DIVINE AND HUMAN CREATIVITY

AND

THE BLESSING AND CURSE OF FOSSIL CARBON

A Thesis Submitted to Charles Sturt University
for the degree of Doctor of Philosophy

by

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Certificate of Authorship

I hereby declare that this submission is my own work and to the best of my knowledge and belief, understand that it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

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Name     Thomas George Emeleus

Date

Signature
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Abstract

The purpose of the thesis is to develop a theological response to the ambiguities of our reliance on fossil carbon. This response is placed within broader Christian responses to global issues exacerbated by climate change. In the first part, a science-theology conversation and public theology frame the response. The second part brings Biblical and theological themes to issues which cluster around climate change.

The sevenfold growth of human population over three hundred years correlates with the rise of industrial-scale use of fossil carbon and of modern science. Science has become widely regarded as a sufficient explanation of the existence of the universe and all in it, making it necessary to explore the often fraught history between theology and science. Today, older deterministic scientific models are giving way to probabilistic models, with complexity and emergence becoming an integrating theme across sciences and humanities. It is argued that complexity and emergence is a productive basis for a science-theology conversation in which each is open to the possible and the unknown. A science-theology conversation is developed using this approach and it shapes arguments throughout the thesis.

In scientific narrative, humankind emerges as part of the evolving universe. A ‘deep’ theology responds by finding humankind formed in the image of God by the creative processes of the evolving universe. Scientifically, humankind is related to all life and creation in the depths of creative process. Theologically, Jesus incarnates the Divine Logos and Cosmic Christ, who relates all to God through creation and new creation. ‘Deep’ theology resists dualism which diminishes human relationship to and responsibility for the future of the Earth-environment and all creatures with which we share it.

Our dependence on fossil carbon is a direct result of the benefits it brings, but its ongoing use is driving potentially catastrophic climate change. A theological response to this ambiguity is made using biblical themes of blessing and curse. The contest between forces resisting de-carbonization and those working for it are explored using Biblical themes of prophecy, including denial and living in denial in face of existential threat.
Climate change is of major public concern, making a theological response part of public theology. The church is part of the theologian’s public. Enabling church membership to relate faith to immediate questions such as use of fossil carbon is then part of public theology. Participation in public life as expression of Christian discipleship may be seen as Christopraxis, or participation in Christ’s presence in the world. Theology which finds Christ in the depths of all creation also finds Christ present in the suffering inherent in evolution processes, and in the suffering caused by human activity. Christ is redemptively present in truth-telling and reconciliation of relationships between people, people and all creation, and all with God. The resurrection of Christ brings hope for all creation, allowing visions which go beyond scientific future possibilities. It offer hope against hope, even if fossil carbon reduction is too little and too late and the worst case scenarios of climate change eventuate.
Preface

My interest in developing this theological response to the ambiguities of our dependence on fossil carbon arose from a number of observations. In the public domain, discussion of fossil carbon use tends to be polarized. The warnings of climate science now are heeded to the highest levels of world politics, making decarbonizing of the global economy a topic of urgent global concern.¹ In contrast, there are still advocates for ‘business as usual’ use of fossil carbon, arguing that it is essential to ongoing growth of developed economies, to global development and to relief of poverty.² Typically, these advocates deny the validity of predictions of climate science, and may even deny that fossil carbon use causes climate change.³ A similar mix of acceptance and of denial is present in Christian churches.⁴ In the thesis I use the biblical themes of blessing and curse to explore this tension between the undoubted transformative effects of fossil carbon use, and the dire threats posed if its use continues unabated. I aim to address how Christian faith may be interpreted and Christ’s influence imagined all the way from the coalface of climate change action right out to hope which transcends the worst that climate change may bring. The readership which I have in mind for future work derived from the thesis is the sort of people I meet with in Australian Christian churches.⁵

When people deny, or live in denial of the causes and consequences of climate change, it suggests an ambivalent, poorly integrated approach to science. Climate science is then held at a distance from the complex mix of beliefs and motivations that guide everyday life. In my experience, the liturgies and teaching of churches rarely

⁵ Mostly, but not exclusively, Anglican and Uniting Churches
address ways in which science and Christian faith may inform and enrich each other. Those who regard each of science and Christian faith as of central importance in understanding and living in today’s world then find that their church culture treats Christian faith and science as separate, barely interacting concerns. Deborah Guess succinctly observes that:

if the Christian worldview is strongly incompatible or inconsistent with current scientific knowledge and theory then Christian thought will fail to engage with some of the most trusted understandings available to it and the plausibility of Christian claims will be called into question.\(^6\)

For some Christian believers, there is an even deeper problem: not only is the science of climate change regarded as suspect, but so too is science in general. In its starkest form, the question is still asked, “How can you believe evolution and the Bible?”\(^7\) This question typically reflects belief that cosmic evolution, including biological evolution, is an exclusive alternative to divine creativity. Cosmic evolution, in the broad sense of how the universe and everything in it develops over time, is a central integrating theme for scientific understanding of ourselves and the world we live in. Climate change is a local, but for us a seriously threatening example of evolution and those who ask this question are unlikely to see scientifically informed understanding of climate change as relevant to their faith.

In writings on ecotheology the main structure and findings of science typically are assumed and become part of the context to be interpreted by Christian faith and tradition. Imagining God in ways coherent with a scientifically informed age is explored in separate science-theology literature.\(^8\) In some theological writing which is concerned with climate change, the climate science and its implications is explained at some depth.\(^9\) However, the fundamental issue of belief in God in a scientifically


\(^7\) Answers in Genesis. http://www.answersingenesis.org/ (accessed 15/02/2016)


\(^9\) e.g. Sean McDonagh, *Climate Change: The Challenge to All of Us* (Blackrock: Columba Press, 2006). McDonagh’s work is one example of the need to encourage informed discussion of climate change in churches. Clive Pearson observes that “The letter columns in denominational newspapers are often littered with a mix of scientific scepticism concerning climate change and theological suspicion. One of the audiences for a public theology is to talk back into the churches and handle the internal debate as well.” Clive Pearson, “The Purpose and Practice of a Public Theology in a Time of Climate Change,” *International Journal for Public Theology* 4, no. 3 (2010): 360
informed age is a separate concern. Concern for climate change and related issues is well articulated by the social and justice agencies of many institutional churches, but there is still much work to be done in church congregations.

In the thesis, I argue that building robust bridges between theology and science, including climate science, is essential to informed enactment of public theology concerned with climate change. I aim to make a distinctive contribution by first developing and arguing for the coherence of a specific science-theology conversation. This conversation is then used as an overarching way of bringing themes from Christian tradition and doctrine to major issues arising from our dependence on fossil carbon. I have attempted to explain the science in a way accessible to a general well-informed reader, and to interpret Christian theology in a way which may be read as continuous with main themes of Christian orthodoxy. These choices reflect that I have in mind an eventual possible readership of people who participate in the life of churches where expressions of Christian faith remain recognizably traditional.

The science-theology conversation which I have developed draws on literature on science and theology, scientific writing on uncertainty, complexity and emergence and the human person, and on my own professional scientific background. In the last few decades there have been significant new insights into how the new emerges probabilistically from complex systems. In the scientific narrative, life, including human life and culture, has emerged within environmentally constrained possibilities, and continues to do so. In this complex milieu, there are many future possibilities, and human freedom to respond and work towards particular ends is real, even if constrained. These scientifically illuminated themes provide a rich context for theology and

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10 Orthodoxy is a contested term. The meaning I place on it here is informed by the way tradition and doctrine are commonly presented in the mainly Western Protestant and Anglo-Catholic churches with which I am familiar.
15 In physics, applied to geophysics and medical physics.
imagination of God’s presence in and to the world, and provide a general framework within which to interpret Christian theology. A century ago Alfred North Whitehead’s formulation of process philosophy, expanded to theology, anticipated these later scientific developments. Process theology continues to be a productive way of shaping a holistic, integrated view of science and theology. However, the pursuit of integration encounters an inevitable pull to interpret Christian, or any religious tradition, in ways which Jürgen Moltmann describes as “reality accessible to ‘historical science’”. For some people, an approach which does so is the only viable way in which they are able, with integrity, to interpret Christian belief and shape Christian practice. For others, Christian tradition reflects the presence and action of God in ways some of which are accessible to science, and some of which will for ever lie beyond scientific understanding.

In the large body of writing on science and theology, issues under discussion include topics such as history of science and religion, metaphysics, providence, natural theology, evolution and creation, the mind, and critiques of the work of prominent thinkers in the area. The approach which I have taken does not attempt to explore such issues in any detail. Rather, its purpose is to present a readily accessible framework within which a science-theology conversation may be seen as a credible and productive pursuit. This framework emphasises the role of probability in emergence of the new, particularly in biological and environmental evolution and in human culture. Those who have read widely in the area will recognize major themes which I explain or touch on, and those who are less familiar with these themes will find a self-contained way of bringing contemporary scientific thought and theology into constructive conversation.

In the thesis I argue that practical responses to climate change are readily shared by people whose interpretations of Christian faith span a wide spectrum. My purpose is not to pursue integration of science and theology as might be attempted, for example, by using a process theology approach. Rather, it is to allow science and Christian theology

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19 e.g. 20th Century thinkers - Pierre Teilhard de Chardin to John Polkinghorne in ———, *The Blackwell Companion to Science and Christianity*.565-631
each to inform responses to fossil carbon use and climate change in ways which are distinctive but coherent.\textsuperscript{20} To achieve this, I have chosen an approach which I describe as a science-theology conversation. In this conversation, ‘science’ includes the scientific narrative of cosmic evolution, all the way to emergence of humankind, human culture and human impact on Earth. The human enterprise of reasoned understanding of gathered evidence is part of this evolutionary process. Theology is represented by traditions and doctrines regarded as orthodox in the mainstream Christian churches with which I am familiar, but it is interpreted in the context of the multiple issues arising from climate change.

Use of the term ‘conversation’ represents a hermeneutic of respect for difference between the worldviews in which biblical texts and most Christian theological traditions were formed, and today’s scientifically formed world views.\textsuperscript{21} Teleology expressed as belief in God remains a fundamental point of difference, at least as God is imagined and science functions in the conversation. ‘Conversation’ also respects difference in modes of thought and use of language. An example of particular significance is the contrast between truth expressed in human life and story and the conventions of evidence-based ‘truth’ and deduction on which science depends. The possibility of a coherent conversation lies in the intuition that there is more going on than we currently know, much of which will forever be beyond human understanding, and that both science and theology are each accepted as open-ended. This open-endedness allows imagination of God who is both immanently present in and to all creation and who is the transcendent source of ultimate purpose and meaning, reached out to by faith and intuition. This panentheistic (“God in all things”) position provides space within which Christian story, tradition and doctrine may converse with scientifically shaped discourse around climate change. The conversation itself then goes back and forth so that broadly conceived scientific interpretations of how humankind lives on Earth interpret, and are interpreted by, Christian story and theology.

In order for a theological response to fossil carbon use and climate change to be meaningful, an appreciation of the ‘wicked’ complexity of the issues these raise is

\begin{flushleft} \textsuperscript{20} I agree with Alister McGrath’s argument that process theology is unhelpful to dialogue between science and \textit{Christian} theology. Alister E McGrath, \textit{A Scientific Theology: I Nature} (Edinburgh: T and T Clark, 2001).36-41.

necessary. Multiple aspects of what it is to be human come into play, and call for a comprehensive theological response. The response ranges from how belief in God still may be possible in a scientifically informed age to imagining how Christ is present guiding, judging and redeeming practical responses to use of fossil carbon. The field of analysis is as wide as the causes and implications of climate change, and includes science and theology, public theology, biblical studies, ecotheology and theological themes which interpret Christ’s presence and work in the world. The science-theology conversation is maintained as an overarching hermeneutic, but specific themes call for a variety of other interpretive methods.

My choice of fossil carbon as blessing and curse as the focus theme for this response arose from a further observation. In theological writing about climate change, the ecological imperative to decrease use of fossil carbon rapidly and substantially raises many complex issues and rightly attracts extensive theological reflection. In contrast, the role of fossil carbon use in the flourishing of human life tends to be dealt with in a relatively brief way. The history of the use of fossil carbon suggests that many of us would not have been born, or would not have survived, without the scientific and technological transformations it has made possible. I suspect fossil carbon use is so integral to life in much of the world today that it tends to be taken for granted. Possibly as a result, the critical role of fossil carbon in supporting human thriving during the last three centuries has not attracted the theological reflection its importance could justify.

In order to reflect on how fossil carbon has enabled parts of humankind to flourish, while recognizing its ambiguity, I have chosen the language of blessing and curse. It is not hard to argue that ongoing use of fossil carbon is bringing a curse on the Earth, whether curse is used as common language or given theological weight. However, correlations between the rise of industrial scale use of fossil carbon since the start of the industrial revolution, transformative advances in science and technology, and the sevenfold rise in human population, suggest that fossil carbon use has also brought blessing, and continues to do so. The blessings are deeply ambiguous, merging into curse in new and ominous ways as climate change takes hold. Fossil carbon use, as

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blessing and curse, provides a specific focus which has not, to my knowledge, been developed in other theological literature.

The theme of fossil carbon as blessing and curse draws in part on story from the Old Testament, as the blessings of the gift of the Promised Land degenerated into the curse of existential threat, decimation and exile. Parallels are drawn with humankind and climate change, using analogical imagination.23 Ernst Conradie observes that analogical imagination involves much more than drawing analogies. The strategy identifies “something of abiding value in the text that may still be relevant today.”24 The ancient and contemporary stories share the common theme of broken relationships, penetrating to the deepest consciousness of our human relationships, relationships within all creation and relationship to God. In Jesus’ teaching, blessing and woe reflect actions and attitudes consistent with or contrary to the incoming reign of God. In both the Old and New Testaments, covenantal relationship provides an interpretive frame. In each case, relationship with God makes blessing and curse far deeper than common-use descriptions of life going well or badly. Blessing and curse search the nature of relationships to the deepest level of relational imagination, whether we limit it to ecological relationships, or reach out in faith and speak of God.

The theological orientation of this thesis is Christian, so I ask how the person and work of Jesus, interpreted as the Christ, speaks into living responsibly in this time of climate change. Science has exposed the intimate web of relationships which make up the world and all that lives in it. Ruth Page observes that:

> Any theology which dwells only on the difference between human and non-human has missed an important element of the relationship which is mutual. The metaphor of ‘the web’ is correct. Not only is a web a pattern of interconnection, but when one part shakes, it all shakes. Humans are not exempt from this vulnerability.25

Christian theology places Jesus, as God incarnate, within this web, and it also imagines Christ creatively present, creating and sustaining the universe and all in it. The conversation between the science and traditions of Jesus as Christ takes place using a relational ecological hermeneutic in which Christ is present in and to the depths of all

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Conradie emphasises that an effective Christian ecological hermeneutic cannot be confined to creation and creativity. It also must bring central doctrinal traditions about Jesus as Christ to the particular ecological problems under consideration, in this case climate change. I develop an ecologically inclusive version of ‘truth and reconciliation’ to explore soteriology and how Christ may be understood as judging, redeeming and healing the world. The resurrection is the ground of Christian hope and I use the works of N.T.Wright and John Dominic Crossan, separately and in dialogue, to argue that quite different ways of interpreting the resurrection may nevertheless encourage common action in response to climate change. This reflects my own conviction that open-endedness in science and theology discourages exclusiveness, and encourages love of God and loving co-operation with and care for our neighbours, whether human or non-human. Eschatology is interpreted as God’s creative and redemptive presence from the origin to the fulfilment of all things. Within this wide vision, I ask what participation in Christ (Christopraxis) looks like at this time of climate change.

Fear and questioning in face of existential threat has a long history of religious interpretation. In the thesis, I have drawn on biblical traditions of hope and fear when the Israelites experienced siege, conquest and exile under Assyrian and Babylonian conquest, and later, when the early church was shaped by persecution from both its Jewish roots and the Roman Empire. In our times today, war, nuclear threat and now climate change pose existential threats on a global scale. In 1944, writing from his Nazi prison cell, Dietrich Bonhoeffer asked “Who is Christ actually for us today?” After the Chernobyl nuclear disaster in 1986, Moltmann asked “where is Christ after Chernobyl?” The thesis is a response to an updated form of this central question for Christian faith: “Where is Christ in the Anthropocene – this present time when humankind is radically affecting what will survive to evolve into the future?”

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27 Conradie, "What on Earth is an Ecological Hermeneutic?" 296
28 I am not aware of an ecological interpretation of ‘truth and reconciliation’ in other theological writing.
30 Jürgen Moltmann, Jesus Christ for Today's World (Minneapolis: Fortress, 1994)89
disciplinary approaches are emerging.\textsuperscript{31} Imagining Christ in the Anthropocene brings Christian theology into conversation with this scientific and sociological complexity.

Our dependence on fossil carbon is a major, immediate issue in shaping the Anthropocene. In summary, this response to the ambiguities of our dependence on fossil carbon does not fall neatly into any particular area of theological study. It aims to draw together a wide range of threads – including science and theology, public theology, biblical studies, and ecotheology – in a way which provides a coherent whole. In so doing it attempts to provide a fresh and wide-ranging approach to two fundamental questions in enactment of public theology in relation to climate change: “Has Christian theology (or any theology) anything relevant and distinct to say to those who live in cultures primarily informed by science?” and “How may Christian faith, across a range of interpretation, inform and encourage people of faith who are concerned about climate change?”\textsuperscript{32} It provides a theological framework in which to react to the globally urgent problem of how to reduce dependence on fossil carbon, while recognizing its historic and present importance in human flourishing. It is orientated towards enactment of public theology on climate change, from the spoken words of prominent church leaders through to theologically informed decisions and action by individuals and communities.

\textsuperscript{31} Potsdam Institute for Climate Impact Research, "Earth Systems Analysis - Research Domain 1," https://www.pik-potsdam.de/research/earth-system-analysis. (accessed 12/03/2016)

\textsuperscript{32} Within churches, “eco-mission” already is enacted in a wide variety of ways. See, for example, Clive W Ayre, \textit{Earth, Faith and Mission. The Theology and Practice of Earthcare} (Preston Vic.: Mosaic Press, 2013).
Part 1

Christ and Coal:

Framing a theological response to the ambiguity of our reliance on fossil carbon
Chapter 1

God, Science and Global Warming

1.1 Stating the Argument

The purpose of this thesis is to develop a theological response to the ambiguities of our reliance on fossil carbon\(^{33}\). As greenhouse gases emitted by combustion of fossil carbon and cement manufacture are the largest driver of climate change\(^{34}\), this response is an integral part of grounding responses to climate change in Christian faith. Climate change is a global phenomenon with global implications and, although Australian examples and illustrations are used, these are situated within that larger context.

Writing from within Australia, the ambiguities of reliance on fossil carbon are confronting and highly politicized\(^{35}\). The synods of most major churches have endorsed or issued statements which identify fossil carbon use as the largest single cause of climate change, with expressions of concern about Earth-care and social justice consequences. However, at congregational level church membership is as divided as the public in general\(^{36}\). Surveys typically show that a majority of Australians believe climate change is happening. However, less than a third of those surveyed are convinced that use of fossil carbon is a major cause\(^{37}\). Theologically, connections between our dependence on fossil carbon and Christian faith and tradition are rarely made. Speaking of Christ and coal in one sentence is likely to be met with incredulity.

In Australia, reliance on fossil carbon is much more than its embedded use as the major energy source and its importance in metallurgy and concrete manufacture.

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33 Fossil carbon includes coal, oil, gas and carbonates.
34 My reasons for assuming that the present phase of climate change is anthropogenic, with greenhouse gases derived from fossil carbon a major driver, are set out in Appendix A.
35 In 2012, Labor under PM Julia Gillard introduced a price on carbon. The opposition under Tony Abbott portrayed this price as a tax, and repeatedly referred to it as “the carbon tax” when attacking the government. In 2014 the Abbott government repealed the price on carbon.
Extraction, onshore use and export of fossil carbon are a major part of the economy. Although Australian climate scientists and most other scientists share the world-wide scientific near consensus that fossil carbon use is causing climate change, there is denial and effective denial present at the highest level of politics.38

World-wide, and in Australia, reliance on fossil carbon has proved to be both a blessing and a curse. The sevenfold increase in global human population in the last three hundred years and radical transformation of how parts of humankind live may be read as a blessing. This blessing is foreshadowed in the primal blessing of Genesis 1:28: “Be fruitful and multiply, and fill the earth and subdue it”.39 The large population increase in recent centuries and improved living conditions for parts of humankind correlate with rapid developments in science and technology, supported by industrial-scale use of fossil carbon. The benefits of fossil carbon use are offset by its misuse for destructive purposes, and the environmental degradation it causes. Climate change is the most recent and most ominous sign of how reliance on fossil carbon may be read as a curse. Climate change also is a symbol of the wider ecological problem of violated relationships between humankind, non-human creatures and the earth-environment. Theologically, the destructive dimension of fossil carbon use not only is violation of relationships within creation; it also is violation of relationship with the Creator. Understanding of ecological relationships is grounded in scientific work, so a theological approach to our reliance on fossil carbon needs to be in conversation with the scientific paradigm.

As science has probed ever more deeply into the universe and the physical basis of life, it has become widely regarded as a sufficient explanation of the universe and all in it. For many people science has assumed a central role in meaning-making as well as being the basis for understanding and responding to climate change. Because of the cultural and practical centrality of science in much discussion on climate change, this

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response to our reliance on fossil carbon brings theology into conversation with science. In order to develop the conversation, it is first necessary to explore the often fraught history of encounter between science and theology. It is also necessary to bring to the fore contemporary ways in which it is remains possible to have a coherent and productive science-theology conversation. In the next section, a conversation of this kind is identified and developed and it continues through the thesis. Science and theology together are used to interpret the emergence of global warming, consequent climate change, and the multi-faceted challenges with which these confront us. The ambiguities of reliance on fossil carbon are a recurrent theme within this larger picture.

The science-theology conversation explores how recent insights into complexity and emergence have clarified new frontiers in science and present new possibilities for theological reflection. Complexity and emergence function as an integrating theme across the sciences and humanities, placing all within the story of evolution from the beginning of the universe to the rise of human reflective consciousness and culture. The fatalistic determinism of earlier classical science has been replaced by more nuanced models in which probability plays a greater role. The evolution of complex systems, including all living things, occurs through emergence of new forms from within a range of possibilities. This development encourages science-theology discourse in which each is open to the unknown and the possible. Deism, which imagines God setting the universe in motion and leaving it to unfold according to the laws of physics, is replaced by theology in which God is creatively present in and to all creation as the new emerges from the complexity of what has gone before. Cultural evolution, which is expressed with unique strength in humans, is interpreted using complexity and emergence. Furthermore, complexity and emergence provides a way in which it may be argued that human freedom to choose is real, even if constrained, and so affirms moral responsibility.

