERES who was interviewed in relation to the case study undertaken at ACU (see chapter 7).

CERES is a 4.5 hectare 'Community Environment Park' located in an urban setting in Brunswick, Melbourne. It is a not-for-profit community-based organisation hosting sustainable agriculture operations, organic markets and community gardens. It also holds regular events and festivals. CERES' overall philosophy is the promotion of 'sustainability', loosely defined as the 'survival and sustaining of all life'. The aim of the park is to explore ecological, social and cultural ideas, and to demonstrate ways of reducing our ecological footprint²⁹.

In programs aimed at schools and community groups, CERES uses experiential activities to give participants an appreciation of natural systems and develop sustainability awareness and skills. It aims to empower people with a vision of what a sustainable world might look like, and enable them to develop skill sets to bring that vision into being.

As already discussed in relation to the previous three case study introductions, the author selected case study institutions which consciously seek to build a link between knowledge and social purpose or activism in order to consider if the reframing of environmental activism promoted by Berry and Swimme can influence the education participants. As mentioned in chapter 1, CERES was selected precisely because it offers a secular context for considering the relevance of ideas derived from Berry and Swimme or authors promoting a similar cosmology. In the case of CERES the work of Berry and Swimme was rather marginal within the programs in which the case study participants were engaged. However, the author detected an implicit influence and she was also able to look at some efforts made to refer to the work explicitly.

²⁹ Sourced from 'CERES' pamphlet 2010, made for public circulation.

While CERES deliberately avoids references to religion or spirituality — on the grounds that this could narrow the range of people wanting to attend activities — the organisation probably has a stronger commitment to environmental activism than the other three case study organisations. It emphasises secular scientific approaches to the challenges of environmental sustainability, as captured in concepts such as ‘ecological footprints’. However, staff at CERES told the researcher that they face a constant battle in getting education participants to think more imaginatively about their environmental activism and some expressed interest in the approach of Berry and Swimme, provided it could be introduced without religious connotations. For this reason, CERES provided an ideal context for considering whether or not the work of Berry and Swimme could be applied within explicitly secular contexts. The education programs at CERES provided an opportunity for considering whether the work of Berry and Swimme could enhance the work of a secular environmental organisation trying to promote environmental activism. While many had heard of The Universe Story, some staff at CERES expressed interest in learning more about the work of Berry and Swimme after being introduced to it by the researcher.

The role of the author in introducing the work of Berry and Swimme to people at CERES reflects the fact that critical hermeneutics is interested in ‘intersubjective’ dialogue and the subjectivity of the researcher is an asset rather than a liability for this kind of research. Exposure to the ideas of Berry and Swimme by people engaged in education programs at CERES can only be rather fleeting but this research is interested in finding out what levels of ‘immersion’ are required to give the exposure a lasting effect.

Once again, this thesis did not focus on the educational philosophies or pedagogies of the case study host organisation but rather it focused on the experiences of individual education participants.

2. Participants

The individual participants sourced through CERES are clustered into three groups for the organisation of this case study context:

Group 1: ‘Participants’ – five participants

Group 2: ‘The banner writer’ – one participant who wrote ‘the banner’

Group 3: ‘Pam’ – Former CERES staff member

2.1 (Group 1) Five participants — ‘Identified by pseudonyms’

These five research participants were sourced from CERES, Melbourne and are all senior education staff of this establishment. Pseudonyms used for them are as follows:

Participant 1: Paul Participant 4: Kate (creator of CERES activity 2)
Participant 2: Nick Participant 5: Jenny
Participant 3: Karin

CERES participants 1, 2, 3 and 5 were novice to the Universe Story.

CERES participant 4 typically presented as adopting a minimal to medium level of immersion in the Universe Story.

2.2 (Group 2) One participant — ‘The banner writer’

This research participant was sourced by recommendation from a participant of group 1. The group 2 participant had previously been a staff employee at CERES. It is her capacity as an employed writer for CERES, and her insights from working at CERES that this research draws, in relation to the interests of this thesis. This individual typically presented as adopting a medium to advanced level of immersion in the Universe Story.

2.3 (Group 3) One participant— ‘Pam’

This research participant was consulted in relation to the ACU case study (ACU participant 3) but her views are relevant here because she was formerly employed by CERES. She was specifically interviewed at CERES, to discuss her work and experiences of CERES. This participant did not create or participate in any of the activities relevant to this case study 4 context, and she will not be included in sections 1.4 or 3 of this chapter. This individual typically presented as adopting a medium level of immersion in the Universe Story.

3. Activities trialled at CERES

This case study context is different from the previous three. Only Kate and the banner writer experienced differing activities and levels of immersion in Berry’s and Swimme’s work outside of this case study context. The exact nature, topics and activities that inform those experiences are not known or reviewed in this research. However, a review of the activities they created while employed at CERES suggested

that their interpretation of the Universe Story is well informed. Karin was vaguely familiar with the notions of the Universe Story. The remaining three from group 1 were not even familiar with this work by Berry and Swimme.

This case study context then explores first impressions, general responses and more informed insights of participants in groups 1 and 2. A consideration in these research conversations was whether or not the Universe Story can be used effectively at CERES.

3.1 CERES activity 1

Two activities (3.1.1 and 3.1.1) were created by Kate and trialled as programs for individuals and group visitors to CERES. They are described separately but taken together as ‘CERES activity 1’, for research purposes.

Part 1 of CERES activity 3.1:

3.1.1 ‘Evolution, Extinction and Biodiversity’

Activity 1 focused on biodiversity and extinction phases within Earth evolution. The first part of this activity drew heavily from a process known as the ‘The Cosmic Walk’ originally developed by Sister Miriam Therese McGillis, as briefly outlined in chapter 6. However another version, adapted by John Seed and Ruth Rosenhek³⁰ was employed in this activity. It is relevant to outline McGillis’s original version, to fully understand the context intended within the adapted version that the CERES activity employed.

McGillis’s original Cosmic Walk – intends to help people embody *The Universe Story* (Berry and Swimme, 1992) – as a process of experiential symbolic re-enactment of the story. It aims to foster a sense of the cosmos, offering a context to help individuals take in the colossal scope of cosmological evolution, something that can be difficult to conceive. This process extends through stages of deep-time cosmological evolution to the present day, as follows:

³⁰ <http://www.rainforestinfo.org.au/deep-eco/cosmic.htm>

- A rope is laid out on the ground in a spiral, to symbolise the ‘story’ of the universe, giving form to significant stages from the Big Bang to the present, spanning 14.7 billion years. The evolutionary time-scale stages are signified by candles and descriptive markers, placed at distances along the rope. The spiral begins on the outside with the Big Bang, moving inward through as many stages of cosmological history as a facilitator chooses, for example, planet formation, Earth’s beginnings, the first bacteria and multi-cellular organisms, ocean creatures, amphibians, flowers, birds, primates and finally *Homo sapiens*. Participants experience this symbolic re-enactment, as one walks a labyrinth, silently, observing the markers and allowing an embodied experience of cosmological evolution.

The version of the Cosmic Walk employed in CERES activity 1, differs from the original in that it implies Berry’s and Swimme’s *The Universe Story* (1992) whereas the original Cosmic Walk included a comprehensive outline of the stages of the Universe Story.

Rosenhek and Seed’s (n.d.) version, employed in CERES activity 1, gives an outline of cosmological evolution, starting with the Big Bang 13.7 billion years ago and mentioning planetary formation, then jumps straight to and gives a brief outline of, the evolutionary stages of Earth’s beginnings, 4.6 billion years ago. This abbreviated version excludes deep exploration of a key notion of the Universe Story — that all life only exists and evolves, because of the colossal creativity of the dynamic laws of the cosmos.

CERES activity 1 then further adapts this abbreviated version by jumping to its area of interest – periods of extinction in Earth’s history. It asks participants to consider if we are on the brink of the sixth extinction? Thus the activity becomes not so much a reflective experiential process alone, but a brief experience of the Cosmic Walk evoking feelings for and discussion of conceptual information about extinction.

The second component of CERES Activity 1 is biodiversity. Here participants view the audio-visual DVD series ‘State of the Planet’ presented by David Attenborough (Attenborough, 2012). The group then discusses the presentation and worksheets profiling five specific threats to biodiversity.

CERES research participants felt this activity was not sufficiently popular and therefore needed to be omitted from the program selection.

Part 2 of CERES activity 3.1:

3.1.2 'Reaching across difference'

This program seeks to help people experience and 'celebrate the process of evolution and diversity of species'. Its aim is to help 'society' embrace actions that heal the 'despair of extinction', as a 'powerful ethic'. It also aims to 'honour' notions synonymous with Deep Ecology (Naess, 1989), fostering engagement in evolution within a biological context.

The main activity includes an elaborate version of the Cosmic Walk. Here, evolutionary stages run from Big Bang through the formation of the elements, ignition of the Milky Way, Earth's formation, bacteria, photosynthesis, oxygen 'loving' cells, cells in general, ocean life, plant life, mammals and the general notion of biodiversity. Emergence of *Homo sapiens* was explored including developments such as language, religion, agriculture and science.

A final activity involved observation and listening to the ontological orientations which characterise the program's activities. For example, science was said to have found evidence of the origins of the universe. This extended to exploration of cosmological evolution as a worldview. In one instance the Big Bang and all life to follow was contextualised as 'a new creation story begins to evolve'. In another example, the last words spoken by the facilitator, express evolution on Earth as a 'mystical journey':

Earth becomes complex enough to see and understand her own integral beauty. Today the story of the universe is being told as a sacred creation story. The primal flaring forth continues in this moment, through us, as one. The profound mystery remains unknowable and the source of life remains hidden; that following the footprints of evolving life on earth is a mystic journey.

The activities finish with the idea, 'that we can learn to tell the story in many different mediums of the arts, only that in the end stories remain simply stories'.

The program creator wished the activities to be 'filled with awe, reverence and celebration, containing information about the unfolding of creation, using modalities

including sight, sound, words, embodiment and movement', in a ritual to help tell 'our creation story, a journey we have all been on since the beginning of universe time'.

Berry and Swimme's (1992) *The Universe Story* was not explicitly associated with any of these activities in the written form of this CERES program. It may have been introduced orally during the activity processes.

3.2 CERES Activity 2

This activity is unique within this research, its entry point to Berry's and Swimme's work being part of a written text for public viewing; a proposal submitted by a writer employed by CERES – 'the banner writer'. Her task was to provide written information, to be displayed on banners as a way for CERES visitors to orient themselves to the environmental education park and what it stands for. The proposed banners were to outline CERES history, aims and values including specific focuses such as diversity, community, relationships, global equity, creativity, celebration, spirit and meaning.

Strong indications of the Universe Story were included in the first proposal, for the first of the six banners. This included a cosmological evolution perspective weaving humanity into the deep pattern of life. The proposal for the first banner is the most relevant and will be the only section of the proposal included as an activity for this research. It reads as follows:

THE VERY VERY BEGINNINGS...

From a point near to nothing, from a seed infinitely small, exploded this vast universe. It is still growing, still expanding outward, the flung arms of galaxies, unfurling....

We are on this journey, together with the universe, but where are we going?

Every single element that makes up our bodies was forged in the great furnaces of the stars as they exploded and died. Every element of our bodies is billions and billions of years old. Everything is re-used

Millions of times, changing form. The air you breathe was just exhaled by the trees around you and your exhalation will be taken by the plants, and from this will come leaves, which you eat, which will become you....

Where do you begin? Where do I end?

The universe has evolved to the point where we exist. We have evolved perfectly to fit this world, these conditions. Yet we are now changing those conditions. We have upset the delicate balance....

How do we return to the balance?

The story of CERES is inseparable from the story of the creation of the universe. Just as my story is inseparable from yours. It is all one long story, changing form, over time.

From the miniscule seed of CERES, change is breaking through the concrete, and strong green leaves are unfurling....

This approach draws on ideas and questions that are intended to stimulate the reader to reflect on life as an interconnected 'story of the universe'. It seeks to have people identify with their place within the universe and the Earth, providing impetus for environmental stewardship, a central aim of CERES

4. Participants and Data Collection:

Snapshot of Research Participants and Data Collection Methods

Participants	Age Range	Gender Ratio	Religions	First Language	Ethnic Background	Narrative Data Numbers and Type	Interviews
6 individual participants	40-60	F x (4) Mx (2)	n/a	ENGx (6)	NIA	ST x (4)	6
1 participant	42	F	n/a	ENG	NIA	ST x (1)	1

Narrative Data Key: ST = stories, n/a=not available, F=female, M=male, NIA= non-indigenous Australian, ENG= English

5. Findings in relation to the distilled Berry and Swimme themes

The findings within this case study context are quite different from those of the other three. As noted, the work of Berry and Swimme was rarely referred to directly in the activities as CERES but the influence can be detected, and the research in this case study seeks to explicate that influence. At times it was fairly easy to relate ideas in use to specific Berry/Swimme themes while at other times the ideas of in use related to a number of Berry/Swimme themes.

Again, the focus of this thesis is to consider what participants make of whatever level of exposure they received to the ideas derived from the work of Berry and Swimme. Therefore, the findings from this case study context are important in order to gain non-judgemental comparative insights in this study. As discussed in chapter 2, section 3, the central interests of this research were well served by including participants sourced from the CERES case study who were less or not at all familiar with the work. This offered the thesis insights into how relevant the work of Berry and Swimme may be within a wider social context. The author further stresses that no criticism is made or implied regarding the secular orientation or lived experiences detected from participants sourced from CERES. Further, no criticism is made or implied regarding the responses to, or of the activities devised by the participants in the CERES case study. Instead this chapter served to offer the study a comparative set of participant responses based on a particular interpretation of the work of Berry and Swimme, experienced by this group of individuals.

5.1 Cosmological context findings

5.1.1 Every living entity continues to complexify out of the original energy of the Big Bang

5.1.2 The Universe Story demonstrates that all life is profoundly unified

These themes emerged together within the activities 1,2 and 3. In activity 3, the text clearly relates to theme 3.1.1:

From a point near to nothing, from a seed infinitely small, exploded this vast universe. It is still growing, still expanding outward, the flung arms of galaxies, unfurling... Breathe exchanges of trees to humans and that all stories are inseparable.

The banner writer said Kate and Karin were generally enthusiastic about the ideas in the banner as representing CERES aims. Others were not enthusiastic about 'big picture stuff', and the banner writer quoted one participant as saying, 'I don't think your understanding is CERES understanding'. The banner writer thinks the less favourable reactions occurred because these people were not familiar enough with the ideas of Berry and Swimme to make the conceptual links of the notions of theme 4.1.1 and 4.1.2. She concluded that because of this, they could not see the work as connected to the 'hands-on' sustainability skills that CERES aims for. She said, 'Paul wanted more to do with specific climate change agendas. So it got pushed out'.

Karin remembers the banner writer trying to incorporate bigger picture notions in the banner:

It went around many drafts and story writing by consensus, it had its moments but it was important to get it right because it is strongly stated. I don't remember if there is still a reference to the Universe Story but I think there will be. Her original first draft had that very strongly. There are 6 panels that tell the story and her original suggestion had that story and the second story was how CERES relates to it. But it didn't last in full.

When Nick initially read the banner draft, he was not familiar with the Universe Story and strongly rejected the banner's interpretation to represent CERES. Yet he responded positively when the researcher introduced him to a simple version of the

Cosmic Walk. This approach focused on an interpretation that did not suggest a need to adopt or have a 'feeling' for the big picture of life. It also differed in that it did not deliver a sense of the 'mysteriousness' of phenomenal life that may have inherently placed his lifeworld in an auto-poetic context. This way of introducing the Universe Story differed to the approach to the Universe Story he was familiar with in that it used a more 'science-based' language to include a simple reference to a big picture perspective, indicated as 'a perspective where the whole of life kicks in'. The exact wording of these notions, to imply the Universe Story to Nick in this context, was as follows:

There is a coil on the ground and it starts with the Big Bang. You follow the coil from the outside to the inside. As you are walking there are cards placed at points as you go that indicate, for example, when super novae formed then all the way through to prehistoric life through to plants and animals forming then to when humans evolved. So people experience walking around all of time and then they finally get to the human. There is a perspective where the whole of life kicks in.

Nick's immediate response was positive, indicating he could see that this approach presented notions that CERES could adopt:

I think it would fit quite well within CERES. I've never seen an exercise like that done at CERES but it sounds like an interesting one. It certainly links well with that notion of evolution and life and seeing human-ness, human being-ness, human breadth of total existence. We get caught up in thinking that us now is the be all and end all and there is a very different context that we could put ourselves in. It seems to sit well with the notion of CERES I think.

Jenny recalled her memory of activity 3 being submitted to a CERES committee, and not well received or successful:

(The banner writer) was involved in some of that stuff but I've never studied it formally like Kate has. I know she was really keen to incorporate some of that stuff in the story of the beginning of CERES. Like referencing that creation story in that story and she did a bit of writing about that but it didn't really get up because there weren't enough people who were into it. It didn't have a groundswell.

Jenny could not recall exactly why the first draft proposal was rejected, though she indicated the possibility of it being 'too far removed', 'too distant' and 'too big pictured and not being focused enough to 'hands-on sustainability stuff':

I don't think I know. It just met a resistance or it seemed a bit too far removed for some people, too distant. Too big 'pictured'. Hands on sustainability stuff has been a very big focus of CERES and a lot of CERES people here are very solution focused and practical oriented.

Jenny also indicated her personal openness of the notions of the Universe Story, and also suggested that CERES may still be open to it. In responding to a question about the Universe Story being ruled out, Jenny said 'No. Not that I know of. Not to say that it couldn't be or it wouldn't be. She then implied that CERES may consider different formats or approaches:

I think the whole issue of inspiration or information or interpretation, how one inspires people to be connected to that. Like would that be something that would be better on our web site. It's not just the physical place here people find out about CERES not just by coming here but virtually. So yeah maybe I should get from you your version of it because it might be different from the one I'm familiar with.

Kate had personal experience of the Universe Story and spoke of activities 1 as, 'based on deep time and deep ecology work'. More specifically she described a basic version of the Cosmic Walk as being central to it. She concluded that these activities had not been received well enough for their inclusion in CERES programming:

Kate: I introduced that program based on deep time and deep ecology work that I'd done. I think that some staff really liked it and others thought that it wasn't quite on the mark. The schools had varied and different reactions to it as well. The little kids really loved acting out the universe story stuff.

Researcher: Do you remember if there were particular religious or demographics that did or did not like it?

Kate: They just wouldn't choose it, but with the cultural programs they have asked us not to present certain things.

Participant 5 commented on this also:

For a small thing, we tried to introduce an activity which was a cosmic spiral timeline activity. I've never taught it so I can't talk about it as an authority. There wasn't a call for it. The teachers seem to want us to do the stuff they cannot do in the classroom.

Participant 5 showed initial disinterest when asked if she was familiar with the Universe Story. She implied that it sounded theoretical, and was not convinced it would comply with CERES' hands on approach, yet reflected that not 'theorizing may be a weakness in her team':

I don't know anything about it. Personally, I don't do any educational reading. I come from a position where I taught for a long time. I'm not a theoretical person. I am a quick thinking don't muck around, They need hard, they want the science, they want the equipment, they want the stuff and they don't want so much that deeper spiritual sort of stuff from us. They want real education. I am not interested in theorizing this and that theory, the words and all the rest of it. It doesn't suit me at all. It might suit others but it's not good for me. Perhaps that's a weakness in our team that there is nobody taking that role.

Pam spoke of the Universe Story as receiving 'mixed' reactions at CERES. She suggested the responses to be interpreting it as spirituality, or of being involved in something that CERES is not:

Anytime I spoke about it here [CERES], it kind of got mixed responses really. For some people it was like, 'we can't go there', and for other people the lights were starting to go on, 'yeah there is more, there are the elements that we don't talk about that we don't create experiences for'.

5.2 Interpreting life's energy subjectively

5.2.1 Venerating all life's genetic and biological entities as primary, relational identities

Only the banner writer discussed this theme in her own language, by describing her sense that we live as an 'enormous gift economy' of the biological world:

So you've got the sun. The sun has been a source of meaning and has layers and layers of resonances in us. So I'd be looking at those sorts of things, and looking at the bigger natural processes of how we become. We become through absorption of sunlight because plants become sunlight and we eat them and therefore we become, we happen, we are made spirit manifest or whatever it is. It's the sense of this enormous gift economy. It's this sense of being absolutely tied to the living world because I think we haven't got stories that make us see that. We are so unbelievably detached from the sources of life.

5.2.2 Deepening our consciousness to move with the laws and dynamics of the universe

No reference to this theme could be detected in the data.

5.2.3 Cultivating intimacy with the mysterious spontaneity inherent in all life

CERES maintains that it offers non-denominational, practical based skills for a sustainable world. Four participants from group 1 reinforced this position to say that they at CERES want to 'leave people alone' to make their own subjective insights and conclusions when interpreting life's mystery and 'meaning'. For example Kate said:

I think that everyone who passes through CERES has their own journey and their own relationship with the space and I don't feel as though it's my role to shape that or desire it to be any particular way or I don't personally have any great agendas. I am interested in what people think but at the same time I don't want to ask the questions because people have their own journeys and their own relationship.

Three participants from group 1 talked of experiencing 'nature' as closely linked to how people cultivate intimacy with 'life' at CERES. They all noted that CERES being an urban location makes it 'very difficult' for them to bring deep experiences of 'nature' to their visitors', and suggested that CERES has a 'different role' to other organisations who organise wilderness experiences for school children. Participant 5 explained that CERES is very interested in their visitors experiencing 'connection to the natural world'; taking care to avoid activities that may not work:

Certainly we try to think about connection to the natural world. We have tried, what's the name? 'The Earth Institute' in the USA, where you try and engage

with your eyes closed and you sit and listen to the birds. It's really hard to achieve here. Even if you go down to the Creek, you can hear the noise everywhere from the traffic and all the rest of it. Where you can take them out and do more of that stirring, listening quiet connection and think back through all that modelling. It's not a classroom activity. The trouble is that if you do that sort of thing and you do it badly, and it's very compromised, perhaps you are damaging the power. Maybe it's a mistake to do it badly.

Kate mentioned that some visiting teachers had asked CERES to offer their students an extension beyond 'the basic' sustainability message, to introduce perhaps more existential or nature based experiences. To this end participant 4 spoke of CERES being 'still in transition around that':

We've had to extend the message and it's no longer the basic messages. In some cases we haven't yet. Some teachers just want the kids to have a concrete experience of what they have been learning about. Sometimes teachers want an extension of 'what else can we learn from CERES? I think we are still in transition around that.

5.3 Earth context findings

5.3.1 The Earth community is a communion of subjects and not a collection of objects

5.3.2 Participating in mutually enhancing relations with the Earth community

Three participants mentioned more-than-human life as subjective but did not explicate this notion. All participants referred broadly to the more-than-human world in terms such as 'wildlife', 'biodiversity' or 'interrelationship with the natural world'. There was a very strong sense of this theme when people spoke of the 'King Fisher Festival'³¹, but the notion of this theme did not reach across other areas of their work explicitly.

³¹ The King Fisher Festival is an annual CERES event, conceptualized by six women working at CERES. It brings people into a community experience of honouring non-human animals, protecting and celebrating the natural world. Kate describes this event as, 'very much connected to the issue in terms of how we get people to understand about impacts environmental issue impacts on the rest of the non-human life and has made a profound difference I believe in the minds of many, especially children because it's a story that is kind of romantic and colourful enough that they get it at a very deep level'.

For instance, Jenny offered her insight that non-human animals at a global scale are a secondary consideration, as much as she hoped this would be different. She continued to say that the way CERES tries to help this situation is by encouraging visitors to realise their impacts on the natural world:

Well to be real about humans that doesn't come first, does it? When you think there is an over population of humans there's pressure for food and resources and I don't think that wildlife really gets a look in, which is... whether we can do something about that here is quite hard. But then again, trying to make our visitors — that their personal connection and personal actions impact on natural system — is a way that we can do it.

Similarly, Pam referred to the King Fisher festival as a way CERES approaches human impacts on 'non-human life':

But the King Fisher Festival is very much connected to the issue in terms of how we get people to understand about environmental issue impacts on the rest of the non-human life and it has made a profound difference I believe in the minds of many.

The notion of 'community' as denoting an all-of-Earth community was explicitly welcomed by three participants. This notion did not emerge within the interviews of the remaining three participants. Those who did welcome that notion acknowledged that CERES does not focus on individual non-human animals as a community of subjects to date, although it is welcomed and thought about in relation to future planning at CERES:

Everywhere in CERES there is a focus to the natural world in terms of our space and how we use it and how we see it and what we do with it and how we protect it and that will be considered in terms of the centre. The indoor spaces will have just as much focus as the outdoor. But it hasn't been formally talked about no. No it hasn't been. Certainly in terms of some of the things that might happen at the centre, that is something that would be very welcomed.

Nick adopted the term, 'community of life' which the author must have used within the interview process and spoke of 'reconnecting humanity into that community of life'. He also said he was not sure of 'exactly how we do it':

It seems to me to be a fundamental part of the whole questioning of where humanity is at the moment, is reconnecting humanity into that community of life, as you put it. It seems to me a fundamental part of all the questioning of the faults of humanity at the moment. So I don't see how it can't be in the central part, a very critical part of the expression of whatever we are doing there. Exactly how we do it, I'm not really sure.

Karin spoke of opportunities to rejuvenate the Merri Creek — a Creek that runs adjacent to the CERES site — as a means to address 'issues around wildlife and biodiversity', while Jenny spoke of planting trees to support more 'habitat', and of the value of students engaging with birds and ducks in the Creek.