Evolutionary creativity expresses divine creativity. The distinctive cultural characteristics which place humankind in a unique position in evolutionary history find parallel in the theological tradition that humankind is created in the image of God. When scientific and theological insights into what it is to be human are brought together, humankind is created in the image of God within the creative processes which shape the universe, and not apart from them. Human culture, including reliance on fossil carbon, is then placed within the ‘deep’ story of terrestrial and cosmic evolution. In that story, humankind is inter-related with all life, and the future of all depends on the
future of the Earth-environment. The ‘deep’ motif used in environmental philosophy also has found use in theology. In theology it contextualizes the relationship between humankind and God within the total scope of divine care and creativity, from the depths of creation through space and time to the depths of human culture and of human hopes and fears.

In chapter 2 the science-theology conversation moves from a general theistic orientation, which imagines how God as Creator is present to and active in an evolving universe, to a more specifically Christian orientation. The distinctive place of humankind within creation then is interpreted Christologically. The theological anthropology developed has interwoven evolutionary, ecological and Christological dimensions. The human Jesus incarnates God in the depths of creation and, drawing on the biblical traditions of the cosmic Christ, Jesus as divine Logos relates all to God through creation and new creation. Jesus’ life and death point to God’s presence to and in all suffering inherent in evolutionary creation, while retaining the traditional emphasis on suffering resulting from human sin and alienation from God. Theology which emphasises Christ’s presence in the depths of all creation resists dualisms which diminish human relationship with and responsibilities within all creation. In Christian theology our relationships to all creatures with which we share the Earth and to the Earth environment itself are rooted in relationship to Christ. The destructive face of fossil carbon dependence is then seen as disruptive of relationship with Christ, with personal and public consequences.

The scientific imperative to reduce radically reliance on fossil carbon has become a matter of global concern and of public debate. The future thriving of life, with deeply embedded issues of justice, is at stake, making reduction of fossil carbon use of direct theological concern. A distinctive theological contribution to public debate on climate change and decarbonisation of the global economy requires theological reflection which goes far beyond traditional dualistic concerns with salvation of souls. Instead, a comprehensive understanding of God’s mission to the world and God’s presence in and to all creation is required. ‘Deep’ theology, in which theological and biblical themes and traditions interpret and are interpreted by scientific understanding, is well suited to the task. At this point it is necessary to consider climate change as an occasion for public theology.
Chapter 3 explores climate change as public theology and presents it as more than participation by theologically informed people in public debate. Climate change as public theology is enacted wherever there is a theologically informed response to climate change, at every level from personal decisions to live in more ecologically constructive ways to participation in global policy-making. There is a particular onus on leadership within church traditions and communities to work with church membership on theology and praxis related to climate change. To do so requires interpretation of biblical story and theological themes in ways which directly relate to climate change. Without doing so, it is unlikely that church members will make connections between theology and the ambiguity of our reliance on fossil carbon. Theology would then seem to have little to say about climate change as a critical issue of personal and public choice and responsibility.

The theological response to our reliance on fossil carbon developed in the thesis draws on biblical story and on traditions of Christian theology. Chapters 4, 5 and 6 address the question of how gifts from God given in order to bring blessing are misused and become a curse. The curse of climate change threatens catastrophe, raising a further question: how do people manage either to deny or live in denial of existential threat? This question is as old as the biblical stories of Israel’s journey to the Promised Land and subsequent exile from it, and as current as living with fossil carbon today. The Promised Land was a gift from God, offered with strong warning that it could be a blessing or a curse. The prophets of the late monarchic period exposed how the gift was being corrupted and the Giver forgotten. False prophets opposed their prophetic messages, giving encouragement to those who wanted to continue ‘business as usual’, worshipping false gods and practising social injustice.

The same themes are developed in a contemporary setting, with fossil carbon as a gift with promise of transformation of circumstances and of blessing to humankind. The gift has proved ambiguous and curse is an often realized possibility. Fossil carbon empowers oppressive as well as liberating movements. It powers wars and its waste products have destructive environmental consequences. Climate change is the latest and potentially the most serious of these consequences. The idolatry of the myth of endless progress has displaced reflective awe before God. Generous sharing and loving care of the human and non-human ‘other’ struggle against the lure of immediate material benefit. The dominant economic systems of the world literally ‘produce the goods’; they do so in ways which primarily advantage a minority of the present generation and
often are oppressive in the present and unjust towards future generations. Contemporary prophets who warn of the precarious situation which is developing due to climate change are opposed, with attempts to undermine the truth and urgency of their message. Their message is hard to hear, provoking denial or accommodated by combining superficial assent with living in denial.

No doubt the ancient prophets would have rejoiced if people had repented, turned again to God and done away with injustice and oppression, but that happy ending did not eventuate. In the Christian scriptures, hope comes in a radically new way, through the ultimate vulnerability of Jesus. The blessed are the meek and the vulnerable, and they come to have hope against hope through the resurrection of Christ. To address the ambiguities of our reliance on fossil carbon, in chapters 7 and 8 traditional Christian themes of sin, redemption and eschatology are interpreted in total ecological context.

Eschatological hope is grounded in the risen Christ, and it finds meaning and expression through living in ways which work towards creative healing and reconciliation, even if to all appearances it seems a lost cause. Transition away from dependence on fossil carbon is a critical part of ecological healing and reconciliation. The happy end of an unfolding future marked by human and ecological justice and thriving may or may not come to pass. Eschatology informed by a ‘deep’ Christology finds meaning through lives lived on the side of Christ’s redemptive and compassionate creativity. At the same time, it offers hope that has a horizon which transcends the bounds of scientifically or even theologically informed imagination. Eschatological hope is hope against hope that, even if the worst case scenarios of climate change prediction eventuate or other catastrophic life-destroying events occur, final fulfilment and destiny rests beyond that in the presence of God.

The theology and biblical themes developed and applied to interpret the ambiguities of our reliance on fossil carbon are re-visited and focused in the final chapter. The theological response developed in the thesis acknowledges that there is hope that the many movements working towards rapid de-carbonization of the global economy may at least partially mitigate the curse of fossil carbon. Ecologically informed Christian praxis will recognize and encourage participation in this process, and find Christ’s creative and redemptive presence within it. However, there are no certainties as we stand on the edge of the abyss which climate change represents. Human choice is real. There are serious uncertainties in how climate change will develop as a result of, or in
spite of, even the best of human efforts to contain it. Eschatological visions of the *telos* of all things find the presence of Christ in sacrificial Christopraxis which works towards creative redemption. In a ‘deep’ theology, Christ is present in creation and in new creation, and the horizons of new creation point to ultimate fulfilment of all things in God, beyond the horizons of scientific or theological imagination.

### 1.2 Setting the context: the globalized world of the Anthropocene

When belief in a Creator and the scientifically grounded narrative of evolution are brought together, humankind is both part of the self-creating creation and is becoming an increasingly dominant creative agent. Niels Henrik Gregersen observes that “a theological view must see God as the creator of creativity and the human person as God’s created co-creator who is destined to participate in nature’s creativity.”

A central concern of a theological response to our dependence on fossil carbon is how to live in the present so that the way we live has creative and redemptive future orientation. The rapid changes in the global environment and in human affairs occurring at the present time sharply focus the question of what the future may be like. What futures are imaginable and possible for humankind and the global environment? How do these futures depend on how humankind lives on Earth in the present? To retain robust relevance, Christianity’s traditions of imagining last things need to engage with secular disciplines which offer insights into future possibilities, and how the way we live in the present affects these possibilities.

The global ecological changes taking place are so rapid and extensive that they are sometimes regarded as bringing in a new epoch in geological history as well as a new age in human affairs. Conventionally, geological time is defined by reference to records of past events left in rock strata. Although human environmental impact is evident at least from when humans or pre-humans began to use fire for hunting, human impact has increasingly left its mark in the last few thousand years as agriculture and settled communities developed. In particular, a growing number and range of human artefacts have been deposited in the ground. This new addition to the long geological history as indicated by strata in the ground is formally named the Holocene or ‘wholly

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41 Peter Scott expresses reservations about this trend to see humankind as a geological agent: Peter M Scott, "Humanity," in *Systematic Theology and Climate Change. Ecumenical Perspectives*, ed. Michael S Northcott and Peter M Scott (London: Routledge, 2014): 112-113
new’ epoch. If at some future time intelligent beings excavate the earth and read its stratigraphic history, they will note that our immediate past and present is indicated by the rapid increase of an extraordinary variety of new chemicals, bands of radioactive trace elements and vast amounts of discarded human products. Fossil remains of numerous species found even in Holocene deposits will be fewer and then disappear altogether.

The term ‘Anthropocene’ has been coined to describe this rapidly emerging epoch of global environmental change. The name Anthropocene identifies the increasingly critical role which humankind has in shaping the future of life on earth, and the earth-environment itself. The term Anthropocene does not yet have official status in geological discourse, nor does it have any single, precise definition. Although it reads as a geological term, it also lends itself to wider discussion of human affairs, the global environment, and their possible futures. For present purposes the beginning of the Anthropocene is taken as the time when large-scale use of fossil carbon started to power the industrial revolution. Speculation on how and when the Anthropocene will end is at best a matter for informed imagination. However, the environmental effects of use of fossil carbon will continue to be felt long after it has ceased to be a primary source of energy and materials. With or without fossil carbon, as long as the Earth is populated by billions of humans, human impact will continue to shape global ecology and determine which other species survive and thrive into the future.

In this new age in human affairs and human influence on the evolutionary future of the earth, rapid communication brings people and ideas together world-wide as never before. Climate change is a global problem and, if it is to be contained, a global

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42 Terminology for geological periods is determined by the International Commission on Stratigraphy of the International Union of Geological Sciences. www.iugs.org/ (accessed 25/09/2012). The Holocene epoch is the last epoch of the Quaternary Period, which is the last period of the Cenozoic Era, which began after the mass extinction event of approximately 65 million years ago. “Holocene” is derived from the Greek words for whole (holos) and new (kainos).


44 “Anthropocene” is derived from the Greek words for humans (anthropoi) and new (kainos).

45 The emergence of this phase of the industrial revolution took place in the 18th century CE. See also Paul Dukes, Minutes to Midnight. History and the Anthropocene Era from 1763 (London: Anthem Press, 2011).127

46 Curt Stager, Deep Future. The next 100,000 years of life on Earth (Melbourne: Scribe, 2011).
response is essential. Extensive globally co-ordinated scientific and political responses have developed over the last several decades. Climate change has emerged as one of the most thoroughly investigated and most economically challenging events in human history. A theological response to our reliance on fossil carbon needs to be sensitive to this new global consciousness, and to the complex dynamics of both secular and religious responses to climate change. Christian faith is expressed alongside many other faiths and ways of giving meaning and finding purpose. David Ford observes that:

Today, faith in the Christian God is still possible, but the conditions within which it occurs are radically different. It is held as one option among others and in many situations is not the norm and is difficult to embrace and sustain, so that faith as a lived experience is transformed.47

Leonardo Boff traces the history of the emergence of global consciousness and its implications for Christian faith. Boff identifies the beginning of globalization with the first circumnavigation of the Earth by survivors of Magellan’s voyage of 1519-22 CE. This event was an early episode in the growing thrust of European colonialism which in the following centuries swept across large swathes of the Earth, shaping many of the nations of the modern world. In this global movement of competition for influence and resources and of the subjugation and migration of peoples, Boff describes humankind as both homo sapiens and homo demens. Besides that which is constructive and wise, humans are also demens because “they create absurdities, utter violence and destruction”.48 Can the sapiens aspect of humankind prevail over the demens aspect? Boff sees signs of hope within the globalization process itself:

The process of globalization that occurs through the economy, politics, militarism, techno-science, communication and spirituality is increasingly consolidating itself. With this fact emerges a new kind of consciousness of global proportions, a new kind of reasoning that embraces the complexities of reality and a new cosmology.49

Boff’s perspective on global consciousness is grounded in his experience of the extremes of wealth and poverty in Latin America, including his native Brazil, and in reflection on the global economic forces perpetuating the divide between the rich global “North” and the poor global “South”. His pioneering work in bringing together the concerns of Liberation Theology and Ecotheology developed strongly after the UN Rio

49 ibid.1
Earth Summit in 1992. He identifies common themes between these two strands of theology:

Both lines of reflection and action stem from a cry: the cry of the poor for life, liberty and beauty (see Exod. 3.7) in the case of liberation theology; the cry of the earth groaning under oppression (see Rom. 8.22-23) in that of ecology. Both seek liberation: one of the poor by themselves, as organized historical agents, conscientized and linked to other allies who take up their cause and their struggle; the other of the earth through a new alliance between it and human beings, in a brotherly/sisterly relationship and with a type of sustainable development that will respect the different ecosystems and guarantee future generations a good quality of life.

Boff sees a historical progression in ecological reflection, from local specific concerns to conserve species and habitats, through human interactions (social ecology), to mental ecology and beyond. He concludes that “Without a revolution of the mind, it will not be possible to bring about a revolution in relations between humankind and nature.” That “revolution of the mind” is itself dependent on spirituality, which he describes as the expression of “cosmic mysticism”:

The spiritual person is one who is always in a position to see the other side of reality, and who is always capable of perceiving that profundity by which we are referred to the Ultimate Reality that religions call God.

In Boff’s thought, spirituality and mysticism drive practical commitments in the realities of everyday life, but do so in conviction that there will always be more to know and to imagine. He relates mysticism, in Christian tradition, to the biblical teaching about the Reign or Kingdom of God:

Christian mysticism implies a commitment to personal and social change, and to the utopia preached by Jesus, of the kingdom of God. That utopia will inaugurate its era of fulfilment in justice for the poor and, thereafter, for all people and for all creation.

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53 ibid.37

54 ibid.144

55 ibid.151
Boff’s trajectory of spirituality and vision of mystery draws on the mystical eschatology of Teilhard de Chardin.\textsuperscript{56} Are we on the verge of an evolutionary jump to a “collective consciousness or the unification of human minds”, which he sees in “Teilhard’s thesis of the noosphere”?\textsuperscript{57} In this way:

humanity, due to its cooperative talents and abilities, would function as a sort of brain of the planet Earth. The more human beings understand and act in a synchronized manner with the Earth, the more they would promote the development of nature – and the less they would act against nature. The more human beings discover and understand the hidden capacities of Earth the more creative beings they will become, being able even to interfere in the process of evolution by accelerating it or slowing it down. Humanity would become Earth insofar as Earth thinks, desires, characterizes, plans, dreams and loves.\textsuperscript{58}

Expanding the body image, in this emerging new age for humankind, the evolving networks of rapid global communication function as a sort of “central nervous system”.\textsuperscript{59}

Boff’s brain analogy is hopeful, but fraught with danger. Its anthropocentric orientation envisages ever expanding human interference in the non-human parts of creation, which he calls “nature”, even though he hopes that humankind will be \textit{sapiens} rather than \textit{demens}. Human participation in the processes of evolution has been increasingly influential throughout the rise of human civilization. Humankind is far from benign towards non-human creatures, driving extinctions and devastating habitat. By our very numbers and even with modest expectations, humanity inevitably “acts against nature”. Do the desires, plans, dreams and loves to which Boff refers include human longings for the thriving, and even the bare surviving, of non-human parts of nature, even if they have no obvious instrumental role for humans?

Boff in part answers this question. His writings are informed by a passion for human justice and by Franciscan spirituality, contextualized within contemporary scientific understanding of evolutionary interdependence. He describes “the human

\textsuperscript{56} In his introduction to \textit{The Phenomenon of Man}, Sir Julian Huxley writes: “the universe in its entirety must be regarded as one gigantic process, a process of becoming, of attaining new levels of existence and organization, which can properly be called a genesis or an evolution. For this reason, he (Teilhard) uses words like noogenesis, to mean the gradual evolution of mind or mental properties, and repeatedly stresses that we should no longer speak of a cosmology but of a cosmogenesis.” \cite{ Teilhard}, \textit{The Phenomenon of Man}, trans. Bernard Wall (London: Collins, 1959).13


\textsuperscript{58} ibid.35,36

\textsuperscript{59} ibid. 1
being (as) co-pilot of the evolutionary process along with the guiding forces of nature.\textsuperscript{60}

He opens \textit{Ecology and Liberation} \textsuperscript{61} by imagining the Christ-statue in Rio de Janeiro coming to life and preaching a Latin American version of the beatitudes and woes in Luke’s gospel. The blessed include “all you who are poor, hungry, sick and without hope. You are oppressed victims of a corrupt society.” Blessed, too, are “the vast lands of Latin America” and he tells its people to “watch over the forests and mountains . . . the wild animals and the many varieties of birds. They are all your brothers and sisters.”\textsuperscript{62}

Boff’s liberation theology is shaped by social disparities and injustices in Latin America, including his native Brazil. In contrast to the rich nations of the global “North”, a large proportion of the people either are marginalized from the economy or their work supports the economy, but they still live in poverty. He argues that “poverty is our main environmental problem”.\textsuperscript{63} He envisages a hopeful future in an “Ecologico-Social Democracy”.\textsuperscript{64} “We therefore need to ask for a democracy that is not only participatory and social, but ecological”\textsuperscript{65} and expresses the personal and societal inner change required in Franciscan terms:

For a new mentality to predominate, we urgently need to develop an attitude of respect, of veneration, of compassion, of brotherhood and sisterhood, and of tenderness and fellowship with the whole of creation in its infinite grandeur, infinite smallness, and infinite variety.\textsuperscript{66}

Although Boff’s emphasis is strongly focussed on social justice, there is also “such a thing as ecological justice. Everything has the right to continue to exist, within the ecological balance.”\textsuperscript{67} Boff’s use of the term “ecological balance” is difficult to defend when human creativity and procreation are proving so devastating for other species. He does, nevertheless, insist that a future in which his optimistic visions might be fulfilled depends on a firm grasp of and respect for the complexity and diversity of human affairs and the world in which we live.\textsuperscript{68} Christianity, too, has a role in his optimistic visions. He sees future hope in trends towards universalizing of spirituality,

\textsuperscript{61}———, \textit{Ecology and Liberation. A New Paradigm}.
\textsuperscript{62}ibid.1,2
\textsuperscript{63}ibid.13
\textsuperscript{64}ibid.81-92
\textsuperscript{65}ibid.84
\textsuperscript{66}ibid.90
\textsuperscript{67}ibid.87
\textsuperscript{68}———, \textit{Global Civilization. Challenges to Society and Christianity}. 18
to which Christianity can contribute not by exclusive, centralized expressions of Christian religion but by discipleship of Jesus who was himself marginalized, poor and rejected.69

Boff’s writings are a timely reminder to the global “North” that the ecological dimensions of justice and redirection of humankind towards a more hopeful future go far beyond rich nations making technical changes such as decarbonisation of energy sources, and setting aside places where human intervention in natural processes is minimized. Whether issues of social justice in Latin America or ecologically destructive habits in Australia and similarly rich countries are in view, the ambiguities of human behaviour persist. Boff’s depiction of humankind as both sapiens and demens is an inescapable reality. The theological response to our reliance on fossil carbon which is developed here of necessity is in conversation with the many complex issues grouped under the banner of climate change. Climate change affects so many interacting aspects of life on Earth that responses based on single disciplines, or even multiple disciplines working alongside each other, are inadequate. Effective responses require a transdisciplinary approach, in which traditional disciplines are drawn together into a whole and new holistic methodologies emerge.70 The Anthropocene and global consciousness are two overarching concepts which identify the transdisciplinary nature of the context in which climate change is occurring. The Anthropocene represents the role of humankind in the present evolutionary era in which climate change has arisen. The global nature of climate change makes global consciousness of crucial importance to adequate global responses. The theological response to climate change and our reliance on fossil carbon developed here does not claim to be transdisciplinary in the sense of tight integration of theology with other disciplines and the emergence of new methodologies. The metaphor of “conversation” with other disciplines and with transdisciplinary groupings is arguably more appropriate.71

69 ibid. 40
71 “Transdisciplinary” presupposes integrated methodology. Teleology based on belief in God is at the heart of theology and is excluded from scientific disciplines. This difference poses an acute problem for attempts to incorporate theology into a transdisciplinary relationship
Besides being in conversation with many disciplines and with transdisciplinary groupings, Christian responses to climate change are located in a global context in which there are many other faith-based responses, as well as responses with explicit ethical orientation but no explicit faith content. Part of a response to dependence on fossil carbon informed by Christian theology is to clarify the relationship of this particular response to other responses. What possibilities are there for a Christian theological response to find unity of purpose and action with other responses, particularly in lived experience?

The science-theology conversation which lays a foundation for the present response addresses the broad question of how belief in God may be imagined in a way coherent with our scientific understanding of universal evolution, including the evolution of life and of human culture. It establishes a frame within which theological responses drawing on many religious traditions could be developed. The specifically Christian response which is developed here is contextualized within this larger science-theology conversation. It is developed in ways which encourage imagination of Christ’s presence wherever there is redemptive creativity, whether or not Christ is named.

1.3 Imagining God through a conversation between science and theology

1.3.1 A shared journey in a changing world

This shared journey of discourse between science and theology may be likened to two people walking together, as in the story of the disciples on the road to Emmaus (Luke 24:13-16). They share the common journey of humanity, with the past a confusing mix of high hopes and deep tragedy, and the future unknown and threatening. Luke Timothy Johnson describes their confusion as “cognitive dissonance between their experience and their convictions”. In our contemporary version of the story, one disciple tries to find hope and meaning by using the best available scientific interpretations of the patterns of life, death and suffering from which humans, like all

with secular disciplines. How, and to what extent this could be achieved could be a productive study, but it is beyond the scope of the present work.

living creatures, cannot escape. The other draws on traditions and wisdom with ancient roots accumulated during innumerable generations and expressed in stories of a journey of faith and encounter with God. As they talk along the way, how will the story of their conversation unfold? Will the “cognitive dissonance” between their ways of making sense of their worlds leave them engaged in conflict or drifting apart in mutual irrelevance, trapped in the deceptive certainty of entrenched beliefs and convictions? Alternatively, will their dialogue open doors of imagination so that they may come to a vision of reality and of interpretation of Christ which subsumes each of their world views into something greater? Will they find Christ to be alive and present with them so that the texts of nature and of religious tradition become testimony to the same unfolding story? Johnson argues that:

The resurrection sheds new light on Jesus’ death, on his words, and on the Scriptures. The “opening of the eyes” to see the text truly and the “opening of the eyes” to see Jesus truly are both part of the same complex process of seeking and finding meaning. 73

The relationship between science and Christian religion in the ‘Western’ world upon which this metaphorical journey to Emmaus is set has been a long and complicated one. In *Science and Religion*, 74 John Hadley Brooke explores this relationship from the time of Copernicus to the twentieth century, amply demonstrating that simple ‘conflict’ theories do not stand up to historical analysis. Rather, the personal, social, political and religious contexts within which any individual’s writings and thoughts develop is of defining importance. The parallel development of sciences dealing with historical origins and historical critical methods, especially applied to the Bible, has had far reaching effects. Whether in religion or science, a change in emphasis from apparently unchanging certainties to the inevitable and often profound changes which take place over time can prove deeply unsettling. Brooke observes that:

In the English-speaking world of the mid-nineteenth century, it is possible to detect among the intelligentsia what has often been called a crisis of faith. Men and women with the highest religious sensibilities found they could no longer believe what they had formerly believed or what, in retrospect, they discovered (with some relief) they had never really believed in the first place. 75

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73 ibid.399
75 ibid.270
Critical thought applied to change within both the natural world and to religious beliefs is an essential part of the ongoing science-theology dialogue, and it still has power to produce crises of faith. As in the nineteenth century, critical thought applied to religious beliefs continues to provide ways of re-imagining beliefs and re-interpreting traditions which aim for greater coherence with contemporary modes of understanding. In the sciences, these contemporary modes of understanding are themselves relentlessly on the move. For example, in the 19th century, Darwinian evolution began a revolution in life sciences which continues to challenge perceptions of what it is to be human. In the 20th century, Einstein’s work on relativity, and the work of Schrödinger and Heisenberg opened up new perceptions of physical reality, identifying the certainties of Newtonian physics as special cases within a larger probabilistic reality. In the 20th century, plate tectonics provided a radically new way of understanding geological evolution and of the global environment in which biological evolution occurs. In the latter part of the 20th century, sustaining the complex web of interactions within the total global ecosystem has become increasingly recognized as critically important to the future of life on Earth. Each of these developments, and many others, have led to new perceptions of reality, and opened up new possibilities for science-theology discourse. In the last few decades, developments in computing have enhanced the study of complex systems and of how novelty emerges, opening up further new perceptions of how nature works. The emerging results of complexity studies are as challenging to philosophical and theological thought as any scientific developments in the last two centuries.⁷⁶

The ambiguities of our reliance on fossil carbon reflect the complexity of human affairs. How will choices made in the present affect what emerges in the future? To what extent are we trapped in a deterministic path even if we do not at present know where it will lead? These questions have theological weight. To explore them further we shall briefly review developments in understanding of complexity and emergence, and theological thought which draws upon them.

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1.3.2 Complexity, emergence and the end of certainty

These scientific developments over the last four centuries have gone hand in hand with a fundamental tension between physical and biological sciences. On the one hand, the extraordinary success of mechanics grounded in Newton’s laws of motion and of gravitation, encouraged a deterministic view of the universe. In this view, if there is enough knowledge of the present state of all the particles in some physical entity then, using well established scientific laws, past states may be calculated and future ones predicted. Furthermore, in this deterministic view it is in principle possible to reduce the properties of a larger entity to properties of its parts and the scientific laws which these parts obey as they interact. The laws discovered by science are all powerful and controlling, and theologically the all-powerful and controlling God is understood to have made the universe so that it runs its course according to these laws. On the other hand, such determinism fails to provide a satisfactory description of the way in which life has evolved and of many observed characteristics of living things.

Starting with Darwin’s insights and incorporating a wealth of more recent developments, evolution of life is most successfully modelled by the complicated interplay of random mutations and the constraints of both the environment and the evolving underlying molecular architecture of living organisms. These constraints select what actually emerges from multiple possibilities. This combination of random mutations and inescapable constraints is sometimes referred to as “chance and necessity”.\textsuperscript{77} The gulf between determinism and experience of life as uncertain and probabilistic reaches a particularly acute form in the unpredictability of human decision making and action. Do humans have genuine freedom of choice in at least some circumstances, or is it always ultimately an illusion? The tension between determinism and the experience of human freedom to choose has exercised philosophers and theologians alike. As Ilya Prigogine notes:

\begin{quote}
Again and again, the greatest thinkers in Western tradition, such as Immanuel Kant, Alfred North Whitehead, and Martin Heidegger, felt that they had to make a tragic choice between an alienating science or an antiscientific philosophy. They attempted to find some compromise, but none proved to be satisfactory.\textsuperscript{78}
\end{quote}

\textsuperscript{77} A classic treatment of the theme of chance and necessity is given by Jacques Monod, \textit{Chance and Necessity}, trans. Austryn Wainhouse (Glasgow: Collins Fontana, 1974).

A possible explanation for the lack of satisfactory deterministic explanation of how living organisms evolve and function is to say that the amount of information required is simply too great either to retrieve or compute. Underlying this explanation is the assumption that the underlying laws of nature always in principle lead to deterministic outcomes, even if human ignorance of detail makes these outcomes appear non-deterministic. This assumption is not necessarily correct and, if not, it stands in the way of deeper insights into the relationships between the behaviours of living organisms and their underlying physics and chemistry. Karl Popper sharply identifies the depth of this problem when it comes to understanding what it is to be human:

I regard Laplacian\textsuperscript{79} determinism – confirmed as it may seem to be by the prima facie deterministic theories of physics, and by their marvellous success – as the most solid and serious obstacle to our understanding and justifying the nature of human freedom, creativity, and responsibility.\textsuperscript{80,81}

During the last few decades, limits of conditions under which the theories of physics support deterministic outcomes have been increasingly identified, and considerable progress made in bridging the gap between the physical and life sciences. Put technically, deterministic descriptions break down for non-linear dissipative systems which are far from equilibrium and for which there is feedback from the behaviour of the whole to the functioning of constituent parts. This technical description may be illustrated by everyday human experience. We are far from equilibrium, being totally dependent on inputs and outputs of energy and information as we interact with our environments.\textsuperscript{82} Within any one of us, there are continuous and complex feedback interactions between the physical state of our bodies and what we think about and decide to do. Our behaviour is ‘non-linear’ in the sense that a small input of energy or information can have disproportionately large effects, or vice versa. We are

\textsuperscript{79}Sometimes called Newtonian determinism, the idea that an intellect able to know everything about the positions of everything and forces acting on them could then determine the future is formally ascribed to Laplace. Daleux describes Laplace’s deterministic hypothesis as “L’apogee de cette vision d’un monde réglé comme un mecanisme d’horlogerie.” [“The high point of this clockwork view of the world” (my translation)]. André Daleux, "La Liberté selon Teilhard et la Science,” in Pierre Teilhard de Chardin on People and Planet, ed. Celia Deane-Drummond (London: Equinox, 2006).37-54

\textsuperscript{80}Quoted in Prigogine, The End of Certainty. Time, Chaos and the New Laws of Nature.14

\textsuperscript{81}For a contemporary attempt to use the concepts of complexity and emergence to understand “the nature of human freedom, creativity and responsibility”, see Nancey Murphy and Warren S Brown, Did My Neurons Make Me Do It? (New York: Oxford University Press, 2007).

‘dissipative’ in the sense that life’s experiences are irreversible. Our sense that time moves relentlessly forward is an expression of this irreversibility. Much as we might sometimes like to ‘wind back the clock’, we know we cannot do so.

All living things, and also a great many which are non-living, function in ways which are non-linear, dissipative and far from equilibrium. Among non-living natural systems, global climate is an example which is particularly prominent in contemporary human consciousness. The same characteristics also apply to interacting groups of humans and human institutions, of which the stock-market is one example which attracts considerable interest and employment for complexity theorists. The same characteristics enable self-organization within organisms as they interact with their environments, leading to their evolution. Because such ‘complex systems’ occur so widely, they have become a major area of research.\(^83,84\) Theories of ‘complex systems’ show how, as complexity increases, there may be an extraordinarily large number of possible new directions for further development. However, as already noted, environmental constraints restrict which particular ones are followed. Harold Morowitz describes this process:

Nature yields at every level novel structures and behaviours selected from the huge domain of the possible by pruning, which extracts the actual from the possible.\(^85\)

These “novel structures and behaviours” are said to have ‘emerged’. Increasing complexity occurs in two distinct but interacting domains: the material domain and the domain of coded information. In humans, for example, the material domain is represented by the many layers of complexity from atoms, molecules and cells to the body as a whole, with its many interacting parts. The domain of coded information is present at the molecular level as accumulated ‘memory’ of evolutionary past recorded in genes and related body chemistry, and at higher levels in features such as memory,\(^\ldots\)

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\(^83\) The Santa Fe Institute is an example of an institute where a wide range of research into complexity is pursued: Santa Fe Institute, “Santa Fe Institute,” [http://www.santafe.edu/](http://www.santafe.edu/). (accessed 25/11/2014)

\(^84\) Paul Davies observes that “The establishment of research centers, such as the Santa Fe Institute for the Study of Complexity, devoted to uncovering quasi-universal principles of complexity has led to an enormous advance in our understanding of the subject”. Paul Davies, "Towards and Emergentist Worldview," in *From Complexity to Life. On the Emergence of Life and Meaning*, ed. Niels Henrik Gregersen (New York: Oxford, 2003).

\(^85\) Morowitz, *The Emergence of Everything. How the World became Complex*.13
consciousness and cultural interactions. Carolyn King describes these two domains as “two different forms of reality”, each of which is essential to life:

The interactions between (the material and the coded information domains) are unimaginably complicated, but essential to life in the every day. Over time they are the source of all natural, historical and cultural diversity.  

Her first statement is widely accepted science. The claim that the unimaginably complicated interactions between the two domains “are the source of all natural, historical and cultural diversity” may or may not be stated broadly enough to accommodate every future scientific insight. However, in the context of this thesis, “source” also has theological significance which points beyond the domain of scientific enquiry. It points to teleology which the science itself cannot provide, and which lies at the root of religious belief.

The ideas of complexity and emergence provide a conceptual framework for development of an integrated understanding of the totality of cosmic evolution, all the way from cosmic beginnings to human culture and reflective consciousness. In emphasising the integrating power of ideas of complexity and emergence, Morowitz claims that:

In the last few years, this new mode of thinking has begun to develop an exciting explanatory concept designated emergence, which develops previously unrealized ways of deepening our understanding of the past eons and illuminates how the universe, after a long and complex 12-billion-year trajectory from the Big Bang, has given rise to the human mind and modern (humans).

Arthur Peacocke is more explicit about the potential place of theological discourse within this integrated vision of all that is:

Would it be too much to suggest that these new, emergentist monist insights into the inbuilt creativity of our world through its complexifying and self-organization capacities open up a vista of continuity between the physical, the mental, and the spiritual which could, in this new century, break down the parallel barricades mounted in the last, both between the “two cultures” of the sciences and the

87 Morowitz, The Emergence of Everything. How the World became Complex.
humanities – and between the experiences of nature and of God, the sciences and religion?\textsuperscript{88}

It is to this theological potential which we now turn.

1.3.3 **Embracing uncertainty and an open-ended future**

In the last few decades, increased understanding of the importance of complexity and how new states of being emerge has presented sciences with a major advance, and also a major philosophical challenge. Each of these is rich with theological implications. The advance has been to provide a conceptual framework which draws the physical sciences, life sciences and humanities into a single unity. This conceptual framework provides a new and compelling way of understanding humans as part of that unity, and goes far beyond the biological relatedness of all living creatures. Complexity and emergence provide ways of conceptualizing continuity between biological and cultural evolution, including evolution of reflective consciousness and awareness.\textsuperscript{89} Once reflective consciousness is recognized as an emergent attribute, then so too is spiritual awareness, at least in the sense which Peacocke describes:

> These emergent properties include, as we have seen, mental and personal ones and, I would add, spiritual ones - by which I mean the capacity to relate personally to that Ultimate Reality that is the source and ground of all existence……...and in English that reality is “God”.\textsuperscript{90}

At a more prosaic level, Gregersen observes that:

> The sciences of complexity study pattern formations in the midst of the world rather than in a hidden world beyond imagination. The everyday (experiences of) life so important for religion have regained their status also within the sciences.\textsuperscript{91}


\textsuperscript{89} The emphasis here is on “conceptualizing”. Many features and significant gaps, such as the beginnings of life and the nature of consciousness, remain scientifically unresolved foci of active research. See, for example Davies and Gregersen, *Information and the Nature of Reality.*

\textsuperscript{90} Peacocke, "Complexity, Emergence, and Divine Creativity." 197-198

The philosophical challenge arising from complexity theory is its ability to offer a non-reductionist view of the distinctive characteristics of living beings, including humans. On this basis, it is no longer valid to claim that, for example, humans are ultimately *nothing but* genes, molecules, atoms or whatever is in view as the fundamental unit of our make-up. Peacocke argues that this opens a new basis for dialogue between science and theology:

\[ \ldots \text{in conjunction with the broader exhilarating theistic perspective I have been trying to expound, it seems to me that the new sciences of complexity and self-organization provide a fruitful release for theology from the oppression of excessively reductionist interpretations of the hierarchy of the sciences and a making-accessible of theological language and concepts to the general exchanges of the intellectual life of our times -- a milieu from which it has been woefully and misguidedy excluded for too long.}^{92} \]

Understood within this perspective, the concepts of complexity and emergence challenge the view that the totality of the universe is ultimately explicable in terms of matter, energy and the laws of physics. All material things, whether living or non-living, are indeed dependent on this underlying physics for their embodiment. However, that is not the whole story. There are also emergent characteristics which do not follow these laws or, indeed, any discernible specific laws at all.\[^{93}\] This assertion is not simply a re-statement of the age-old intuition which finds expression in body-soul dualism or other dualistic expressions of division between the material and non-material. Rather, it appears to be firmly rooted within the unitary but extraordinarily complicated web of natural interactions and information embedded in emerging structures. Although it seems safe to assume that present understanding of the complex is still limited and tentative, it also seems reasonable to assume that it will develop in ways which confirm the open-endedness of the trajectories of evolution of life, with the inevitability of new and at present unimagined and unpredictable levels of being emerging or being recognized as already present. This scientific narrative is an open-ended, holistic story of probability rather than certainty. It is the story within which we live, reflecting on its meaning and, as a species, increasingly influencing its course.

\[^{92}\text{Peacocke, "Complexity, Emergence, and Divine Creativity." 210-202}\]

\[^{93}\text{Common patterns of behaviour are observed in widely diverse phenomena and "Unifying themes" are discernible. However, "laws" in the closed and determinative sense used of "laws" in physics do not seem to be present. See, for example, James Crutchfield and Karoline Wiesner, "Simplicity and Complexity," Physics World 23, no. 2 (2010).36-38}\]
1.3.4 Emerging theology for a complex and evolving world

The tension between logical, reductionist ways of engaging with reality and the more diffuse and uncertain character of holistic approaches exists in science, in theology, and in philosophy. Early in the 20th century, it was exemplified by the differences in the philosophies of Bertrand Russell and Alfred North Whitehead. Whitehead was particularly interested in change and the processes of change which pervade nature. He was, in effect, dealing with aspects of nature which now are becoming better understood through the development of theories of complexity and emergence. His approach cuts across Newtonian determinism, which is at least in principle amenable to more precise mathematical modelling. Charles Hartshorne recalls that:

The issue was once put whimsically by Whitehead, in a comparison between himself and Russell: “Bertie says that I am muddleheaded; but I say that he is simple-minded.” There you have it. To men of the Russell type, the Whiteheads always appear muddle-headed, and just as surely, to men of the Whitehead type the Russells appear simple-minded.\(^94\)

Whitehead’s philosophy was developed theologically by Whitehead himself,\(^95\) and subsequently by many others.\(^96\) This ‘Process Theology’ has evolved in response to more recent developments, particularly in understanding of complexity and emergence, and remains influential amongst some theologians writing on science and theology today.\(^97\)

Taking a different approach, in *The Phenomenon of Man*, Pierre Teilhard de Chardin presents a unified vision of the 1930s evolutionary science with which he was familiar, and his inheritance of Catholic Christian tradition. His grand vision describes many phases of emergence: planetary, biological, cultural and spiritual.\(^98\) Teilhard develops his vision eschatologically, pointing towards a final fulfilment of the “hominising”

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\(^{98}\) Teilhard de Chardin, *The Phenomenon of Man*. 

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trajectory of evolution with all things gathered with God in Christ, in an ultimate state he calls “Omega”. Teilhard’s ideas have continued to be analysed, criticised and developed since the posthumous publication of The Phenomenon of Man in 1956.

In their time, Whitehead and Teilhard were both seminal thinkers in the area of science and theology. Each developed theology which engaged directly with cosmic evolution and the evolution of life, including human life. Since then scientific knowledge, whether of the natural order in general or humans in particular, has advanced immensely. Although the work of Teilhard and of Whitehead is frequently acknowledged, contemporary understanding of creation as complex, holistic and emergent is increasingly an assumed scientific context for theological attention. Such attention typically engages with this scientific context without using either Teilhard’s visionary speculations or Process Theology as such. This engagement with scientific context is reflected by several authors quoted in this chapter, for example Niels Henrik Gregersen, Denis Edwards, John Polkinghorne and in a number of compendia of papers.

1.3.5 Imagining God in the 21st century CE: from classical theism to scientific pantheism.

A central theological question is how God’s transcendence and how God’s immanence in the world may be imagined, and how the language used for these reflects the world views of any specific age and culture. Janet Soskice notes that:

In any religion where God is conceived of as radically transcendent, it is arguable that all the language used of God will be metaphorical, or at least figurative.

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99 A number of later writers have criticized this work as excessively anthropocentric, e.g. King, "Interpretation of Complexity in Nature: Teilhard to Maynard Smith."
100 Celia Deane-Drummond, Pierre Teilhard de Chardin on People and Planet (London: Equinox, 2006).
Many of the ways in which God is described in the Bible are anthropomorphic, using human relationships to imagine how God and humans relate. Soskice identifies “three registers” for such descriptions:

Those related to governance….those related to offices of service…..and those representing the offices of love – Father, Brother, Son, Spouse, Lover. These last are the most intimate, because they are all, if we extend some generosity to Spouse and Lover, kinship titles.\(^{103}\)

Biblical metaphorical language necessarily draws on the cultures and contexts of Biblical times. Translation and interpretation of such metaphorical language similarly depends on the cultures and contexts of the interpreters. When metaphors for God become regarded as actual descriptions of the nature of God, the idolatrous danger of conceiving of God in the image of humans, no matter how idealized, is never far off. Although these metaphors may be held in sacred regard, God remains ultimately beyond the controlling access of human thought and language. That ultimate mystery of God is detached from anthropomorphisms and the attendant risk of idolatry in the story of Moses at the burning bush: God’s name is “I am whom I am.” Of this, Paul Ricoeur says that:

The revelation of the name is the dissolution of all anthropomorphisms, of all figures and figurations, including that of the father. The name against the idol.\(^{104}\)

In Christian belief, the Incarnation of God in Jesus Christ brings new and intense illumination of God’s immanence in the world. The theme of light and illumination is recurrent in John’s gospel. In the gospel, divine light comes in and through Jesus as a fully human person, calling people to metanoia, or radical re-orientation of their being. In other New Testament writings, the same call is reflected by contrasting the kingdom or reign (basilea) of God with the kingdoms of this world. John the Evangelist, the letter to the Colossians and the anonymous letter to the Hebrews each expresses the belief that Christ’s presence and activity extends far beyond transforming people and communities, and lies at the heart of the very creation itself.\(^{105}\) Nevertheless, there still remain difficult questions of interpreting these first-century beliefs in ways coherent with

\(^{103}\) ibid.1-2
\(^{105}\) e.g. John 1:1-4, Colossians 3:15-17 and Hebrews 1:1-3.
twenty-first century understanding of the cosmos as a dynamic, evolving network of cause, effect and possibility. How, and in what possible sense, is God present to and active in the world and within the cosmos as a whole?

Writings on how God is active and present in the world and which engage with contemporary scientific ways of understanding the world cover a broad spectrum of positions. One end of the spectrum is represented by expressions of classical theism, which insists on God’s ontological ‘otherness’ from the cosmos and ultimate independence from it. The power of God creates and controls the dynamic sources of creativity operating within nature, but remains ontologically different from them and inaccessible to scientific investigation. According to John Cooper, in classical theism, God does not need the world, but:

God eternally and freely chooses to create it from nothing and sustain it through time. He is immanent in the sense that he is supernaturally present to all beings and events at all times and places throughout the history of the world, empowering creatures and effectuating his eternal knowledge and will through their natural existence and free actions. But God in himself is utterly transcendent, all determining, and changeless. The world is not part of his nature of existence. He does not exist in time or as part of the cause-and-effect networks in terms of which creatures exist and relate within the world order. Nothing temporal affects his existence, knowledge, or will.  

A sharply defined theism of this sort expresses a supernaturalistic dualism in which the transient here and now is ontologically discontinuous with its heavenly origins or fulfilment, however those may be imagined. It is criticised by eco-theologians who see its Christian expressions as typically focusing human efforts on saving souls for the afterlife, while placing less importance on the sustenance and thriving of all life and of the Earth-home on which all life depends. Expressing this concern, Sallie McFague considers that:

(Climate change) warns Christians that a supernatural, transcendent God is neither faithful to the tradition’s incarnationalism nor relevant for our times. 

McFague’s strong emphasis on incarnation is in tension with traditional Christian understandings of God’s transcendence. Belief in God’s transcendence is an expression

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106 John W. Cooper, *The Other God of Philosophers* (Grand Rapids: Baker, 2006). 13, 14 and 322. Cooper uses male language for God throughout this book, which concludes with Cooper’s defence of his understanding of “what Scripture reveals about God”.

of conviction that God is over and above ("supra") the totality of nature either as presently understood, or potentially understood at some future time. Expressing the same tension, Ernst Conradie sees that the “retrieval of transcendence” in the context of a strong emphasis on immanence:

will have to avoid the dead-ends of supra-naturalism or ontological dualism, where the relationship between the transcendent and the immanent has become obscure.  