5.3.3 Identifying human self-reflective consciousness as unique but not superior

This theme was discussed directly by three participants who indicated their awareness of the negative impact that the notion of human supremacy has on non-human species. For example Paul exclaimed: 'I'm just glad I'm human and not one of the other species! They don't have much of a go do they?'

Kate conceded that at this point CERES is more involved with 'human social equity' and offered a possible rationale for this orientation as being located in a 'very people centred space':

Kate: I think we're more interested in human social equity than we are with species equity. We've got such a long way to go before we even sort out equity among the people. No I don't think so, not explicitly.

Researcher: Do you think there is any particular reason for that?

Kate: It could be to do with our urban setting. We're in the middle of a very people centred space so similarly not dealing with issues to do with wildness and wilderness. It's connected to the philosophy but it's not part of the philosophy that's right up front and centre.

5.3.4 The human is a species capable of profound appreciation of the preciousness of our planet

The most relevant data associated with this theme emerged from five participants appreciating the ‘natural world’. For example Nick said:

I think in our programs, there is a lot of the issues and questions we raise about energy and food or community cultures. A whole lot of it goes back to providing a deep appreciation of nature. There is a variety of ways that we do that.

Kate spoke of her valuing the ‘amazing-ness of life’ and suggested a need to respect first that people come to experiences of ‘reverence and appreciation’ in varying ways:

That reverence and appreciation for the amazing-ness of life; I mean what is spirituality anyway? For me it’s about having an appreciation for the transcendental, for something that is larger than yourself. If that’s God, and that’s your cup of tea, then that’s great; if it’s the Earth, then that’s fine too.

5.4 Religious contexts

5.4.1 The Universe Story demonstrates all religions as unified but differentiated parts of the same religiosity

Kate offered her view that evolution, science and religion are all essentially creation stories:

For me it’s [The Universe Story] a creation story like all of the other creation stories and other religions. Just because it is based in science.... I come from a culture that is heavily influenced by science and that’s the scientific creation story: the Big Bang, the forming of life and the splitting of bacteria, all these sorts of theories.... Oh yeah it’s all stories, all stories.

Three participants spoke of the importance for CERES to respond respectfully and appropriately to the multitude of religious, spiritual and non-denominational schools they in contact with. For example:

The religion spirituality thing is interesting because we get so many different schools, some of them will say ‘can you teach an Indian program but we don’t want any yoga or Punjab because that’s different from our religion and we don’t

want our students involved with that. Some are really open to having lots of different views and ways in the world [Kate].

Karin reflected that in her experiences at CERES, she has observed that a neutral religious and spiritual position has worked best for the public. She said that the simple and practical approaches CERES adopts are largely attributed to CERES success:

Well the things that we know have inspired and switched people on in the past, having been doing this for all this time, we know something about the things that are effective and work, and often they are the simple things.

5.5 The art of living the work of Berry and Swimme

5.5.1 To celebrate and enhance all of life's flourishing as an inclusive cosmological ethic

One participant pointed to notions of the 'enhancing' component of this theme in his own language:

The pathway that humanity has gone along has less of the possible potential that humans can achieve and needs to examine the values that underlie the way we behave at the moment and we invent a new lot of values that put us in harmony with nature and each other and greater equity between us.

5.5.2 Wholehearted participation with life's subjectivity and other ways of knowing

Three participants touched on a broad notion of this theme in their own language. Paul, for example, pointed out that the world's problems cannot be solved by 'better machines' alone but also require relatedness with 'each other' and 'the other species'. Jenny valued this theme when narrating an example of visiting students who, when experiencing 'netting' at the Merri Creek, includes activities of 'staring' into the water. She maintained that people's perceptions changed whilst they explored such activities in a spirit of 'excitement' and 'connection':

They've got their bucket and they stare into that water to try and see. Now that's a very strong connection. The staring is a really important part of it; then the

excitement and the sharing of what they have found and the impact. The other thing we do which is a simple activity is digging the soil and look through the soil and again to find slaters and worms and the excitement is incredible. But we do try and make those connections and try to engage and not to be revolted. To feel that it is all part of everything. So within the parameters that we've got there.

5.5.3 Marrying reductive science to a language of subjective knowledge.

Three participants talked of a need to get beyond mechanistic science alone. Paul spoke of CERES encouraging 'skills, aptitude and appetite for investigation' of natural systems, the need for a 'critique of science' beyond 'reducing separated parts'. Married to these notions, he spoke of CERES valuing a holistic approach to science that may foster the interrelatedness of 'partnerships between things':

Who will critically take on science, learning the great insights we get from scientific investigation, but also a critique of science that we won't learn everything by reducing separated parts. But that we'll recognise the interrelatedness in partnerships between things in the context of the all things that we do.

Jenny spoke of CERES needing to meet visiting teachers' expectations for 'the hard' science and of them not wanting 'that deep holistic connection thing':

The teachers seem to want us to do the stuff they cannot do in the classroom. They need hard, they want the science, they want the equipment, they want the stuff and they don't want so much that deeper spiritual sort of stuff from us. So perhaps teachers may want to, but often teachers are doing very narrow stuff, like just do water, its very immaterial: water, drought. They are not necessarily looking for that holistic deep connection thing.

5.5.4 The destructive implications of humanity's pervasive industrial consciousness

Two participants stressed the need to talk about the state of the biological world. Paul, in his capacity as a teacher, begins some classes by talking about 'greed' and placing environmental degradation into an historical context and continues to briefly discuss Marxism (Mandel, 1961) as a possibility of hope. Nick made an immediate link to the pressures of an industrial society when considering the Cosmic Walk as a possible technique to inspire awareness of consumer pressure:

The spiral and that method of giving people new perceptions is a very interesting idea as a technique for bringing people to a different realization and awareness. I think we've probably got to explore all sorts of techniques for getting that message across. The pressure is with companies wanting to sell things and consumer pressures are working very strongly against that at the moment.

6. Additional outcomes

6.1 Consideration of big picture perspectives

The banner writer wants CERES to offer people contexts that might enable them imagine big pictures and notions of the Universe Story, building a 'strong moral basis' and 'the biggest story' context of life. Jenny thinks that 'big picture' contexts are 'good' if people are responsive to them, but also recognised some people will not relate to this approach:

Some people have it and some people have experiences which have engendered that in them because they have had those experiences. Some people have taken the time you know. To keep quiet and sit still for a minute or two to get that. But not everyone has had that experience.

Jenny also suggested that CERES offers 'almost the antitheses' to the big picture approach, because CERES wants to put people 'in the picture in a very concrete way':

You think you look at the stars at night and you feel connected and part of the whole. What we do here is not like becoming part of the bigger. It's actually putting yourself in the picture in a very concrete way. It's almost the antithesis in some way. But it's very good to have.... It's good if that feeds into the concrete and it's the same as staring at the waves and feeling part of the sea and all of that kind of thing — it's deep.

Jenny thinks that appreciating deep historical contexts keeps people 'humble', by their feeling 'like only a small part of the whole'. She could see the value of what the Universe Story is doing and concluded that it's 'a bit of a different head space':

Because I haven't really seen this universal thing at all, I understand the concept because I understand that you can connect and feel like only a small part of the whole if you understand that depth of history and certainly if you are in Europe

and go into the cave paintings and understand that human history, even the human history over that period of time, you feel yourself to be only a small party of a continuum. But I've never, I'm not sure how one would do it. It's quite a big thing to do. It's a bit of a different head space.

6.2 Urban focus

Four participants made reference to the limitations of the CERES site being situated in inner suburbia. For example, Karin reflected that CERES has 'always had that urban flavour laid on us', and that a lot of CERES visitors also come to the site for 'little bits of nature in the city', as much as for coffee and food 'connections'. She said, 'In terms of Brunswick, on the tip site and all that it's always seemed a bit remote from us. Like if you were going up to Toolangi or somewhere you could do that a lot more easily'.

Karin also reflected on what CERES may be 'thinking' in terms of an urban setting:

Maybe we are thinking that it's more powerful for us to think about the urban setting, how we can live in an urban setting and in a way that is sustainable and good for your heart and your soul as well, and has connection.

Jenny reflected on how an urban setting might be a place for people to connect with the more-than-human world; implying openness yet uncertainty as to how CERES may do this:

I'm not sure what you do for that. Whether you can teach it or just expose people to it is something, and it's mainly through quiet reflection and solitude and being away from cities that you get those feelings rather than being in an education program in a city? Then there's direct nature links through the festivals and to some extent through the programs with the kids. But I don't think we're that — maybe we'd need to be — well maybe we don't need to be in the bush.

6.3 The matter of story

As mentioned earlier, Kate talked about what 'story' and the Universe Story can mean within the context of CERES:

For me it's a creation story like all of the other creation stories and other religions. Just because it is based in science. I come from a culture that is heavily

influenced by science and that's the scientific creation story: the Big Bang, the forming of life and the splitting of bacteria, all these sorts of theories. That's fine, I think we need to think of that as having a spiritual aspect.

The notion of 'story' emerged from the banner writer; that the Universe Story is what humanity requires to 'belonging to natural systems'. She argues that CERES should employ the Universe Story, because it is the 'biggest story':

The only way we are not going to go there is have a system that is based on a very strong moral basis – a very strong commitment and belonging to natural systems. I am talking on a big deep level but I do think that CERES can, it's not impossible to do it, and I think it can be done somehow. That's what I was trying to do with the signage in the site centre by talking about the big picture: '*The Universe Story*' of Thomas Berry; I feel philosophically that CERES needs to come from a place like that because it's the biggest story. So I was really trying to push it as the basis of any signage that we do at CERES.

6.4 Australia's fear of evangelism

Two participants believe that CERES has always wanted to respond to what might be construed, the 'Australian way and culture'; i.e. that that Australia is a culture that finds it uncomfortable or even patronising to speak of religion. Karin spoke of Australian culture as being 'suspicious about evangelistic ways':

The things that we know have inspired and switched people on in the past having been doing this for all this time, we know something about the things that are effective and work and often they are the simple things. We are also as a culture suspicious about evangelistic ways. I think it instantly turns people off and turns people away. We don't like it. We are suspicious at least.

Paul thinks that CERES endeavours to acknowledge 'sensitively' — people's points of view — without 'pressing too hard on them', because 'you can't force things down people':

So that honouring of other people's views and not pressing too hard on them. But giving them options and things to think about. Painting a very serious picture of the world in a way that they'd feel like they'd have to do something we would hope. But working sensitively with people. I am a revolutionary from Maoist days. You can't force things down people.

6.5 Difficulties with Berry's and Swimme's work

CERES has largely not accepted the formats and proposals of the Universe Story submitted to date, however notions of the Universe Story were in the final draft of the CERES banner, hung for public display. The reasoning for this emerged in varying ways as discussed above.

CERES interpreted the Universe Story approaches as a diversion from hands-on sustainability and 'hard' science that are expected of CERES from visiting teachers and visitors:

But I think a lot of people who work in sustainability, people who are still sceptics, feel that when they are educating, they fear the people who aren't 'there' (adopting the Universe Story) yet will be scared off if we talk about the spiritual side. So therefore they want to stick to the hard sciences, practical stuff as much as possible, because I think a lot of people think, and they're probably right, that society mainstream are not there yet [Pam].

The matter of religion and spirituality is also a concern for CERES. Kate explains:

I introduced that program based on deep time, deep ecology work that I'd done. I think that some staff really liked it and others thought that it wasn't quite on the mark. The schools had varied and different reactions to it as well. Some schools were able to see it as a really reverent or experience it in a reverent way. Some, it wasn't where they're at. The religion, spirituality thing is interesting because we get so many different schools.

Two participants indicated that the Universe Story would require a lot of time, and the way CERES works would not be able to adopt this as an activity or approach. They said their contact with visiting schools is in small brackets of time, which make it difficult find interest from many visiting teachers for something like the Universe Story:

The longest time I would spend with any group is a week and then they've gone. But often it is like a 45 minute session and then you're onto the next group. So that doesn't really go hand in hand with what I consider, or how I want to be in education. It a fabulous vehicle for certain things, but it has incredible limitations for me as an educator [Pam].

6.6 Recommendations for this work

During the research at CERES, various suggestions emerged about how CERES might take up the Universe Story. This section 6.6 is structured in two parts:

- Section 6.6.1 briefly discusses participants' reflections on how they think the Universe Story may be more easily adopted.
- Section 6.6.2 is a list of emergent suggestions.

6.6.1 Focus and activities

CERES values 'hands-on' activities so any intended message may reach a persons lifeworld through experience. Jenny said that notions of the Universe Story within activities would be considered so long as teachers could be offered 'the means to do it':

However, I do believe that if we had something appropriate that we could offer that teachers could take away with them, let's say an activity. I believe that quite often teachers will be quite willing to implement, I don't know what it is even, some exercises or activities or thinking exercise or whatever — they maybe prepared to do it if we offered them the means to do it. If you come up with it certainly if you come up with exercises and suggestions, and I think that you would really need to use sound — a CD or music and visuals — close your eyes; you'd need to do a whole range of different things.

The potential of media interactivity with the Universe Story was also reflected by Karin:

I think the whole issue of inspiration or information or interpretative, how one inspires people to be connected to that. Like would that be something that would be better on our web site. It's not just the physical place here people find out about CERES not just by coming here but virtually.

Jenny suggested 'groovy' and 'funky' approaches are needed:

The language, the groovy-ness of the work sheets, the resources we've got, the broadness of the activities that we offer they've all changed and increased but the core is always there.... I like funky, cutting edge but I don't like cute.

Lastly, Jenny reflected during her interview on how she thinks that the ontology accompanying the Universe Story perhaps ought to be left to ‘nature’ experiences — which CERES as an urban environment perhaps cannot provide. However Jenny began to explore the value of such an approach in an urban context, adding that it would be important that any approach employed ensured it did not compromise any integrity of the Universe Story or people’s experiences:

But it still has its own flavour and its own points of connection and to my mind perhaps if we can look at that and say, ‘well why is that better than concreting your yard?’, and having a row of bushes at the edge of your garden? ‘Why does this give you more? Why does the beauty of, if I have a range of plants that attract birds and insects why does that give you more in terms of an appreciation?’ If you can do it for an urban setting rather than looking for those peak settings where you do really get that major charge that to me would be very valuable.

6.6.2 Emergent suggestions

The participants suggested a range of approaches that might help communicate the Universe Story to new audiences:

- To approach the Universe Story in simple and ‘funky’ ways.
- To keep it ‘hands-on’ and experiential — minimize any theoretical components and facilitators talking about it.
- To keep activities no longer than 50 minutes.
- To find ways to engage people’s senses in the experiential processes — connection with the body.
- To make connections between peoples experiences of the Universe Story as related to the rest of their lives.
- To keep continuum after a first engagement with the Universe Story — develop relevant ‘take away’ activities or focuses to enable visiting teachers further engagement with their students after their CERES visit.
- To design activities to help empower people to feel they can contribute to positive change in the world by exploring this new worldview.
- To develop relevant sound and visual activities
- CERES participant 5 indicated the development of audio and sound approaches of the model as valuable:

- To consider options for relevant communication of the Universe Story on the CERES website.
- To find ways to adopt 'beauty and appreciation' within the interpretation of the Universe Story, to help people experience being 'more connected to the whole' within an urban setting.

Chapter 9: Comparative case study analysis

The comparative analysis carried out in this chapter uses combinations of immersion levels as a basic framework for comparing participant experiences. Use of the term 'immersion' reflects the suggestion made by Berry and Swimme themselves that humans need to find new ways to immerse themselves within the evolving world of 'subjective others' and it reflects the fact that participants in the diverse case study contacts had different levels of exposure to the work of Berry and Swimme and more or less time to contemplate its impact on them. So 'immersion' refers to a combination of exposure and time and this is why it is preferred to a term such as 'familiarity'. An aim of the thesis is to find out what levels of exposure to the work of Berry and Swimme is required for it to influence education participants so levels of immersion is an important diagnostic tool for making such a comparison across the case study contexts.

The immersion categories have been given names ranging from 'novice' to 'advanced'. This is not meant to imply a judgement about what levels of immersion are preferable; rather the aim is to simply distinguish the categories on the grounds of the duration and intensity of the activities that introduce the participants to the work of Berry and Swimme. 'Advanced' levels of immersion require considerable time and this might be seen as a significant limitation on access to the work of the two theorists. The author is not interested in finding out how individuals might become devotees of Berry and Swimme but rather she is interested to know how their work might be used more widely.

Considerable effort was made to allow case study participants to express their thoughts, feelings and narratives in their own ways and in their own time. At the same time, the thesis employs a phenomenological research approach because it encourages inter-subjective interpretation of lived experience, made possible through dialogue between the researcher and the case study participants. The research methodology outlined in chapter 2 encourages an interpretation of the inter-subjective dialogue that can take place between a researcher and research participants. For this reason the research can be described as inter-subjective in regard to its underlying ontology or co-inquiry in regard to its epistemology.

By conducting patient and iterative research, the researcher developed a deep understanding of the case study contexts and of the kinds of experiences that

research participants were able to enjoy. This helped her to categorise the participants in terms of their levels of immersion.

The immersion level categories employed in the analysis are as follows:

1. *Novice*: unfamiliar with the Universe Story.
2. *Minimal to medium*: medium to minimal degree of immersion in the Universe Story.
3. *Medium*: medium degree of immersion in the Universe Story.
4. *Advanced*- advanced degree of immersion in the Universe Story.

Particular establishments may be specified at relevant times in the discussion to help clarify points of analysis when appropriate. On the whole, however, the immersion level categories will offer the framework for this comparative analysis.

Other categories:

In addition, participant experiences are discussed either as those of individual participants, or of groups of participants that fit into a particular immersion level category. In this way, terms such as ‘novice participant’ or ‘minimal immersion group’ facilitate clear distinctions and a more complete overall understanding. Further, participant quotes and findings are referenced in this chapter as the Case study establishment in abbreviated form, i.e. ES, CES, ACU and CERES. Further, the appropriate participant will then be numerically represented, for example (CES 2; CERES 4), and so on. The participant correlations from chapters 5-8 are as follows:

<i>Case study:</i>	<i>Case study group:</i>	<i>Typical immersion level:</i>
➤ ES:	<i>Group 1:</i> (ES 1; 2; 3; 4; 5; 6)	: Advanced
	<i>Group 2:</i> (ES 7)	: Novice
	<i>Group 3:</i> (ES Survey)	: Minimal to medium
➤ CES:	<i>Group 1:</i> (CES 1; 2; 3)	: Minimal to medium / medium
	<i>Group 2:</i> (CES 4)	: Medium
	<i>Group 3:</i> (CES 5; 6)	: Advanced
	<i>Group 4:</i> (CES Survey)	: Minimal to medium

- ACU: *Group 1:* (ACU 1; 2; 3) : Minimal to medium / medium
 Group 1: (ACU 4, 5, 6) : Minimal to medium
 Group 2: (ACU Survey) : Minimal to medium
- CERES: *Group 1:* (CERES 1; 2; 3; 5) : Novice
 Group 1: (CERES 4) : Minimal to medium
 Group 2: (CERES 6) : Medium
 Group 3: (CERES 7 / ACU 3) : Minimal to medium / medium

If it happens that all participants of a particular group are relevant to a reference, they will be referred to as, for example (CES all).

Anomalies inherent to the findings and outcomes will be addressed where relevant within the discussion. For example, instances where minimal to medium and medium immersion levels are represented together in the analysis, these groups will be written as ‘minimal to medium’ as a collective. Where ‘medium’ and ‘minimal to medium’ immersion categories do not cross in an instance, these categories will be written separately.

Finally, each of the 14 Berry and Swimme themes may have more than one inherent aspect. Where relevant, these may be discussed separately, under appropriate theme headings, to enable complete and accurate reflections of the findings.

1. Framework of Berry and Swimme’s key themes

1.1 Cosmological context findings

1.1.1 Every living entity continues to complexify out of the original energy of the Big Bang.

Three aspects of this theme were reflected by participants from all levels of immersion:

- a) Our bodies are literally composed of the original energy and material of the Big Bang, as discovered by science.
- b) The web of life began with the energy of the Big Bang, and continues to unfold this energy as a matrix of life forms known to us as the universe.

- c) We can identify ourselves as being the dynamic creativity of the universe – this is our nature at the most fundamental level of our existence (Swimme, 2003a) – and that it is something that we are, as against something we do or an interpretation.

Only advanced and medium immersion participants reflected aspect a). Examples from these participant experiences indicate full adoption of this theme:

- *Advanced group*: ‘We’ve evolved right from those early gases and the great flaring forth of the universe’ (ES all; CES 5, 6).
- *Medium group*: ‘We all came from the same molecules as the whole thing exploded into life’ (CES 1, 3, 4; ACU 1, 3).

While these groups reflected similar levels of adoption of this aspect of theme 1.1, they differed in the degree to which they had embodied it. The advanced group clearly reflected an embodied sense of being and place, as indicated the following example; ‘The fact that we are stardust is classic ... just that’s where your origins are. Just makes it real, where we have evolved from’ (ES 1, 2, 3, 4, 6; CES 5, 6).

Advanced participants also – to paraphrase them – expressed gratitude and joy (ES 1 -6), suggesting this aspect of theme 1.1 had the power to reach their lifeworlds in profound ways. Minimal to medium immersion participants (CES 1 - 4) also reflected this aspect as reaching their lifeworlds, but with varying results – as a personal revelation for some (CES 1, 3), while others reflected difficulties in actually embodying this aspect, even though they ‘believe it’ (CES 4; ACU 2).

Overall, comparison of this aspect of theme 1.1 between the immersion groups, indicates a correlation between the depth of immersion participants experienced, and their embodiment of it. This is further corroborated by the fact that participants of novice or minimal immersion did not reflect adoption of this aspect at all.

The second aspect of this theme affected participants from all immersion groups in varying ways. Advanced participants embodied this themes’ second aspect b) profoundly in their lifeworlds – reflecting themselves as inseparable from the complexifying and subjective greater universe (ES 1- 6; CES 5, 6). For example, a typical response from this group was, ‘Just as the universe doesn’t have boundaries around it, we’re an expanding universe, somehow it’s not something that I am

separate from' (ES 1). This group also reflected this aspect as a worldview (ES 1, 2, 3, 6, 7; CES 1, 3, 4, 5, 6), for example, 'I see life in that evolutionary kind of way' (ES 1).

Some minimal to medium participants adopted the profundity of this second aspect of theme 1.1 (CES 1 - 3; ACU 3). For others, it was an uncomfortable but undeniable truth, because of the challenge it presented to their long-held religious worldviews (CES 4). Minimal immersion participants reflected a less profound, yet clear and positive adoption of the basic tenet of this aspect (ACU 1, 2); expressing appreciation that the Big Bang was 'how the world began', and that 'everything comes back to the Big Bang' (ACU 2).

Again, the comparison of this second aspect of theme 1.1, reflects a correlation between the depth and level of immersion experienced, and the depth to which participants are able to understand or adopt it.

The secular, novice group from CERES strongly reflected in their data an incomplete understanding of the overall notion of theme 1.1, with many unable to adopt the significance of speaking of the Big Bang (CERES 1, 2, 3, 5) in relation to their sustainability concerns. Their desire to provide the public with 'hands-on', 'real education' (CERES 1, 2, 3, 5) resulted in this particular novice group rejecting theme 1.1 (see pp. 189-193, Chapter 8), as they were unable to see a connection to climate change agendas (CERES 1, 2) and felt it was unrelated to everyday concerns (CERES 1 - 4). Moreover, their lifeworlds do not appear to have been touched by the deeper aspects, which they consequently rejected (CERES 1, 2, 3).

This novice immersion group experienced CERES activity 3.2 (see pp. 187-188, Chapter 8), which interprets themes 1.1.1 and 1.1.2 as a 'story of the creation of the universe' (see p.188, Chapter 8) — with a strong auto-poetic sense. This group — which makes conscious decisions to ensure CERES remains a secular and non-denominational establishment (CERES 1 - 5) — reflected theme 1.1 as too closely linked with existentialism (CERES 2, 3, 4, 5). This also raised fear of their establishment being associated with evangelism (CERES 1 - 5).

However when an additional short version was offered to a particular CERES novice participant from the same group, as a brief narrative in a more science-based language, less concerned with profound auto-poetic notions (see p.190, Chapter 8) — this version seemed to inspire his imagination and interest in a way that the other

had not (CERES 2). He reflected, 'It certainly links well with that notion of evolution and life and seeing human-ness ... it seems to sit well with the notion of CERES I think' (CERES 2). Yet he strongly rejected the 'auto-poetic' interpretation, telling its creator that he didn't think her understanding was CERES' understanding (CERES 2).

On the other hand, the secular novice participant sourced from EarthSong, whose interpretation came from watching 3 hours of Swimme's audio-visual material (1995) (see p. 103, Chapter 5), reflected quite different findings. He felt this theme invited him to consider 'larger ideas about the universe, and how it all works' (ES 7). He felt Swimme's approach was 'a good way to shift to that mindset' (ES 7).

These findings suggest that the nature of the understanding of this theme that novice participants are able to adopt, and their interpretation of it, is linked to the type of activity they experience.