However, a strong incarnationalism may be enhanced, rather than diminished, by drawing on the tradition’s sense that, ultimately, God is transcendent and beyond human words and imagination. As Conradie points out, the ecological consequences of emphasis on God’s transcendence depends on how that transcendence is expressed. God’s transcendence does not necessarily have to be understood dualistically, and may be understood in continuity with God’s presence in the here and now of this world. Furthermore, understanding God’s transcendence in such a way allows the “supra-natural” to be conceived of as continuous with the natural, within a greater whole which has dimensions which are currently beyond human imagination and probably always will be. Using the Biblical motif of the reign (basilea) of God, the reign of God is both already present and still to come. Conradie notes a number of ways in which theologians have imagined God’s transcendence to be continuous with God’s immanence. Positions in which God is imagined to be intimately in all things in the cosmos, but not limited to the cosmos are described as panentheistic (God in all things). According to Arthur Peacocke a key difference between traditional theism and panentheism is that:

The creative dynamic is understood to be immanent in the world rather than external to it, and this can be extended to subjective issues as well.

Many contemporary theologians either self-identify as panentheistic, or are so identified by others.

109 James D.G. Dunn, Jesus Remembered (Grand Rapids: Eerdmans, 2003).437
110 Conradie, An Ecological Anthropology : At Home on Earth? 56-57
111 Arthur Peacocke and Philip Clayton, In Whom we Live and Move and Have Our Being, (Grand Rapids: Eerdmans, 2004). 141-142
112 Michael W. Brierley, "Naming a Quiet Revolution: the Panentheistic Turn in Modern Theology," in In Whom we Live and Move and Have Our Being: Panentheistic Reflections.
When God’s intimate presence in all things is so emphasised that God’s transcendent ‘otherness’ is marginalized, panentheism merges into a pantheism in which God is identified with the cosmos, or with scientifically imaginable driving principles within the cosmos. At this end of the spectrum, Karl Peters explores a sense of the sacred and of the mystery of the cosmos. However, God is so strongly identified with the cosmos and the processes within it that the ontological ‘otherness’ of God is fading from the picture. A similar position is taken by Gordon Kaufman. He sees “serendipitous creativity” as characteristic of the “trajectories or directional movements” within evolution. Indeed, for Kaufman “it is this serendipitous creativity that should be regarded today as God.” This movement towards a pantheism which identifies God with the driving forces of nature, which nowadays may be at least partially accessible to scientific understanding, offers the attraction of close integration with the contemporary scientific narrative. It is well able to support a sense of awe, common to many people, including some scientifically informed professed atheists, at the beauty and complexity of the natural order. It is also well able to support reflection on and response to the increasingly unsustainable state of global affairs, including human population growth, relentless exploitation of resources including fossil carbon, and consequent climate change. However, integration of religious and scientific descriptions which tend towards scientifically informed pantheism gives priority to the scientific, with loss of belief in the transcendent mystery of God.

The position taken in this thesis attempts to avoid both a classical dualistic theism and naturalistic pantheism. Both religion and science are open-ended and part of a greater reality which future generations may understand and enter into more fully, but which has dimensions that will forever remain beyond human imagination or comprehension. It envisages continuity at the frontiers of the expanding known and that the unknown and unknowable permeate all things. These frontiers continually provoke imagination of the unknown and stimulate the intuition that the known has a teleology which is rooted in the divine mystery of the transcendent yet immanent Creator. Christian faith and tradition are then interpreted within this broad framework.

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of imagining God in a scientifically informed age. How may Jesus, remembered and interpreted as the Christ who makes God known, be discerned as God’s transforming presence in a world which humankind is driving towards ecological catastrophe?

### 1.4 Relational theology in an ecological context

When the conversation between theology and science is philosophical and questions about the meaning and credibility of belief in God are addressed, God is likely to be understood in terms of “a more or less generalized theism.”\(^{116}\) Belief in God is obviously fundamental to theology and such broad questioning has its place. However, when the starting point for the conversation is the Christ-event, specific Christian belief brings its own interpretations to lived experience. For many today lived experience includes scientific observations and ways of understanding the cosmos, whether or not specific Christian beliefs are held. Conversation is possible because science and religious belief each represents a way of giving meaning to life’s experiences. However, they do so in different ways, and the conversation is liable to stall if these differences are not recognized and respected. Monika Hellwig describes this difference:

> The language of religious beliefs is a language of hints and suggestions and leaps of imagination, creating a different order of symbolism and a larger range of analogy than the language of science which attempts to be exhaustively descriptive. One cannot simply lift terms and propositions out of one and place them in the discourse of the other.\(^ {117}\)

Jonathan Sacks identifies the roots of these significantly different strands in Jewish and Christian beliefs. In Jewish tradition story-telling is the primary medium for engaging with meaning and truth. In the Hebrew Scriptures the stories live in many forms, such as narrative and prophecy, songs of praise and lament, and wisdom writings. In Greek tradition, philosophy, propositions and logic have a greater role. Sacks also believes that the form of language in each culture, and how it is written, reflect these different modes of thought and how they are processed in the human


Christian tradition inherits from both modes of thought and has a rich tradition of story as well as a heritage of logically structured systematic and philosophical theology, and much in between. Ford describes the “dynamic ecology of theological thinking” as lying between questioning and desiring:

Between the questioning and the desiring, the weaving into them in fascinating, ever-new ways, are the experiments with possibilities, the affirmations of truths and commitments, and the imperatives that guide judgments and decisions. Ford\textsuperscript{120} and Janet Thomson\textsuperscript{121} draw attention to the various moods of language which contribute to this rich heritage – indicatives of description, subjunctives of “what if”, interrogatives of enquiry and puzzle, optatives of mystery and yearning, and imperatives of authority and command. These moods of language reflect the moods which occur in relationships.

Although the language of science is more precise, it also has different approaches, including bottom-up reductionist and deterministic descriptions of nature, and top-down holistic descriptions. The former work well for simpler systems and have the machine as a dominant image. The latter are more appropriate for complex systems, including all living organisms. Top-down holistic descriptions offer a productive way of exploring the nature of human affairs, and of human consciousness and freedom.\textsuperscript{122} Bottom-up reductionist science is analogous to logically argued propositionally based systematic theology. Top-down holistic science and storytelling have in common open-endedness and engagement with complex realities. Story-telling has power to draw people into the story, making them reflective participants in its future unfolding, and top-down holistic science recognizes the importance of the scientist as a creative agent in the unfolding scientific story. Human consciousness and freedom form within a web of relationships: people to people, people to all creation, and all to God.

Relationships lie at the heart of the Christian story. Relationships are both complex and open-ended, and the conversation between science and theology which is pursued here is primarily a conversation between open-ended science which explores the

\textsuperscript{119} Ford, \textit{The Future of Christian Theology}. 69
\textsuperscript{120} ibid. 71-83
\textsuperscript{122} Murphy and Brown, \textit{Did My Neurons Make Me Do It?}
complexities of life and theology which explores the truths embodied in people and relationships. Many of the issues around human use of fossil carbon and its impact on the environment are highly complex, arising from and affecting relationships between humans, and between humans and the rest of nature. In view of the diversity and inter-relatedness of all that is in the cosmos, we may, with Hayes, “recall the core insight of the traditional Trinitarian concept of God; namely, that the divine reality is intrinsically relational in character.”¹²³ How we relate to each other and to God lies at the centre of Christian teaching. When asked which commandment is of first importance, Jesus replied from the heart of his own Jewish heritage with the Shema Yisrael: “Hear, O Israel: the Lord our God, the Lord is one; you shall love the Lord your God with all your heart, with all your soul, and with all your mind, and with all your strength.” (Mark 12:29-30, quoting Deut 6:4) He then chose Leviticus 19:18 as the second great commandment, “you shall love your neighbour as yourself.” (Mark 12:31) In the Gospel according to Luke, it is an expert in Torah who links these two commandments. The lawyer, “wanting to justify himself” asked Jesus “And who is my neighbour?” In Leviticus the neighbour is one of the lawyer’s own people. Jesus responded with the parable of the Good Samaritan, forcing him to consider that an enemy could be more righteous than he, and to understand that neighbourliness is to do with compassion, not kinship (Luke 10:25-37). These teachings from the Jewish and Christian Scriptures focus on relationships between humans and between humans and God, as known and interpreted through the experiences and traditions inherited by first-century Judaism and the early Christian Church.

The relationships in view in this thesis form a highly complex web of connections and feed-back paths, interpreted through twenty-first century lenses. Focusing on any one part is liable to leave another neglected, out of focus, or even beyond peripheral vision. Models used to organize thought and information necessarily simplify and are limited in scope. With this proviso, a relational triangle model will be used to develop discussion of relationships between God, humans, and the whole of creation (including humans). It is a variation of triangular models of relationships used by a number of writers on eco-theology.¹²⁴,¹²⁵,¹²⁶ This set of relationships may be imaged as the sides

¹²⁴ Ruth Page constructs a similar triangle of relationships in order to develop an ecological theology. She chooses as vertices God, the Human World, and the Natural World. Ruth Page, God and the Web of Creation (London: SCM, 1996).9
of a triangle with God, humans, and the whole of creation (including humans) as the three vertices:

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  God
 /
/
Humans ↔ All Creation (including humans)
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Placing God at the apex of the triangle immediately presents the hermeneutical question of how God may be imagined and related to in the particular 21st century CE contexts in which scientific thought and technology dominate much of the commerce of everyday life. What interpretive lenses are to be chosen, and to whom do they give vision and insight? Placing humans at another vertex assumes a degree of human autonomy and distinctiveness in relation both to God and to all creation. What makes humans distinct, theologically, biologically and in other ways? All creation at the third vertex includes humans, emphasising that humans are intimately part of the totality of creation, sharing common biological heritage and the same Earth-home with all other terrestrial living creatures. How may we imagine God to be present to all creation, and how may we imagine compassionate, neighbourly love to be a living possibility, if not always a living reality, flowing back and forth along the sides of this relational triangle? Such theology calls for wisdom attentive to the many voices impinging on human consciousness and imagination. Ford describes such wisdom as:

> a wisdom that is sought in many ways, especially through the discernment of cries – the cries of God to humanity, and of humanity and the rest of creation to God and to each other. The cries are set within the complex, many-stranded drama of God’s involvement with creation for its good.\(^\text{127}\)

Douglas John Hall describes the intimate inter-relationship between humankind, all creation, and all with God as an “ontology of communion”.\(^\text{128}\) Hall’s immediate concern is a theological anthropology which is based on a relational interpretation of the biblical metaphor of humankind being made in the image of God, rather than one based

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125 Ernst M Conradie, *Christianity and Earthkeeping. In Search of an Inspiring Vision* (Stellenbosch: Sun, 2011).88
on particular endowments such as rationality. Hall’s “ontology of communion” readily may be extended to name an all-embracing vision of the fundamental inter-relatedness of all creation, and the relationship of all creation to God.

Theology that places humankind within the fundamental inter-relatedness of all creation is well located to address questions arising from the ambiguities of our reliance on fossil carbon. These questions cluster around the central question of what it is to be human in double context: in the globalized world of the Anthropocene and as creatures among all creation in relation to the Creator. How may we distinguish between humankind acting as homo sapiens and homo demens now that human agency is warming the atmosphere and the oceans, modifying the very environment on which all life depends? How may we imagine God in ways which encourage insightful conversation with science and at the same time draw on Christian or other faith traditions?

New scientific insights into complexity and emergence offer a framework within which to explore these questions. Complexity and emergence provides an overarching concept within which to consider cosmic and terrestrial evolution, the evolution of life, and of human life and culture. It places humans within all creation as self-reflective agents in the ongoing emergence of the story of Earth and of life on Earth. It also offers an open-ended understanding of science which may enter into conversation with theology, where the scientific processes and their onward journey into a future of multiple possibilities meets belief in transcendent mystery, where the ultimate telos is found in God. Christian tradition interpreted through science-theology conversation then brings themes of judgment, redemption and hope, exposing when our actions are those of homo sapiens, and when they are those of homo demens. How we discern Christ in today’s world then has direct bearing on how we respond to the ambiguities of our reliance on fossil carbon. It is then possible to talk credibly about Christ and coal.

129 ibid. 213-218
130 Colin Gunton argues that designating humankind as “creature” inevitably implies relationships which are both “horizontal” and “vertical”. Colin E Gunton, Christ and Creation. The Didsbury Lectures (Carlisle: Paternoster, 1992). 36-46
Chapter 2
Reframing Christ and Humankind in the Anthropocene

2.1 Homo sapiens/homo demens shaping the Anthropocene

The place of humankind within the Earth-environment is changing rapidly, bringing in the Anthropocene. Stefan Skrimshire observes that:

The fact that the effects of anthropogenic global warming could be perceived to come soon, and with ‘speed and violence’, has broken down the conceptual barrier separating recorded human history from the idea of the ‘deep history’ of the evolution of the earth.1

Skrimshire places anthropogenic global warming within the greater story of the evolution of life and the terrestrial environment. From a scientific perspective, the emergence of humankind and human cultural evolution marks a fundamentally new phase in evolution. Theologically, God’s creative activity taking place through evolutionary processes has entered a radically new stage. Humankind, as “God’s created co-creator who is destined to participate in nature’s creativity”2, has come to know good and evil. Human creativity has become a major evolutionary force, redirecting, disrupting and even extinguishing evolving strands of the web of life.

I have chosen to identify human creativity as a radically new stage of evolutionary process in order to emphasise that it remains part of the evolutionary narrative. Human creativity is part of the overall creativity which is shaping the future of the Earth environment and life on Earth. It interacts with all creativity in complex ways. In general discourse distinctions are commonly made between ‘human’ and ‘natural’ because it is intuitively obvious that some things are dominantly made by humans, and others occur apart from human agency. However, a more critical ecological perspective emphasises the interdependence of the human and non-human, and the place of humankind within creation. This emphasis is necessary in order to put humankind ‘in

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2 Gregersen, "The Creation of Creativity and the Flourishing of Creation."410
its place’ within all creation, and to stand against the human/’natural’ dualism which underlies unfettered human exploitation of the Earth and all in it. The critical issue is whether or not humankind is assumed to be part of ‘nature’. Clive Ayre succinctly states the danger: “To see ourselves as separate from nature is to invite an increased likelihood of abuse.”

Douglas John Hall addresses the same issue in terms of an “ontology of communion” among all creatures. As an evolutionary latecomer and a highly potent agent for creative and destructive change, humankind is, in Boff’s terms, both homo sapiens and homo demens. This profound ambiguity in human agency finds specific expression in the further ambiguity of our reliance on fossil carbon. Our responses to ambiguities of human agency, including the blessing and curse of fossil carbon, raise questions of who we are in relation to each other, to the rest of creation, and to God. To address these questions, anthropology with theological and ecological dimensions is necessary. The theology and ecology need to be ‘deep’, reflecting the depths of evolutionary origin, destiny, and common environmental dependence shared by all life. Scientific and theological accounts of the distinctiveness of humankind then locate humankind within relationships with all creation, rather than emphasising human ontological difference from the rest of creation.

Our reliance on fossil carbon, with all its ambiguity, is both material component and symbol of human power to create and destroy. Divine creativity has become convoluted with human creativity because the creative biological cycles of death and new life have become entangled with the consequences of human action. This complex entanglement is explored in three parts. First, elements of a Christian anthropology for the Anthropocene are proposed. As Christ is central to Christian theology, the anthropology and God’s action in the world are both interpreted Christologically. The second part explores the larger picture of God’s action in the world. God’s action in the world long precedes human existence, and a great deal of creativity continues without interaction with human agency. Human activity is then part of this larger perspective, raising questions arising from the convolution of human and divine action. These questions bear directly on global warming, climate change, and the ambiguities of our reliance on fossil carbon. The chapter concludes by identifying the evolutionary basis

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5 Boff, *Global Civilization. Challenges to Society and Christianity*. 32
of human responsibility, and a Christological interpretation of its potential to be redeemed and directed towards creative wisdom.

2.2 Towards a Christian anthropology for the Anthropocene

2.2.1 Structures for a Christian anthropology

Christian anthropologies typically are structured around the themes of creation, of fall or of fallen condition, of redemption, and of new life in Christ pointing to final fulfilment of all things. Daniel Migliore, for example, discusses humanity under the headings of “Created Humanity”, “Fallen Humanity”, “The Meaning of Original Sin and Death as Enemy” and “New Humanity in Christ”.

In the Genesis creation stories, humans are made in the image of God, with God giving humans ‘dominion’ over all else that lives. Migliore interprets these stories as stories which ascribe to humankind the potential for God-like relationships, rather than God-like autonomy:

In agreement with numerous contemporary theologians, I would contend that the symbol “Image of God” describes human life in relationship with God and with other creatures.

For Peter Scott, this traditional three-fold organizing principle for a Christian anthropology is not “especially promising in the theological consideration of climate change.” Throughout most of Christian history, the primary emphasis has been on the relationship between God and humankind. Other creatures may be referred to, but in a secondary and sometimes subordinate role. A Christian anthropology for the Anthropocene requires a different expression of relationship. Conradie insists that:

Only a position which affirms both the commonality and the distinctiveness, and the continuity and the uniqueness of humanity vis-à-vis the rest of creation, is sufficient for an ecological anthropology.

Human distinctiveness remains, but traditional anthropocentrism is resisted by the shared evolutionary ancestry and interdependence of all creatures. It is also resisted by insistence on the relationship between God and all creatures having depth and integrity independent of humans.

7 ibid.145
8 Scott, "Humanity."109
9 Conradie, An Ecological Anthropology : At Home on Earth?129
Migliore writes as a contemporary theologian, well aware of trends to recognize more fully the deep evolutionary relationships of commonality and interdependence between human and non-human creatures. Celia Deane-Drummond points out that some theologians incorporate the ‘deep’ relationships amongst all creatures by extending the ‘image of God’ motif to include all creation. Others, such as Scott, retain use of ‘image of God’ for humankind while emphasising theological ground for understanding humankind in relationship with all creation. He describes his “proposal of an imago Dei” as:

evidently an attempt to offer a much more capacious version in which Trinitarian reference stretches the anthropos by reference to source, ground and direction.

Scott’s “Trinitarian doctrine of creation” moves beyond anthropocentric division of humanity and nature using a frame he names ‘the postnatural’:

I develop the theme and concept of ‘the postnatural’ to argue within theology that Humanity and Nature are not separate categories and need to be thought together.

Scott develops his doctrine of humanity with emphasis on human participation in God’s creativity through social institutions.

The theological anthropology proposed here is shaped by the overarching theme of theology in conversation with evolutionary science. Humankind is embedded temporally and spatially within the evolving web of life in the evolving Earth-environment. When considering human distinctiveness, rather than ‘social’ as chosen by Scott, the broader category of cultural evolution is used. This approach incorporates scientific recognition of human distinctiveness while resisting anthropocentric tendencies to diminish the importance of the inter-relatedness of all creatures.

There are several parallels between the stories of humankind in evolutionary science and in Christian theology. It is proposed that these parallels form the structural basis of a Christian anthropology for the Anthropocene. The scientific location of humankind within the evolving web of life meets the theological position that humankind are

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10 Celia Deane-Drummond surveys other theologians’ ecologically oriented interpretations of imago Dei. Among these are Sallie McFague and Jürgen Moltmann who interpret imago Dei as extending to the Earth or to all creation. Celia Deane-Drummond, Eco-theology (London: Darton, Longman and Todd, 2008).152,171
11 Scott, "Humanity." 119
12 ibid.109
13 ibid.110
creatures amongst the family of all creatures, all of which exist through the love and purpose of the Creator. The emergence of humankind as an ambiguous agent of evolutionary change parallels the theological tension between humankind bearing the image of God, yet acting in ways which are often ambiguous and even outright destructive.

The damaging relationships between humankind, non-human life and the environment find theological expression in ecological sin. Efforts to resist ecological destruction find theological encouragement in the Christian good news that redemption from the power of sin has been made possible through Christ. Bringing forth new life and hope is costly, with suffering, death and new life central to both evolution and the Christian story. The suffering and death of Christ not only places God at the heart of suffering caused by human agency, but also all evolutionary suffering. The emergence of cultural evolution introduces new evolutionary possibilities, guided by individual and communal human decisions and actions. Christian understanding of the redemptive work of Christ brings a tradition of guidance and judgment to these decisions and actions, and the visions and motivations behind them. Human awareness of time enables exploration of the past and imagination of the future, provoking reflection on whether the evolutionary story has any meaning beyond itself. In Christian understanding, that meaning is to be found in Christ, with the resurrection of Christ pointing to a horizon of hope where death – even the death of the planet or the universe – is not the last word.

The proposed basis of a Christian theological anthropology for the Anthropocene, therefore, brings together the scientific story of evolution and Christian belief. In Christian belief, how God is imagined and how human potential to represent the image of God each find expression in Jesus Christ. In turn, the relationships of humankind within and to the rest of creation are illuminated by traditions of Jesus Christ creatively and redemptively present to humankind and all to creation.

2.2.2 Creatures among creatures

What theological implications are there when humans are understood to be creatures intimately related to and interdependent with non-human creatures? Here ‘creature’ and ‘creation’ are understood “in a strong sense – we are created – and that implies a
Creator, and a Creator understood to be good.”

So understood, all creation is theologically alive with a teleology arising from God’s transcendence and which is absent from and alien to scientific thought and methodology. In the triangle of relationships, God is placed at the apex. Under God, the close relationship between humankind and other creatures is in tension with human distinctiveness, and turns our attention to the other two corners of the triangle. Humans are placed with all creatures at one corner, emphasising inter-dependence in shared evolutionary history and future destiny. Humans are placed alone at the other corner, identifying a degree of distinctiveness from other creatures. The triangle image identifies two God-ward strands of relationship. The relationship between all creation, including humans, with God, draws on scientific and theological insights into commonality. The relationship between humans with God draws on scientific and theological insights into human distinctiveness. The third, ‘horizontal’, strand of relationship draws on both human distinctiveness and human commonality in interdependence with all creatures.

Rachel Muers concurs with most eco-theologians that ecotheology commonly locates humankind among the great family of all creatures. She insists that “pausing at ‘creatures’ has a critical function. It forces us to acknowledge nonhuman creation in its needs, desires and interests in relation to God.”