Furthermore, the CERES novice group anecdotally reflected comments made by teachers visiting CERES when viewing CERES activity 3.1 (see pp. 184-186, Chapter 8) to discern its appropriateness for their own students (CERES 3, 4, 5). The teachers felt it tended to imply that they saw the notions of theme 1.1 as a spiritual 'creation story' (CERES 3, 4, 5). Although this data is anecdotal, it is worthy of consideration because it supports the finding that the way theme 1.1. is interpreted in its presentation matters. The following quote from the creator (CERES 4) of research activity 3.1.2 (pp.186-187, Chapter 8), gives insight into the auto-poetic and mystical ontology associated with the activities presented to visiting teachers (see p.187, Chapter 8):

Earth becomes complex enough to see and understand her own integral beauty. Today the story of the universe is being told as a sacred creation story. The primal flaring forth continues in this moment, through us, as one. The profound mystery remains unknowable and the source of life remains hidden; that following the footprints of evolving life on earth is a mystic journey.

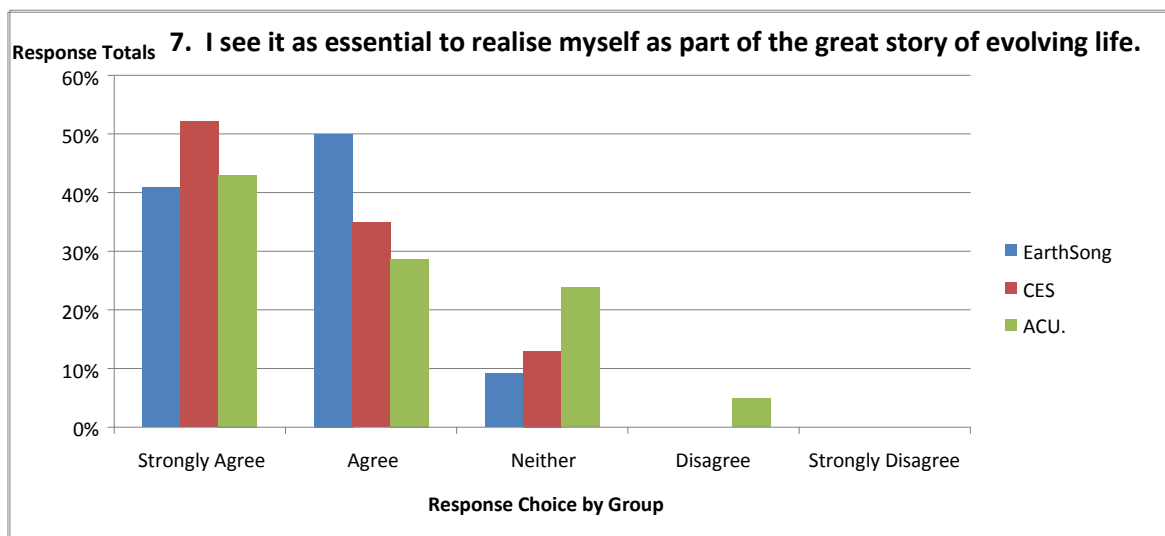
Only advanced immersion participants reflected the third and final aspect of this theme. The following lines are an extract from an advanced immersion participant's poem (ES 3), – which is typical of the profound implicit and explicit reflections of this immersion group (ES 1-6):

I've been happening for 15 billion years-wow and here I am still happening
 I'm happening because of the energy of the trees that breathe life with me
 I am happening because the water flows its energy into the thirst of the Earth
 I am happening because I continue to happen in an embrace of mystery
 en-fleshed and dispersed because I am ...

In conclusion, the data relating to theme 1.1 suggests that explicit and prolonged immersion in the Universe Story results in stronger adoption and embodiment of this theme. It also indicates that participants who have engaged in a blend of auto-poetic and scientific interpretations of the Universe Story, particularly over a longer period of time, are more likely to adopt and embody the profound aspects of this theme. Similarly, those with a strong sense of religiosity, when this is combined with longer and deeper immersion, seem more likely to embody the deeper, more profound aspects of theme 1.1.

Participants from the medium, to minimal immersion groups tended to reflect less profound insights and experiences of this theme commensurate with their immersion level. It therefore seems likely that although general aspects of the theme were captured, the deeper integrity of theme 1.1 is mostly lost for participants at lower immersion levels.

This outcome is also reflected in the results of survey question 7, with response totals averaging as 45% 'strongly agree' and 38% 'agree'. This confirms that respondents of minimal to medium immersion are able to 'realise' themselves 'to be part of the great story of the evolving life'.



Participants from religious contexts in particular were comfortable with Berry and Swimme's language, style and approach, and for them theme 1.1 resonated well. Participants sourced from secular, Australian cultural contexts on the other hand – while very interested in similar aims and focuses to those of the Universe Story (CERES 3 - 5) – seem to require this theme to be interpreted in ways that appeal to their particular interests and worldview, before it becomes accessible and palatable to them (CERES 2 - 5).

Regardless of how profound or not the findings were, all immersion levels reflected some sense of theme 1.1, either as providing an enriched appreciation of the larger living world and cosmos (ES all; CES all; ACU 1, 2, 3, 5), or as reminder to seek more accessible ways to contemplate such connections.

1.1.2 The Universe Story demonstrates that all life is profoundly unified

Findings for this theme were reflected across all immersion levels in varying ways.

The advanced immersion group reflected profound acceptance of this theme, clearly indicating a general belief that all life must be profoundly unified because it has complexified from the same source – the Big Bang (ES 1, 2, 3, 4, 6; CES 5, 6). Evidence of how this theme has reached their lifeworlds can be found in the following examples:

- 'The value for me is that I see myself as part of the whole cosmos' (CES 3).
- 'I was looking at someone's skin the other day and I thought it is an interesting evolution according to the temperature that they've had' (ES 4).

This theme was also expressed in advanced EarthSong participants' worldviews (ES 1 – 6; CES 5, 6) as a desire for committed action in the world, particularly in relation to justice and inequality issues (ES 1, 3, 4). Typical of this group were their desire to act with more 'care' for the world, 'awareness', and reflections that 'a gentler approach is needed' (ES 1, 3, 4), indicating their preference for the Universe Story as 'a certain context', (ES 1, 3, 4; CES 5, 6) and the basis for this committed action (ES 1, 3, 4).

Medium immersion participants also adopted this theme into their lifeworlds (CES 1, 2, 3, 4; ACU 1, 2, 3; CERES 4, 6). This group tended to use less profound phrases to

express these experiences, such as, to paraphrase them, connected to the whole of life, and not just humanity (CES 2, 3, 4; CERES 1, 2, 3, 6). Further, these participants felt that the wellbeing of the world is implicated in everything we do (CES 1, 2, 3, 4; ACU 1, 2, 3, 5, 6). For example: 'Whatever you do in one part of your life is affecting people and animals and birds in other places' (CES 1). Others spoke explicitly of profound personal changes from experiencing the research activities (ACU 1, 2, 3). For example, (The Universe Story was) ... 'the start of the real soul searching stuff, of what it all means to me and the meaning of life. Why we are here and how we are all connected' (ACU 2).

The minimal to medium / medium immersion group, who experienced an abbreviated form of this theme (see pp.159-163, Chapter 7), did not reflect this theme strongly, although the four who did express the main notion of this theme in their own way, did so as life forms being connected with each other and the Earth (ACU 1, 2, 3, 6 Appendix 11).

Again, my review of the above findings suggests that the length and level of immersion participants experience directly affects their adoption and embodiment of it, both as a worldview, and in their lifeworlds. The deeper the immersion the more profound is the impact.

However it is interesting to note that while the basic notion of this theme did emerge for all groups to a greater or lesser degree — in the notion that all life is connected — most CERES novice participants were initially unable to make the connection between the interpretation of the Universe Story they experienced and the idea of all life being connected (CERES 1, 2, 3, 5). The exception was one novice CERES participant who enthusiastically endeavoured to understand this theme when a simpler approach was employed (CERES 2). There were indications to suggest that this group would accept the Universe Story (CERES 2, 3, 5), providing different approaches were put to them to demonstrate theme 1.1.2. This suggests the group experienced the activities presented to them as inaccessible and unpalatable in terms of enabling members of the Australian public who enter the CERES site or experience their activities (CERES 1, 2, 3, 5).

1.2 Interpreting life's energy subjectively

1.2.1 Venerating all genetic and biological entities as primary, relational identities

This theme was not strongly detected in the data for any immersion level. Its total and profound notion was only reflected by advanced immersion participants.

Two EarthSong advanced participants making specific references to entities in the physical and biological world, reflected this theme as directly linked to their embodiment of the Universe Story (ES 1, 3). These references emerge as an expression of relationship with 'oxygen', expressed as gratitude, and 'photons, neutrons and electrons', as having 'exploded their genes into the atmosphere', implicitly reflected reverence 'delight and passion' being expressed in a poem (see p. 108, Chapter 5; ES 3). These findings are instructive, as they indicate that both these Catholic nuns, who reflect a deep sense of religiosity (see p.105, Chapter 5), had embodied these profound notions into their lifeworlds. One medium immersion participant, from a strong religious background, also spoke in a similar sense, of his 'growing awareness of water as 'sacred', asking 'how can I be a brother to water?' (CES 4).

Other CES participants of advanced and medium immersion, also with strong religious backgrounds, only related to the biological notions of this theme (CES 4, 5; ACU 2, 3). Findings for these participants reflected less auto-poetic suggestion than the advanced immersion examples above, however participants nevertheless expressed an awareness of, and reverence for, non-human animals (CES 4, 5), as 'individual living beings' (CES 1, 4). Their research activities tended to focus particularly on awareness of the non-human beings in the participant's worlds as 'non-theistically sacred' (see pp. 131, 133-137, Chapter 6). This group expressed a belief that non-human animals deserve a dignified place of rest in death, and higher levels of respect to exist as individual beings (CES 4, 5), beyond human monetary values and human-centredness (CES all).

A sense of religiosity may play a part in how deeply this theme is adopted into participants' lifeworlds. Participants from medium and minimal groups, and one novice, from EarthSong (ES 7), regardless of level of immersion, expressed appreciation for the processes of biological life in specific ways (ES 1, 3; CES 1, 4,5'

ACU 3) , and for some, their own bodies (ES 7; CES 4). The minimal-medium and medium immersion data reflected a far less auto-poetically sensitive language to that of the advanced immersion group with deep religious sensibilities, instead tending to more objectively ‘describe’ newly held understandings that seemed not to have yet become adoptions in their lifeworlds (CES 2, 4; ACU 1, 2, 6). For example, some spoke of ‘the magic of nature’ (CES 3), recognising ‘what the Earth has been through to get to this stage’ (CES 1) and to ‘stop dicking around with this amazing machine we’ve got inside the human body’ (ES 7). The data reflected a sense of gratitude, awe and wonder (CES 2, 3, 4; ACU all), although these stand significantly apart from the kind of reflections of religious advanced and medium participants outlined above (ES 1-6).

A conclusion that can be drawn from this comparison is that prolonged and deep immersion in the Universe Story — enabling contemplation and embodiment of its deeper notions — results in participants adopting and embodying this theme more deeply into their lifeworlds. These conditions certainly seem to add to the profundity of this theme in terms of capturing auto-poetic ways of knowing. This may also reflect the sensibilities and backgrounds of participants who value a deep sense of religiosity.

Interestingly, findings for this theme indicate that CES advanced and medium immersion participants demonstrated, most directly and profoundly, their relationships with non-human animals as being worthy of respect in everyday, inter-subjective ways. Others may not have reflected this theme as profoundly, but indicated in varying ways they had at least made sense of it. There was no data reflecting this theme from the secular novice group, which could mean that their particular activities did not offer them opportunity to adopt it. This could also indicate that the profound nature of this particular theme is very difficult to communicate in abbreviated versions of the Universe Story.

1.2.2 Deepening our consciousness to move with the laws and dynamics of the universe

Only advanced and medium immersion participants reflected this theme. The following two responses are indicative of how it reached participants’ lifeworlds (ES 1, 2, 3, 4, 6; CES 1, 4, 5):

Advanced immersion participant: ‘I’m thinking of the principles of the universe, living your own story, being your own self ... well I wouldn’t worry about anybody else if you have that kind of respect’ (ES 1).

Medium immersion participant: ‘I remember something Brian said about relativity ... so yeah, it’s very respectful ... everyone is important and everyone has their own view of an outward flowing universe’ (CES 1).

Advanced immersion participants and some medium immersion participants reflected this theme with terminology that either exactly reflected Swimme’s (2003a) language (ES 1, 3), or was similar to it. This may indicate they had made sense of this theme mostly through Swimme’s direct influence (Swimme, 1995, 2003a, 2006b, 2011), as he has clarified the cosmological notions of this theme more clearly than Berry (1988a, 1999). This is supported by the fact that there were no indications of this theme in the data from minimal or novice groups which had not experienced Swimme’s relevant material (1995, 2003a, 2006b).

The data for this theme again indicates that deeper levels of immersion correspond to adoption and embodiment by participants of the integrity of this theme. This is further emphasised in the implicit and explicit reflections of most of the EarthSong advanced immersion group (ES 1, 2, 3, 4, 6), typically represented in the following observation by a participant: ‘That is what teaching is if you can see the balance in everything; allurements and the fundamental order, in relationship, rather than in just human relationships. But human, plant, ant on Earth: I think that is what it teaches us’ (ES 3).

In light of the results from the previous themes, this is anecdotally instructive in supporting the conclusion that this theme, in its extended form (Swimme, 2003a, 2006b), may not be accessible or suitable to Australians in contexts where there is less time for activities to enable an unfolding of understanding and reflection (CERES 1, 2, 3, 5; ACU 1, 2, 4). Similarly, these results could also mean that the deep notions of this theme are unpalatable for cultural contexts primarily focused on practical sustainability concerns, which do not support religious or spiritual contexts for reflection and analysis (see p. 198, Chapter 8).

Swimme's scientific work (2003a, 2006), which particularly reflects this theme, could align with cultural contexts that are committed to 'science', and 'real education' (CERES 1, 2, 3, 5), if the latter are open to Swimme's interpretation of science as metaphysics.

1.2.3 Cultivating intimacy with the mysterious spontaneity inherent in all life

The advanced and medium immersion groups from EarthSong and CES strongly associated this theme with varying understandings and adoptions of 'God' (ES 1, 2, 4, 6; CES all). All participants who contributed to this data from these immersion groups come from religious backgrounds. The CERES novice group – who chose to separate themselves from any religious associations – were the only other group that reflected this theme. There was no mention of 'God' from this group in relation to this theme; rather their focus was on lived experiences and intimacies with nature (CERES 3, 4, 5). No explicit reflections of this theme were detected in the data from participants sourced from ACU.

Advanced immersion participants related to this theme easily, often talking about their personal transitions, from feeling identification with the mystery inherent in life in terms of a 'personal' God, to experiencing an impersonal sense of mystery, which, interestingly, some were still comfortable in referring to as 'God' within a bio-spiritual context (ES 1, 2, 4). Some of these reflections indicated that both science and the Universe Story had informed and fed this transition because once a metaphysical context had made sense to them they could no longer identify with a personal God (ES 1, 2, 4; CES 1, 2, 3, 4, 6). Reflections of reverent experiences for the mystery inherent to life, specifically of biological or genetic life (ES 1, 2, 3, 4, 6), indicate that this theme reached advanced immersion groups' lifeworlds in powerful ways.

Further, advanced immersion participants from EarthSong did not reflect this theme particularly strongly as an experience of nature; rather what came through were reflections on how they had made sense of this theme, and the process that enabled them to organise their religious thoughts in relation to it. The advanced groups from EarthSong tended to associate the mystery inherent to life in grander cosmological contexts, including the Earth and Earth life entities within their sense of religiosity (ES all). On the other hand, the advanced participants from CES tended to reflect this

theme in terms of a more specific sense of how they experience the more-than-human world in relation to the Universe Story, as demonstrated in the following data; ‘ [Swimme] doesn’t really mention God ... [he] gives permission to have another world view, another experience of the Earth’ (CES all).

At the time of the research some medium immersion participants from CES were experiencing a personal transition about how to identify ‘God’ in relation to their religious backgrounds (CES 1, 3, 4). There were clear indications that the key notion of this theme – that the mystery inherent to life was not a personal ‘God’ (CES all) – had made sense to them. One medium immersion participant seemed to be still organising his thoughts around the personal impacts of this theme. This he explained as no longer being confident that God is a brother who walks with him (CES 4) – suggesting he could no longer be convinced that God existed in a tangible form, saying, ‘this spirit that is formless, that at times I believe to be human but I don’t always stay with that image anymore. Sometimes it’s like that and sometimes its not’.

The CERES novice group reflected this theme as being of importance to human experience. However, in summary, they generally did not want to impose any interpretation of the mystery inherent in life on the worldview and interests of their establishment, preferring to allow people to make their own subjective judgements about this theme in their own ways. There was, however, data suggesting that teachers visiting CERES have at times indicated they would like to extend their students beyond the sustainability message to inspire them to reflect upon their relationship with nature, and perhaps more broadly, on life in an existential sense (CERES 3, 4, 5). However, while CERES novice group expressed that they would like to provide this for their visitors, they concluded that the urban location of the establishment would compromise the integrity of this experience, and that ‘it’s a mistake to do it badly’ (CERES 3, 4, 5). This result suggests that the research activities this group experienced, did not in their view offer them insight, as to how an immediate immersion pathway might achieve this.

A review of theme 1.2.3 suggests that advanced and medium levels of immersion in it, for religious individuals in particular, powerfully impacted their lifeworlds, worldviews and ways of relating with the larger living world. This correlates with the finding that participants sourced from ACU – having experienced minimal references to this theme in their activities – did not reflect this theme at all. However novice participants clearly intuited this theme as implicit to the activities they

experienced — being strongly auto-poetic in its interpretation, and they immediately associated it not with conceptually organising religious notions of ‘God’, but with nature-experiences. This result may reflect the likely response of a secular Australian public since these novice participants — through the operation of CERES — have long term experiences in gauging public sentiment, as evidenced in the following observation by a CERES participant: ‘The things that we know have inspired and switched people on in the past, having been doing this for all this time, we know something about the things that are effective and work and often they are the simple things. We are also as a culture suspicious about evangelistic ways’. It is therefore possible, should the notions of this theme be explicitly offered to Australians in a secular cultural context, that the Universe Story may still be received as unpalatable and unappealing. It is possible that current ways of interpreting and presenting the Universe Story are best suited to Australian cultural contexts that are more familiar with religious contexts that welcome a sense of religiosity in their activities.

1.3 Earth context findings

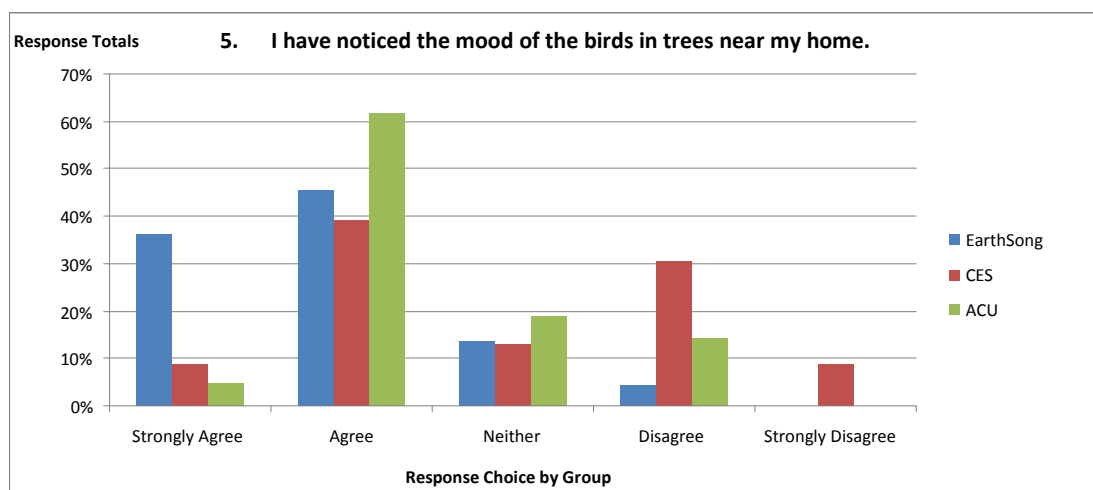
1.3.1 The Earth community is a communion of subjects and not a collection of objects

The wording of this theme is the exact phrase commonly used by Berry (1988a, 1999, 2003) and its key idea lies at the heart of the Universe Story. The actual phrase was not explicitly referred to by any participant, but its key idea emerged implicitly across all case study groups in their own ways, regardless of immersion level. This was mostly expressed as relating to non-human animals and the more-than-human world as subjective entities in some way.

Advanced immersion participants, for example, told stories of their inter-subjective experiences with insects, birds, spiders and possums around their homes (ES 1, 2, 4, 6). This immersion group also picked up on the notion of being in ‘sacred communion’ with the more-than-human world in some way across the data set (ES 1, 2, 3, 4, 5, 6). The key notion of this theme clearly had the power to reach advanced immersion participants’ lifeworlds, identifying themselves — to paraphrase them — as no longer belonging to individual human families and groups, but rather existing within a multi-species planetary community (ES all).

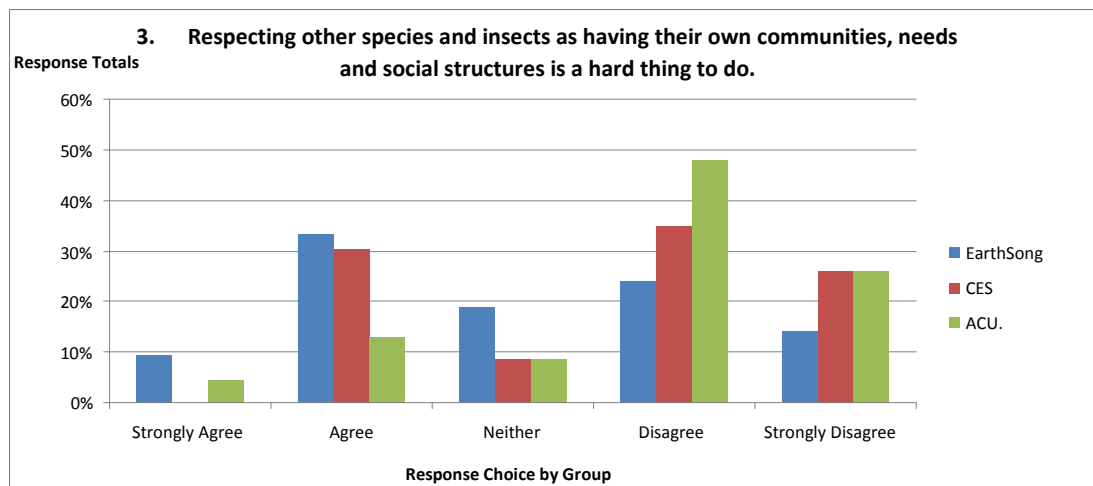
A small number of minimal to medium immersion participants implicitly indicated this theme. For example, an ACU participant, who cited Berry (1988a) as including the Earth, and not just people in his work (ACU 1, 2, 3). However the survey results best capture a sense of how medium to minimal immersion participants relate to this theme.

The relevant survey questions gauged participant’s awareness of the subjectivity of birds around people’s homes (Q. 5), followed by the second question that gauged how participants relate to other species and insects as having their own communities, needs and social structures (Q.3).



EarthSong responses for Q.5 in the ‘strongly agree’ option, were significantly high at 36%, while the ‘agree’ option showed a 48% average for all immersion groups. In a rather surprising result, 30% of CES participants chose ‘disagree’ and 9 % chose ‘strongly disagree’. The reason for these results is unclear. It is possible this group did not understand the question, although this suggestion is speculative.

The responses from the EarthSong group for survey Q.3 indicate that did not identify as strongly with insects and other species as having their own communities, needs and social structures, as shown below. This is at odds with the strength of their awareness of the subjectivity of birds reflected in Q.5. ACU and CES respondents indicated the highest level of recognition of the key notion of survey Q.5.



These survey results reflect high percentages of ACU participants relating to the key notions of both survey questions. This may be due to this group being a significantly younger group of respondents, being university students. It may also be related to the fact that the relevant activities this group experienced paid particular attention to living systems and sustainability within a scientific framework; the facilitators consciously acknowledging individual entities as ‘other beings’ (see p. 148, Chapter 7).

This possibility is further supported by the phrases spoken by ACU facilitators and participants (see p 162-163, Chapter 7). For example:

ACU facilitator: ‘We are intimately part of ecosystems’.

‘Respect and be aware of this ecosystem – we are entering other beings homes.’

ACU participants: ‘I thought there’d be more species’, and ‘Where are all the insects?’

EarthSong and CES facilitators’ (see pp. 96-104, Chapter 5; pp. 131-138, Chapter 6) share aims similar to those of ACU; i.e. to communicate living systems as being a living-scape of subjective entities. However, ACU uses a more scientific description to this end (see pp.157-163, Chapter 7), compared with the more Berry and Swimme focused approach of the other establishments. This might give ACU participants a greater appreciation for the existence of social structures and needs within ecological communities.

CERES novice participants only reflected this theme as notions of ‘wildlife’ and ‘biodiversity’ (CERES 1, 3, 5); seemingly missing the notion of a subjective Earth community as being in communion. One CERES novice participant picked up on the

phrase ‘community of life’ (CERES 2) in an enthusiastic manner after I used it during the interview with him (CERES 2), which indicates he was open to this notion. Similarly, the EarthSong novice participant reflected the relevant research activities he experienced as having enriched his adoption of the notion of this theme, as indicated in his narrative representation (ES 7; Appendix 4).

In conclusion, the idea of Earth life being a sacred community was best adopted by the advanced immersion group. This result again indicates that prolonged immersion in this work leads to more profound experiences and insights. However, the survey findings indicate in this instance that people not deeply immersed in this work, but who experienced the more ‘scientific’ approaches to exploring living systems; could relate to the notion of respecting other species and insects as having their own needs and communities. This finding is worthy of consideration for people who may have less time for immersion in this work, as long as the entities within living systems are described as subjective ‘beings’. This approach may also be beneficial for people who are less inclined to adopt the ontological underpinnings of this theme.

1.3.2 Participating in mutually enhancing relations with the Earth community

Participants across all immersion groups adopted the idea that humanity needs to be more aware and inclusive of the more-than-human world. However, the findings showed varying levels of understanding and embodiment of what it is to be in ‘mutually enhancing relations’. Some immersion groups adopted profound ideas of this notion while for others, their closest association with it were acts of hands-on stewardship alone, as discussed below.

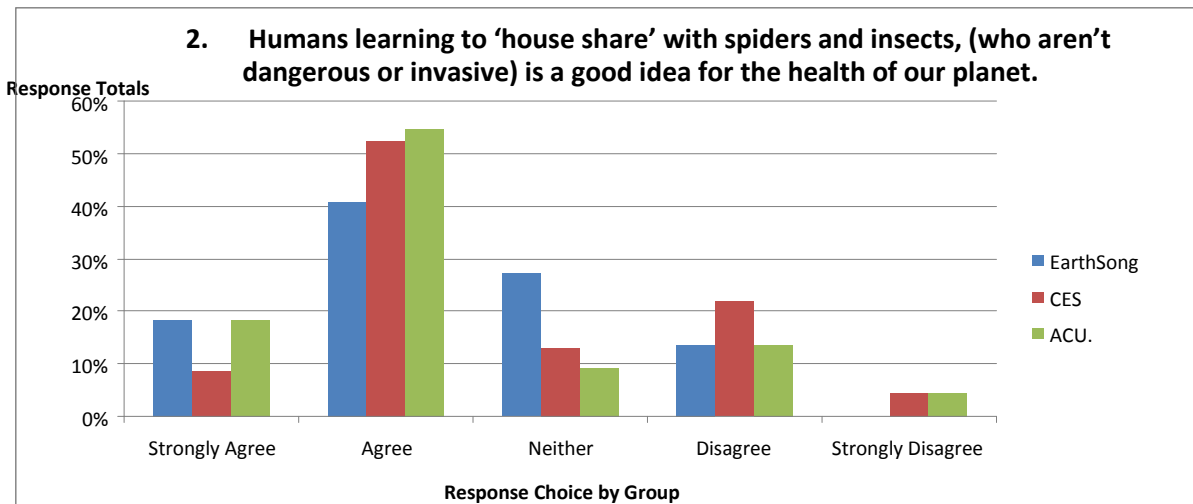
EarthSong advanced immersion participants reflected this theme in language similar to that of Berry and Swimme (ES 1, 2, 3, 4, 5, 6); indicating this group’s familiarity with and deep immersion in this theme. The data clearly indicated that this group embodied this theme both in their lifeworlds and as a worldview (ES all). For example, they expressed their willingness to engage in a sensory, psychic and mutually open relationship with the more-than-human world (ES 1, 2, 3, 4, 6). Interestingly, such openness was married to diffusing human supremacy — as indicated in the quote: ‘well the tree has something to teach me and it’s mutual. The shift for me is [from being] the master and caretaker to saying “we’re in this together”’ (ES 3).

Other advanced immersion participants from EarthSong were humbled by, and grateful to, non-human animals killed for human consumption (ES 2, 3, 6). Stories also emerged from this group of substantial personal sacrifices and hands-on efforts to restore tree-barren land (ES 1, 6); the aim being solely to ensure that the 'interspecies dimension' (ES 6) of that land was restored. CES advanced immersion participants tended to reflect this theme as personal observations of life around them (CES 5, 6), and of inter-subjective experiences with non-human animals (ibid). One example involved mutually relating with a wombat, and was described as having a 'profound effect' (CES 6).

CES medium immersion participants strongly realised their dependency and embeddedness in the more-than-human world (CES 1, 2, 3, 4). For example, one observation was, 'We're pretty hard wired to think "they're not important and we are". Yet we are totally dependant on the ants, flies, bacteria and all that stuff' (CES 2). Others from the CES medium immersion group also valued observing life around them (CES 1, 2, 3, 4) with one participant stating that humanity did not value 'being in relationships with other creatures' (CES 2).

The ACU and CERES groups reflected this theme quite differently. ACU medium immersion participants mostly reflected this theme in environmental, sustainability and biodiversity contexts (ACU 1, 2, 3, 5, 6); for example, in relation to the environmental impacts of eating meat (ACU 4, 5, 6). These reflections were often expressed in frustration and anger at destructive human activity on Earth, with observations of this being supremacist and lacking political integrity (ACU 1, 2, 3, 5, 6; Appendix 11 and 13). One participant stated that her fear of spiders decreased since experiencing the ACU activities (CES 5). The data suggests that this group related less with inter-subjective experiences of this theme, instead reflecting it in terms of sustainability frameworks to take into their working lives as teachers.

The survey question relevant to this theme, which explored participants' positioning on whether willingness to share one's house with insects and spiders is important for a healthy planet, is useful in discerning participants' relationship with the central notion of this theme. As indicated below, the results for Q.2 reflect little differences between the medium and minimal immersion groups, suggesting strong acceptance of this theme on the whole.



The EarthSong novice participant directly spoke of Berry’s and Swimme’s influence in helping to clarify the notions reflected in his own narrative representations (ES 7; Appendixes 7, 8, 9, and 10). This theme reflects strongly as having reached his lifeworld in terms of inter-subjective mutual relating and sustainability notions (ES 7).

On the other hand, CERES novice participants, who did not have direct contact with the ideas of Berry and Swimme, did not reflect this theme as inter-subjective mutual relating (CERES 1, 2, 3, 4, 5). Their language, which can be said to be most closely associated with this theme, suggested ‘stewardship’ as their primary expression of it, along with ‘wildlife’, ‘habitat’ and ‘biodiversity’ (CERES 1, 4, 5). This theme was mostly reflected as efforts to empower and provide CERES visitors with practical skills to protect the natural world. Participants expressed the belief that ensuring the availability of healthy spaces for non-human animals to live in is the most helpful way they can relate to ‘non-human life (CERES 1, 3, 4, 5). This novice group spoke of ‘human social equity’ (CERES 1, 3, 4, 5) as their strongest focus, conceding that the key notion of this theme had not been ‘formally talked about’ (CERES 3). New approaches were welcome, however participants were unsure how to proceed effectively in this direction (CERES 1, 2, 3, 4, 5).

The overall data shows that all immersion groups recognise the belief in human supremacy as a major threat to the more-than-human world. Immersion groups not in direct contact with Berry’s and Swimme’s work mostly reflected this theme as commitment to practical stewardship and environmental sustainability efforts. On the other hand, advanced and medium immersion groups who did experience Berry’s

and Swimme's work showed similar commitment, but for them this was connected to inter-subjective experiences with the more-than-human world, and non-human animals. The depth of awareness and embodiment participants demonstrated in relation to this theme again directly correlated with the immersion levels experienced.

1.3.3 Identifying human self-reflective consciousness as unique but not superior

The key idea of this theme was only adopted by advanced immersion participants sourced from EarthSong. This group did not accept the idea that humans are inherently 'higher' in the web of life (ES all). Rather they demonstrated their view that humanity needs to recognise and accept our particular human qualities at a species level; embodying our species selves as only part of the matrix of life, and not the epitome of existence. This was typically reflected as follows:

The human is the self reflective consciousness of Earth, that's the human stance. Which is part of the diversity of the universe and the place of the human is self reflective consciousness of Earth (ES 6).

Participants across all immersion groups, on the other hand, spoke directly of, or implicitly indicated their view that humanity dominating Earth in destructive or oppressive ways (ES all; CES all; ACU all; CERES all). Some medium immersion participants either implicitly or explicitly expressed the view that the big picture context of the Universe Story had helped solidify their views on human centred-ness (CES 1, 2, 3, 4, 6; ACU 1, 2, 3). An example of this is in the following data from a particular medium immersion ACU participant 3, who had independently furthered her personal reading of Berry outside of the research relevant activities:

We need to create for ourselves, what Thomas Berry calls 'a new cosmology', our new Cosmos/Universe Story. In order to do this we need to free up our minds of overtly 'rational' thought, which has got us into a lot of trouble, and unite all things that are incredibly and uniquely human; our head, our hearts and hands.

The notion of absolute interdependence was implicitly reflected in some of the data for this theme from advanced and medium immersion participants, implied in the idea that humans only have a place within the matrix of life (ES all; CES all; ACU 1,2 3, 5, 6). For example, one advanced immersion participant said; 'In recent years since I have retired,

I have become much more aware of the whole story of the universe and the place of human beings in that' (CES 6). This holds some relevance because of its close association with becoming aware of our humanness at a species level.

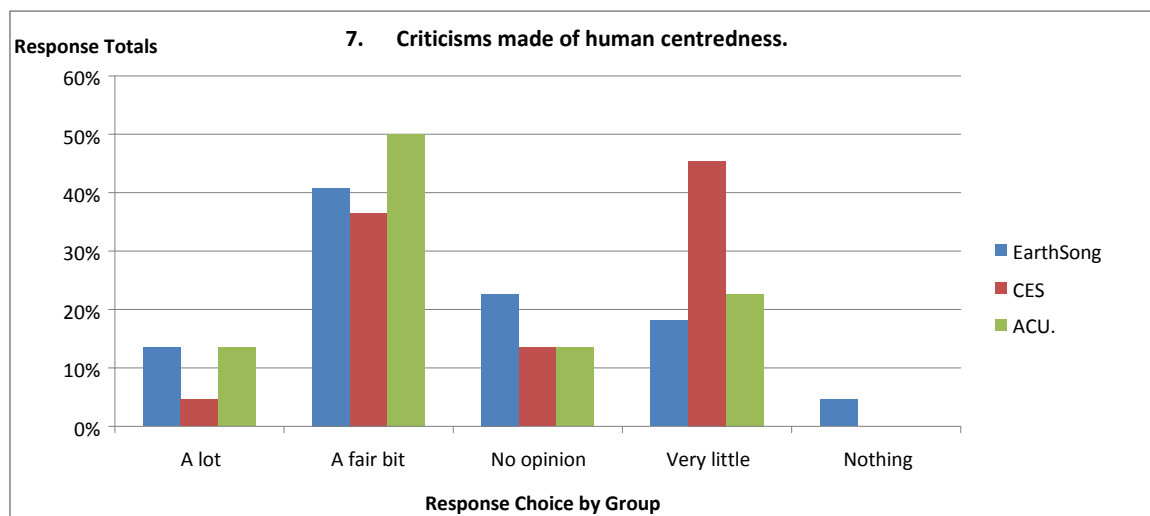
It is interesting to note that most minimal to novice immersion participants spoke of the relationship between humans and non-human animals in terms of equality, using terms such as 'equal citizens of nature' (ACU 3) and 'species equity' (CERES 4). The use of such terms indicates these minimal and novice immersion participants concern for the 'rights' of the more-than-human world and non-human animals.

I found no reflections of this group experiencing their own nature as uniquely human. This may be related to the fact that this group had less or no contact with any detail of this theme.

In a surprising result, the CERES minimal to medium immersion participant who created the CERES research activity 3.1 — rejected by CERES novice participants for being too spiritual/existential (CERES 1, 2, 3, 5) — spoke on behalf of CERES as an establishment, describing their main interest as 'human social equity' (CERES 4). She attributed this interest to the urban location of CERES, maintaining that the site is 'a very people-centred place'. Further, she stated that CERES does not deal with issues to do with 'wildness and wilderness', because it is not a 'right up front and centre' (CES 4) part of CERES philosophy. This seems to reflect a dichotomy between her personal stance and that of CERES. It confirms that the key notion of this theme has not reached the worldviews or lifeworlds of the CERES novice participants who rejected her activities. Yet this notion appears to have reached her own lifeworld at least in part, judging by her interest in human supremacy and 'wildness and wilderness' issues, as the focus of the activities she created for CERES.

The EarthSong novice participant experienced the key notions of this theme directly during his activities, particularly through Swimme's lecture 3; 'Feast of Consciousness' (1995) (see p.103, Chapter 5). Although the notions reflected in this participant's narrative representations do not specifically identify with this theme (ES 7; Appendices 5 and 6) there are strong indications that he wants male humans to relate in less oppressive ways with female humans and non-human animals. This data also indicates the notion of 'relating' with other, as compared to the notion of stewardship and concerns for 'rights', as discussed above. It is possible the EarthSong novice participant reflected the ontology of relating because of his contact with Swimme.

Survey Q. 7 asked respondents a generalised question to indicate how much they knew about ‘criticisms made of human centredness’. The data from this question elicited similar responses across the case study survey participants. In what is another surprising result, 45% of CES survey participants indicated the ‘very little’ response. However, overall the survey results show an average of 41% of all respondents were at least aware of criticisms made of human centredness, and a further average of 8% very familiar. These results confirm the notion of human centredness to be at least recognised by minimal immersion participants and survey respondents.



A review of the data for this theme indicates that Berry’s and Swimme’s work directly brings people’s human attributes at a species level into their awareness to some degree. The depth to which this happens appears again to be influenced by the degree of immersion in the detail of this work. Most participants were aware of the basic notion of human supremacy notions, regardless of their immersion level. Lastly, the basic notion of this theme was also associated with Absolute interdependence within the data, which, as already mentioned, is noteworthy because it reflects some participants as having recognised their own humanness at a species level.

This theme’s main notion — the human as a species embodies the self reflective consciousness of Earth (Berry, 1988a, 2006) – was only picked up by the advanced immersion EarthSong group. This suggests that the profoundness of this theme may only reach people when advanced immersion is possible. This is supported by the fact that this theme was not captured in its intended sense by any participant who experienced an abbreviated research activity. However participants who experienced even brief immersion with Berry’s and Swimme’s work relevant to their activities directly extending their experience beyond the broader notions of the Universe Story

alone appeared from the data to more easily adopt the notion of communing in mutual relations with non-human animals, even if they did not realise the depth of this idea.

1.3.4 A species capable of profound appreciation of the preciousness of our planet

This theme did not emerge from any participant, within the limitations of this thesis, in quite the sense that Berry (1999) and Swimme (1995) might have hoped; the specifically human realisation at a species level — as an example of embodying theme 1.3.3 — of our unique ability to empirically discern the universe, and, secondly, to consciously reflect this in our lifeworlds as a profound appreciation of the splendour of the universe. The data did, however, reveal participants' objective and subjective appreciation for the Earth and life, in varying ways.

EarthSong advanced immersion participants reflected profound experiences of this theme as reaching their lifeworlds, for example, recognising and appreciating the dynamics of the universe. This was viewed by them as the 'creativity' (ES 2, 3, 5) inherent within the biological world, as indicated in the following quotes:

- 'Look at it, look at it, look how Brussels sprouts grow' (ES 3).
- 'The universe has laboured long and hard to prepare the meal in which you are about to partake Let us eat with a sense of gratitude and connectedness to all that it speaks' (ES 3).

Medium immersion participants from CES and ACU reflected theme 1.3.4 in personal appreciation of life in ways that differed significantly. For example, the ACU group tended to emphasise their observations of humanity not appreciating life around them (ACU 1, 2, 3, 5, 6), while the CES group tended to speak of their own enriching experiences of life around them (CES all). Interestingly, some participants from both groups referred to notions of the Universe Story as deepening their appreciation of the larger living world in profound ways, as demonstrated here:

CES participant: 'When he (Swimme) described the elemental composition of the early gases of the cosmos, and how they, with their own intelligence, eventually became planets ... it's a miracle we are here, our existence' (CES 1).

ACU participant: ‘The whole how it came to be was just so amazing. It just gave me an even deeper appreciation of what I am standing on’ (ACU 1).

This suggests that these participants appreciated the world more fully due to the experience of their relevant research activities. Although there was no direct evidence to suggest participants wanted to cherish and care more for the larger living world, implicit indications of the ontology of this theme are detectable in the data for theme 1.3.2. For example, an ACU participant said that humanity ‘ignores the natural world and its beauty’ (ACU 6). She went on to express her wish for humanity to include non human animals equally within humanity (ACU 6; Appendix 13).

CERES novice participants valued providing their visitors with a ‘deep appreciation of nature’ in a ‘variety of ways’ (CERES 1, 2, 3, 4, 5). There is not sufficient evidence in the data, however, to suggest this has emerged from the research activities, as against being part of their previously held position. The data does suggest that the CERES group wants to offer its visitors opportunities to experience deep appreciation of the ‘amazingness of life’ (CERES 4), but not in any overt way. Rather, it appears that the hope is that people may come to their own subjective appreciation in their own private ways (CERES 1, 2, 3, 4, 5).

Reviewing this theme 1.3.4 suggests that all immersion groups picked up on the notion of valuing and appreciating life or nature. Certainly participants at the higher immersion levels reflected more profound experiences and insights of appreciating life and/or nature. However no participants indicated a sense of the more sophisticated notion of this theme mentioned above, within the limitations of this research.

It is possible that I may have inadvertently emphasised or preferred this more sophisticated notion when choosing the most appropriate themes to include for this analysis. However it is also fair to say that Swimme (1995) and Berry (1988a, 2006) do pay particular attention to this theme. Perhaps then, the findings above indicate that this theme is mostly inaccessible, even to the advanced immersion participants. It may be that the way in which this theme is approached needs to be re-considered, in order for it to reach people in a manner that does not compromise its deeper integrity. It is also highly possible that work with this theme is best suited to cultural contexts that can afford the necessary time and depth of immersion, to enable people’s lifeworlds to fully benefit from its insights.

Finally, it is noteworthy that participants from advanced to medium immersion levels referred to notions of the Universe Story as reaching their lifeworlds; deepening their appreciation of the larger living world in profound ways.

1.4. Single religiosity

1.4.1 The Universe Story provides a context for showing all religions as unified but differentiated parts of the same religiosity

Some participants raised aspects of religion not specific to this theme, but which are nonetheless relevant to an analysis the religious concerns of this thesis (ES all; CES all; ACU 1, 2; CERES 4, 5). However, that data will be discussed in chapter 10, while the discussion below will only draw from data specific to this theme.

Only advanced and medium immersion participants, who experienced direct contact with this notion in their relevant activities, picked up on and related to this theme (ES 1, 2, 4, 6; CES all). EarthSong advanced immersion participants reflected profound adoption of this theme as a worldview that was commonly embodied in their lifeworld (ES 1, 2, 3, 6). For example, one participant reflected the Universe Story as unifying differentiated religions; ‘It’s just different interpretations to me and how they live it in the Cosmic Story, evolution, Universe Story; it’s instrumental for integrating faiths’ (ES 3)

Indications emerged that this theme had reached the lifeworlds of CES and ACU medium immersion participants, although adoption of it as a worldview was not strongly detected (CES 1, 2, 4, 6; ACU 1, 2, 3). CES participants did, however, make sense of the theme; for example, one participant pointed out that all stories of creation are true, within a larger story, from a scientific point of view. She then concluded, ‘I think there’s a story in that’ (CES 3). Others from this CES immersion group spoke of personal struggle, of not knowing how to unify Christianity with a cosmological evolutionary context (CES 1, 4). However, when they discussed this struggle with the CES facilitator, they found ways to unify these formerly disjointed contexts, going on to adopt them (CES 1, 4), for example:

I approached Trevor and asked him about my struggle to fit the ‘Story’ in with Christianity and where does Jesus fit? He said, ‘Just see Jesus as part of the great unfolding Story’. Immediately I thought yeah that’s really good, ‘cos when you grow

up with what the church says, you get the sense that life started when Jesus was born. I always struggled thinking about that. So I thought, yeah, that makes perfect sense, it really does (CES 1).

ACU minimal to medium immersion participants also reflected difficulties in knowing how to bridge their religious beliefs with their newly found adoption of the Universe Story. However this ACU group did not appear to have an opportunity to discuss and work through their struggles (ACU 1, 2). Of this group, some remained confused while others naturally had inklings of this theme emerge from their own logic. For example, one participant observed, ‘actually I think one needs the other’ (ACU 2).

Reflections of this theme from three novice participants at CERES had varying results. The only CERES participant who implicitly indicated some sense of this theme was again the creator of CERES activity 3.1. She reflected the Universe Story as simply another creation story (CERES 4). This suggests that she had either not understood or not adopted the theme’s key notion as an overarching context of religiosity. This is supported by CERES wanting to remain religiously neutral, a considered approach in response to the differentiated religious groups visiting CERES (CERES 1, 2, 3, 4, 5). Although the novice EarthSong participant also preferred to be religiously neutral — at least at first — indicating that the Universe Story needs to be ‘free of religious attachments’ (ES 7). However, after he experienced his research activities, he reflected this theme from his observations of the EarthSong group. He interpreted the other participants as trying to place Catholicism into a broader cosmological context and admired them for this. This could mean that he unconsciously accessed the key notion of this theme in his lifeworld via implicit modelling and embodiment of the theme by the group. This is supported by there being no overt references to this theme in the activities he experienced, as far as I know.

It is reasonable to assume that the opportunity to experience embodiment of this theme implicitly rather than directly, through being in contact or involved with an advanced immersion group such as EarthSong, is a unique experience, or one which would need to be specifically designed, since at least in Australia, it is unlikely to occur randomly or without clear intent. This, in conjunction with a review of the data above, suggests that people may have a better chance of fully accessing and embodying this theme when they have an opportunity to discuss it or be exposed to

overt communication of it. Although there was evidence to suggest some participants did gain some sense of this theme without such opportunities, the data also suggests it is unlikely to be embodied with clarity or in profound ways.

This result points to the work requiring a concise method for communicating this theme, for ethical reasons also. The evidence indicates participants' religious beliefs can be influenced — often in personally difficult ways — once they are aware of the Universe Story. However, the data demonstrates that it may only take a simple explanation for this theme to be understood and adopted. Therefore, it is possible to speculate that CERES, when responding to specific requests by visiting religious groups and trying not to overstep any religious boundaries inappropriately, could potentially adopt this theme as a unifying worldview.

1.5 The art of living the work of Berry and Swimme

1.5.1 To celebrate and enhance all of life's flourishing as an inclusive cosmological ethic

Small numbers of participants from each immersion group adopted the 'celebrate' or 'enhancing' aspects of this theme in their own ways. However the main intended aspect of this theme – to *celebrate* and *enhance* life so it may *flourish* – was not explicitly reflected at all. The notion of 'an inclusive cosmological ethic', which underpins the key aspects of this theme was not mentioned.

The strongest reflections of aspects of this theme were from two EarthSong advanced immersion participants, who wanted to celebrate 'the Eucharist Universe' (ES 1), and care for Earth 'in the service of creation' (ES 4). One of these participants implicitly reflected her worldview as involving a desire for the other to flourish, as her words illustrate: 'So it's the expansiveness of other. It's hard to put words to it. It's a new way of seeing, loving the Earth' (ES 1).

Three participants, each from other case studies, reflected their views of caring for the Earth as follows:

CES participant: 'Now we need to look after the world because it's so important, we are a part of it, the whole thing' (CES 3)

ACU participant: ‘It was more of a reflection on what the Earth has been through to what it is now, and you have to look after it. It’s like a mother having a baby’ (ACU 1).

CERES participant: ‘[Humans]... need to examine the values ... [to] invent a new lot of values that put us in harmony with nature and each other and greater equity between us’ (CERES 4).

Thus both CES and ACU minimal to medium immersion participants link their care for life with a direct reference to a big picture of life. Both of these quotes indicate appreciation and a desire to look after the world with humans as an integral component. In contrast, the CERES novice participant expressed his appreciation of, and care for, life in terms of examination of values and equity issues, in his endeavour to be in ‘harmony with nature’. This reflects a human-nature dualism, with less of a sense of mutual inclusiveness within the Earth as an integral whole, compared to the CES and ACU participants.

Comparison of this data reveals that participants sourced from CES and ACU — who experienced the Universe Story — embodied an integral sense of the larger living world and universe subjectively, while the novice CERES participant reflected concerns and approaches regarding stewardship, through more objective value systems. This contrast suggests that immersion in the Universe Story may evoke more subjective appreciation of big picture contexts.

In conclusion, the idea of celebrating and caring for life so it may flourish — as a specific notion and approach — did not emerge as a key feature of any participants’ lifeworlds. However, it can be implicitly detected when assessing the ontology, aims and activities of all case study establishments, as examples of activities, vision and commitments from the four establishments demonstrate: the CERES Fisher King Festival (see p. 195, Chapter 8), ACU’s aim and approaches towards a bio-centric world (see p. 157, Chapter 7), CES’s commitment to ‘Ecological Responsibility (see p. 131, Chapter 6) and EarthSong’s mission statement aim to uphold ‘Earth ethics’ (see p. 96, Chapter 5). The research findings suggest that this theme needs to be communicated with more direct language.

The comparative analysis of theme 1.5, suggests that for this theme to be accessible and palatable in secular cultural contexts such as CERES, the idea of an ‘Earth ethic’, in preference to a ‘cosmological ethic’, may be required. Conversely, cultural contexts

where the Universe Story is readily and openly adopted by the establishment or group, may find a ‘cosmological ethic’ appealing, accessible and useful in helping make this theme explicit and meaningful.

1.5.2 Wholehearted participation with life’s subjectivity and other ways of knowing

The immersion groups each reflected this theme in different ways, offering insights into how varying cultural contexts influence people’s lifeworlds.