Muers argues that:

Pausing at ‘creatures’ locates humanity among the ‘creatures’. We do not attend to the other creatures simply in order to learn who we are; their specific scale, power, beauty, diversity, unpredictability and order exceeds anything we could conveniently integrate into a theological anthropology.

Muers’ observations guide a ‘deep’ theological anthropology away from anthropocentrism. Although theological anthropology is about humankind and God, humankind is not therefore the only or the surpassing focus of God’s grace. Neither is humankind independent of the rest of creation. Traditional Christian anthropologies give insights into humankind in relationship to God, and contemporary understanding

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14 Soskice, The Kindness of God. Metaphor, Gender, and Religious Language. 36
15 Monod, Chance and Necessity. 30,31: “The cornerstone of the scientific method is the postulate that nature is objective. In other words, the systematic denial that ‘true’ knowledge can be reached by interpreting phenomena in terms of final causes – that is to say, of ‘purpose’. … Of this claimed objectivity, Monod observes that it is “pure, and impossible to demonstrate. For it is obviously impossible to imagine an experiment proving the non-existence anywhere in nature of a purpose, of a pursued end.”
17 ibid. 91
requires a further dimension. Theological anthropology for the Anthropocene “locates humanity among the ‘creatures’”. It then has to be attentive to humankind’s dependence on other creatures, humankind’s impact on their thriving, and God’s grace and care for all creation. A Christian anthropology for the Anthropocene needs to make this location explicit. In doing so, it confronts the human institutions, attitudes and actions which are driving the Earth towards ecological disaster, and which are dealt with in ecotheology as ecological sin.\(^\text{18}\) It is then necessary that theological understanding of humankind draws on the central themes of Christology, soteriology and eschatology.

In Biblical tradition, Genesis 3 introduces fall from right relationships with other creatures and with God. The story probes the roots of fall and reflects on its consequences. In the story, toil, conflict, pain and suffering are the result of wilful disobedience to God. Migliore is concerned with the ‘fallen’ condition of humankind, rather than with the role of either the Genesis story or of science as an explanation of how humankind came to be in this condition:

Our next task, then, is to describe in greater detail this condition of sin as a disruption of the created dimensions of human existence. If we are created for relationship with God who is wholly different from us and for relationship with other creatures who are relatively different from us, sin is a denial of our essential relatedness to those who are genuinely “other.”\(^\text{19}\)

The Christian good news is that Jesus Christ has broken the power of sin and overcome its death-dealing consequences. Healing of relationships with the ‘other’ – other creatures and God – decisively has been made possible through Jesus Christ. What it is to be human, and human possibilities, are therefore inseparable from Christology. The new life in Christ of which Migliore writes is life in which Christ is normative. “For Christian faith and theology, the life, death, and resurrection of Jesus will constitute the decisive norm of both true divinity and true humanity.”\(^\text{20}\) We humans, in all our ambiguity, are creatures amongst creatures, scientifically related to all creation through evolution and theologically related through Christ. Humankind stands before God with all creation, and in Christian tradition all things have come into being through Christ, the divine Logos. The potential ‘image of God’ which humankind bears through creation may be progressively healed and fulfilled in Christ. A Christian anthropology


\(^{19}\) Migliore, *Faith Seeking Understanding. An Introduction to Christian Theology*. 154

\(^{20}\) ibid. 146
for the Anthropocene therefore is centred in an understanding of who Christ is, and how Christ’s presence may be known, judging and redeeming humankind, human affairs and their impact on all creation.

2.2.3 Human ambiguity and the suffering and presence of Christ

A theological anthropology for the Anthropocene may be general, exploring how humankind’s place in evolutionary history reflects or contradicts ways in which we imagine the Creator. What, for example, does the pain and suffering inherent in evolution suggest to us about the Creator? Even without suffering caused by human agency, an evolutionary interpretation of creation by a loving God poses difficult questions of theodicy. The theology also may be specific to a particular tradition and, as in the present work, to Christian tradition. The suffering, death and resurrection of Christ are good news that God is present to all suffering, bringing hope in the trials of life and death, and beyond death itself. In every age, the cry of lament asking where God is in the agony of suffering becomes, in Christian theology, where is Jesus Christ? What has the suffering of Christ to do with my suffering, or any suffering? In the Anthropocene, humankind’s power to cause suffering has greatly increased with access to concentrated energy. Fossil carbon powers industrialized war and drives climate change, and nuclear energy has brought apocalyptic catastrophe and death-dealing threats from uncontained radiation.

Writing from his prison cell in 1944, and wrestling with the relevance of Christianity in a “world that has come of age”, Dietrich Bonhoeffer asked “What is Christianity, or who is Christ actually for us today?”21 If Christology is to be an effective interpretive lens for Christian anthropology today, responses to this question require continuous re-shaping so that a clear focus on changing issues and contexts remains possible. Who Christ is for us today invites the question of where Christ is for us today. Jürgen Moltmann responds by bringing the cosmic Christology found in Colossians and Ephesians to the fear of chaos and possible nuclear annihilation symbolized by the 1986 Chernobyl disaster. He asks:

Today a cosmic christology has to confront Christ the redeemer with a nature which human beings have plunged into chaos, infected with poisonous waste and

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condemned to universal death, so that he can save men and women from their despair and nature from annihilation. Where is Christ after Chernobyl?  

Today, the Fukushima nuclear disaster, the actual and projected expansion of nuclear plant, particularly in China and India, and continuing gradual spread of nuclear weapons are all reminders that the threat of further nuclear disasters is still very much alive. However, climate change and global ecological degradation also present as a great threat and are currently more to the fore in the public sphere.

Humankind has already seen nuclear disasters. We know that they start as discrete events, whether the apocalyptic destruction of nuclear warfare or the insidious but unspectacular meltdown of a reactor. They are inscribed in human memory, instantly recoverable on-line. The long aftermath of living and dying with radiation and inter-generational radiation damage is well documented too. It is clear what is to be feared. Climate change is different. It is slowly emerging as measurable change from within natural variability, exacerbating the multiple problems of drought, famine, flood and fire, loss of home and migration, and conflict over resources, with which humankind already lives. The worst case scenarios for the end of this century are modelled in some detail, but we have not yet been there.

Whether fear for the future is based on the nuclear past or the creeping emergence of climate change, these threats to life on Earth are consequences of human activity and, from a Christian perspective, “confront Christ the redeemer”. Hope of redemption from human actions which “confront Christ the redeemer” lies in God’s action in the world through people who, however imperfectly, reflect the image of God redeemed in Christ.

Whether or not their work flows from conscious Christian faith is a matter for God, but for the Christian community, Jesus’ words at the end of John’s gospel are apt: “What is that to you? Follow me!” (John 21:22). Answers to the questions of who Christ is for us today, and where Christ is for us today, are central to a Christian anthropology for the Anthropocene. They also guide Christian perceptions of how humankind participates in or opposes God’s creative and redemptive action in the world.

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24 For a sociological and ethical perspective on the distinctiveness of climate change, see Scott, "Humanity."111-113
To discern Christ amidst the critical issues which define the Anthropocene, it is necessary to explore how traditional understandings of Christ, humankind, and all creation influence Christian understanding today. To what extent do they inhibit rather than enhance action which may be read as participation in divine creativity in a world we know to be deeply interconnected? The Biblical story was shaped in cultures which commonly assumed material-spiritual dualism. The echoes of this dualistic thought can and do lead to pitfalls inhibiting progress in interpretation and application of Christian tradition in a scientifically informed age. These dangers need to be addressed, while still maintaining firm roots in Christian tradition.

Christian theology draws on a long heritage of memory and interpretation of Jesus as Christ in ever-changing human contexts, imagining Christ in ways which judge, guide and have power to redeem contemporary lived experience. In the dialectic between how the world is experienced and interpreted, including interpretation using sciences, and the imagining of Christ, each influences and informs each other. How Christ is imagined and how the world is experienced and interpreted all draw on traditions and understandings with deep historical roots and multiple cultural variations. Richard Grigg describes this dialectic of interpretation as one which is:

the christological circle, and it informs the whole historical unfolding of the Christian tradition in its interactions with various societies and cultures.\(^\text{25}\)

Grigg notes that in order credibly to be part of the unfolding of Christian tradition, “Christological constructions must be rooted in the Christian tradition”, even though “that tradition is necessarily a permeable membrane”.\(^\text{26}\) Grigg’s image of a permeable membrane captures the way in which new ideas and interpretations of new situations diffuse into the tradition, challenging it to select, test and assimilate so that the tradition may continue to grow with robust relevance. This process of diffusion and assimilation follows from science-theology conversation as each tells its own distinctive story of life. A dialogue between Christian and scientific stories of what it is to be

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\(^{26}\) ibid. 39
human is essential if Christian anthropology is to address the impact of humankind on the Earth-environment.

As interpreted from a Christian perspective the Old Testament Scriptures tell the story of preparation for the fullness of time when God is revealed in Jesus Christ, who comes to “fulfil all righteousness” (Matt 3:15), bringing healing, restoration and fulfilment of right relationships. The New Testament Scriptures remember and interpret Jesus’ coming and the birth of the early church. Following Jesus’ death and resurrection, his followers are being transformed by the Spirit, into his image, in anticipation of eschatological fulfilment in which “the creation itself will be set free from its bondage to decay and will obtain the freedom of the glory of the children of God.” (Rom 8:21).

From a scientific perspective, humans are part of the web of life which has evolved in the thin surface layers of Planet Earth. The story of evolution of life tells of continuity between humans and all living creatures. It tells of competition and conflict as major driving factors in evolution, including in human biological and cultural development. Suffering, death and regeneration are integral to the creative processes of evolution. The story also tells of the coming into being of human cultural and social characteristics in which language has a prime role and which make possible accumulation of knowledge and artefacts from generation to generation. The scale and effectiveness of this inter-generational transfer uniquely equips humans with ever-increasing power to modify the environment in order to promote human survival and consequent population increase. The resulting human condition offers possibilities ranging from a better and more wisely, justly managed world, to catastrophic failure with collapse of human institutions, development of a hostile environment and widespread suffering, death and extinctions. Our use of fossil carbon simultaneously empowers both possibilities – the works of home sapiens and the works of homo demens. Overshadowing all is the fear of ultimate meaninglessness arising from the apparent inevitability that all life on planet Earth will eventually be extinguished in cosmic catastrophe.

Biblical and scientific narratives of the human condition each reflect three intuitively obvious strands of observation and experience. Humans are part of the wider creation and have many biological and some behavioural characteristics shared with animals; humans have social and intellectual characteristics which differentiate them
from other animals and enable them to exert control over parts of the non-human world; and human life is beset by toil, difficulty, suffering and death with an uncertain future which mixes elements of high hopes and deep fears.

Although the two narratives share common human experience, they have been developed in different cultural contexts by people with very different cosmologies. For example, the Biblical narrative knows nothing of the Earth being a globe, let alone the possibility of a global ecological crisis in any modern sense. Nevertheless, it does give expression to the fearful possibility that everything may pass away amidst great suffering. That consciousness is grounded in local catastrophes which have occurred regularly throughout human history. For those facing death and unable to see beyond the immediate, the particular catastrophe engulfing them might as well be cosmic. The Biblical narrative rejoices that humankind should increase, multiply and fill the Earth according to God’s command, but is unaware of the possibility that this fecundity and God-given Earth-dominance will eventually bring on a multi-dimensional ecological crisis. How could the writers of Biblical times have foreseen this? Who today would confidently predict terrestrial affairs two hundred years from now, let alone two thousand? The very commonality of the human experiences to which each narrative gives expression makes dialogue between them possible. The dangers arising from humans living by a single narrative and ignoring others provide a strong incentive for such dialogue.

When considering the dangers of living by a Christian narrative which does not attempt to dialogue seriously with contemporary science and the global ecological peril which it exposes, Conradie identifies:

especially four crucial areas where Christian piety has often inhibited an environmental ethos, spirituality and praxis, namely a worldless notion of God’s transcendence, a dualist anthropology, a personalist reduction of the cosmic scope of salvation and an escapist eschatology.

Narrowly interpreted, the spiritual-material dualism which Conradie identifies relegates the ‘world’ to an inferior and transient background, like a stage set within which the salvation history of humankind is acted out. In such a view, that which really matters
is preparation of human souls for heaven, with the material world consigned to
destruction. The dominant teleology then lies along the God-human axis, with little if
any ascription of ultimate meaning and purpose to the rest of the creation.

Conradie’s first warning is against a “worldless notion of God’s transcendence”. Using the science-theology discourse developed in Chapter 1, God’s transcendence may be imagined as continuous with God’s immanence in the world, whether that immanence is described panentheistically as God within the processes and fabric of the world, or in more classical theistic terms as God being present to the world. Indeed, when considering science and theology together, it is faith-based insistence that God is transcendent which resists ways of imagining God’s immanence in the world from collapsing into scientifically informed pantheism. Insistence on God’s transcendence also breaks potentially idolatrous circularity in describing humans as made in the ‘image of God’. That circularity is implicit whenever human descriptors for attributes of God are used and their limited applicability as metaphors is not acknowledged. This danger persists even when the descriptors are prefixed by ‘almighty’, ‘omni-’ or other ways of extrapolating to the edges of imagination. If a profound sense of mystery and transcendence is not maintained, then the door is open for people to act in God’s name in ways informed by a misplaced over-confidence in their beliefs about the nature of God. Where there is reverent awe in response to the transcendent mystery of God, the door is more easily opened for dialogue with a broader spectrum of wisdom, including ecological wisdom. If humans, as bearers of God’s image, ultimately cannot be described in terms of how God is since God is radically transcendent, then the focus moves from imagining what God is like to what it means for humans to live as bearers of ‘the image of God’.

Conradie’s second warning is against “a dualist anthropology”. Christian tradition has a long history of expressing such dualism, using pairs such as ‘matter-spirit’ or ‘body-soul’. Such dualism finds extreme expression in the work of the 17th century CE philosopher René Descartes. By that time the remarkable successes of mechanics and the evident power of human rationality led Descartes to the view that bodies were mechanical and the soul was a uniquely human attribute represented by the intellect. Colin Gunton observes that: “Overall, the message is clear: with a dualistic cosmology,
a dualistic anthropology is likely to be correlative.” However, if God’s transcendence of and immanence to the world is imagined as continuous, then it is also possible to imagine ‘body and soul’ in a non-dualistic way. A theologically unitary view of the human person parallels contemporary scientific understanding. Although contemporary secular modifications of the idea of soul such as ‘mind’ or ‘ego’ have ongoing empirical use in clinical psychology, the trend in scientific understanding of the human person is towards holistic “physicalism”. Murphy and Brown take physicalism to mean:

simply the denial that anything needs to be added to the living human body to constitute a human being. We shall argue emphatically that it does not mean that human behaviour can be understood in terms of physics or even all of the physical sciences.  

Murphy and Brown go on to argue the importance of inclusion of relationship to the total social and non-human environment in delineating what it is to be human. Persons do not exist in isolation, either in scientific or theological description. Conradie also warns against “a personalist reduction of the cosmic scope of salvation” and “an escapist eschatology”. A “personalist” focus is resisted by insistence on the continuity of humankind with all creation at all levels of human being. If we insist that humans, and all the rest of creation, are bound together by the Creator in a common evolutionary history through which the all-inclusive telos of God is emerging, then escapist eschatology also is excluded.

A Christian anthropology for the Anthropocene which avoids dualistic cosmology is well placed to resist traditional anthropocentrism. However, the distinctiveness of humankind is an evolutionary reality, expressed in the emergence of culture which is powerfully integrated globally and temporally. The theological motif of ‘image of God’ remains central to theological recognition of human distinctiveness, but its contemporary interpretation requires movement away from body-spirit dualism. Expression of the presence of Christ in and through people then has strong this-worldly orientation towards the divine wisdom of creative redemption and healing.

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32 ibid.51
33 Murphy and Brown, Did My Neurons Make Me Do It?1 footnote
34 Conradie, An Ecological Anthropology : At Home on Earth? 2
2.2.5 Humankind, Christ and the Image of God

In Christian history, the ‘image of God’ motif leans towards ontological separation of humankind from other creatures, with little concern for shared commonality and interdependence. Such an approach rests comfortably with spiritual-material dualism, replete with the dangers which Conradie identifies. One approach, with a long history, identifies human characteristics which are believed to be distinct from those of non-human animals and which are perceived to be ‘good’ attributes. The implication is that since humans alone are declared to be created in the image of God and humans alone have these characteristics, these characteristics are God-like. Human characteristics which may be distinctive but deemed ungodly are attributed to the fallen state of human nature. Mark Mangano finds this approach in the second century writings of Irenaeus, in the first century Judaism of Philo, and the mediaeval Judaism of Maimonides. Each of these identifies the human mind or human reason as the human characteristic which particularly makes humans in the image of God. In that case, Fergusson observes that: “By virtue of possessing reason, intellect, and soul, human beings are ontologically set apart from other creatures of the earth”. Creativity and ‘dominion’ over all other living creatures are amongst other attributes that have been similarly used as attributes of the image of God. Identifying reason, intellect, creativity, soul and dominion as attributes which set humankind apart also fits comfortably with theistic Enlightenment thought, drifting away from distinctive Christian interpretation. This drift is countered by return to Christological interpretation of the ‘image of God’.

In Christian tradition, the ‘image of God’ is reinterpreted in light of the person of Christ. Human fulfilment is then found in the process of transformation into the image of Christ (e.g.II Cor 3:18), whom the writer of Hebrews describes as “the reflection of God’s glory and the exact imprint of God’s very being.” (Heb 1:3). From this perspective, a focus on specific characteristics such as human rationality, creativity or dominion over other creatures is inadequate. Such characteristics may still be sustained as aspects of the ‘image of God’, but only as interpreted within a wider vision of human possibility. That wider vision is formed and interpreted eschatologically around the person of Christ and of relationship to God and to all creation. Douglas John Hall describes this “different anthropology” as:

36 Fergusson, Creation.97
part and parcel of the same ontology that has expressed itself in a different theology in many contemporary schools of Christian and Jewish thought – what…..we called earlier “the ontology of communion”. This understanding of being is inherently relational: being-with. The “image of God” concept, when it is understood within such an ontological framework, cannot be defined as an endowment but as a quality of the relationship between creature and Creator.\(^{37}\)

The ‘image of God’ then is neither a description of human distinctiveness in a mythical primitive pre-fall state, nor of what it is to be distinctively human in the here-and-now. Rather, it captures the ‘already but not yet’ of present and future human possibilities opened up by the saving work of Christ. ‘The image of God’ so imagined is thus Christological, soteriological, and eschatological.

The New Testament Scriptures depict and interpret Jesus Christ in relationship to people individually, in groups and communities, and across the divide of Jew and Gentile. Jesus Christ is also interpreted as being with and in God, creating and sustaining the cosmos. An interpretation of the ‘image of God’ which comprehensively reflects these depictions and understandings will be relational, embracing relationships of humans with humans individually, in community, and between communities, of humans with all creation, and of all to God. Gunton describes this as “relatedness (that) takes shape in a double orientation”:

We are persons insofar as we are in right relationship to God. Under the conditions of sin, that means, of course, insofar as the image is reshaped, realised, in Christ. . . . The relationship to God takes shape through the Son and the Spirit. To be in the image of God therefore means to be conformed on the person of Christ. The agent of this conformity is God, the Holy Spirit, the creator of community. The image of God is then being that human which takes shape by virtue of the creating and redeeming agency of the triune God. The second orientation is the ‘horizontal’ one. . . . The human person is one who is created to find his or her being in relations, first with other like persons but second, as a function of the first, with the rest of creation.\(^{38}\)

We may say therefore that it is ‘god-like’ to be able to relate to and creatively work with other humans and with all creation with a measure of understanding and delight nourished by belief that all derives from God, however named or imagined. It is human to human relationships which make possible relationship with the rest of creation. Without human community we would have no capacity for any of these relationships –

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no language, no culture and no development of the forms of reason which have opened up reflective thought to the level where such questions are articulated.\textsuperscript{39}

The ‘image of God’ so imagined is neither located in individuals nor in community alone. Rather, the ‘image of God’ is located in individuals who are in community and in communion with all creation and with God. This communion is creative, giving space for individuals to develop an individuality that is born and thrives on free, wise, loving interaction with others in community. This broader community in turn embraces communion with all creation, and all with God. The ‘image of God’ is found in communities in which love of God and love of neighbour permeates all relationships. Gunton observes that ‘image of God’ understood in these embracing relational terms “relativises so many inherited dualisms”.\textsuperscript{40} Such a relational interpretation of the ‘image of God’ also embraces ecological care and responsibility. Ecological care and responsibility are rooted in a god-like relationship of inter-dependent creativity and human delight, rather than mere human self-interest.\textsuperscript{41} The image of God so understood also finds eschatological fulfilment in Christ. “It is because Jesus is ‘the image of the invisible God’ that God works ‘through him to reconcile all things, whether on earth or in heaven’.”\textsuperscript{42}

In Christian understanding, “in Christ God was reconciling the world to (God’s self)” (II Cor5:19), established once and for all in Christ’s death on the cross, and effected through Christ’s presence in the power of the Holy Spirit. Daniel Migliore asserts that:

Responsible Trinitarian thinking must always begin with the so-called economic Trinity (i.e. the one yet threefold agency of Father, Son and Spirit in the “economy” of salvation). . . To the gospel story, God is active as “Father”, “Son” and “Holy Spirit” as the source, the medium and the effective power and promise of liberating and reconciling love.\textsuperscript{43}

\textsuperscript{39} Soskice, \textit{The Kindness of God. Metaphor, Gender, and Religious Language.}\textsuperscript{50}  
\textsuperscript{40} Gunton, “Trinity, Ontology and Anthropology. Towards a Renewal of the Doctrine of the Imago Dei.” 59-60  
\textsuperscript{41} Self-interest can nevertheless be a strong driver of some ecologically important outcomes. However, human self-interest is of limited intent, and liable to destructive consequences (intended or unintended) for other humans and for ecologies which are not of immediate concern.  
\textsuperscript{42} Gunton, ”Trinity, Ontology and Anthropology. Towards a Renewal of the Doctrine of the Imago Dei.” 60-61 quoting Col.1:15-16  
\textsuperscript{43} Migliore, \textit{Faith Seeking Understanding. An Introduction to Christian Theology.}\textsuperscript{71}
Christ is the image of God, and whenever humankind reflects the image of God, however imperfectly, Christ is present and the Holy Spirit is the life-giving breath of God. The image of God is reflected in communities and by individuals whenever they resist the ever-present tendency for humans to be homo demens, and the orientations and actions which theology calls sin. The image of God is reflected in work towards the reconciliation and healing which brings in the reign of God, and which are present signs of its eschatological fulfilment. The lived witness of people and communities that reflect the image of God is a partial answer to Bonhoeffer’s and Moltmann’s questions of whom and where Christ is in today’s world. A Christian interpretation of God’s action in the world therefore must focus on how Christ’s presence is discerned in the world.