Advanced EarthSong participants mostly reflected experiences of this theme through approaches such as ritual, contemplation and silence; or as one participant put it, ‘tuning into the land’ (ES 1). These approaches are indicative of a group familiar with religious practices, which is supported by these participants being Catholic nuns. CES advanced participants — also Catholic nuns — on the other hand, tended to tell stories of their inter-subjective experiences with non-human animals as having profoundly reached their lifeworlds (CES 5, 6), whilst ‘being quiet in the bush’ (CES 6):

There was a spot down there I used to go, I called it my sacred spot. There was a sawn-off tree to sit on. Most days I’d spend some time just sitting on that log. Sometimes you’d see a wombat come by. If you didn’t move, the wombat would be quite content to sniff around a bit. Then slowly walk away and not scare the animal. That has had a profound effect [CES 6].

An EarthSong advanced participant described a similar experience, only not encountering any non-human animals:

We were quiet and we all sat down next to this old tree stump and sat there for absolutely ages. It was the kind of experience that lulls one into silence. We all spontaneously found our place to sit and there was a still-ness but it was an empowering kind of a thing (ES 5).

Profound impacts occurred for CES participants’ lifeworlds’ as a result of opportunities to be near non-human animals, while for EarthSong participants, their lifeworlds were *empowered* through contemplative experiences that did not necessarily involve non-human animals. The differences between these experiences of impact upon participants’ lifeworlds reflected different qualities. The former quality, expressed as ‘profound’, reflected this participant’s lifeworld experience as

her inner life remaining open and focused to inter-subjective exchange with the outer, more-than-human world. In contrast, the latter quality expressed as ‘empowering’ – reflecting this participant’s life world experience differently – her inner life seemed to also remain open to the more-than-human world yet somehow more focused on contemplative experiences. It is speculative but perhaps noteworthy to suggest that there was more of a sense that the contemplative lifeworld experience seemed to focus more intently upon enriching her own inner life experience, compared to the enrichment coming more explicitly in the inter-subjective exchange. Clearly both experiences are valuable in their own way, yet this discussion highlights how these approaches differ in their quality of including the more-than-human world.

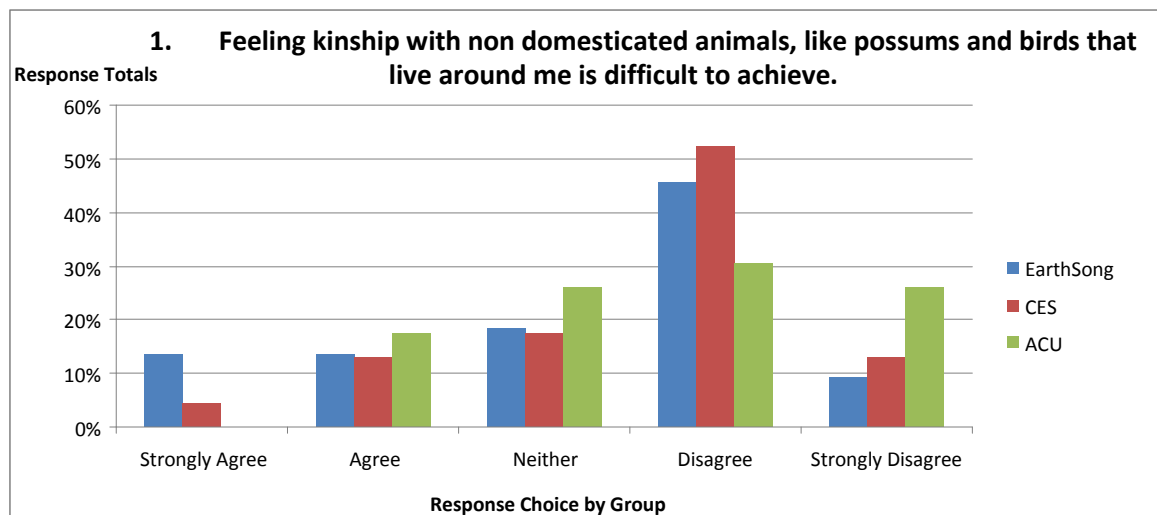
Interestingly, medium immersion CES participants – who did not experience their activities at the Glenburn site – mostly told stories of personal change in relation to the more-than-human world. For example, direct links were made to Swimme’s influence, expressed as much more respect for living things’ (CES 1). There were also profound reflections of awareness and inter-subjective openness with the more-than-human world, in expressions of other ways of knowing, as demonstrated below:

I’ve been doing this thing lately where I just allow myself to be open to whatever nature is telling me. I just sit there and think what might the trees, birds, leaves be communicating? There’s something about being open to the universe where answers come. I think Brian confirmed in ‘Powers’ [Swimme, 2003] get out and get a bird feeder and watch the birds eat or watch a sunset. That really resonated with my sense of allowing the universe to speak [CES 1].

It may be that these outcomes reflect the CES facilitator’s influence and programs as offering stronger, or more deeply implicit communication of a valuing of inter-subjective experiences, than EarthSong does, although a comparison of their activities and aims does not reveal overt differences between the two (see pp. 96-104, Chapter 5; 131-138)

Only two ACU medium immersion participants reflected an aspect of theme 1.5.2. Most significant was one who directly spoke of the Universe Story, the ACU facilitator and Berry’s writings as having influenced her lifeworld. She expressed this as having ‘a light globe effect’ upon her – likening her life to biological life – with both ‘just living its life’ (ACU 3). This suggests this participant accessed insight into other ways of knowing as a result of her research activities.

The survey results to Q.1 offer further insight into medium to minimal immersion participants, gauging a sense of their willingness to participate in, and their receptiveness to a feeling of kinship with non-human animals that live around them.



These results indicate similar trends across the case study respondents. It is possible that the 14% of EarthSong respondents who chose ‘Strongly agree’ reflects this group being significantly older than the rest. The overall survey outcome indicates a 43% average of respondents chose ‘disagree’ and 16 % average chose ‘strongly disagree’. It is again possible that age differences in the survey respondent groups play a part in this result, although this is speculative. It is possible this group may have responded the way they thought they should.

Similarly, the novice participant from EarthSong – who is of similar age to the ACU group – also reflected this theme as having reached his lifeworld (see p. 107, Chapter 5; Appendix 9 and 10).

Analysis of the data leads to the conclusion that actively encountering non-human animals tended to turn participants’ attention more overtly to inter-subjectivity experiences. This may be an important finding for the interests of this thesis; i.e. to find ways that help us focus on enriching mutually enhancing relations with the more-than-human world.

Receptiveness to a feeling of kinship with non-human animals, was found to be at least possible for the minimal to medium immersion survey respondents, but it appears

that participant age and the facilitators' own level and type of immersion and embodiment, may also be factors

1.5.3 Marrying reductive science to a language of subjective knowledge.

Indications of this theme emerged most strongly from participants sourced from ACU and CERES. These case study establishments value science in their programs, however the ontology and approaches to science differs between them. This contrasts with EarthSong and CES, which tend to include science as subjective knowledge implicitly within their activities, not resembling reductive science.

Two medium immersion participants from ACU — whose research activities blended science with the ontology of the Universe Story (see pp. 157-162, Chapter 7) — reflected this theme most directly (ACU 2, 3). In their own language, they spoke of experiencing science within their activities, describing it as a 'different' type of science to 'hard science' (ACU 3), demonstrated in the following data:

We can rationalise through hard science and that's a way of explaining it to disbelievers or people who haven't yet gotten there, but really for me it is very much an intuitive relationship [ACU 3].

In contrast, three novice participants sourced from CERES did not experience a blend of science with the Universe Story and its ontology within their research activity (see p. 1187-188, Chapter 8). One participant — a science teacher — directly spoke of CERES as needing to meet visiting teachers' expectations for 'hard' science. She illustrated how 'water' as a topic is interpreted by them, as 'narrow stuff' (CERES 5):

The teachers seem to want us to do the stuff they cannot do in the classroom. They need hard science, they want the science, they want the equipment, they want the stuff and they don't want so much that deeper spiritual sort of stuff from us. So perhaps teachers may want to, but often teachers are doing very narrow stuff, like just do water: water, drought. They are not necessarily looking for that holistic deep connection thing.

This reflection could indicate several results. Perhaps this CERES novice participant thinks her professional boundaries cannot introduce visiting teachers to notions such as adopting water as subjective, which would require new methodologies within their science-based activities. Perhaps she lacks conscious awareness of this notion herself.

It is also possible that this CERES participant is simply not open to including such ontology and approaches within CERES' science-based activities. She also reflected embodiment of a dualism — separating spirit and matter—reflected in her following comment; 'They [visiting teachers] are not necessarily looking for that holistic deep connection thing' (CES 5).

The attitude to water expressed here contrasts markedly to that of participants who have experienced the Universe Story. For example, a medium immersion CES participant consciously spoke of his 'growing awareness' of the life of water, questioning 'If I am really brother to water I can't waste it. Am I attentive to it?' (CES 4). Although the data above compares personal to professional contexts, it uncovers one instance of how relating to water differed within immersion level experiences. The outcome suggests the CES participant's immersion into the Universe Story has directly influenced him, evidenced in his embodying the underpinning ontology of this theme into his lifeworld; that both he and water are subjective and integral of each other's existence (CES 4). This embodiment also transcends the dualistic divide of spirit and matter; a necessary adoption if one is to embody this theme. On the other hand, the novice CERES participant maintained a spirit / matter divide evidenced in her comment that CERES visitors 'do not want the holistic deep connection thing' (CERES 5).

There was no evidence of theme 1.5.3 within the CERES data. It is likely this relates to the CERES participants not experiencing a blend of science with the Universe Story (see p. 172-173, Chapter 8). This is supported by the reflections of one medium immersion participant sourced from CES, who expressed her sense of this theme in her own language, as follows:

That's where some of this stuff is coming. People who have been involved with science and discovery. But it's more than that. It's also a bit of philosophy as well. But it's also part of feeling. That deep and more than an intellectual ascent. It's that gut feeling, that intuitive gut feeling that sometimes humans we poo poo a bit. But it's very much a part of who we all are. Because I am a creative and intuitive person, I don't always understand the science of what Swimme is saying but there is something telling me that it is OK, that it is something good here [CES 3].

Although this participant seems to struggle to find explicit language in this instance, her expressions such as; 'But it's more than that' [science], and it's part 'philosophy',

‘intuitive gut feeling’, point to her communicating her sense of what subjective knowledge is. Further, she directly speaks of Swimme as her reference for this notion. This makes sense because Swimme communicates this theme more openly than Berry; as narratives to help audiences gain a sense of subjective knowledge as different to reductive science (Swimme, 1995). This could mean that medium immersion into the Universe Story has had the power to capture some sense of subjective knowledge as different to reductive science.

EarthSong advanced immersion participants – who created this establishment’s activities – demonstrate adoptions of this theme because they ensure the notion of this theme in EarthSong activities (see pp. 97-99, Chapter 5). For example, they emphasise exploring ‘metaphysical interpretations of the universe, and Swimme’s work specific to this theme (see p.97, Chapter 5; Swimme, 1995, Lectures all, 2003a).

My review of this theme suggests that achieving a marriage of reductive science with a language of subjective science might be achieved when general approaches to reductive science are married with immersion in the Universe Story and its ontology. This result is supported by findings that showed medium immersion participants directly saying their immersion into the Universe Story helped them make sense of this theme at an intuitive level at least. However participants did have difficulty in explaining this theme clearly. Profound understanding of this theme does not seem to emerge in any abbreviated or short period of immersion in the Universe Story, suggesting that this theme requires advanced immersion to be adopted and embodied.

1.5.4 The destructive implications of humanity’s pervasive industrial consciousness

Participants sourced from all immersion levels reflected human qualities that they think contribute to the destruction of Earth. For example, greed and human obsession with wealth and economic accumulation were raised (ES 1, 2, 3, 5, 6; CES 1, 2, 3, 4, 5; ACU 1, 2, 3, 5, 6 ; CERES 1, 2). Others expressed frustration, outrage and repulsion towards human behaviours they view as adding to the destruction of the Earth, such as over zealous consumerism (CES 1, 3, 4; ACU 1, 2, 3, 4, 6).

Finding ways to challenge human-centred ontologies were implicitly raised across the immersion level spectrum. Commonly adopted ideas tended to reflect the case study establishment ideas rather than immersion level groups.

Participants sourced from EarthSong commonly referred to the Universe Story as providing humanity with a way of being in the world that helps us move away from destructive habits (ES 3). Another participant believes the Universe Story – paraphrasing her – inculcates a stronger sense of responsibility that people often experience when they adopt this expansive worldview (ES 5). She implied that the Universe Story can be a catalyst to evoke qualities helpful for cultivating new ways of being and new forms of consciousness:

I think the whole New Story blows our brains into not just an ‘ah ha’ moment but it’s also a kind of challenging, it’s huge, it’s a sense of responsibility, it’s a sense of amazement, crises, more to learn how little you know, how important it is for the New Story to be told as it is and how sad it is the people’s view of our world and Universe, our situation, our connectedness with all creatures is so lopsided because of greed or lack of information [ES 5].

Reflections from participants sourced from CES valued experiences of inter-subjectivity and other ways of knowing as ways for humanity to improve our ways of being in the world. For example, humanity was seen as too busy to ‘enjoy and observe plants and trees’, with people not ‘having time to cultivate their own depths’ (ACU 2). The CES participant who offered this last comment directly attributed Swimme’s influence as informing her distain for consumerism and ‘hate’ for shopping centres (CES 1). However, unlike the EarthSong group, none of the CES group of participants referred to the Universe Story directly

Of further relevance are reflections emerging from five participants sourced from ACU. They tended to focus on their views of how humanity is causing destruction on the Earth; adding that humanity needs genuine engagement with sustainable behaviours and practices (ACU 1, 2, 3, 4, 6). Participants referred to the activities as influencing their views in this way, for example: ‘That has come from being informed by Sarah. I would had never realised it if I hadn’t of done science at ACU with Sarah’ (ACU 3).

In a rather surprising result, two novice participants sourced from CERES reflected theme 1.5.4 in historical contexts (CERES 1, 2), one describing his teaching aims as

inspiring his student's to explore new ideas to help humanity adopt new, helpful ways of being, with a sense of hope. He evokes imagination for this by placing the topic of environmental degradation into an historical context; to compare differences in humanity's modes of being and thinking across eras (CERES 1). The other novice participant sourced from CERES referred to the Cosmic walk as a way to help shift people into 'a different realisation and awareness', because 'the pressure is with companies wanting to sell things' (CERES 2).

My review of the outcomes in relation to theme 1.5.4 finds participants tended to reflect the values of the respective establishments they were sourced from. Participants from EarthSong overtly referred to the Universe Story as holding promise for humanity to transcend and endure the pervasive industrial consciousness. Interestingly participants sourced from CES valued experiences of inter-subjectivity and other ways of knowing as ways for humanity to improve our ways of being in the world. This contrasted to participants sourced from ACU, who tended to focus on humanity needing genuine engagement with sustainable behaviours and practices. Lastly, participants sourced from CERES tended to reflect theme 1.5.4 in a perplexing way; in that they went beyond the values normally expressed by CERES and this contrasts with the pattern of results just described. This will be discussed further in chapter 10.

Chapter 10: Conclusion

1 Introduction

In this chapter we return to the research questions listed in chapter 1. Here we draw on the individual case studies and the comparative analysis presented in chapter 9. To facilitate the response to the seven questions, the first section of this chapter will present a way of naming a range of adoptions that represent the different combinations of activities participants experienced. These will be presented as category types, under the heading 'Forms of adoption'. The second section will categorise the research participants into a range of categories according to their levels of immersion in the work of Thomas Berry and Brian Swimme. After responding to each of the research questions in turn, this chapter will make some final comments on the work of Berry and Swimme and then reconsider the relevance of the work of the additional theorists presented in chapters 1, 2 and 4.

Participant quotes and findings are referenced in this chapter firstly as the case study establishment in abbreviated form, i.e. ES, CES, ACU and CERES, followed by the appropriate participant numerically represented, for example: (CES 2; CERES 4).

This thesis is interested in what people make of their encounters with the work of Thomas Berry and Brian Swimme rather than their views on what the case study institutions should, or should not teach. The research has encouraged the author to believe that the Berry / Swimme articulation of the Universe Story can be introduced in a range of ways and in a range of settings. The thesis consciously refrains from suggesting how, when and where this should happen because the opportunities vary greatly and the aims of educational organisations and institutions vary widely. There is no acceptable way to rate the ways in which the work is introduced and the author is not interested in making such judgment calls. The aim of this chapter is to present the research findings in ways that can inform the work of a wide array of educators working in a wide array of educational contexts.

2. Forms of adoption

- *Metaphysical*: An intersection of worldviews and disciplines typically concerned with discerning empirical understandings of the universe that interpret phenomenal existence as subjective. These empirical disciplines inevitably find the presence of the unknowable dynamic that lies behind the ecology of creativity of phenomenal existence

(Bergson, 1931; Whitehead, 1960; Bohm, 1980; Prigogine, 1980; Swimme 1995; Berry, 1988a). Metaphysical adoptions include, in equal measure, the pursuit of empirical knowledge as described above, related to experiencing and identifying with the subjective phenomenal reality found there, both personally and collectively. The ultimate intention of metaphysical adoptions is to foster the art of living so that all life may focus on an integral, biological, radical thriving sense of place and being.

- *Experiences of the more-than-human world:* Literal engagement and inter-subjective experiences with non-human animals and the more-than-human world.
- *Sustainability:* Attention paid to practical hands-on sustainability and sustainable living approaches, which may include efforts of ecological restoration, attention to human consumption footprints, fossil fuel education, waste awareness, aspects of permaculture and so on. The underpinning and ultimate aim of this approach is to facilitate ecological restoration for the entire Earth community to live a fulfilling life, and not just humanity.
- *Earth Science:* Focuses on understanding the ecologies of Earth's biological, geographical and genetic compositions as being integral to each other. Examples within this context may be gaining knowledge of food webs, the five kingdoms of life human systems integral to each other and so on. This approach interprets phenomenal life as subjective and also considers inter-subjectivity as the only possible way of apprehending phenomenal reality.
- *Auto-poetic interpretation:* A way to interpret experiences of the three attributes outlined above into our lifeworlds. This focuses on interpreting the unknowable dynamic that lies behind empirically-discerned knowledge of the ecology and creativity of phenomenal existence (Bergson, 1931; Whitehead, 1960; Bohm, 1980; Prigogine, 1980) in modes of inter-subjective 'auto-poieses' (Berry, 1988a, 2006; Heidegger, 1962). This mode of interpretation ultimately desires an embodiment of profound appreciation for the 'integral majesty'

(Berry, 1988a, p. 95) of the cosmos and natural world, as our primary way of apprehending reality (Berry, 2006; Teilhard de Chardin, 1959).

- *Language*: Focuses on how the language and terminology employed by Berry and Swimme influenced the facilitators and participants' ability to adopt notions of their work.

Note: The 'Forms of adoption' presented above will be referred to in this chapter as their respective adoption form, for example, 'Sustainability' adoption.

3. Categories of immersion

Categories of immersion in the work of Thomas Berry and Brian Swimme that participants experienced within their respective activities are presented in loosely-defined graded levels of each form of adoption as follows; 'Very high' – 'High' – 'Medium' – 'Medium to low' – 'Low' – 'Very low'.

Category 1: Typically experienced as inherent to their respective research activities by advanced immersion participants sourced from EarthSong and CES (see pp. 96-104, Chapter 5; pp. 131-138, Chapter 6).

- *Metaphysical adoptions*: : Very high
- *Experiences of the more-than-human world*: : Medium
- *Sustainability*: : Medium
- *Earth Science approaches*: : Medium
- *Auto-poetic interpretation*: : Very high

Category 2: Typically experienced as inherent to their respective research activities by medium immersion participants sourced from CES (see pp. 131-138, Chapter 6).

- *Metaphysical adoptions*: : Very high
- *Experiences of the more-than-human world*: : Very high
- *Sustainability*: : Medium
- *Earth Science approaches*: : Medium
- *Auto-poetic interpretation*: : Very high

Category 3: Typically experienced as inherent to their respective research activities by minimal-medium / medium immersion participants sourced from ACU (see pp. 159-163, Chapter 7).

- *Metaphysical adoptions:* : Low -Medium
- *Experiences of the more-than-human world:* : Medium
- *Sustainability:* :Very high
- *Earth Science approaches:* : Very high
- *Auto-poetic interpretation:* : Low

Category 4: Typically experienced as inherent to their respective activities by novice immersion participants sourced from CERES (see pp. 187-188, Chapter 8).

- *Metaphysical adoptions:* : Medium
- *Experiences of the more-than-human world:* : Not present
- *Sustainability:* : Low
- *Earth Science approaches:* : Not present
- *Auto-poetic interpretation:* : Very high

Category 5: There were other activities (see pp. 172-173, Chapter 8) relevant to CERES that do not belong in Category 4. These activities were not reflected a great deal in the data but are referred to occasionally (see pp. 192, Chapter 8). These activities were not experienced by any of the participants; however they were developed by one of the participants (CERES 4) and were rejected by CERES. The details of this rejection is only referred to by their creator, i.e. CERES participant 4.

Note: The ‘Interpretation and immersion’ categories presented above will be referred to in this chapter as ‘Category 1’ and so on.

EarthSong participant 7 (ES 7), who experienced a brief and diluted version of Category 1 (see pp. 99-103, Chapter 5) is somewhat difficult to categorise. He is unique to this thesis because his entry point was as a novice immersion participant, yet his responsiveness to his research activities found him embodying advanced immersion notions quickly. This is generally evidenced in his findings and appendices (Appendix 2, 3, 4, 5, 6, 7, 8). CERES participant 2 is also difficult to

categorise because he principally experienced Category 4 but inadvertently and unexpectedly experienced a diluted version of Category 3 (see p. 190, Chapter 8). Further, ACU participant 3 – I unexpectedly learnt – was previously an employee at CERES. This circumstance makes her difficult to categorise because she offers her useful insights as a participant sourced from ACU, yet these insights also underpin her insights as CERES participant 7. Therefore, she more accurately reflects Category 3, rather than 4 or 5. When these three participants are referred to in the following discussion, they will be referred to in their respective and relevant contexts as outlined above. Lastly, CERES participant 6 is not always included in the outcomes of this concluding chapter because she created the activities in Category 4 but she did not directly contribute to the findings that inform the final outcomes of this category. CERES 6 may be included in some instances, but only where relevant to this end.

4. Response to research question 1:

‘Can the notion of the Universe Story enrich people’s sense of place and being?’

The findings indicate that most participants in Categories 1, 2 and 3 adopted the notion of the Universe Story in some way. They generally interpreted it to be a deep time context, which some people attributed to their enriched sense of place and being (ES all; CES all; ACU 1, 2, 3, 6). Participants from Categories 1 and 2 – who experienced ‘Very high’ immersion of ‘Metaphysical’ and ‘Auto-poetic interpretation’ adoptions – typically reflected very profound enriched senses of place and being (ES 1, 2, 3, 4, 6; CES 1, 2, 3, 4, 6). Participants from Category 3 – who experienced ‘Low-medium’ immersion of ‘Metaphysical adoptions’, and ‘Low’ immersion of ‘Auto-poetic interpretation’ adoptions – reflected less profoundly. However the basic tenet of the Universe Story still enriched most people’s sense of place and being in deeply-affecting ways (ACU 1, 2, 3, 6).

The three establishments (ES, CES, ACU) from which Categories 1-3 participants were sourced, all encourage some sense of religiosity. This played a part in the outcomes outlined above because they often reflected the ontologies of metaphysical and religious worldviews as resonant of each other (ES 1, 3, 4, 6; CES 1, 2, 3, 5, 6; ACU 1, 2). On the other hand, the secular establishment (CERES) – which does not overtly encourage a sense of religiosity – firmly rejected the Universe Story for the same reasons (CERES 1, 2, 3, 5).

Most of the participants in Categories 4 and 5 tended to view the Universe Story as a distraction from more immediate and practical responses to environmental problems (CERES 1, 2, 3, 5). Their senses of place and being were not enriched by the 'High' level of 'Metaphysical' and 'Auto-poetic interpretation' adoptions they experienced (CERES 1, 2, 3, 5). Instead, people from Category 4, in particular, were suspicious of the Universe Story because, to them, it sounded evangelical or existential (CERES 1, 2, 3, 5). This outcome is reflective of their priority to employ 'Very high' levels of 'Sustainability' adoptions in all that they do at CERES. However their experience of Category 4 – which employed a 'Low' level of immersion of the 'Sustainability' adoption – added to their rejection of the Universe Story (CERES 1, 2, 3, 5). Most people from Category 4 indicated some interest in the evolutionary aspects of the Universe Story in relation to their sustainability concerns, but they were not able to clarify it, or find a way to make this link work for them (CERES 2, 3, 4, 5).

People from Category 3 reflected 'Sustainability' adoptions as most strongly enriching their sense of place and being (ACU all). This outcome correlates with their being the only category to adopt a 'very high' level of 'Sustainability' adoption. People from this category spoke of the need for a blend of 'cosmology' (ACU 1, 2, 3) with 'Sustainability' adoptions in ways that showed the highest potential for the Universe Story reaching secular contexts successfully. People from Category 4 had some sense of this, however they did not have the same clarity. This indicates that Category 4 activities do not provide them with a balance of 'Experiences of the more-than-human world', 'Sustainability' or 'Earth science' adoptions with the 'High' immersion of 'Metaphysical and 'Auto-poetic interpretations'. Most people from Category 1 also reflected a strong desire to enact sustainable living skills and hands-on ecological restoration (ES 1, 2, 3, 4, 6, 7), however they did not identify most strongly with 'Sustainability', 'Earth sciences' or 'Experiences of the more-than-human world' adoption, but with 'Metaphysical' and 'Auto-poetic interpretation' adoptions. This outcome is reflective of Category 1 activities which principally deepen metaphysical consciousness while cultivating a functional cosmology. Having said this, however, Categories 1 and 2 reflected perhaps the most even balance of all forms of adoptions.

Further, most people in Categories 2 and 3 – who experienced 'Very high' and 'High' immersion levels of 'Experiences with the more-than-human world' adoptions in their own way – tended to identify most strongly with the context of Earth (CES 1, 3, 4, 5, 6; ACU all). People from Category 2 reflected the strongest outcomes of inter-subjective experiences of the more-than-human world. Conversely, most people from

Category 1 also identified with the Earth however they tended to identify more strongly with the context of the universe (ES 1, 3, 4, 5, 4, 6).

Categories 1 and 2 were clearly influenced by the language and approach of Berry and Swimme (1992) because they used it in their own language when talking about the Universe Story (ES 1, 2, 3, 4, 5, 6; CES 1, 4, 5, 6).

The first finding for this research question was that novice immersion participants in a secular social context found it difficult to experience 'Very high' levels of 'Metaphysical' adoptions. They were generally unable to reach any significant understanding of even the most basic tenet of the Universe Story. Because the activities did not make sense to them or reach their lifeworld, the Universe Story was considered mostly unpalatable and was therefore rejected. However, an alternative approach that implicitly included higher indications of 'Earth science' that omitted any sense of an 'Auto-poetic interpretation' adoption was accepted far more readily. Further findings were that advanced immersion participants were able to embody profound worldviews that strongly demonstrate attributes of a functional cosmology. Novice and low to medium immersion participants tended to reflect in correlation the same level of profundity in their lifeworlds. It is noteworthy that people from all categories were impacted by the existential and religious associations they naturally drew from the context and interpretation of the Universe Story. People of higher and more prolonged immersion were able to move through any existential dilemmas they experienced. On the other hand, people of low-medium and medium immersion levels tended to present as either still working through, or having just worked through the existential angst they experienced. Novice immersion participants who had knowledge of Swimme's work (1995) reacted in totally different ways to those who did not.

Lastly, people who experienced some level of 'Earth science', or 'Experiences of the more-than-human world' adoptions were more likely to identify with the Earth as a context that enriched their sense of place and being. On the whole, the Universe Story does impact people's lifeworld's, mostly in enriching ways, regardless of their level of immersion. Category 4 participants at CERES were suspicious of the Universe Story on the grounds that it either seems too complex or that talk of cosmology seems to have some kind of religious connotation. However, they were interested in the story of evolution, and a creative interpretation of that story also appeals in a setting like that at CERES. The underlying concept of cosmological

evolution is widely accepted and creative accounts of it can deepen people's appreciation of place and being.

5 Response to research question 2:

'Can the notion of a Universe Story enable a better sense of the larger living world and of our biological embeddedness and dependency on it?'

Most people from all categories gained a better sense of the larger living world (ES all; CES all; ACU 1, 2, 3, 5, 6; CERES 2, 3, 4, 5, 6). The category type that they experienced directly affected how they interpreted the larger living world as a worldview.

Most people who experienced Category 1 and 2 came to an understanding of the deepest notions of the Universe Story, which brought them to a realisation that they are embedded in and dependent on the larger living world (ES 1, 2, 3, 4, 6; CES 1, 2, 3, 4, 6). These outcomes signify the influence of the 'Very high' level of 'Metaphysical' adoptions they experienced because of the depth of understanding they showed. Novice immersion participant ES 7 – who also experienced Category 1 – also gained a sense of his biological embeddedness, but he did not gain the same profound sense of a bio-centred worldview that others from Category 1 did (ES 1, 2, 3, 4, 6). These outcomes suggest that it may take higher levels of immersion to reach the profound understandings of biological embeddedness and dependency in the sense that Berry and Swimme intend. However, it also suggests that people from Category 1 are successful in reaching at least some sense of the notions inherent to this research question.

Category 1 experienced 'Medium' levels of the adoption; 'Experiences of the more-than-human world'. The outcomes from this level of adoption differed from those of Category 2 who experienced a 'Very high' level of this form of adoption. People from Category 2 tended to identify more strongly with the Earth as their context for 'embeddedness' and 'dependency', whereas people from Category 1 tended to identify with a cosmological context (ES 1, 2, 3, 4, 6). Category 4 did not experience 'Experiences of the more-than-human world' or 'Earth sciences' adoptions. This reflected in their findings as them not referring to a big picture Earth context in any overt or significant way.

Another significant outcome emerged from people in Category 3 who tended to have simpler ideas of life as ‘coming from the Big Bang’ (ACU 1, 2, 3, 6). This simplified context was however enough to impact their sense of embeddedness and dependency. People in this category spoke of being a part of the world, or ‘being connected’ to, the larger living world in generalised ways (ACU 1, 2, 3, 6). They tended to refer to a cosmological context briefly. However the Earth as a context was their strongest focus. This outcome could be associated with the ‘Medium’ level of ‘Earth science’ and ‘Sustainability’ forms of adoption they experienced. It could also reflect the ‘Low’ immersion of the ‘Metaphysical’ adoption in the category they experienced (ACU all). The blend of activities in Category 3 may have influenced these outcomes when we compare what happened for people from Category 4.

As we have seen, most people from Category 4 were initially unable to make any significant link between the Universe Story and the idea of all life being connected, ontologically or biologically (CERES 2). Rather, they interpreted the Universe Story principally as a science-based, existential ‘Creation Story’ (CERES 2, 3, 4, 5). This is significant because Categories 3 and 4 both employed ‘Very high’ levels of ‘Sustainability’, but differed in ‘Low’ and ‘High’ ‘Metaphysical adoptions’ respectively. The outcome of this difference showed in how differently they adopted their ontological sense of the basic tenets of ‘embeddedness’ and ‘dependency’. Further, CERES participant 2 firstly experienced Category 4 and was unable to make the connection between the Universe Story and the idea of all life being connected in any biological way (CERES 2). However when he experienced a brief and diluted version of Category 3 (see pp. 190, chapter 8) he reflected implicit notions of embeddedness (ACU 2).

Most people in all categories showed, either implicitly or explicitly, that they understood the implications for the world if humanity did not respect the state of the Earth (ES 1, 2, 3, 4, 6, 7; CES 1, 2, 4, 5, 6; ACU all; CERES 1, 2, 3, 5). This outcome suggests that Berry and Swimme’s work is not essential to create this kind of awareness.

In conclusion, immersion into the work of Berry and Swimme did enrich the depth of understanding that people had in terms of biological embeddedness and dependence. However, even those who experienced a lower level of immersion were still impacted to embody the effects of the main notions. Undoubtedly, the Universe Story substantially helped people from all categories to gain a better sense of the larger

living world. The activities experienced in Category 4 did not have any Earth-based adoptions. This is reflected in the findings as a lack of a strong adoption of notions of embeddedness or dependency.

6. Response to research question 3:

‘Did the Universe Story evoke appreciation of non-human beings as individuals, whose other ways of knowing and being can be appreciated and experienced in reciprocity?’

Most participants in Categories 1, 2 and 3 adopted the notion of the Universe Story in some way. They generally interpreted it as a ‘deep time’ context that enriched their sense of place and being (ES all; CES all; ACU 1, 2, 3, 6).

All participants in Categories 1 and 2 gained appreciation of non-human beings as being individuals (ES all; CES all). This is indicative of these groups’ commitment to Berry’s (1988, 2006) and Swimme’s (1995, Lecture 3 and 4) work and their particular focus on the notion of the universe being ‘a communion of subjects’ (Berry, 1999, p.4). The influence of this emerged in the adoption of language used by some of these participants (ES all; CES 1, 5, 6). People from Category 1 tended to talk about the non-human individual beings around the places where they live, while people from Category 2 tended to talk in more specific ways about inter-subjective experiences with non-human individuals in ‘the bush’ (CES 5, 6). This outcome indicates that people from Category 2 have opportunities to encounter animals such as wombats and horses at the Glenburn site. It also indicated they had more time to engage with non-human individuals during their prolonged stay at Glenburn. These outcomes suggest that ‘High’ levels of ‘Experiences of the more-than-human world’ adoption help people to immerse into deeper inter-subjective experiences. Prolonged time to ‘be’ with non-human individual beings helped people to embody profound experiences. People from Category 1 also had deep experiences of inter-subjectivity, although they did not seem to be as deeply affecting in these participants’ lifeworlds as those from Category 2 (CES 5, 6). These outcomes find that ‘High’ levels of ‘Metaphysical’ adoptions into Berry’s and Swimme’s notions of subjectivity also impact on people’s capacity to experience non-human beings as individuals.

On the other hand, the ACU results did not indicate very strong findings of appreciating non-human beings as individuals. The most explicit finding was that associated with ‘Sustainability’ adoptions, reflected in ACU participants 3, 5 and 6 in

relation to the environmental impacts of eating meat. However, there were stronger indications from the ACU survey group in response to Survey Questions 3 and 5, which points to the possibility that this point was not picked up in the interviews. People from Category 4 did not explicitly refer to non-human beings as individuals but more as species groups from biodiversity perspectives. There was an implicit sense that CERES participants presented non-human animals as individuals on their establishment (CERES 1, 2, 3, 4, 5). However, the overriding sense was they felt that as an establishment there may not be a lot CERES can do to help 'species', which seemed to reframe their energies in terms of human equity, sustainability and notions of restoring biodiversity (CERES 1, 2, 3, 4, 5). These outcomes seem to reflect their category's 'Very high' levels of 'Sustainability' adoptions and general very high interest in educating about contexts of sustainability, biodiversity and so on.

Similar patterns emerged from the category experiences in relation to people responding to 'other ways of knowing' and being open to experiencing reciprocity in inter-subjective experiences. Again, EarthSong (ES 1, 2, 3, 4, and 6) and CES participants (CES all) responded in profound ways that found they deeply embody these notions. EarthSong participants had very strong responses showing they related to Berry's idea of being in reciprocity with the psychic dimension of the Universe (Berry, 1988; Swimme, 2003a, Lecture 3). On the other hand, people from Category 2 tended to reflect this theme as personal observations of life around them and of inter-subjective experiences with non-human animals (CES). People from both categories also saw themselves as part of a species community, which indicates that they have some level of understanding themselves at a species level (ES all; CES all). These outcomes again find that 'Very high' levels of 'Experiences with the more-than-human world' adoptions tend to situate people in an Earth context, while 'Very high' levels of 'Metaphysical' adoptions tend to situate people in the consciousness of the dynamics of the Universe.

People from Categories 3, 4 and 5 did not respond strongly to notions of inter-subjectivity and other ways of knowing in explicit ways. However, implicit notions could be detected in their data, although these were not significant (ACU 1, 2, 5, 6; CERES 2, 5). It is possible that people from these categories have lower experiences of 'Experiences of the more-than-human world' adoptions. It is noteworthy that activities inherent to Category 5 explicitly appreciate non-human beings as individuals, yet these activities were rejected, or as CERES participant 5 said, 'visiting teachers just wouldn't choose it'.

Concluding this research question finds that, in general, people who have more opportunity for inter-subjective experiences with non-human beings are more likely to gain deep appreciation of them as individuals. However people from Category 1 were also found to have gained a deep appreciation of other ways of knowing which showed strong indications that they were influenced by the ontology of the Universe Story. Clearly there was deep respect from all categories, regardless of the forms of adoptions and immersion levels they experienced. However, less profound understandings were detected in people who experienced lower levels of 'Metaphysical' and 'Experiences with the more-than-human world' adoptions.

Lastly, these outcomes find gaps in most people's reference to more specific needs of non-human beings for their social and family wellbeing, or of their conditions of life. Exceptions emerge in the outcomes from EarthSong participants 1 and 6. ES7 also reflected these notions in very strong ways in his narrative expressions (Appendix 2, 3, 4, 5, 6). Perhaps this outcome is partly influenced by ES7 watching Swimme's 'Feast of Consciousness' lecture (1995, Lecture 3), which pays specific attention to profound notions of non-human beings as individuals. It is also possible that this individual was already pre-disposed to the sensitivities and attributes embodied in the Universe Story.

7. Response to research question 4:

'Does the Universe Story prompt a sense of kinship with non-human beings, to see all species as one community to be valued, cherished and facilitated to flourish?'

All those from Categories 1 and 2 implicitly indicated notions of 'kinship'. However none of the categories made specific references to Berry and Swimme's notion of kinship. Further, a sense of 'kin' with non-human beings was not detected in the individual participants from Categories 3 and 4, although 59% of ACU survey respondents at least made sense of the notion of 'kin'. These overall outcomes may reflect the differences detected in how the different categories responded to the notion of all species being one Earth community.

The strongest and most explicit outcome emerged from Category 1. Three EarthSong participants (E 1, 3, 6) directly named this notion: 'one community', or variations of this term that are employed by Swimme and Berry. Others from Category 1, 2 and 3

implicitly indicated notions of the larger living world that do not fit the category of 'biodiversity' or 'species equity', which in themselves suggest more objective understandings. There was a sense from these categories that their interest and efforts in ecological restoration were for the enrichment of the whole or bigger picture in this sense. This outcome indicates that these individuals are implicitly concerned about a world that they interpret as subjective (ES 2, 4, 5, 7; CES all; ACU 2, 3, 5, 6). On the other hand, CERES did not spontaneously indicate this subjective sense, rather they referred to more objective interpretations of the larger living world (CERES 1, 3, 4, 5). However, strong indications emerged that they were open to accepting and embracing the idea of 'one Earth community' (CERES 1, 2, 3, 5). These findings suggest that Categories 1, 2 and 3 – who all adopted the Universe Story to varying degrees – were prompted to see all species as one community in their own way and to their own degrees. Clearly the absence of an enriching experience of the Universe Story for people in Categories 4 and 5 did influence this outcome. However people 'valuing' their respective contexts for the larger living world did not seem to have been influenced by the Universe Story. This claim is based on the outcome that all people from all categories expressed their often high levels of deeply valuing the larger living world (ES all; CES all; ACU all; CERES all).

The virtue of 'cherishing' the Earth community showed up most strongly in Category 1. All advanced participants from this category expressed profound emotions related to the notion of 'cherishing' life, ranging from a molecular and genetic level through to the outermost reaches of the cosmos (ES 1, 2, 3, 4, 5, 6). People from this category married this virtue with a desire to facilitate life at every level in numerous ways (ES all). However Berry and Swimme's specific notion of facilitating life to flourish was only implicitly indicated by EarthSong participants (ES 1, 3, 5, 6). More direct notions of this were found as expressions of 'mutually enhancing relations'. There was a similar outcome for people in Category 2, except that they did not reflect the profound levels of cherishing genetic and molecular life as those in Category 1. Rather they tended to express cherishing of non-human animals and of observing life around them in more direct inter-subjective ways (CES 1, 3, 4, 6).

Again, a division emerges that finds a difference in the depth of quality and experience of the virtue 'cherish' in Categories 3 and 4. These are people who are less involved with 'Metaphysical' adoptions, and tended to experience feelings of appreciation, as opposed to deeper expressions of 'cherishing' (ACU 1, 2, 3; CERES 3). It is noteworthy that people from Categories 1 and 2 are generally of an older age

bracket and from strong religious backgrounds with many years behind them of cultivating embodied virtues such as ‘cherishing’, which may play a part in this outcome.

Lastly, although the specific notion of ‘flourish’ did not explicitly emerge within the limitations of this research, all categories reflected their substantial desire to care for and facilitate the restoration of the Earth. This emerged in much the same ways as what they saw as ‘sustainable living skills’, including activities such as tree planting, and responding to the immediate needs of individual non-human beings as individuals around their homes (ES 1, 2, 4, 5, 6; CES all; ACU 1, 2, 3, 5, 6; CERES all). Another implicit finding from all categories was a general sense of, and often direct reference to, human supremacy as being problematic for the larger living world (ACU all; CERES 1, 2, 3, 4, 5) or one Earth community (ES all; CES all).

In conclusion, people whose lifeworlds are reached by the Universe Story in some way were more likely to embody and foster more deeply the notions inherent to research question 4 of Berry and Swimme’s work. Further, it appears that people’s experiences of profundity correlated with the depth of immersion within their category activities. These outcomes also find that people who have higher levels of immersion in ‘Metaphysical’ adoptions were also more likely to embody the virtues and qualities inherent to this research question 4.

8. Response to research question 5:

‘What might it mean to live in mutually-enhancing relationships with non-human beings in the context of everyday urban living?’

The notion of ‘mutually-enhancing relations’ was not reflected at all in Category 4. There were implicit aspects of this notion in Category 5, but CERES on the whole rejected the activities that reflected them. People from Category 4 did overtly reflect a sense that they shared the CERES site with non-human beings, and that they were individuals to be communed with. They did reflect deep concern for the ‘biodiversity’, ‘wildlife’ and other- than- human life, particularly in relation to the Merri Creek that runs alongside the site (CERES all). Their main focus was on the health of the water of the creek and its ecosystems. It is noteworthy that people’s relationship with the Merri Creek was one of great care to restore the once-polluted waterway. There were also strong reflections of great care of the creek, specifically to ensure the population of kingfisher birds in the area. People from CERES gauge the health of the

'biodiversity' of the site in terms of the prevalence of the kingfisher birds (CERES 1, 3, 4, 5). People from this group did not indicate a strong sense of conscious inter-subjectivity that engaged them in mutually-enhancing relations and reciprocity with the more-than-human world. Rather they had a sense of stewardship, or one-way relating.

When this author introduced ideas of mutually-enhancing relations, most CERES people acknowledged that they would like to do more to open up this kind of focus on the site (CERES 1, 2, 3, 4, 5). They also interpreted ideas such as consciously 'sharing' the CERES site with other non-human beings in very immediate and practical ways. So there was a strong sense that they knew this was the next direction CERES needed to take, but they found it hard to know what to do (CERES 1, 2, 3, 4, 5). Further, the same individuals concluded that it may be difficult to do 'anything like that' in an urban setting. The overwhelming outcome from those in this category was their openness to adopting new ideas, so long as they were palatable and suitable to CERES aims and visitor expectations.

The outcomes of Categories 4 and 5 indicate that the activities they experienced did not promote mutually-enhancing relations. They had not made sense of this aspect of the Universe Story. Further, people from this category (other than CERES participant 6) indicated that they did not understand or aim for reciprocity with the more-than-human world. Rather, they reflected deep senses of celebration and good feeling that they had managed to restore the Merri Creek for the health of other-than-human life. As valid and significant as this outcome is, the fact that they did not reflect a sense of reciprocity indicates that those in Category 4 and 5 had not embraced this notion.

This is supported by the finding that Categories 1 and 2 gained deep senses of what mutually-enhancing relations are. Reciprocity was not as strongly indicated in these categories, although it was not absent (ES 1, 3, 4, 6). This was evident for people in Category 1 in particular. Interestingly, this category reflected reciprocity most strongly in its 'psychic' dimension. This is likely to be a reflection of their strong 'Metaphysical' adoption.

Mutually-enhancing relations in inter-subjective experience again showed that people from Category 1 tended to reflect non-human life around their homes as their source of contact (ES 1, 2, 3, 4, 5, 6). People from Category 2, on the other hand, again tended to reflect their inter-subjective experiences with the more-than-human

world and non-human animals (CES all). Participant ES 7 reflected strong images of species equality in his narrative expressions. These images suggest that he captured a sense of reciprocity from experiencing Category 1 activities. Detected in these images are virtues of 'sharing' the Earth, which implicitly indicate the co-existence of all beings (Appendices 7, 8 and 10). ES 7 directly spoke of Berry's and Swimme's influence in helping to clarify the notions of inter-subjective mutual relating and sustainability notions.

Categories 1 and 2 implicitly reflected a sense of 'co-existing' in everyday ways (ES 1, 2, 3, 4, 5; CES all). Urban, rural and non-human built settings were mentioned. Specific knowhow to extend mutually-enhancing relations in Berry's (1988a) broadest sense was not the strongest outcome. In fact there was a distinct void in terms of people knowing what to do to reach the more profound biological, psychic, genetic and global attributes of this notion. It is possible that the reason for this is the absence of a practical plan by Berry and Swimme to execute these notions. However, they clearly state their hope for the creativity of inspired people who can take their ideas to create additional contributions of this sort.

In a certain sense, the strong findings from people from all categories that recognise human supremacist attributes emerges as an implicit indication of mutually-enhancing relations (see Research Question 3). This was a particularly strong finding in people from Category 3. They mostly reflected their relations with the more-than-human world in contexts of enacting 'Sustainability' (ACU all). Experiences of inter-subjectivity, urban everyday contexts and psychic reciprocity did not emerge from this Category.

Outcomes in relation to Question 6 indicate that it seems difficult for people to imagine or know how to live out mutually-enhancing relations in their most comprehensive sense. The basic associations made in regard to mutually-enhancing relations emerged mostly as psychic reciprocity, relatively vague ideas of a 'connected' Earth community or adopting stewardship roles. Tangible approaches tended to emerge in the form of equity advocacy, land restoration and sustainable living skills. Clearly these are valid and significant approaches to the problems of human relationships and responsibilities, however this thesis is interested in discovering how we can live in mutually-enhancing relationships with non-human beings in the context of everyday urban living. This summary of outcomes concludes

that reaching the deepest aims of this notion may involve considerable time and effort.

Lastly, a significant outcome of this research is that Categories 1 and 2 participants achieved 'Very high' adoption of a 'Metaphysical' adoption evoked deep senses of integral relations with the Earth community. Again, Category 2's 'Very high' level of 'Experiencing the more-than-human world' correlated with significantly high outcomes for inter-subjectivity. People from both categories were very observant and responsive to non-human animals and to other ways of knowing, particularly around their homes.

It is a curious outcome that novice immersion participant ES 7 had an outpouring of narrative expression that mostly reflected themes of co-existence and inter-subjectivity. His images acknowledged non-human animals as subjective. They also demonstrated gestures of his deep respect for their being and other ways of knowing. It is possible he already had a pre-disposition for these sensibilities. It is also possible that the abbreviated version of Category 1 he experienced was enough to reach his lifeworld in powerful ways. This is synonymous with the outcome from those in Categories 4 and 5, who did not explicitly reflect familiarity with notions of mutually enhancing relations. Further, their sense of coexistence was not overly strong, but they did have a strong sense of adopting roles of stewardship and one-way relating.

Of course 'Sustainability' itself is an implicit form of mutually-enhancing relations. It is highly possible that most people embody some level of enacting 'sustainability' to conserve 'biodiversity' and so on. However, as indicated above, this thesis tries to pinpoint how people might make sense of the specific notions of mutually-enhancing relations. In this way, people from Category 3 tended to reflect their intent to enrich the world through 'sustainability' in order to help all life. This outcome was more overt than for people from Categories 4 and 5.

9. Response to research question 6:

‘Does interpreting the mystery that lies behind all life in a secular way inspire people to value, care for and celebrate life more deeply?’

All people from Categories 1 and 2 were able to interpret the mystery that lies behind life in a secular way. These people tended to embody this notion in correlation with the degree of immersion and the forms of adoption they reported. Most people from Categories 1 and 2 spoke of their sometimes difficult personal experiences when first moving from practising a traditional religion to gaining a sense of religiosity in the sense that Berry (2006) intended. Regardless of the difficulty of this transition, most people were committed to Berry’s worldview once it made sense to them.

There were no indications of this level of clarity emerging for people in categories 3, 4 and 5. Three people from Category 3 implicitly indicated a sense of interpreting the mystery that lies behind life in a secular way that resonated with those from Categories 1 and 2. However differences between them emerged in significant ways. This finding is important because people from religious backgrounds do not always embrace the first aspect of this question easily.

Within the environments of EarthSong and CES are groups of like-minded people and mentors who share a ‘High level’ immersion of ‘Metaphysical adoptions’ over often prolonged time periods. Those in EarthSong in particular have the opportunity to help each other through the complexities that arise with this transition. This set of circumstances gave people from these categories a solid grounding, acting as a kind of personal platform (ES 1, 2, 3, 6; CES 4, 5, 6).

People from Category 3, on the other hand, have ‘Low-medium’ levels of ‘Metaphysical’ adoptions over very short periods of time. Experiencing this category was enough to reach some people’s life worlds (ACU 1, 2, 3). These people also began to sense the dichotomies that often challenge creationist religious views (ACU 1, 2, 3), which was unsettling for some people (ACU 1, 2). Although they were offered opportunities to discuss topics of religion and evolution, at the time of this research some people from Category 3 remained confused and unsure about how to think about these conflicting worldviews, lacking clarity as to whether they should interpret the mystery that lies behind life in a secular or a theistically sacred way.

Most people in Categories 1 and 2 who were clear about interpreting the mystery that lies behind life in a secular way were inspired to care for and celebrate life more deeply (ES 1, 3, 4, 6; CES 1, 3, 4, 5, 6). People from Category 2 tended to express their care and modes of celebration in Earth contexts more strongly in implicit ways (CES all). On the other hand, people from Category 1 tended to express modes of celebration in the sense that Berry (1988a) intended, in contexts of cosmological mystique and grandeur (ES 1, 2, 3, 4, 5, 6). Participant ES7 remained relatively neutral in his language to describe notions of this research question, but indicated that he responded most strongly to Swimme's approach to quantum physics (1995, Lectures 1, 3 and 4).