2.3 Interpreting of God’s action in the world.

2.3.1 The Centrality of the Christ-event

When speaking of God’s action in the world, Gregersen observes that:

It is pertinent to make clear whether we are speaking theologically from an internal perspective of lived Christian faith, or in terms of an observer-neutral theory about theism as a causal explanation of the world. Setting aside whether an “observer neutral theory” is possible, specific faith positions depend on conviction that belief in God is compatible with scientific understanding. The present conversation between open-ended understandings of science and Christian tradition represents one way of establishing such a conviction. Using this framing, the interpretation of God’s action in the world being developed here has elements which could stand alone as theistic causal explanations, but its primary perspective is Christian.

A Christian anthropology for the Anthropocene focuses attention on how Christ may be discerned as present, judging and redeeming humankind and human activity. Even though human agency has come to define the Anthropocene, God’s action in the world long precedes humankind, and in today’s world multiple creative processes untouched by human agency continue to take place. A theology of God’s action in the world includes a Christian interpretation of humankind, but it also extends far beyond. To

Gregersen, "The Creation of Creativity and the Flourishing of Creation." 404
faith, all is God’s creative work, and to Christian faith Jesus incarnates the divine presence and power at work in all creation throughout evolutionary history.

When considering God’s action in the world, the scientific context for theological attention is the dynamic Earth environment which is the matrix for all life, including humankind. This is the context within which the drama of human experience is played out. In creating humankind through evolutionary emergence, God is forming a new creative agent with potential to image God’s-self and live in loving relationship with God. A central part of the potential to image God is creative freedom, including the possibility to be creatively wise or destructively foolish, *homo sapiens* or *homo demens*. Human creativity may be judged part of divine creativity, or may be judged to work against divine creativity. In many instances, as with the ambiguity of our reliance on fossil carbon, the boundaries between the two are blurred. The sheer complexity of human affairs and their interaction with the world makes discernment of what is and what is not divine creativity a difficult and at times impossible task. In Christian faith, this task is approached through attempts to discern Christ’s creative and redemptive presence in today’s world.

Edwards insists that a Christian theology of God’s action in the world is grounded, “not simply by reference to a general theology of creation, but in what Christians see as the decisive act of God in our human history, the Christ-event.” He describes the Christ-event as “the life, death and resurrection of Jesus and the outpouring of the Holy Spirit.” Edwards, How God Acts. Creation, Redemption and Special Divine Action.15 A Christian theology of God’s action in the world also is grounded in belief in the Christ who has “ascended” into transcendence of the limits and boundaries of the physical world. Douglas Farrow highlights tensions which a doctrine of ascension brings. Farrow’s interpretation of the doctrine again raises questions of “Who is Jesus Christ for us today?” and he adds: “Conversely, who are we – who am I – for Jesus Christ today?” Douglas Farrow, Ascension Theology (London: T and T Clark, 2011).57 These are confronting questions because:

The doctrine of the ascension, properly understood, does not articulate an optimistic faith in an era of progress in unity of equality, and of advance towards God. It articulates the most primitive and the most costly of all Christian confessions: Κύριος Ἰησοῦς, Jesus is Lord. Edwards, How God Acts. Creation, Redemption and Special Divine Action.61
There is tension between this “most costly of all Christian confessions” and allowing the context and our needs or desires unconstrained influence on how Christ’s presence is imagined.\textsuperscript{48} Grigg’s insistence that “Christological constructions must be rooted in the Christian tradition”\textsuperscript{49} provides a necessary but often unsettling guide to resolution of this tension.

For Christians of any generation, Jesus of Nazareth, whose human life was fully part of the trajectory of history, is the intersection between how the cosmos and human affairs are experienced and Christian theological reflection on their meaning and purpose. This theological reflection has drawn on ways of thinking, including cosmologies and metaphysics which have changed, sometimes profoundly, with time and place.\textsuperscript{50} Articulating a Christian theology of creation through evolution is an ongoing part of that tradition. In construction of a Christian theology of creation through evolution, Jesus of Nazareth, remembered and interpreted, is the point of contact on which theology is grounded, and the foundation on which it is built.

A Christian theology of God’s action in the world raises several questions. There are questions which are concerned with the broad scope of creation. In what ways does a contemporary evolutionary understanding of the cosmos challenge older traditions of imagining God’s action in the world? How may the Christ-event be interpreted and used to interpret the emergence of life, including humankind, in the context of a scientifically based evolutionary understanding of the cosmos and evolution of life on Earth? There also are questions which draw more on Christian anthropology and impinge directly on how humankind lives on Earth. How may the Christ-event guide us in the present crisis of global ecological unsustainability, right down to immediate questions arising from our reliance on fossil carbon? What has that “most primitive and the most costly of all Christian confessions: Κυρίως Ἰησοῦς, Jesus is Lord” to do with our attitudes to climate change and the ambiguity of our reliance on coal, oil and gas? There are also complex questions of theodicy, where human action has modified the course of natural events which result in suffering. Climate change is becoming a pervasive and inescapable example. Where is Christ in destructive weather events which are intensified by global warming? Where is Christ as shifting climate drives

\textsuperscript{48} ibid.53
\textsuperscript{49} Grigg, Imaginary Christs. The Challenge of Christological Pluralism.39
\textsuperscript{50} The issue of changing cosmologies is addressed in Delio, Christ in Evolution.
creatures to extinction and displaces people from their homes? Where is Christ in the human responses to this unfolding tragedy?

Answers to these questions depend on how beliefs grounded in Christian tradition are interpreted within science-theology conversation. The incarnation earths Christian beliefs late in human history, itself a late episode in the larger story of cosmic and terrestrial evolution. Today our growing understanding of evolution, and of humankind as an evolutionary force, makes it necessary to revisit and reinterpret Christian traditions of God’s creative work.

2.3.2 New wine in old wineskins: Creation from beginning to end

There are contrasts and commonality between older traditions of imagining God’s action in the world and a contemporary understanding in which the emergence of the new takes places within the overall evolutionary story. The scientific and the Christian narratives each portray progression from a beginning to an end. Although the scientific account of how the universe comes into being is described within a counter-intuitive framework of relativistic space-time, it is commonly described as evolution over time starting with the “Big Bang” and continuing into an indefinite future in which all physical creative processes gradually fade away. A compatible theology sees God continually creating through the processes of nature, whatever other significance may be ascribed to these processes. The Christian narrative also assumes a sense of time, since it is grounded in story unfolding within human history. However, within it ‘beginning’ and ‘end’ go beyond the temporal meanings of scientific discourse. They have a deeper significance which expresses meaning and purpose. “In the beginning”, or en arche of John 1:1 and Genesis 1:1 in the Greek of the Septuagint (LXX) points to origin in the sense of God’s purposes and authority. ‘End’, or eschaton similarly points to their final fulfilment within God, who is the beginning and the end, “the Alpha and the Omega” of Revelation 1:8.

This difference in how ‘beginning’, ‘end’ and all in between function in scientific and in religious discourse reflects the underlying purpose of each. The former is primarily concerned with the physical, and its internal relationships and the laws which it appears to obey. The latter is primarily concerned with metaphysical questions of

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51 This is an alternative way of describing the ‘heat death’ of the universe. See also Polkinghorne, *Theology in the Context of Science*. 204
meaning and purpose in general and of human existence in particular, interpreted as occurring within the will and purposes of God. However, in Christian theology the separation is by no means clear-cut, as God’s providence is traditionally portrayed not only to act within the normal course of nature, but also in ways which occur within human experience but which are remembered as transcending the normal course of nature. This is particularly the case in the ‘Christ-event’, which is remembered and interpreted in ways which include miracles, resurrection and ascension.

Christians in a scientifically informed age thus find themselves with two different narratives. In places, these narratives appear contradictory, particularly when the Bible is naively read as if it were a modern text. The Christian narrative includes creation, redemption and eschatological final fulfilment, all of which are about God’s will and purposes for humankind and all creation, and for which the Christ-event is central. The Judaeo-Christian stories of creation and of fall in Genesis 1 to 3 are so different from the contemporary evolutionary perspective that the two can only be brought into conversation when the biblical story is understood to be a mythical way of sharing beliefs and insights into human nature and God’s action and providence. This position is well supported by biblical exegesis, and is the position taken here.

Ever since Darwin, and even before, an obvious theological response to insights into nature’s internal creativity is to see God as the creator of the creative powers of nature. God is then understood to be creatively at work in and through the natural processes which we partially discern. This broad and general faith statement gives an over-arching way of expressing God’s creative activity within the physical universe, and typically is assumed in contemporary theology which sees the creation as creating itself through multiple self-organizing processes. In biblical thought, the writer of Hebrews believed, with equally over-arching vision, that “God has spoken to us by a Son….who sustains all things by his powerful word.” (Heb 1:2-3) Neither statement conflicts

In this context, ‘mythical’ is a contested category. Some commentators emphasise the difference between the Genesis stories and other ancient creation stories. See, for example, Allen O P Ross, Creation and Blessing. A guide to the Study and Exposition of the Book of Genesis (Grand Rapids: Baker, 1988). 52-54. Others emphasise the place of the Genesis stories within a more broadly-conceived discussion of myth. See, for example Joseph Blenkinsopp, Creation. Un-Creation. Re-Creation. A Discursive Commentary on Genesis 1-11 (London: T and T Clark, 2011).11-19


Gregersen, "The Creation of Creativity and the Flourishing of Creation." 400
with the scientific point of view that natural processes will take place according to their own laws, regardless of how we interpret them theologically and regardless of how little or how well we understand them scientifically. However, a theology of creation through evolution must address the issue of the integrity of the self-creating dynamics of the creation in detail as well with broad statements. Tension arises with those parts of the biblical stories and the interpretive experience of the church whenever God is depicted as acting miraculously in the sense of outside of natural processes.\textsuperscript{56}

There are several strategies for dealing with this tension. Some events understood as miraculous in other times and places have possible explanations coherent with contemporary critical understanding of how nature works and of human meaning-making and literary expression. They may be ‘de-mythologised’ by appeal to literary forms and purposes and psychological possibilities, critically analysing ways of understanding deemed long since obsolete.\textsuperscript{57} Another strategy recognizes God as acting in and through all natural processes, but finds a place for God to bring about particular outcomes within the inherent uncertainties operating in many natural processes. This is analogous to human freedom of action, which is possible because of the highly complex and partially indeterminate nature of human consciousness and decision-making.\textsuperscript{58} We live in, and are part of, a total environment which is both sufficiently reliable and sufficiently flexible for our decisions and actions to alter the course of events. John Polkinghorne argues that:

There is a sense in which all free action, ours or God’s, depends on “gaps”, the inherent incompletenesses which make openness possible, just as the resultant flexibilities require for their lasting significance that they be exercised within a generally reliable environment. God is the sustainer of the whole of his creation, the God of “gaps” and regularities alike.\textsuperscript{59}

\textsuperscript{56} Miraculous may have meaning which is much broader than an event outside of natural processes. See, for example Robert A. Larmer, "The meanings of miracle," in \textit{The Cambridge Companion to Miracles}, ed. Graham H Twelftree (Cambridge: Cambridge University Press, 2011).

\textsuperscript{57} This approach has a long history and the work of Dominic Crossan represents a contemporary example. John Dominic Crossan, \textit{The Birth of Christianity. Discovering what happened in the years immediately after the execution of Jesus} (San Francisco: Harper, 1998).

\textsuperscript{58} Murphy and Brown, \textit{Did My Neurons Make Me Do It?}

\textsuperscript{59} John C Polkinghorne, \textit{Science and Providence: God’s Interaction with the World} (Philadelphia and London: Templeton Foundation Press, 2005). 33-42. The “gaps” referred to are not gaps in knowledge appealed to by advocates of special “intelligent design” to argue for the existence of God. Rather, they are the uncertainties inherent in natural processes, arising on both the microscopic scale where quantum effects dominate, and on the macroscopic scale where complexity and chaos leave open multiple possible outcomes.
Because Christian theology is concerned with creation, redemption and eschatological fulfilment as a whole, it is concerned not only with how and why God creates the natural world, in the sense of all that science explores. It is also concerned to give meaning to experiences of suffering and death, proclaiming redeeming hope which goes beyond the seeming inevitability of final oblivion of individuals, of species, and even of the Earth itself. It gives meaning and hope in and beyond suffering and death by finding Christ crucified at the centre of all suffering. Christ’s death and resurrection speak of hope which transcends the worst that can happen from the violence of nature, human folly, or a convolution of both.

2.3.3 Christ and the redemption of suffering and death: entangled theodicy

It is readily imaginable that human experience of the destructive power of nature and its frustration of human hopes goes back to the dawn of human consciousness. The stories of Genesis 1-8 engage with this experience in two ways. First, there is the background of primal watery chaos from which God creates order and all things living. That primal chaos is sometimes depicted as untamed and threatening. God’s creation of habitat and habitants from it is all good, with humankind the climax of creation. Norman Habel offers a reading of Genesis 1 in which the role of water is benign as the good earth is revealed:

No negative verdict is pronounced on these waters – there is no indication that they are threatening powers or turbulent forces of chaos. They are part of the benign dormant primordial order that awaits transformation.60

Whichever reading of Genesis 1 is followed, in Genesis 3 the disruption of the good created order is portrayed as a consequence of the sin of Adam and Eve, and subsequently of all humankind. In the Noah story in Genesis 7, the waters return with a vengeance, bringing death and destruction. The story is about divine judgment and new beginning, but its narrative may reflect major flooding events in the pre-history of the region.61 These two perspectives reflect the difference in function of theological interpretation and scientific description.

61 The raising of the Black Sea when the Bosphorus land-bridge was breached about 5600BCE has been discussed as one possible such event. Valentina Yanko-Hombach, "Controversy over Noah's Flood in the Black Sea," in *The Black Sea Question: Changes in Coastline,*
A contemporary world-view informed by evolutionary science has no place for a primeval world without pain and suffering, and the actions or the character of God are not amongst its concerns. Human activity may exacerbate or mitigate human experience of the destructive power of nature, but evolutionary processes long pre-date humans. In these processes destruction, suffering and death are inseparable from regeneration and emergence of new forms of life. Gregersen describes this underlying painful dynamic as “evolutionary pain” and asks two questions:

Indeed, if God’s way of maintaining and developing the world of creation happens through the means of natural selection, how can the Christian belief in the mercy of God be consonant with the ruthlessness of evolutionary processes? And in particular, how can we develop a contemporary theology of the cross which is not a consequence of human sin but the simple result of natural selection?  

Edwards describes this evolutionary pain as a “terrible cost”:

We know that the evolution of life, with all its abundance and beauty, has been accompanied by terrible costs, not only to human beings, but also to many other species, most of which are now extinct. … We know, as no generation has known before us, that these costs are intrinsic to the processes that give rise to life on earth in all its wonderful diversity.

The inherently violent aspects of natural evolutionary processes give rise to a ‘pure’ natural theodicy, arising from the impassive ruthlessness of evolutionary processes. These processes affect human and non-human life alike and are unaffected by human moral agency. Such natural events then are ‘acts of God’, at least in the sense that humans do not carry responsibility for them and cannot be regarded as blameworthy. However, in the twenty-first century it is not always possible to separate perceived evil arising from human decisions from destructive natural events which are beyond human control. Neither is it always possible to separate evolutionary change for which humans imagine themselves detached observers from change influenced by human agency. The human element in destructive ‘natural’ events is seen, for example, in decisions on where to live and on what activities to pursue. The floods, droughts, fires, earthquakes and other natural events which are part of the overall evolutionary process matter to people because, due to some combination of circumstance, choice and necessity, people

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live in affected places and suffer “evolutionary pain” as a result. The exposure to risk and degree to which infrastructure provides protection is likely to correlate with the relative wealth or poverty of the countries where natural disasters occur.64,65

Human impact on the environment is increasingly changing the character and probability of some natural events. There are many examples, of which two sometimes in the news are landslides and floods due to deforestation66 and global risks arising from human induced climate change. At the more directly personal level, the impassive processes of natural selection which cause suffering and death are often frustrated by public health and personal medical interventions. Subsequent disease and suffering then occurs in a context in which human interventions already have played a part, as well as having causes at least in part beyond human control. Humans are intimately part of nature, and distinguishing events in which human affairs play a part from the dynamics of an all-embracing story of evolution represents an anthropocentric approach which obscures broader ecological issues. We are creatures whose roots and nature are intimately part of the overall dynamic of evolutionary change, and that includes the flexibility of complex decision making. Human life is inherently risky, and we ‘take our chances’, or take them on behalf of others. We typically assume or hope that we will not be in the wrong place at the wrong time and be overtaken by destructive events which are known to be possible at some level of statistical probability. Furthermore, questions of theodicy are not objective questions. They are intensely human questions and arise from particular perceptions of what is evil and what is not, and of what God is like. Without the inextricable combination of natural events and how we interpret them, natural theodicy would not be an issue.

The entanglement of human agency and natural processes poses basic questions of responsibility and theological interpretation. Whether things are perceived as going well or going badly, is God responsible or are humans responsible, and can we tell the difference? Although the consequences of human decision making and of non-human processes are to a significant extent intertwined, they do fall along a spectrum. At one end, human agency and decision making may have clear intent and consequences, making them easily judged against particular moral codes. At the other end, the costs

66 Chester, "The Theodicy of Natural Disasters." 489
and benefits of creation through evolution long pre-date emergence of humans. As humankind progresses into the Anthropocene and human action becomes increasingly dominant as an evolutionary force, an embracing theology of the cross will engage with the whole spectrum of suffering. It will engage with suffering which is “the simple result of natural selection” through the messy middle ground of mixed human and non-human causes, to ground where human agency and responsibility are more clear-cut. It will be concerned with creation and creativity in all its ambiguity, including human creativity. It will be concerned with redemption, which is about transforming hopelessness, loss and destruction into constructive, creative hopefulness and it will be concerned with visionary anticipation of fulfilment of purpose for all things.

The parallel between the centrality of the suffering of Christ in the Christian story and the centrality of death and suffering in the story of creation through evolution may be used to develop a theology of the cross and of redemption of all suffering and pain. In John’s gospel, the glory of God is made known in the suffering and death of Jesus. For John, to see Jesus is to see the Father. Jesus incarnates the divine Logos, who is intimately present in the coming into being of all that is. In contemporary terms, that coming into being is a continuing evolutionary process, and the incarnation of the divine Logos places Jesus within that process as a full participant in the tide of evolutionary creation. Gregersen describes this intimate presence as “deep incarnation”, “incarnation into the very tissue of biological existence, and system of nature.”

Summarizing insights from Neil Darragh, Edwards states that:

In Jesus of Nazareth, God becomes a vital part of all the interconnected systems and physical processes of our planet, part of the evolutionary history of life on Earth, part of the story of the expanding and evolving universe God embraces all this in order to bring it to its completion. In the eyes of Christians, something radically new has happened in the universe of which we are part – something that is a promise and the beginning of a liberating and healing transformation of all things in new creation.

When the suffering and death of Jesus are understood to make known what God is like, then God may be understood to participate in the pain and cost of evolutionary creation. Gregersen suggests that part of the redemption of this pain and suffering occurs as new life emerges in the course of evolution:

67 Gregersen, "The Cross of Christ in an Evolutionary World.” 205
As a consequence creation is cruciform, but during the birthing woes of creation the passion of passive suffering is productively transformed into the passion of mental alertness that we see in the animal and human world. Without suffering evolutionary ascent could not take place.\textsuperscript{69}

The Christian story does not end there, but looks deeper to final fulfilment which is both present and future and which transcends the present order. Creation through suffering and death in the process of evolution is followed by new creation occurring through the life, death and resurrection of Christ. Although the biblical focus is on humans, in Paul’s thought the whole of creation is groaning as in pangs of childbirth, waiting for fulfilment as the ‘children of God’ themselves await fulfilment in the risen Christ (Rom 8:18-24). Edwards describes the action of God in the world as “divine self-bestowal”. He suggests that the resurrection of Jesus flows from within creation, ushering in ontological transformation.\textsuperscript{70} The new creation ushered in by the resurrection of Christ is both continuous with and discontinuous from the natural creative processes which are subject of contemporary scientific study. The pattern of continuous with and discontinuous from what has gone before is characteristic of the processes of evolution of life, as new ontological levels emerge:

The resurrection is not “just” a particularly central and glorious miracle that overturns the laws of nature. It is far, far more than this. It is the central event that gives meaning and direction to the whole universe and to all of its laws. It does not come from without but from within, from the presence of the creative, saving God who enables creation not only to emerge and unfold, but also to come to its final fulfilment.\textsuperscript{71}

The theological vision here is that Christ as divine Logos is active in God’s self-bestowing in the whole natural creative process from its very origins. God’s divine self-bestowal is uniquely shown in the Christ event, which is continuous with the unfolding of God’s creative actions and which ontologically transcends creation as we know it:

The final eschatological transformation of creation, begun in the resurrection, may occur through secondary causes that exist in the natural world but are not mapped, or not mapped well, by our scientific theories.\textsuperscript{72}

Although the resurrection event lies outside the norms and categories of both ancient and modern understanding, it clearly transformed the early Christian community into a

\textsuperscript{69} Gregersen, “The Cross of Christ in an Evolutionary World.” 205
\textsuperscript{70} Edwards, \textit{How God Acts.  Creation, Redemption and Special Divine Action}. 92
\textsuperscript{71} ibid. 106
\textsuperscript{72} ibid. 105
community of hope. In the biblical narratives, the hiddenness of what happened is suggested by the repeated difficulty Jesus’ disciples had in at first recognizing him. However understood, the resurrection remains a central symbol of Christian hope.