These outcomes suggest that 'High' immersion levels in 'metaphysical' adoptions do foster significantly deeper and clearer understandings of how to interpret the mystery that lies behind all life. However even 'novice' and 'low-medium' immersion levels are at times enough to affect people in these ways.

10. Response to research question 7:

'How can the ideas of Thomas Berry and Brian Swimme be adopted for use in Australian contexts?'

Most people sourced from EarthSong, CES and ACU found the Universe Story to be a suitable and enriching worldview and generally accepted the category of immersion they experienced. Further, most people more or less accepted their respective establishment's philosophical interpretation of the Universe Story. An exception to this outcome was EarthSong's participant 7 who accepted many of the Universe Story's notions and was personally inspired and enriched by them, however, on the whole, he could not fully adopt the Universe Story as a worldview or take to the idea of living in a 'story'.

Participants sourced from EarthSong and CES – who had found and responded to the Universe Story on their own volition – reflected a general sense that they needed to, or wanted to, take on the full philosophy of the respective case study establishment. It was a significant outcome that all participants from these case studies were from strong religious backgrounds and from similar Judeo-Christian social and cultural contexts. Their experience of Categories 1 and 2 suited these individuals and produced significant outcomes for them.

This thesis set out to discern how the Universe Story might need to be interpreted to reach a diverse range of social contexts, and what might make it acceptable to those not already familiar with the intentions or predisposed to the philosophy of this work

It is therefore important to reflect on how newcomers from diverse social contexts who show some level of interest in the Universe Story may relate to the particular approaches inherent to Categories 1 and 2, for instance. EarthSong participant 7 offered us an entry point into this with his own experiences of Category 1. Further, he conceded anecdotally that there was only one person in his life he could think of who would appreciate EarthSong's interpretation and the approach to the Universe Story he experienced in Category 1. This outcome suggests there is a need to consider new approaches that may be offered to people who are interested in notions of the Universe Story, but who want and need to experience it in very different and more palatable ways to those currently adopted in Australia.

Outcomes from CERES also offer us an entry point to critically explore this because, as we have seen, these participants reacted in very different ways to those in the other categories. Some people from CERES indicated that they went beyond what CERES philosophically stands for. This became apparent in the fact that while they rejected aspects of immersion 4 and 5, they also extended their personal regard for the Universe Story, in implicit ways, as potentially relevant to CERES' interests. However, the overall outcome found that tapping into the potential of this work was overpowered by their very strong reactions to the 'Very High' 'Auto-poetic' immersion level and implicit metaphysical message. Further, they generally did not have the opportunity to become familiar with an interpretation other than that offered in Category 4 and 5 activities and so they jumped to the conclusion that the Universe Story was primarily about existentialism. There is a problem here because they were not able to recognise that they in fact shared many aims with Berry and Swimme. Their principle aversion lies with what they regard as the spiritual aspects of the work, but arguably the problem here lies with CERES, as well as with Berry's and Swimme's work.

The problem with CERES not using auto-poetic, or religious-based language, is that it clearly limits their ability to access the work of Berry and Swimme. On the other hand, CERES participants spoke of their observations over the years, concluding that the Australian public in general react negatively to religious language or existential associations. CERES wants to avoid this possibility, which is clearly an entirely

legitimate concern for them, to ensure they do not alienate any of their visitors or appear to be religiously aligned.

However, considering they were also interested in, and expressed their openness to, the potential of the Universe Story, it is possible that the main area of difficulty in participants accessing the work was the miscommunication and imbalance of categories of immersion they experienced. It is also possible that the work was difficult to access without a certain level of 'open-mindedness'. Some areas of Berry's and Swimme's work is hard to contemplate without being open-minded to the understanding that it is ultimately concerned with addressing dichotomies that emerge out of the science/philosophy Cartesian divide. It is critical, however, to always keep in view that, within this context, Berry's and Swimme's primary concern is with a sustainable Earth community and for the larger living world, and not existentialism or religion. In this way, their work is undoubtedly unique and rich. It is their dedication to interpreting the phenomenal universe as subjective, and further 'sacred' in a secular sense that becomes clouded and problematic for people.

This claim emerges from my own substantial immersion into the work of other theorists discussed in this thesis (Thomashow, 2002; Matthews, 2003, Plumwood, 2001, Weston, 1994). Engaging in processes of grounded theory (ref 19) helped me assess my own lifeworld experiences. This was married to an intellectual analysis of the suitability of the work of the additional theorists in order to assess whether people may be able to access the approach taken by Berry and Swimme. Particular consideration was given to whether people from a range of diverse social contexts, who may not be open to any sense of religiosity, would find the Berry/Swimme approach palatable.

While there seems no easy way to make the work of Berry and Swimme more accessible and palatable, it is clear that their work is more comprehensive and innovative than that of any of the other theorists reviewed for the thesis. Therefore, in order for participants at CERES to access important aspects of Berry's and Swimme's work, they may need to be more tolerant of the approach that Berry and Swimme have taken. This would require being open to the diverse sources of knowledge and cultural understanding beyond the prevalent secular notions of 'fact' and objectivity. CERES already acknowledges the validity of Indigenous ways of knowing and the Universe Story does not need to have religious connotations at all. Having said that, the work needs to be organised and presented in a way that

communicates the multi-layered tenets of the work clearly, so they can be seen and understood.

Understanding that the Universe Story can include all six forms of adoption discussed here could potentially open many pedagogical possibilities associated with that story, including insights derived from geology, biology, cultural history and various philosophical traditions. In other words, the Universe Story tends to be inclusive of diverse ways of knowing rather than being aligned to any particular tradition or cosmology. However, the Universe Story does require an openness to subjectivity and inter-subjectivity, and this is currently a limitation for CERES. A rejection of inter-subjectivity closes the options of the metaphysical or auto-poetic interpretations of our existence. In a reactive way, many people at CERES incorrectly assumed that the work of Berry and Swimme is theistic and they consequently failed to see that it is in fact deeply bio-centric. Berry and Swimme offer a way to invoke a deeper sense of identification and care for non-human others which is inherent in the aims of CERES.

Adverse reactions to the work of Berry and Swimme take us to the intersection of religion, religious biases and the question of how people embody religious associations within their lifeworlds. There are very strong and valid reasons why people react to, and reject, religion and religious language. People's personal experiences of institutions of churches and religion were reflected in responses of participants in this research. At times this blinded people to the riches that can be drawn from the cultural tradition and language of religiosity. While it is understandable that people reject religion when they have experienced it as being hypocritical or even personally destructive, this need not apply to all notions of religiosity. On the other hand, some religious people fail to understand why others reject religious language and traditions and this makes it hard to find common ground.

Language may be a key to overcoming barriers between people who adopt or reject religion and to finding better ways to introduce the work of Berry and Swimme to secular audiences. It is ironic that people reject the work of Berry and Swimme on the grounds of its association with religiosity because, while Berry comes from an overtly religious background, Swimme has grounded his work in the language and traditions of science. However, science also has its limitations and one-sided faith in science can be as misguided as one-sided faith in religion. Neither science nor religion on their own is enough. This suggests we need to be open to engaging in the

dialogue between science and spirituality as a religiosity. This needs to be clearly defined for people. What Berry and Swimme in fact suggest is an openness to engage in the dialogue between science and spirituality / religious worldviews. Further, this dialogue needs to be successful in helping people come to realise that these domains are integral of each other. Berry locates our inability to perceive them as integral as the problem. He clearly states this in his comment, 'the difficulty isn't with nature, its with our minds'.

To this end, finding accessible language and entry points to help people adopt 'science' and 'spirituality' as profoundly resonant of each other is clearly where the challenge lies in this work. Swimme has clearly put a lot of thought into this, and has adopted a science based language that always interprets the world as a subjective / inter-subjective entity. The urgency of his message lies in us realising anything other than this reality is a 'difficulty in our mind', blocking us from apprehending reality in its true phenomenal nature. However, if a science based language is inadequate then it is surely legitimate to turn to the work of people who have tried to bridge the gap between religion and science; people who have followed, for example, in the tradition of Teilhard de Chardin (1959).

In looking at institutions as diverse as EarthSong and CERES, this research has inevitably confronted the divide between the sacred and the secular. On the one hand, it can be argued that organisations such as EarthSong and CES use the language of religion uncritically, while CERES reacts too quickly against the language of religiosity. It may be that neither approach successfully encourages individuals from diverse social contexts to find their own way into this work. In other words, CERES does not allow people to access the potential of the work of Berry and Swimme, while EarthSong and CES offer very particular entry points to the work that may only suit individuals for whom the philosophy already resonates in some way.

The dilemma that arises out of this dichotomy is finding ways to overcome these prejudicial views or associations for those who have not had the opportunity to adopt a full understanding of the work. On the other hand, it is important for practitioners to be aware that the language they use may not be palatable for some people. Taking an extreme position either way seems to be an over-reaction that prevents people from being truly open to bringing the work of Berry and Swimme alive in its deepest intention.

These outcomes point to considerations of what may assist, or what may be necessary in order for Berry's and Swimme's work to reach broader audiences. For example, can the work still be feasible when put into another language framework, or does the integrity of the work then become lost? On the other hand, is it necessary to encourage people to be more tolerant of diverse language traditions? Perhaps a mix of these two may encourage people from different social and cultural backgrounds to engage with the work. It is important to recognise that all language has limits and that there may not be the terminology available to express deep and complex ideas.

Conversely, rich cultural heritages — including both religion and science — have cultivated a language heritage that is able to capture notions that may otherwise be difficult to perceive. Developing an entirely new language is problematic, so there is no easy solution to the dilemma. However, the focus on telling the Universe Story as a 'story' seems to have the potential to break through some of the barriers of language, especially if this is linked to activities that encourage people to embody aspects of the story. In other words, the combination of story and experience may resolve some of the problems connected to language and tradition. Narration plays an important role here because all humans can relate to 'story' to some degree. Berry clearly takes this as a starting point in his formulation of the idea of a functional cosmology. However, various problems arise here, with some people indicating that they find the concept of living in a 'story' problematic. As Thomashow has suggested, this idea is particularly problematic for people living in a modern world setting. Another dilemma arises here because narration has traditionally been dismissed by science because of its subjective nature, although scientific concerns about subjectivity have clearly waned.

It is important to find ways to link the work of Berry and Swimme to a range of other discourses and approaches. Berry himself took the bold step of trying to marry his work with that of Swimme. Berry had a particular approach to cosmology that was quite different to that of Swimme, yet they found a way to merge their approaches. Berry was also aware that his work on the Universe Story could be seen as an attempt to establish a new religion and he clearly wanted to avoid that perception. Rejection of his work as being too aligned to a particular religious tradition is unfair, but the work needs to continue to connect to a range of other approaches and discourses. This requires an open-mindedness among those who see merit in the work.

An important finding of this thesis was that novice and advanced immersion participants alike expressed a sense that approaching Berry and Swimme's work

requires a considerable investment of time to watch large amounts of DVD materials. Many people also found Berry's language both energy and time consuming because of the dense nature of his written expression. The general sense of those who value the work is that it is not reducible, and that it is necessary to look at the complete works in order to make any sense of it. As discussed in chapter 3, Swimme and Tucker have both made recent efforts to make the work more accessible, but the success of this is yet to be seen. A remaining problem is their entry point also asks people to adopt the big picture of life. In a certain sense, their work assumes people are going to be enveloped in awe at this entry point and be taken by the mode. Although this new work is an abbreviated form of Berry's and Swimme's (1992) original work, the approach is essentially the same. As we have seen this is problematic for a place such as CERES. However, Swimme and Tucker do offer in their DVD (2011) examples of how people are embodying this work in fresh ways. This is a new entry point for the work that holds potential to capture people who do not relate to the usual entry point of the big picture (Berry and Tucker, 2011).

The work conducted in this thesis to condense the work of Berry and Swimme into a number of key themes suggests that it is possible to offer a compressed version of the work. This thesis has also sought to communicate the ideas of Berry and Swimme in relatively neutral language, but there may be other ways to put the ideas into accessible language without losing the complexity and integrity of the work. The biggest challenge is how to provide an appealing introduction to the work for people with limited time or limited opportunities to be immersed within the ideas and concepts.

The condensed version of the work of Berry and Swimme that is presented in this thesis is offered as a starting point for other interested scholars and educators to reinterpret the work in interesting and accessible ways. This responds to Swimme's clear message (1995, Lecture 12) that he and Berry welcome further creative expressions of their work. However, this thesis suggests that the work needs a range of interpretations and applications in order to reach a wide range of audiences in a wider range of settings.

It was certainly important to test the relevance of the work in a setting such as that provided by CERES. While this outcome suggested that more work needs to be done to apply the work in such a setting, there is enough in the research outcomes to suggest that it could enrich the existing work of an organisation such as CERES, at least for some of the visitors. The important thing is to provide an introduction to the

work that could encourage people to pursue it further in their own way and in their own time. The work of Berry and Swimme should not be presented as a model in its own right but as a body of work that can go beyond other approaches to a sense of belonging within the Earth Community.

11. Significant notions of Berry and Swimme's work that were missed or difficult to explore

It is important to note that there are a number of ideas, concepts and imperatives embedded in the work of Berry and Swimme that were not picked up by any of the participants in this research. It may be that these ideas are beyond the levels of engagement with the work in simpler ways, or even for those in Categories 1 and 2, or it may be that the ideas or imperatives lack appeal for other reasons. All that can be said here is that the research presented in this thesis cannot shed any light on the relevance or otherwise of the following ideas or imperatives:

- The notion of 'flourishing' (Berry 1988a; Swimme, 1995, Lecture 3)
- A general lack of explicit ways to move into cosmological ethics and jurisprudence
- A lack of comprehensive ways to live out mutually-enhancing relations
- A lack of personal practices through which to embody this model
- A model for interpreting life energy subjectively
- Deepening consciousness to move with the laws and dynamics of the universe
- Identifying self-reflective consciousness as a human attribute
- Being conscious and aware of specific human attributes at a species level.

12. A set of recommendations for those wanting to work with the Universe Story

While more work needs to be done on ways to present and apply the work of Berry and Swimme in a range of contexts, it is possible to draw from the implications of this thesis a set of recommendations for those with an interest in the work:

12.1 Working with forms of adoption

Perhaps the most significant finding in this thesis is the variation in outcomes that emerged from the differing categories of immersion and experience. In this regard,

this thesis concludes that Berry's and Swimme's work is best represented when all six forms of adoption are made possible in the way in which activities are designed and implemented. Therefore it is strongly recommended that facilitators of this work consciously strive to work with all the forms of adoption that have been identified. While people working at CERES expressed doubts about the relevance of the work of Berry and Swimme for educational programs in an urban setting, their work with the 'Return of the Kingfisher Festival' suggests that encounters with the more-than-human are possible in all settings – from the urban to the bush – and that inter-subjective experience is not excluded in this regard. The recommendation to work with all six modes of adoption is based on the finding that when one mode of adoption becomes dominant it can overshadow or even exclude others. A one-sided approach to the work of Berry and Swimme threatens to undermine its underlying richness and can lead to misrepresentations of the work as a whole. This applies to approaches that put too much of an emphasis on 'Sustainability', and applies equally to approaches that give too much weight to the 'Metaphysical' or 'Auto-poetic'.

12.2 The matter of language

Finding a neutral way to express this work is particularly important for secular contexts. The words 'spiritual' and 'sacred' clearly have negative connotations for some people and it may be necessary to look for alternative language. On the other hand, it may be necessary to remind people that terms such as 'cosmology' do not belong to any particular cultural tradition. Sometimes it is easy to avoid language that might alienate some audiences but sometimes it is hard to find alternative language and it may be necessary to explain the use of terms that can alienate.

This research showed that complex ideas can sometimes be captured best in images or in creative writing forms. Dry, academic language is not appealing to many audiences and more creative forms of presentation and adoption may work in some settings. Perhaps a combination of different forms of presentation and adoption will help to engage a diversity of people even when they are participating in the same educational experience.

12.3 'Real Education': Blending sustainability with cosmology

Outcomes from the CERES case study signified very strong participant interest in providing 'real education' and 'hard science' (CERES 1, 3, 5). Swimme's scientific work (2003a, 2006) could satisfy these desires if Swimme's scientific credentials are

appreciated and if there is an openness to consider a dialogue between scientific and metaphysical ways of knowing. Certainly Berry and Swimme intend their work to have practical relevance for the ways in which we live in our world and any distortion of their work in favour of the metaphysical misses this crucial point. It is important to balance a concern with practical sustainability with the bigger and deeper notions of cosmology. The notion of inter-subjectivity promises to underpin a much deeper ethic of care for the non-human than one-way relationships.

12.4 The matter of urban contexts

The experience of CERES suggests that organisations operating in an urban setting face greater challenges for phenomenological encounters with the more-than-human than those that provide a bush setting, such as Glenburn. However, CERES itself has a proud record in introducing city-dwellers to the non-human forms of life that live within our cities. It may take more effort and imagination to facilitate encounters with the more-than-human in an urban environment but CERES has shown that this can be done. In this sense, CERES has an approach to the more-than-human that could be enhanced by an engagement with the work of Berry and Swimme.

12.5 Simplified and abbreviated approaches

Obviously people who have more time are more likely to be able to access the complexity of the work of Berry and Swimme in more profound ways. However, not everyone is in a position to dedicate themselves to advanced or even medium immersion levels in this work. For this reason, it is important to think of ways to introduce the work that makes it appealing and enticing. This thesis suggests that it is possible to pick out particular ideas or themes from the work of Berry and Swimme that facilitate, rather than foreclose, a deeper level of engagement for those with the time for it. Of course, it is important that introductions or condensations of the work do not violate its integrity – but that can be seen as a challenge rather than an impossible constraint.

The research found that some efforts to introduce the work of Berry and Swimme to novices or to people with limited time did not work. However, the research did come across some promising experiences with the work that could be amplified. In particular some novice participants in Category 1 were able to gain an appreciation of the work and its potential. Furthermore, there were enough positive experiences on

the part of participants in Categories 4 and 5 to suggest ways of introducing the work in different settings.

12.6 Working with the ideas for secular social contexts

CERES participant 3 spoke of knowing ‘something about the things that are effective and work’ for a secular social context, concluding that often they are the ‘simple things’. Others expressed their openness and enthusiasm for ‘hands-on’, ‘groovy’, ‘funky’ or ‘science’ approaches or versions of the Universe Story (CERES 2, 3, 4, 5). Although CERES was explicitly averse to mystically-toned interpretations of the Universe Story, the institution is implicitly trying to achieve some kind of cosmological awareness. The following ideas are derived from comments made by some of the research participants or from the reflections of myself as the researcher.

Worldviews:

- ◆ Explore engaging and simple ways of talking about what worldviews are.
- ◆ Create a way of talking about evolution from embodied experiences that avoids focusing on the existential aspects of the work and religious or metaphysically based language. The focus of this could also be on exploring science that interprets the world subjectively as a worldview.
- ◆ Recognise that people from secular Australian social contexts may want to draw upon their own worldview and lifeworld experiences, and keep possibilities open for those who may want to explore this. Be sensitive to the possibility of people having an aversion to what they see as ‘evangelism’.
- ◆ The matter of ‘story’ may be problematic for people in some social contexts. Perhaps an approach along the lines of ‘narrating our own lives as being part of life of the universe’ may be a more useful entry point for some.
- ◆ Find secular ways to talk about the impersonal forces that lie behind phenomenal life.
- ◆ Start with the big picture context can be problematic for people. Explore the option of offering people more frequent movement between global, local and micro-contexts.
- ◆ Be mindful of how much emphasis is given in any one session to explicit consciousness building.

Interpreting the world as subjective

- ◆ Helping people to see that subjectivity is, in a sense, a focus that allows us to cut through to the immediacy of life.
- ◆ Implicitly emphasising that this work is not a denominational spirituality. It is work concerned with our subjective inner worlds, in reciprocity with the subjectivities of the outer larger living world.
- ◆ Clarifying and bringing particular focus to what subjectivity is, in both implicit and explicit ways.
- ◆ Offering embodied experiences of subjectivity in implicit and explicit ways.
- ◆ Clarifying, when appropriate, that this work is concerned with blending religiosity and science, and that while this is resonant with mysticism, it is not mysticism. Explore this in implicit and explicit ways, depending on the social context.
- ◆ Clarifying that this work is concerned with seeing into the genetic nature of reality.
- ◆ Avoiding the 'wow factor' (Goodenough, 1988) that takes the work away from everyday, lived realities.
- ◆ Helping people become clear about living a personal journey within a larger 'universe' journey.
- ◆ Recognising that embodying a poetic relationship with life may not be for everyone. It may be that focusing on 'a feeling for life' is what helps some people.

Science

- ◆ Exploring science in ways to reach people more simply. Helping people become inspired by the idea and experiences of science as being one way of seeing the world.
- ◆ Helping clarify for people, in a diversity of ways, what subjective knowledge is. Perhaps a starting point for breaking down the complex nature of this might be to speak of 'subjective knowledge' as science that interprets the world and life as subjects.
- ◆ Subjective knowledge can be thought of as an inner way of knowing.
- ◆ Exploring appropriate notions of 'religious naturalism' (Goodenough, 1998).
- ◆ Recognising that exploring self-organising life intelligence (Prigogine, 1959) in everything at a molecular level may be beyond many people's epistemologies and scientific understandings. Exploring approaches that

employ 'story science' (Goodenough, 1998) may be helpful in reaching these complex ideas in more simple ways. It may be important to help people realise that they do not have to remember the science they learn as it is 'storied' and experienced by them.

Larger living world

- ◆ Explore notions of non-human beings as individuals.
- ◆ Explore ways of reaching 'other ways of knowing'.
- ◆ Explore the notion that non-human beings are not there to fulfil human needs or to fulfil any philosophy that make them useful to humans. They are there as they are, i.e. explore 'is-ness' (Goodenough, 1988). This point could be placed in an historical context, for pedagogical exploration to demonstrate that we are at a point in history where humans have often pushed non-human beings into unliveable spaces. We are now responsible as a species to restore the biological Earth for all life.
- ◆ Try to capture in various forms embodied experiences of the biological world's subjectivity. This is possible in urban settings. Help people to embody this in ways that are not confronting to them.
- ◆ Find creative ways to encounter the non-human in urban settings.
- ◆ Explore ways that bring attention to the human being as a single species in non-threatening ways.
- ◆ Discern contexts in which to use 'Earth ethic' and or 'cosmological ethic'
- ◆ Develop ways to encourage people to embody what they have experienced in their own backyards.

Embodiment

- Encourage people to be inspired by engaging with hands-on sustainable living practices. Note: interpreting 'sustainability' ought to be understood as living the work in other ways.
- 'Sustainability' needs to be defined in the context of this work as facilitating the Earth community so that all life may flourish in the radical sense.
- Use the garden as a catalyst for wonder and for experiencing the mystery of inter-subjectivity.
- Learn to let things be – doing no more with the landscape than one needs to
- Encourage people to experience stillness and cultivate compassion in the garden.

- Encourage family beginnings in the garden and looking at the stars.
- Help people in their personal lifeworld transitions from ‘religion to religiosity’ contexts.

Inner ways of knowing

- ◆ Explore ways of helping people deal with the limits of scientific thinking as they will experience those limits in their own.
- ◆ Be open with people about cultivating a ‘beautiful mind’, one that values the art of living, compassion and care for all life.
- ◆ Explore ways of helping people be clear that valuing your own inner ways of knowing is not about winding back into yourself in culturally immature ways, but to engage in ways that expand yourself from small self concepts, because ‘who we are is beyond individualism’ (Swimme, 1996a, Lecture 1).
- ◆ Bring focus to human groups, to decide what it is to be human and discuss what humanity is aiming for.

12.7 Communicating the work in a variety of ways

A significant outcome of this thesis is the finding that facilitators of this work need to see themselves as multi-dimensional, rather than narrowly focused, educators.

This applies to the contexts in which the work can be undertaken as well as the pedagogies used. The following is a suggestion for different ways of working with the ideas of Berry and Swimme.

- *Visual and conceptual:* This approach suits people who mostly like to read and conceptualise. This group may have educated backgrounds or be self learners, and tend to respond to various epistemologies. People from this group are more likely to reach the profound depths of this work.
- *Experiential Outdoors:* This approach suits people who naturally respond to hands-on local/global practices, sustainability blended with cosmology, and Earth science focuses.
- *Indoor:* This approach suits people who naturally respond to creative approaches and who engage best when they can express themselves, for example, through media, visual art, poetry, developing radio programs and design.

- *Funky:* This approach suits people who may enjoy implicit or unconscious informal learning engagement through activities such as festivals, wall art, garden design, cartoons and animations.
 - *Subjectivity focus:* This approach would suit people who respond to sensate engagement with subjectivities of the more-than-human world and non-human animals.
 - *Humane education:* This approach would suit those who want to draw on notions of this work on the basis of equity issues such as homelessness, racial discrimination, youth, animal advocacy to help soften prevailing human consciousness in ways that promote equity and corporate responsibility.
 - *Human lifeworld:* This approach associates being in contact with the more-than-human world with a ‘spiritual’ discipline focus and a means by which to focus and enrich their own spiritual progress or experiences, for example, through contemplative means.
- Sustainability:* This approach is aware of the more-than- human world, but may not necessarily be conscious that humans are deeply embedded in it. This may appeal to people who are aware of the importance of ‘taking care’ of the world around them without taking on the more challenging aspects of inter-subjectivity

13. Insights taken from other theorists

Providing people with practical ways to embody mutually-enhancing relations was found to be a limitation in Berry’s and Swimme’s work. Weston’s work presents a useful model to address this. It offers tangible ways to enact respectful reciprocity with other-than-human life in everyday ways. Berry and Swimme intend their work to reach people in everyday ways, however this thesis found that it contained little or no practical applications. The absence of clear and tangible ways to embody their work was at times confusing for people. In advocating a ‘pedestrian wild ethics’, Weston introduces the notion of a ‘more-than-human zone’ that requires conscientious planning and commitment to restore more liveable spaces within human settlements for non-human beings and their kin.