Edwards makes the essential point that the Christ-event, understood theologically, lies at the centre of God’s creative and redemptive action in and for the world. It is the critical and unique redemptive self-transcending event within the creation. Although it transcends the normal patterns of nature, it arises from within them by the creative power of God rather than being imposed upon them as a divine intervention. Edwards in effect is saying that we may think of deeper “second causes” which do not (yet, or maybe ever) fit in to currently understood scientific structures of cause and effect. Scientific structures of cause and effect as presently understood are only part of something very much greater, which we see with greatest intensity in the Christ-event and which gives eschatological hope. In terms of science-theology discourse, Edwards’ approach does not allow science as currently understood to restrict and dictate the theological agenda. He stands in the tradition of Teilhard de Chardin in giving priority to theological vision rather than using current scientific insights to dominate the theology. Edward’s approach to the resurrection is one among others which seek to retain its theological centrality while addressing the scientifically inescapable expectation that when a body dies, irreversible decay sets in.

Christian understanding of human possibility is death-defying because it is grounded in the Christ-event. Death does not have the last word, and it is possible for human lives and communities to reflect the ‘image of God’, interpreted as transformation into the ‘image of Christ’. Human actions often do “confront Christ the redeemer”, to use Moltmann’s phrase, but it is also possible for people and communities redemptively to confront the institutions, policies and people which drive such actions. However, we live in a complex and evolving world in which life and death, violence and peace, thriving and withering are all intermingled. Ambiguity is often inescapable. How we imagine God and God’s action in the world, and how we understand the world are critical to navigating through these ambiguities.

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73 ibid. 100
2.4 Human responsibility before God and within evolution

The increasing dominance of human activity in determining who and what survives and thrives or withers and perishes poses new challenges to how we think about God’s creative activity. However, birth and death remain as inescapable facts of life, even though it is now possible for some of us to live longer and more comfortably than our forebears did. Death and new life are found at the centre of both evolutionary science and of Christian belief so that Gregersen even sees that “Darwinism and Christianity are not only compatible, they are even congenial with each other.”

Gregersen’s statement that “a theological view must see God as the creator of creativity and the human person as God’s created co-creator who is destined to participate in nature’s creativity” captures four central issues, of which two are theological and two bring together theological and scientific ways of speaking of the natural order. As the creator, God is ‘other than’ the creation, so upholding the transcendence of God. Nature’s propensity to evolve new life-forms is identified as flowing from God the Creator. Scientific assessments of what it is to be human identify humans as evolved from and within nature. Human creativity is then seen as a specific part of the overall creativity of nature. Gregerson’s description of the human person as “created co-creator” with God interprets human creativity within the theological tradition that humans are created in the image of God, and so have potential to be participants in God’s creative activity.

Humankind is derived from and participates in Darwinian evolutionary processes in which competition, sometimes leading to death and destruction, plays a part. Why then cannot human tendencies to be destructive simply be accepted and justified as an ongoing example of how creation through evolution works? History is littered with regimes driven by the belief that something better and new could come through violence and the destruction of other peoples and cultures, and through unfettered exploitation of natural resources. In modern times, some regimes even have appealed to pseudo-Darwinian models to justify their use of violent means to promote supposedly better ends. However, humankind is not inevitably doomed to go on replicating such models. This word of hope is clearly heard both within theology and within science. The contrast between the kingdom or reign of God and the powers driving human

75 Gregersen, "The Cross of Christ in an Evolutionary World." 200
76 ———, "The Creation of Creativity and the Flourishing of Creation." 410
institutions is a recurrent theme in the New Testament. There is contemporary interest in interpretation of ‘God and Empire’ in the first Christian century, making the case that the first-century counter-cultural Christian gospel of love and hope is still highly relevant to today’s global tensions over power, influence and control of resources.\(^{77}\) John Dominic Crossan, for example, defines the reign of empire as one that seeks a better world through violence, in contrast to the reign of God which does so in ways marked by love, peace and sacrifice.\(^{78}\)

From a scientific point of view the principles shaping biological evolution as discerned by Darwin are not the only principles which shape human cultural evolution. The highly developed ability of humans to reflect on situations, make decisions and build on experiences inter-generationally represents a fast-acting Lamarckian regime with potential to over-ride Darwinian behavioural tendencies.\(^{79}\) Learned behaviour in one generation can be and is inherited and built on in the next. We do not have to be participants in the ruthless flow of evolution by natural selection and, for example, neglect or kill other humans in order to promote our own kin, community or nation. We may choose to show particular care for the marginalized who in evolutionary terms would be regarded as casualties of natural selection, but towards whom Jesus is remembered as being particularly caring. We may also choose to see beauty and intrinsic value in the environment and in other species and to care for them and about them, even though we may fail to see any value which they may have for our own physical surviving and thriving. We are able to question instincts pointing us towards striving for advantage at the expense of others, and to pursue alternative courses of action. Those committed to a Darwinian view of all life processes may still choose to find underlying forces of natural selection at play even in such alternative or altruistic behaviour. Others may find such interpretations unduly strained. These questions of interpretation are secondary. One central issue is that human creativity and human action in the world be judged and directed so that the health of the Earth environment and all life, human and non-human, is sustained, enabling healthy continuation of nature’s creativity in all its extraordinary diversity.

The patterns and means of natural creativity are amenable to scientific study, and we know a great deal about their workings. Human creativity represents a new, rapid and highly potent development in nature’s self-creating journey. Christian theology interrogates human creativity with questions as to how and whether it reflects the ‘image of God’ and lovingly supports the Creator-given flow of nature creating itself. The Christ-event, with the suffering, death and resurrection of Christ at its centre, takes us into realms of faith and imagination. Nevertheless, it is charged with implication and application as the new creation of the reign of God runs in a revitalizing stream within the old, pointing beyond to the fulfilment of all things in God. Human creativity, too, stands under judgment as to its direction and its consequences. It too has potential to be redeemed and charged with purposeful hope for a better foreseeable future and beyond.

2.5 Relational wisdom and climate change

From the first Christian century onwards, Christ also has been understood as present with and in God in the creation of all that is. Christianity shares with other religious traditions the expectation that rightly relating to God and rightly living in the here and now are two sides of the same coin. Living creatively within the dynamic of God’s immanence requires, as Ford puts it, wisdom which “must deal with the past so as to resource the present and future.”\(^\text{80}\) Living in this way calls for discernment of Christ’s presence in the evolving domains of nature and of human affairs. It requires wisdom to discern and to participate in God’s creative activity, and to resist destructive paths. In the spirit of the Apostle Paul’s words, “Whenever we have opportunity, let us work for the good of all.”(Gal:6:10). For those who are consciously attempting to follow Christ this waiting on Christ is a public claim about who Christ is and an action of public confessional theology. But Christian participation in God’s creative activity is part of a much greater whole. Who Christ is, and where Christ is in the world today may be discerned wherever people live in and for the world with creative wisdom, love and compassion.

The wisdom of which Ford writes thrives on loving and creative relationships. Such relationships thrive in empathetic response to the cries of humans, of all creation and of God who is love and who is relational.\(^\text{81}\) God’s love as shown in Jesus of Nazareth and the Christ of faith is love of that which God loves, which embraces not only all

\(^{80}\) Ford, The Future of Christian Theology.13

\(^{81}\) Ford, The Future of Christian Theology.22
humankind, but also all creation. The centrality of relationships in both the scientific and Christian stories suggests the following way of discerning God’s action in the world. Jesus Christ calls all people to transformed relationships with other people, with all creatures and with God. These transformed relationships are alive with meaning and fulfilment bound into deep levels of creative being in the universe, and they are immanent signs of the redemptive work of Christ. The Spirit of God animates and encourages people to respond to God and to act in ways which develop these positive relational possibilities. Such relationships have potential to develop beyond our present imagination, in and beyond our present finite lives. Contemporary scientific insights also suggest that life and scientific knowledge are evolving in an open-ended way, also with possibilities beyond present imagination. It is then credible to regard each of Christian and of scientific insights as engaging with a single reality which includes and far surpasses all we can currently know or think, either scientifically or spiritually. The reign of God, announced by Jesus Christ, continually challenges humankind to live in the present with faith that it is part of that greater reality, and to live in hope for its eschatological fulfilment.

Climate change and the human and environmental costs of ‘progress’ of which it is symbolic, are widely recognized as globally critical issues. They have become an urgent preoccupation in public policy discussion locally, nationally and internationally. In parts of the Christian church, much thought has gone into interpreting the good news of Jesus in this contemporary context. A theology of Christ in the Anthropocene is public theology, engaging in the market place of ideas and in the praxis of loving creativity, influencing how humankind lives on earth. As humankind is swept along in a global economy which in structure and detail is unsustainable, how may Christian public theology convincingly bring this good news? Where is Christ in the communities, board rooms, synods and international gatherings which make decisions about the future of our reliance on fossil carbon?
Chapter 3

Climate Change: A Wicked Problem for Public Theology

3.1 McDonagh’s lament

Climate change and the complex network of related issues set a new context for science-theology conversation. This context is characterised by multiple interacting issues, making it ‘wickedly’ difficult. It is ‘wicked’ in the sense of its complexity, rather than in a moral sense, although it does have significant ethical and moral dimensions. Climate change is among the most serious public issues facing us today, making the present time a kairos moment to make it a focus for public theology. The nature of public theology is in part to read and interpret the signs of the times, and climate change is an unmistakable sign of the Anthropocene. A broad reading of climate change as a sign of the times is relatively straightforward: humankind is releasing greenhouse gases which are warming the Earth, with predictably catastrophic consequences. The ‘wicked’ complexity lies in how to transform the global economy away from reliance on fossil carbon and other greenhouse gas emitting practices, and do so within a generation or two. To do so is part of an even greater and also ‘wickedly’ difficult problem. How may the large and growing human population live sustainably on Earth with peace and justice for generations to come? Far more than technical solutions are required. It requires global social metanoia, or change of mind-orientation, radically re-shaping relationships amongst humans, to all creation, and to the Creator and Source of life.

Public theologians would do well to heed the Australian Public Service Commissioner’s observation: “Successfully tackling wicked problems requires a broad recognition and understanding, including from governments and Ministers, that there are no quick fixes and simple solutions.”

Public concern about climate change is well developed. It is widely discussed and disputed. It draws people into environmental

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activism and is increasingly of concern in commerce and industry. It presents radical
challenges to national politics and to international bodies concerned with global futures.
In enacting public theology, church members, church councils and ecumenical bodies
are participants in this wider public discourse. Public theology is necessarily outward-
looking, bringing theological insights which engage at depth with the complexity of
world issues. Development of theological reflection on climate change is relatively
new, and drawing it into church life is a work in progress. Much has been achieved,
but there is still much to be done.

Writing about people deeply committed to their work in environmental
organizations and who are also ‘dedicated Christians’, Sean McDonagh laments that:

It seems that very little inspiration for their work flows either from the teachings
of the Church or the life of Jesus. This is a tragedy, especially for the Christian
Churches, because it means that the Good News of Jesus has nothing to contribute
to addressing the most crucial issue of the late 20th century, the rampant and often
irreversible destruction of God’s creation.\(^3\)

The ‘tragedy’ which McDonagh laments reflects poor integration of Christian faith and
other world views by which ‘dedicated Christians’ live different parts of their lives. In
today’s world, these other world views are likely to include a scientifically informed
understanding of how the world works. It is tragic for the churches, with loss of
relevance in a world which looks for answers in the extraordinary power of human
creativity, but which often fails to bring peace and to rein in environmental destruction.
It is tragic for church members who are not empowered to bring Christian hope and
meaning to all of life’s experiences, and it is tragic for a world which looks for hope in
the midst of profound uncertainty. Many people have commitments to environmental
issues whether or not they explicitly relate these to spirituality or religious belief.
Climate change has become a high-profile public issue which functions as a symbol of
environmental destruction in general, as well as being itself of critical importance.
Responses to calls to reduce our reliance on fossil carbon vary from denial to positive
action, at every level from household energy use to corporations and government.

\(^3\) Sean McDonagh, "Ecology and Religion. A Green Christology,"
sedosmission.org/old/eng/mcdonagh_1.html. (accessed 21/10/2014)
In their analysis of Australian NCLS\(^4\) data, Miriam Pepper, Rosemary Leonard and Ruth Powell conclude that:

It appears that the degree of urgency attributed to climate change is similar among churchgoers and the general population.\(^5\)

Although Australian churches have made many expressions of environmental concern at an institutional level,\(^6\) these may not translate into change at congregational level.\(^7\) These observations suggest that there is much work to be done if theological grounding of environmental concerns is to become a more widespread feature in church communities. The tragedy which McDonagh identifies suggests that the ‘public’ for theologians concerned with climate change needs to be as much in congregations and amongst those training for ministry as in church councils or in the wider public.

The heart of theology lies in how we may imagine and relate to God, and the immediate task of Christian public theology is to interpret and bring the Good News of Jesus to a public striving with immediate and critical issues. Climate change and the complex social and economic changes required to transition from fossil fuels to non-carbon energy sources are both immediate and critical. The Good News of Jesus brings to these issues messages of judgment, redemption and hope informed by eschatological visions of healing of relations, of righteousness and of peace. These visions are shared by many people, and as Ayre urges:

Our task is to educate, encourage, enthuse, and enable people of faith to engage with creation care alongside other caring people and groups in the community.\(^8\)

To interpret and enact these themes in co-operation with others working to deal with climate change, but who do not share the same faith foundations, requires focus on shared objectives and “rhetorical restraint”.\(^9\) It also requires recognition and

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\(^7\) Pepper, Leonard, and Powell, "Denominational Identification, Church Participation, and Concern about Climate Change in Australia."40

\(^8\) Ayre, "Climate Change and a Climate of Change in the Church."61

\(^9\) ibid. 33
acknowledgement of the depth and extent of local and global scientific research, technological development and economic planning which already are taking place.

Depending on how we understand the word mission, public theology may be regarded as an expression of mission. When the mission of the Church is understood to be participation in God’s mission to the world it includes, but goes far beyond, drawing people into church membership. One wide understanding of mission is articulated in the Anglican Communion statement of “Five Marks of Mission”. The fifth mark is “to strive to safeguard the integrity of creation, and sustain and renew the life of the earth.” When climate change is in view, mission inevitably includes this mark. Mission is, in David Bosch’s phrase, “at best erecting bridgeheads for the reign of God.” Whether or not ‘salvation’ is named explicitly, public theology which engages with climate change calls for an understanding of salvation which is “as coherent, broad and deep as the needs and exigencies of human existence.”

Exploring climate change theologically is part of the ever present task of imagining God’s presence and action in the world. In Christian tradition, it is working on Bonhoeffer’s question: “Who is Christ actually for us today?” Because climate change has consequences for the future thriving of life on Earth, when Christ is discerned as present in and to all creation, it is inevitably a concern of Christian theology. Not only are people with environmental concerns and commitments able to find inspiration for these in the Good News of Jesus Christ, but concern for all life may be seen as a core Christian commitment.

The complex task of enacting public theology concerned with climate change rests with the church at every level from local congregations to international councils, and every form from gatherings of people to on-line and other means of sharing at a distance. Questions need to be asked about which ‘public’ is being addressed, in what way and by whom? What shapes the opinions of various ‘publics’ and how may

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11 ibid.
13 ibid.400
14 Marty, Dietrich Bonhoeffer's Letters and Papers from Prison.57
15 Ayre describes ecological mission as “rooted primarily in the most basic theology that goes back to the early centuries of the Church.” Ayre, "Climate Change and a Climate of Change in the Church.” 61
theology enrich, inform and even change the direction of public conversation? How may a public theologian be equipped to act and speak with wisdom, humility and authority on complex issues surrounding climate change, when these issues are often fiercely contested? Where is Christ at the coal-face of public responses to climate change?

3.2 The public, public opinion and climate change

Writing On the Public, Alistair Hannay develops possible meanings, structures and processes subsumed within general titles such as “the public”, “public opinion” and “the public sphere”. In the introduction he notes that the terms ‘public’ and ‘public opinion’ are sometimes used rhetorically to give a sense of unity on public issues which may, in fact, be deeply divisive. Responses of citizens to public issues may range from ignorance and indifference to being well informed and concerned, with multiple influences leading to many opinions on the issues in question. Writing in the 1960s in Germany, then politically and ideologically divided, Jürgen Habermas makes a similar point. In his view the concept of ‘public opinion’ has two quite distinct meanings which are in tension with each other. The first relates to the opinions of the public expressed within informed and critical exercise of democracy. The second sees ‘public opinion’ as something to be formed and directed for political, commercial or other purposes. Both ‘the public’ and ‘public opinion’ are terms which disguise diversity and have been subject to extensive critical analysis.

In Australia, the multicultural nature of the population adds diversity to the public and to the influences which form public opinions. The First Australians have ancestral roots in several hundred different indigenous nations, with continuity of traditions going back many tens of thousands of years. Migrant peoples who have arrived since European settlement began have ancestral roots in many nations beyond Australia’s shores. Each strand of ancestry has its own complex history, exerting influence in

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17 ibid. viii
18 ibid. Hannay explores the wide range of meanings given to the term ‘public’.
21 References to the writings of Alistair Hannay and Jürgen Habermas are used to access some of this analysis. A more comprehensive approach is beyond the scope of this present work.
22 ABC Online Indigenous-Interactive Map. www.abc.net.au/indigenous/map/_ (accessed 21/10/2014)
varying degree on the developing history of the Australian nation. In the dynamics of how society functions a wide range of interests and factors – for example cultural, commercial, environmental, national and international – are at play. Although there are many unifying shared interests and influences which shape Australian identity, events in a person’s traditional lands, local area or state are often likely to be of more immediate concern than events at national level. A proportion of the population also retains close personal identity in overseas countries as well as in Australia. In that sense they are part of the public in more than one of the nation-states of the world. Whatever it is, the Australian ‘public’ is diffuse and complex. It functions on several scales from local groupings to the national population as a whole and extends beyond national boundaries into the global arena. The part of the Australian public which identifies as Christian shares in that diversity.

When considering climate change, public awareness and concern depends in part on everyday experience of the local and national environments and in part on public debate on the reality of climate change, its human causes, and on what changes to the economy could or should be made to mitigate its effects. The Australian natural environment, with its extraordinary diversity and its widely variable climate, shapes and is shaped by the human population. Scientific observation detects averaged warming and trends towards more extreme weather events, but droughts, fires, floods and cyclones are all deeply embedded in the national psyche. Yet another extreme event may still credibly be seen as nothing new. Australian public policy and debate on climate change action is further complicated by the abundance of easily accessed coal, oil and gas making reduction in their exploitation particularly challenging to the economy. Scientists who deny that burning fossil carbon is causing climate change receive a ready audience amongst politicians and the wider public. The publications of Australian geologists Ian Plimer and Robert M Carter have been particularly influential in undermining public confidence in the work of Australian and international climate scientists.

Habermas’ observation that ‘public opinion’ can be formed and directed for political purposes is exemplified by the recent history of the ‘carbon tax’. This attempt to

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24 Australia, with 0.33% of the world population, currently mines 6% of world coal production. Coal production information is based on data from: World Coal Association, “Coal Statistics,” http://www.worldcoal.org/resources/coal-statistics/. (accessed 07/07/2015)
legislate a financial driver for reduction of fossil carbon use proved particularly divisive. Legislation for a price on carbon emissions was introduced to the Australian Parliament by the Labor Government in July 2011, was passed and became effective from 1st July 2012. It was vigorously opposed by the Coalition Opposition, which relentlessly emphasised that it caused increased household and industrial power costs and threatened economic competitiveness. The Opposition emphasised issues which most people readily understood, in particular increased domestic energy costs and lost employment opportunities. These are typical of ‘close to home’ issues which Hannay identifies as critical to formation of public opinion. There is, he notes:

> a readiness among a fair number of citizens to respond to issues close to home: abortion, social welfare, environmental and economic issues, national security, even who should coach the national football team.  

The Coalition made abolition of the ‘carbon tax’ a prominent issue during the campaign for the 2013 election which they won. They then set about repealing the price on carbon, which now is abolished, effective from 1st July 2014. The fate of the price on carbon and earlier rising and falling of public interest in climate change illustrate Habermas’ observations on how public support is garnered for political purposes:

> Organizations strive for political compromises with the state and with one another, as much as possible to the exclusion of the public; in this process, however, they have to procure plebiscitary agreement from the mediatized public by means of a display of staged or manipulated publicity.

The Australian environment with its climatic variability and abundant fossil fuel reserves, and the distinctive histories and circumstances of Australian people all contribute to shaping public discourse on climate change and give it particular Australian emphases. However, international critical analyses of how the public is

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27 Hannay, On The Public. 61


30 Outhwaite, The Habermas Reader. 28,29
perceived and how public opinions are formed, such as those of Hannay and Habermas, remain perceptive and applicable.

A public theologian who recognizes that “God’s salvific work precedes both church and mission”\(^{31}\) will be conscious that God’s judgments, redemptive acts and encouraging hope are already present and active amongst the concerned public. Hannay’s description of a public may be read through this theological lens. For Hannay, any public is made up of individuals, and he identifies a fundamental tension between the potential for good present in individuals and the multiple influences acting on society that tend to frustrate this potential. On the one hand:

privacy can be seen as an opportunity for fulfilling human possibilities in the way these have traditionally been regarded, that is to say, as essentially involving the capacity to cooperate and create equitable forms of coexistence.

On the other hand, such “opportunities are increasingly being forfeited.”\(^{32}\) The number of concerned individuals working together may grow, in part, because of “shared knowledge and interests or shared allegiances” and a belief that by doing so it is possible to influence public opinion and public policy,\(^{33}\) a point also emphasised by Habermas.\(^{34}\) Hannay describes the grouping of people around a common cause as the matter of concern gathering a public around itself.\(^{35}\) Climate change exemplifies such a concern. Having become a proxy for multiple related issues, it draws people together far beyond the scientific community where modelling and measurement first exposed it as likely to have serious global consequences.

The dynamic which Hannay describes may be interpreted as God bringing out the good in people and bringing them together in hope to gain influence in the quest for more just and sustainable ways of living together on Earth. Public theology brings Christian understanding to this quest and has potential to speak to people whether or not they have specific Christian beliefs. With a wider public where neither knowledge of, nor openness to, Christian beliefs can be assumed, the public theologian faces

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\(^{32}\) Hannay, *On The Public.* Preface ix

\(^{33}\) ibid. 16, 19

\(^{34}\) Habermas describes such an association as “a public of organized private people” and notes that “Only such a public could, under today’s conditions, participate effectively in a process of public communication via the channels of the public spheres internal to parties and special-interest associations and on the basis of an affirmation of publicity as regards the negotiations of organizations with the state and with one another.” (italics in original) Outhwaite, *The Habermas Reader.* 29

\(^{35}\) Hannay, *On The Public.* 62
formidable challenges to communication.36 In Australia, when climate change is the issue, public perceptions are already colonised by the views of those who see fossil carbon use reduction more as threat than opportunity, and these views are promoted by sympathetic media.