Freya Matthews' work also offers some concepts and ideas that may give people more direct points of entry into the kind of cosmology advocated by Berry and Swimme and her key interest is in making such ideas relevant to people living in cities. Matthews is particularly interested in how people relate to particular places within their world and her emphasis on 'reinhabiting reality' might work better for people who are not comfortable with religious or mystical language. Matthew's does not adopt a big evolutionary framework and her work focuses on the realities of the here and now. However, it could provide an entry point into notions of coexistence that fit within the broader framework of Berry and Swimme. Matthews insists that a deep understanding of coexistence is available to city-dwellers, even those who live in highly 'developed' inner urban regions. Neither Weston nor Matthew's undertake work on the scale of Berry and Swimme but they both provide entry points that can make the work of Berry and Swimme seem more relevant.

While Berry and Swimme aim to evoke people's sensitivities to other ways of knowing wherever they are, this thesis found that some people who encounter their work do not recognise this particular aim. This may result from the incorrect suspicion that the work is embedded within particular religious traditions but it may also reflect the fact that Berry, in particular, uses language that betrays his training as a Catholic priest. Freya Matthews and Val Plumwood work with the secular language of western philosophy. Matthews and Plumwood also share an interest in embodied experiences of the more-than-human world with a particular emphasis on personal sensitivities and perceptions. Plumwood writes frequently about what a person can learn by patiently observing nature at work and from this she builds the notion of inter-subjectivity that is core to the work of Berry and Swimme. Plumwood also has a more secular interest in experiencing the materiality of Planet Earth while she insists that this can enhance a sense of reciprocity and respect. While Plumwood has been a fierce critic of many mainstream western philosophers, her eco-centric writing may be less confrontational than that of Berry and Swimme for people who avow the merits of secular thinking. While Plumwood insists that non-Indigenous Australians need to be open to the spirituality embedded within Indigenous cosmologies she does not insist on using terms such as the 'bio-spiritual'. While Matthew's focuses on the practice of walking to reconnect with the more-than-human world, Plumwood's work tends to be more abstract. Furthermore, much of Plumwood's academic writing is rather dense and not particularly accessible for a wider readership. As with Berry and Swimme, the work of other theorists may need to be compressed and interpreted for use in educational programs.

Given that this thesis was concerned about ways of applying the work of Berry and Swimme in Australia, it should be noted that Freya Matthews and Val Plumwood both write with a deep sense of being embedded within Australian landscapes and ecosystems. The thesis has not found any reason to think that the work of Berry and Swimme cannot be related to an Australian context, but Matthews and Plumwood make it clear that the entry points need to be real and local.

Goodenough's work is probably more accessible than that of Plumwood and it has the merit for religious sceptics of being more grounded in natural science. Goodenough aims to marry biology with aspects of cosmology. She shares with Berry and Swimme the idea that cosmology can be approached from a biological perspective, but she is more explicit in this aim. While Swimme has a strong grounding in Earth sciences, much of his work has a strong metaphysical flavour that is not as apparent in the work of Goodenough. Goodenough approaches the topic of religion as a biologist and this may provide a more congenial pathway, for some, in rethinking the relationships between science and religion. Swimme's work is infused with notions of awe and some may be overwhelmed by his overt enthusiasm. By comparison, Goodenough is more measured and a little more neutral in her tone. Goodenough can provide a pathway towards the work of Berry and Swimme because she argues that science and religion can work together.

Mitchell Thomashow also adopts more secular and neutral language in his big picture approach to the place of humanity within the biosphere. Thomashow aims to help people develop a newfound respect for life on Earth by working with the notion of the biosphere and this may be easier to understand than the complexity of the Universe Story. Thomashow told me that he does not think that cosmological approaches will work in a modern and predominantly secular world and, unlike Goodenough, he avoids religious discourses entirely. Thomashow's approach of being more sensitive – through conscious and prolonged engagement – to the more-than-human world in which we are embedded may appeal more to some than the big picture approach of Berry and Swimme but he does not provide an explicit bridge to the work of Berry and Swimme. Thomashow's writing may be more accessible than the combined work of Berry and Swimme but his approach to engagement is also constrained by the fact that it requires considerable time and effort.

Ursula Goodall and Marc Bekoff share the interest of Berry and Swimme in inter-subjective engagement between humans and non-humans but, rather than focus on

human inadequacies, they begin by focusing on the other beings in the relationship. A lot of ecological restoration work, they suggest, brings people into a close working relationship with non-human life and fascination can eventually grow into respect and empathy. This is a less confrontational way of thinking about human responsibility for non-human life and it could be the entry point that is absent from the work of Berry and Swimme. They focus on the subjective, emotional, and moral lives of animals and show that animals are much more capable of empathy than many humans imagine.

Goodall's and Bekoff's ways of becoming familiar with other ways of knowing may also help transcend the notion of nature as a static resource for human use. This offers a fairly indirect pathway towards an understanding of human obligations towards non-human life but it may be palatable to people who are likely to be overwhelmed by the complexity of the approach taken by Berry and Swimme. Goodall and Bekoff echo some of the work of Val Plumwood in becoming more attentive to the lifeworlds of non-human beings. According to Plumwood, attentiveness to others can encourage us to 're-imagine other kinds of minds' without imagining that humans are outside the web of life. Freya Matthews describes such encounters as being a form of psychic intersubjectivity.

All the theorists discussed in this thesis share an interest in the story of evolution. Where they mainly differ is in the ways to experience that story. Berry and Swimme offer the biggest framework of them all, but this thesis has found that it lacks the kinds of entry points that can be found in the work of Weston, Matthews, Plumwood, Thomashow, Goodenough, Goodall and Bekoff. Goodenough and Thomashow may appeal most to people with a strong interest in science, while Matthew's and Plumwood may appeal most to people with an interest in philosophy. Plumwood, Goodall and Bekoff share an interest in intimate encounters with non-human beings and Plumwood pre-empted some of the findings of this thesis by focusing on creative ways of communicating such experiences.

It was surprising to find that some people interviewed for this research resisted the idea that the meaning of life could be captured in the form of a story. This may have reflected a resistance to the notion of Universe Story in particular rather than stories in general and if this is the case Goodenough's use of the term 'Epic of Evolution' may be more appealing.

This research was not able to test reactions to the work of theorists other than Berry and Swimme. However, it suggests that the work of Berry and Swimme might be made more accessible by drawing on some of the entry points into the story of evolution that can be found in the work of others. This is a proposition worth testing in practice.

Appendices

Appendix 1: Survey

Circle the response that you think best describes your opinion or belief

1. **Feeling kinship with non domesticated animals, like possums and birds that live around me is difficult to achieve.**
2. **Humans learning to 'house share' with spiders and insects. (Who aren't dangerous or invasive) is a good idea for the health of the planet.**
3. **Respecting other species and insects as having their own communities, needs social structures is a hard thing to do.**
4. **I notice the patterns of nature around me in the places of my everyday life (e.g. Cities, streets where I live)**
5. **I have notices the mood of the birds in trees near my home**
6. **I notice the subtle detailed changes occurring in nature around me.**
7. **I see it as essential to realize myself as a part of the great story of evolving life.**
8. **It's essential for children to wonder at the stars and imagine the evolution of the galaxies and life on earth for the health of the planet.**
9. **Indigenous people learnt from animals. It's harder for modern people to do that.**
10. **When I see picture of the earth and universe, it makes me want to look after the planet earth.**
11. **Thinking of the big picture of the Universe makes me feel uneasy**
12. **Changing laws and regulations is the only way big changes for the natural world will happen.**

Strongly agree

Agree

Disagree

Strongly disagree

How much do you know about...

1. **The social lives of animals.**
2. **The conditions wild animals need to survive.**
3. **The importance of wild animals to the health of living system**
4. **The emotional lives of the 'domesticated' animals I live with (e.g. cats, dogs)**
5. **The wildlife that shares the land around where I live**
6. **The story of the universe**
7. **Criticisms made of human centeredness**

A lot

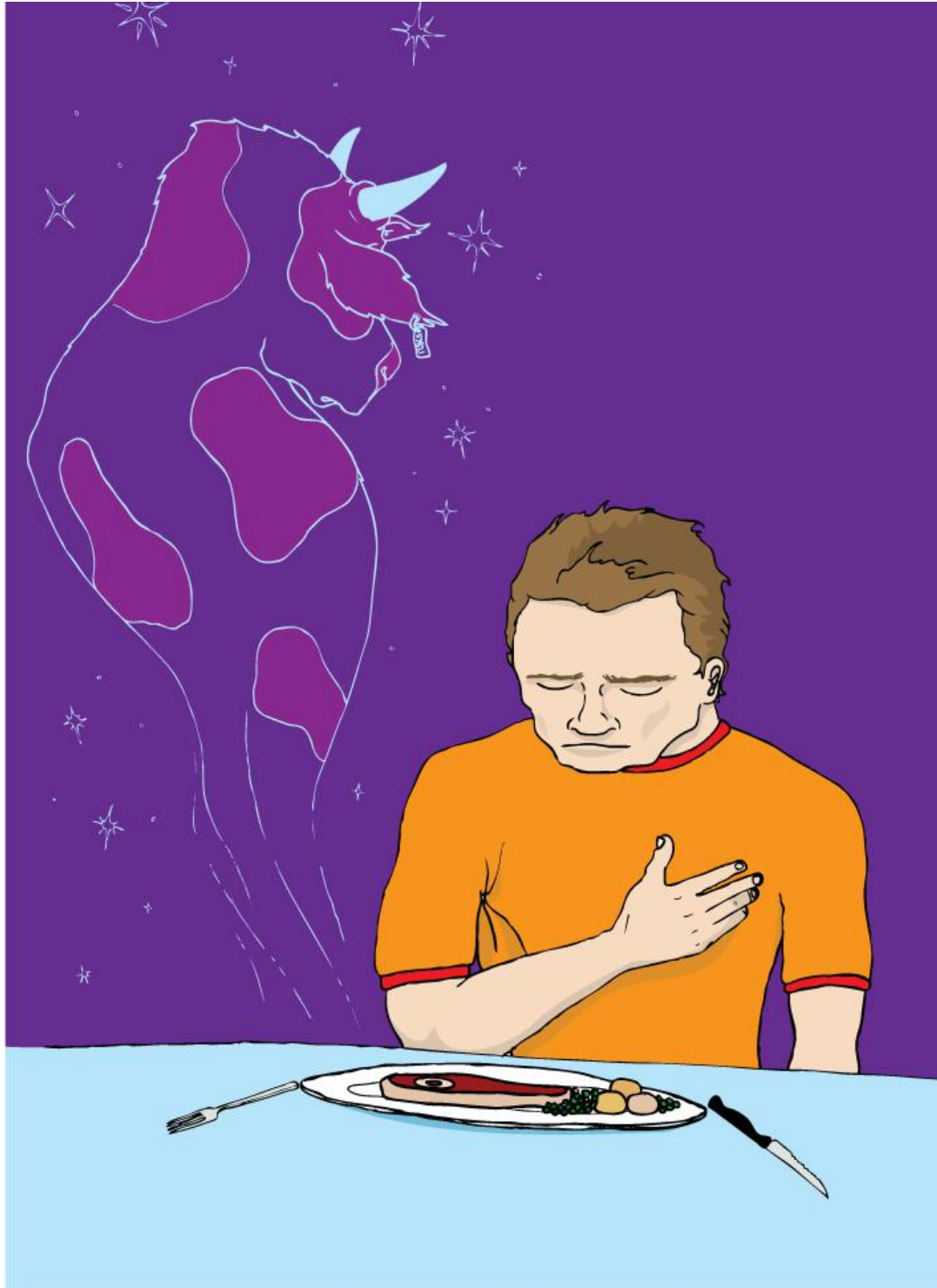
A fair bit

No opinion

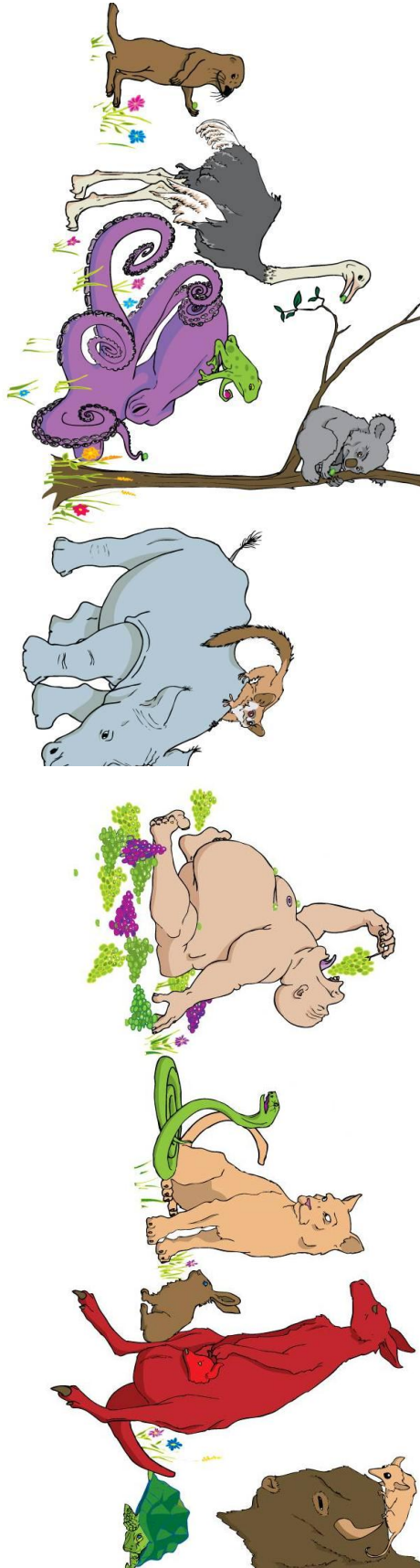
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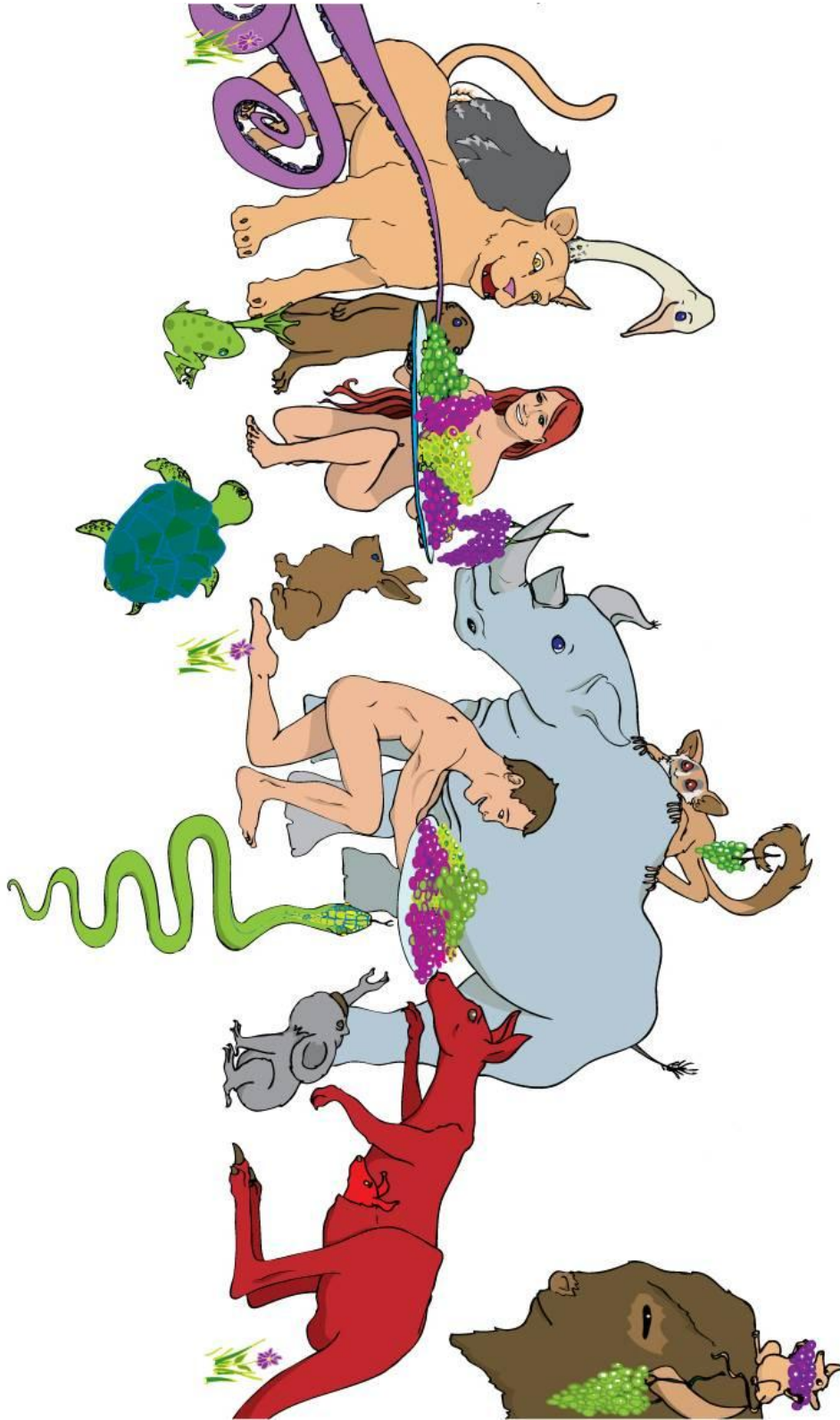
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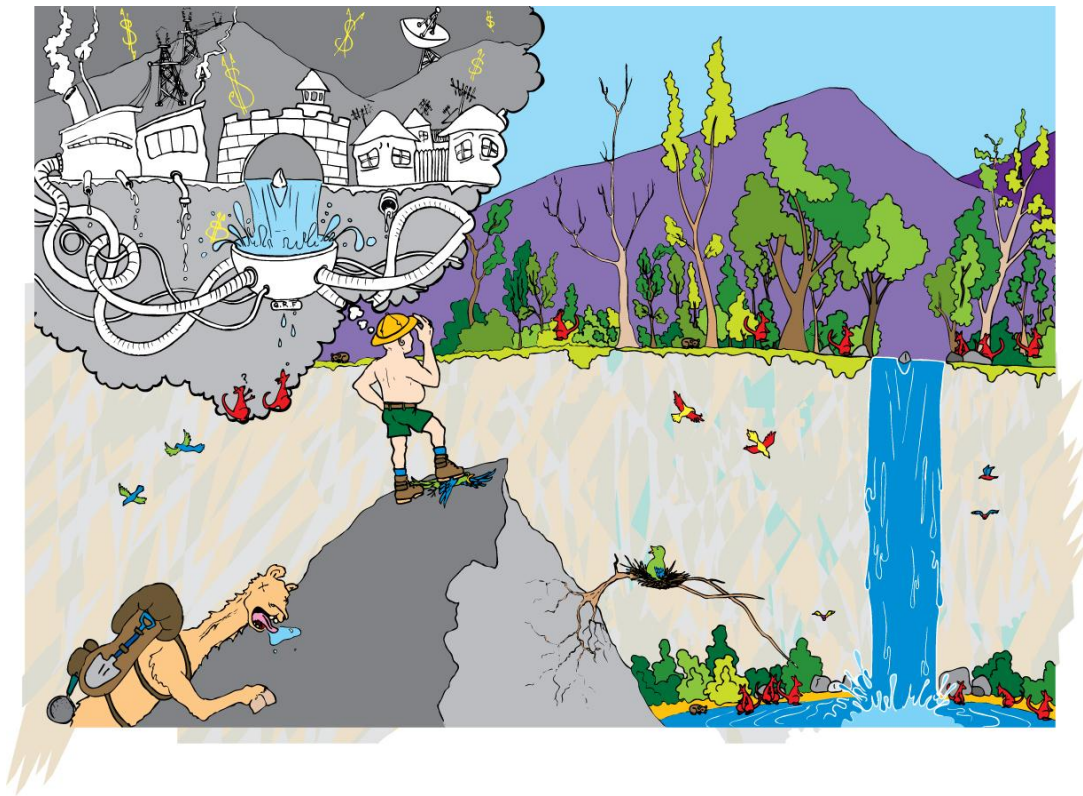
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Appendix 4:



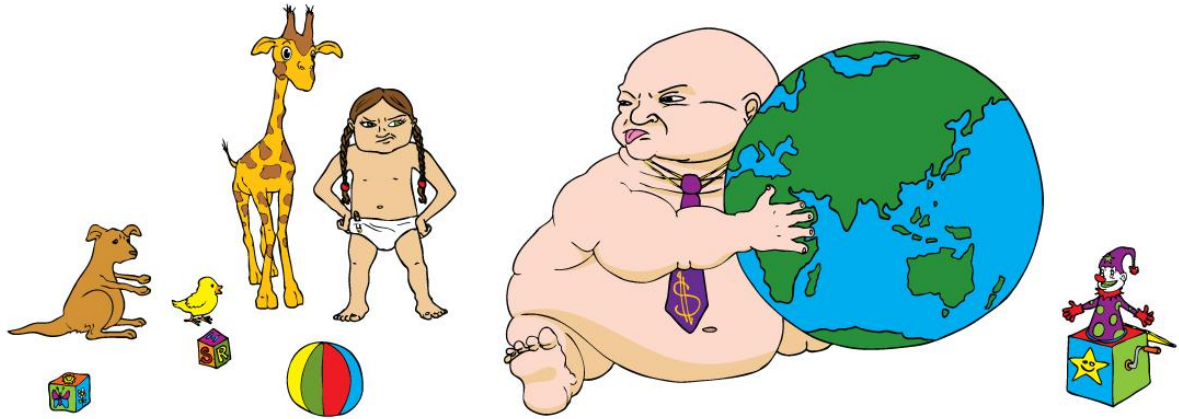
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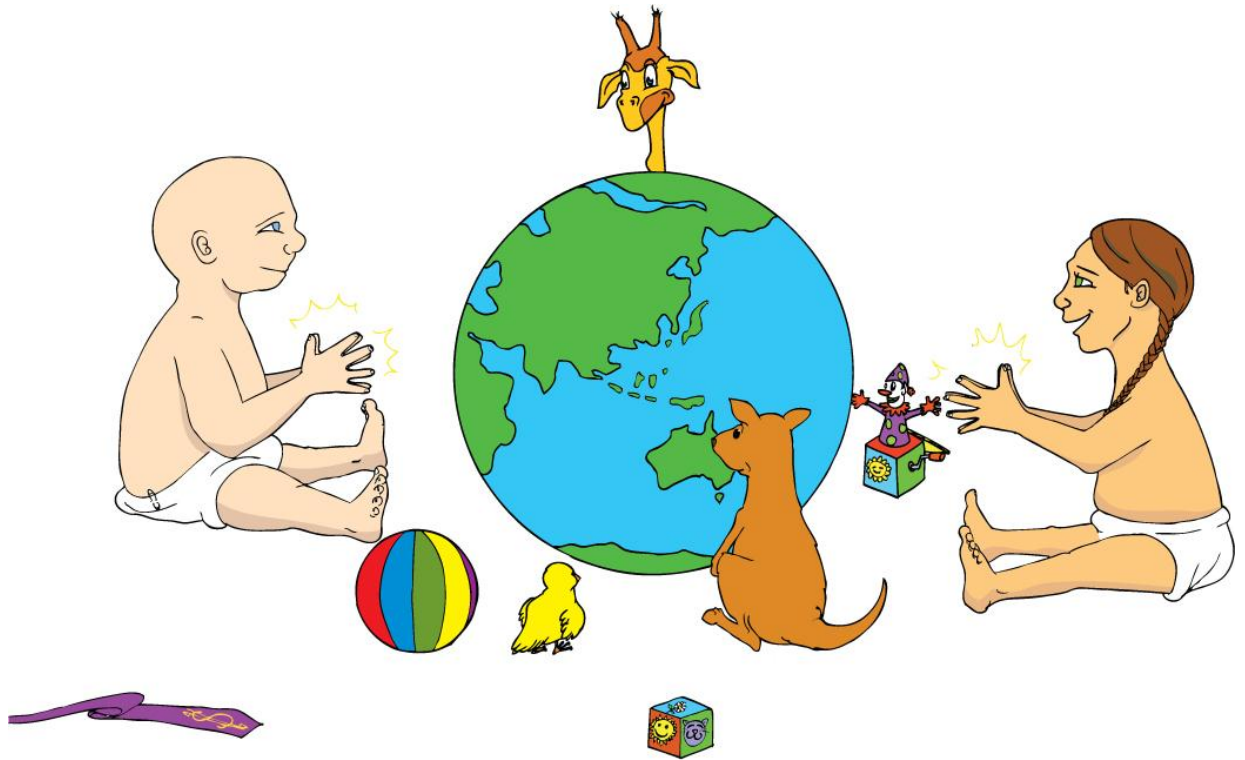
Appendix 6:



Appendix 7:



Appendix 8:



Appendix 9: 'Place holder'

Appendix 10



Appendix 11: 'Place holder'

Appendix 12: 'Place holder'

Appendix 13: 'Place holder'

Appendix 14: 'Place holder'

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