The media, in the sense of the people and organizations mediating news and ideas, are uniquely placed to influence public opinion by how they frame what they present to the public, and how they interpret and represent public opinion. The idea of framing operates at the level of the newsmaker, and also the reader.37 When a newsmaker presents a particular story, it is typically presented within some sort of interpretive framework. Whether or not that framing process is conscious on the part of the newsmaker, the reader may not be aware of it. In turn, the reader will “use frames of reference to make sense of events, interpret their experiences and organize their everyday lives, as well as defining their involvements.”38 Jolyon Mitchell’s observation that “politics is…. frequently covered through a conflict frame”39 is exemplified by the politics of climate change. When Gillard was the Australian Prime Minister, political and media framing of climate change and the ‘carbon tax’ resulted in attention being directed to the immediate drama of political conflict.

When political drama does not dominate public discussion of climate change, the frame in which climate change is presented is predominantly disaster or uncertainty. In his survey of print media across six countries, James Painter found this framing to be a consistent pattern, with “less than 2 percent in the total sample containing a mention of the opportunities from switching to a low carbon economy.”40 Australia stands out from this pattern with more reference to uncertainty than in other countries surveyed41 and with “the highest number of articles in the sample with sceptics in them.”42 Public perceptions of uncertainty are more likely to interpret predictions as untrustworthy

38 ibid.69
39 ibid.70
41 ibid.79-134
42 ibid.ix
rather than probabilistic, and sceptics play on confusion between these meanings to undermine public confidence in the science. The combination of Australia’s economic dependence on coal mining and coal exports, fear of domestic power cost increases and job losses in transition to a low carbon economy, and a continuing stream of scepticism about climate science all contribute to making climate change politically divisive. Public theology concerned with climate change takes place in this highly volatile environment.

Radio is a mature medium and new on-line media are rapidly changing the way in which opinions are disseminated. John Faine argues that, nevertheless, talk radio shows remain one of the most influential media forms in Australia:

Talk radio has overtaken all other forms of media – electronic or print – as a political medium in Australia. It has become the daily agenda setter and the preferred organ for national and state leaders to sell policies and ideas, to get voter feedback and to attempt damage control on emerging scandals. Ranging from shock-jock redneck rabble-rousers to highbrow Radio National, talk radio covers the spectrum…… Politicians long ago realised the essential value of conquering talk radio as a medium.

Radio reaches a wide audience because people listen to it when doing other things, such as work around the house or commuting to and from work. It works at all levels from local stations to national radio. Talk radio is “live and thus instant. It is unedited. It deals with content, not imagery….Talk radio requires personalities with opinions – little else matters.” As such it is a potent way for politicians and others whose instincts or training enable them to use it successfully to reach and influence a wide audience. Whether the host is interviewing a public personality or stimulating discussion between that person and the public in talk-back radio, the host’s own opinions may also go to air. Faine’s observation that little other than personalities with opinions matter is exemplified by samples of Australian talk and talk-back radio. Scepticism about human causes of climate change and opposition to measures to reduce use of fossil carbon is evident with some radio hosts. At times this opposition is expressed in a raw frame of conflict reinforced by subsequent on-line comment by members of the public.

43 ibid.vii
45 ibid.170
46 For a discussion of bias in talk-back and talk radio see, for example a transcript of the ABC Programme ‘Media Watch’ of 21/03/2011. Australian Broadcasting Corporation ABC,
The ‘wicked problem’ of climate change is symptomatic of assumptions about economic growth which are integral to much public thinking. A healthy society is dynamic, with opportunities to participate creatively in the economy available to as many people as wish to do so. Participation and creativity lead to growth, and the right sort of growth is a sign of health. The problem is not economic growth as such, but the particular models of growth which are deeply entrenched amongst energy-rich parts of humankind. Drawing down Earth resources and generating massive amounts of waste has become so much a way of life that transitioning to different more sustainable models of growth is threatening and liable to be deferred. In particular, it takes little imagination to see how radically dependent most energy-rich populations are on fossil carbon. It is readily taken for granted that the best way forward is continuing to follow paths that have already grown and transformed economies. Habermas describes public opinions which have become taken for granted as “the ephemeral results of the relentless publicist barrage and propagandist manipulation by the media to which consumers are exposed”. In developed, energy intensive economies the dominant frame for public presentation of how global economics works best is growth which is highly dependent on running down Earth resources and producing waste and is delivered by free-market forces with less rather than more regulation. Michael Northcott denounces this neo-liberal belief as “a collective lie of momentous proportions.” He focuses on the ethical implications of how to live responsibly in a warming world with finite resources and a rising population, where climate change is already exacerbating inequality and environmental degradation. Northcott frames his criticism of neo-liberal economics with ethics grounded in Christian tradition, and a strong emphasis on global and inter-generational justice.

Hannay emphasises the role of media in stifling critical debate through continuous exposure to commercial and political persuasion. He also recognizes that there are circumstances when the public can and does react against this influence:

With its collective gut feeling, the public may act as a brake on what it senses – at times, it may prove, wisely – to be facile proposals for innovation or short-term
measures designed to bring instant credit to career-minded politicians or the premature application of the findings of over-enthusiastic scientists.\

Issues and events around climate change can and sometimes do come ‘close to home’, stimulating gut feelings which draw people together into informed and vocal publics. Some people do have bad gut feelings about climate science and climate scientists, and there is a persistent current of denial that climate change is anthropogenic. However, there also is a great deal of respect for scientists and trust in their work. In Australia, bodies like Bureau of Meteorology, the Australian Academy of Science, and the (now) crowd-funded Climate Council provide updates on record-breaking patterns of hot weather and broader background on causes and projections of climate change. This publicly accessible information makes global warming and climate change close to home, especially at times of severe weather. It is then easier to imagine what changes will have taken place when today’s grandchildren are themselves grandparents. Clive Hamilton observes that:

As the effects of warming are delayed, a proportionate response requires us to anticipate emotions we may feel many years hence; anticipation of feelings is a weak stimulus compared to pressing anxieties we may have about job losses or higher taxes. However, as the reality of warming becomes harder to ignore, the weak stimulus of anticipating the future is becoming distinctly stronger.

Looking further ahead, it is likely that finding an appropriate response to climate refugees will become an increasingly challenging issue for the Australian public and its political representatives. Although the term ‘climate refugee’ has no international legal

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50 ibid.62 and 105. In the latter category, Hannay has in mind scientists who may be employed by companies developing the products which they advocate.

51 For example Christopher Booker writing in the “Telegraph” (UK) vigorously attacks majority climate science using a specific example of erroneous science initially accepted (and subsequently rejected) by the IPCC, which he claims led to a large research grant. Christopher Booker, “Pachauri: the Real Story behind the Glaciergate Scandal,” The Telegraph, http://www.telegraph.co.uk/comment/columnists/christopherbooker/7062667/Pachauri-the-real-story.(accessed 04/11/2014)

52 Clive Hamilton, *Requiem for a Species. Why We Resist the Truth About Climate Change* (Crows Nest NSW: Allen and Unwin, 2010). 97


55 Climate Council. The Climate Council is crowd funded and continues the work of the Australian Climate Commission. The ACC was established in 2011 by the Labor government, and abolished by the incoming Coalition Government in 2013.

56 Hamilton, *Requiem for a Species. Why We Resist the Truth About Climate Change*.120
status, climate change exacerbates a range of factors which cause people to seek a new place to live.\textsuperscript{57} Prior to the 2009 Copenhagen Climate Summit, a group of concerned scientists met in Oxford to consider the consequences of the higher-end prediction of a global average temperature rise of 4C by the end of the 21st century.\textsuperscript{58} One of their conclusions is that regional climate change would have massively disruptive effects on very large populations. Hamilton observes that:

For many, only by moving will they survive. It is sometimes said that people will migrate before they die, but in truth people frequently die in large numbers before they have the impetus of means to move.\textsuperscript{59}

The 2014 IPCC Fifth Assessment Report records continuing rising greenhouse gas emissions, and confirms that, if this trend continues, a 4C global average temperature rise by the end of the century is increasingly likely.\textsuperscript{60} Northcott points out that climate stress already is a contributing factor to mass migrations from Africa to Europe and the Middle East, even though it is hidden among other variables such as population increase, political instability and lack of opportunities in countries of origin.\textsuperscript{61}

The public and politicians are already deeply divided on how to react to the highly visible but relatively small numbers of people currently seeking asylum in Australia and who attempt to do so by boat. As yet the prospect of many more people seeking asylum as a result of climate change has attracted little public debate. It is like the proverbial elephant in the room – an even greater issue which is occasionally mentioned by rarely discussed.\textsuperscript{62}

There are many public opinions on climate change, its causes and effects and what might be done about it. There also are many advocacy groups seeking to influence public policy. In this lively market place of public opinions, commercial and other interests, what has public theology to say about climate change? Under what

\textsuperscript{57} Ben Saul et al., \textit{Climate Change and Australia. Warming to the Global Challenge} (Annandale NSW: Federation Press, 2012). Chapter 5 “Climate Change ‘Refugees’? Climate-Related Displacement and Migration”, 145-190
\textsuperscript{58} Environmental Change Institute, "4 Degrees and Beyond," www.eci.ac.uk/4degrees/ (accessed 07/07/2015)
\textsuperscript{59} Hamilton, \textit{Requiem for a Species. Why We Resist the Truth About Climate Change}. 204
\textsuperscript{60} IPCC Intergovernmental Panel on Climate Change, "Fifth Assessment Report," (2014).
\textsuperscript{61} Michael Northcott, \textit{A Political Theology of Climate Change} (Grand Rapids: Eerdmans, 2013). 7-9
conditions are the contributions of theologians likely to be heard and what distinctive
ccontributions to public discourse on climate change could they make? In today’s
increasingly secular Australia is it even reasonable to expect that it is still possible for
public theology to influence public affairs?

3.3 Christian influence in public affairs

In Australia Christian churches have been publicly influential from the beginning of
European colonisation. The early colony inherited precedence for the Church of
England and disadvantage for the Roman Catholic Church. Between these extremes,
nonconformists were permitted to pursue freely their church activities, but “until late in
the governorship (1809-21) of Lachlan Macquarie, the Anglican church was the only
denomination to receive official recognition and support”.63 However much its
leaders may have wished for it, the Church of England was never established as it was,
and is, in England.64 Under Governor Burke, the Church Act of 1836 made financial
assistance “available to all denominations within the colony for the recruitment and
deployment of clergy”.65 This act “was understood to be an expression of the state’s
religious neutrality”, effectively removing the precedence which the Church of England
had enjoyed in the first decades of the colony.66 The act was particularly significant for
the Roman Catholic Church, and recognized the reality that it was the thriving church of
the majority of Australians of Irish ancestry. When Australia moved towards
Federation, the framers of the constitution had learned from the “poisonous sectarian
disputes of the nineteenth century”67, and committed the Commonwealth to an even-
handed position of neutrality on matters of religious observance, with prohibition of
religious tests for public office.68 This constitutional position neither gives precedence
to, nor disadvantages, people who speak publicly in ways informed by Christian or

63 Brian Fletcher, "The Anglican Ascendancy 1788-1835," in Anglicanism in Australia. A
History, ed. Bruce Kaye (Carlton South, Victoria: Melbourne University Press, 2002).8,9
64 ibid.14,16
65 Patricia Curthoys, "State Support for Churches 1836-1860," in Anglicanism in Australia. A
66 ibid.32
67 Amanda Lohrey, "Voting for Jesus. Christianity and Politics in Australia," Quarterly Essay,
no. 22 (2006).41
68 Commonwealth of Australia, "Commonwealth of Australia Constitution Act,
(accessed 07/07/2015)
other religious convictions. Unlike in England, where some Church of England bishops sit in the House of Lords, no church representatives have *ex officio* positions in national governance. If church leaders participate in public debate on any issue, including climate change, they will be seen as representatives of their own church constituencies or of ecumenical bodies.

In Australia the proportion of the population which identifies as Christian is in decline and currently around 60%. 20% of the population specifies ‘no religion’ on census records and only 10% of the population regularly attends church.\(^{69}\) The public theologian is likely to be part of this minority, even though a much larger part of the population holds broadly conceived notions of Christian values. Church people seeking to influence policy on climate change-related issues do so in a public environment which is already used to hearing claims of Christian moral authority. Issues such as the beginning and end of human life, family values and sexuality are familiar and contested territory.

When church leaders and theologians engage in public discourse, their credibility depends on public perceptions of the credibility of the church. What is the church seen to be really concerned about? What record does it have in the areas that are most in the public eye? The negative impact of sexual abuse scandals makes dogmatic statements on sexuality and life issues by leaders in some churches incredible to many in the general public, including amongst church-members. Abuse of children in church-run institutions undermines credibility in social welfare and education, even though church agencies are commonly respected as effective and experienced providers. The case has to be made that churches have anything new or relevant to say about climate change, and the moral authority to do so.

Ecumenically and individually, many Australian churches have developed public positions on environmental issues, including on climate change. Among these are the National Council of Churches of Australia and the Roman Catholic, Uniting and Anglican Churches.\(^{70,71,72,73}\) Although climate action concern is expressed across most


churches, Pepper, Leonard and Powell identify a trend with “mainstream Protestant and Catholic churches reporting a higher degree of concern about climate change and those at evangelical Protestant and Pentecostal churches a lower degree of concern.” Their observation is consistent with global trends. Northcott notes that Pentecostal forms of Christianity:

are not yet associated with a raised ecological consciousness among the many missions of Christians in the North and South who are drawn to this contemporary transformation of Christian religion.

In Australia, the more religiously and socially conservative ‘Christian Right’ is well represented in evangelical and Pentecostal churches, but by no means exclusively so. Amanda Lohrey observes that:

The Christian right in Australia has begun to model its political interventions on those of its allies in the US and to argue for, and promote, a Christian political constituency… Formerly antagonistic elements of the Christian Right have begun to coalesce loosely around what they perceive as a long overdue counter-offensive against secularism.

The Australian Christian Lobby (ACL) is one such coalition of socially and religiously conservative Christians. Political leaders continue to regard the ACL as of importance to their election campaigns.

Comparing the USA and Australia, there are similarities and differences in this resurgence of Christian activism. In God in the White House, Randall Balmer traces the increasing “religionization” of politics in the USA from J.F.Kennedy to George

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74 Pepper, Leonard, and Powell, "Denominational Identification, Church Participation, and Concern about Climate Change in Australia."
75 Northcott, A Political Theology of Climate Change. 53
76 Lohrey, "Voting for Jesus. Christianity and Politics in Australia." 39
77 Australian Christian Lobby, "The ACL Vision," http://www.acl.org.au/about/. The ACL web site states that “ACL does not seek to be the peak political voice for the church, but to facilitate a professional engagement of church with the state which allows for the voice of the church and individual Christians to be effective in the public square.” (accessed 07/07/2015)
Bush. Balmer makes the case that religious profession is a definite advantage for a presidential candidate in the USA. The religious affiliations, practices and beliefs of Australian politicians, including recent Prime Ministers are subject to public comment, and may have influenced some voters. Lohrey observes:

That many of the Coalition leaders have genuine religious convictions is not in doubt, but this only makes it easier for them to trade in the religion market to optimise their electoral profits.

However, the Australian religion market appears to be much less significant than in the USA and former Australian Prime Minister Gillard’s professed atheism seems to have been of little electoral consequence. Marion Maddox argues that former Liberal Prime Minister John Howard learned well from the maturing experience of the religious right in the USA:

Techniques honed by the American religious right have proved invaluable to Howard’s sales pitch, while carefully avoiding the zealously religious language likely to alienate Australia’s much more secular population.

In so doing he was able to appeal to the social conservatism of a constituency considerably wider than the religious right itself.

The social conservatism which is one of the expressions of the religious right does not necessarily carry across to climate change. In Australia the Anglican Diocese of Sydney is one example of a Christian body known for conservative Biblical interpretation and conservative positions on a range of social issues. It also has issued a number of documents on climate change broadly accepting the science and calling for an appropriate Christian response. Evangelical Christians in both the USA and Australia are well represented amongst the many churches and faith communities which accept majority science on climate change and which encourage reduction of carbon dioxide emissions. However, for some it remains a contested issue and, in the USA,

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80 Lohrey, "Voting for Jesus. Christianity and Politics in Australia." 64
81 Marion Maddox, *God under Howard. The rise of the Religious Right in Australian Politics* (Crows Nest NSW: Allen and Unwin, 2005), 24
acceptance of the relationship between reliance on fossil carbon and climate change by some evangelicals has produced a backlash by others.  

As church participation declines, public statements by people identified with churches are increasingly one strand among many. They are less likely to be accepted as having intrinsic authority. Indeed, at first sight, few people would see Christian faith as having any obvious relevance to the environmental consequences of our dependence on fossil carbon. As McDonagh laments, even people with strong Christian beliefs and environmental commitments may fail to connect the two. Climate change as public theology has the task of making these connections for people with Christian faith, and for bringing insights informed by Christian faith into wider public discourse on climate change. How then does the church enact and resource public theology related to climate change, and how may public theology related to climate change be presented so as to be convincing to a variety of publics?

3.4 Public theology, climate change and the church

When introducing his discussion on the public nature of theology, David Tracy asserts that “all theology is public discourse”. Tracey then asks: “Just whom does the theologian attempt to address in theological discourse?” He identifies three publics with which a theologian interacts. The first is “society in general”, the second is the academy, and the third the church. De Gruchy observes that Tracy “never meant that the three should be kept in watertight compartments”, but that “the distinction is useful insofar as it helps us untangle the different modes of theological discourse and the criteria for evaluation and appropriateness.”

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84 Sean McDonagh, "Ecology and Religion. A Green Christology"


86 De Gruchy, "Public theology as Christian Witness: Exploring the Genre." 26-41, 28
Public theology is part of witness to God and God’s mission in the world. Mission is a core commitment of the church and, as Tracy insists, the church is central to public theology:

The fact is that the church in its innermost tradition serves the cause of publicness. The memories of the tradition along with the present practices and self-understanding of the church, despite their many ambiguities, recall moral, religious and intellectual resources and demands that always aid the struggle for authentic publicness in all theologies.\(^{87}\)

Tracy’s observation applies to the church at any level from local congregations to global ecumenical bodies. De Gruchy describes public theology as:

a form of Christian witness in the secular world that arises out of theological reflection and the life and worship of the church, and such theology could be as much the activity of members of parliament, NGO workers and congregations, as it might be of academics.\(^{88}\)

Through their professional work some church members may affect public policies in ways which may be of great value. Tracy also recognizes the significance of these professional contributions to public theology. “Through their individual members and more rarely through their institutional weight, the churches may directly affect the policies of the society as a whole.”\(^{89}\) Some individuals may even defy conventional restriction of their public statements to the instrumental ends specific to their professions, and explicitly challenge their readership to explore questions of values and meaning.\(^{90}\)

The ability of the church to resource and enact public theology on climate change depends on theological understanding which values the future of life on Earth and the health of the Earth environment. At the international ecumenical level, the World Council of Churches has taken a leading role, with environmental and related social justice implications on the agenda as early as the Nairobi Assembly in 1975. This role includes ongoing advocacy at the highest level of global climate change conferences.\(^{91}\)

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\(^{87}\) Tracy, *The Analogical Imagination. Christian Theology and the Culture of Pluralism*. 27-28

\(^{88}\) De Gruchy, "Public theology as Christian Witness: Exploring the Genre." 29


Michael Northcott notes that the WCC has for more than twenty years “prophetically witnessed to the threat presented by global warming on behalf of those who are already suffering from global warming.”\textsuperscript{92} In the words of Sean McDonagh:

> It is generally recognised by Christians of all denominations who are committed to working for justice and sustainability that the World Council of Churches (WCC) has given the most courageous leadership of any Christian institution of a wide range of ecological issues, especially global warming.\textsuperscript{93,94}

The WCC has supported a wide range of initiatives to address international issues related to global warming, and continues to do so.\textsuperscript{95} It resources, and is resourced by its constituent churches. In Australia, as in other countries, this flow of resources is evident in synod resolutions of constituent churches, and in numerous examples of practical action at congregational level.\textsuperscript{96}

Churches may be members of the WCC and pass resolutions on climate change and related issues at the level of councils and synods, but these are not necessarily seen as relevant at congregational level. As Pepper, Leonard and Powell found, a similar range of views on climate change, including denial that it is primarily anthropogenic, are as likely to be found in a congregation as amongst the general public.\textsuperscript{97} Clive Pearson notes this diversity in the correspondence columns of church newspapers and identifies handling the debate about climate change within churches as one of the roles of the public theologian.\textsuperscript{98} Within a congregation, working through issues of faith and practice is a shared commitment of the church community. Some people will have greater depth of understanding of climate change and some of theology. As McDonagh

\textsuperscript{92} Northcott, \textit{A Moral Climate: The Ethics of Global Warming}. 42
\textsuperscript{93} Sean McDonagh, \textit{Climate Change : The Challenge to All of Us} (Blackrock: Columba Press, 2006). 155
\textsuperscript{95} McDonagh, \textit{Climate Change : The Challenge to All of Us}.161,162. See also Ayre, "Climate Change and a Climate of Change in the Church." 55
\textsuperscript{97} Miriam Pepper, Rosemary Leonard, and Ruth Powell, "Denominational Identification,Church Participation, and Concern about Climate Change in Australia" 55
found amongst dedicated Christians with commitments to environmental work, public theology is impoverished if bridges are not built between people’s beliefs and how they think and work in their everyday lives. Ministers and others with formal theological training have a particular role in building bridges from the theological end. However, others in a church may be better placed to bring the world’s issues to the church and build bridges from the other end, bringing knowledge and passions from their experiences of life apart from the church.

Pepper, Leonard and Powell found that the more religiously and socially conservative a church is, the less its membership is likely to be concerned about climate change. When the ‘Good News of Jesus’ is understood to be about other-worldly personal salvation, this world becomes a dispensable backdrop. Body-soul dualism and a sense that what really matters in the end is spiritual and not of this world diminishes concern for the future of the world. The creationism which is also found in some conservative churches correlates with rejection of scientific accounts of how the universe has evolved and with suspicion of climate change science and science generally. Naïve dualistic eschatology provides a frame in which ecologically destructive attitudes may even seem Biblically justified. As Ghillean Prance notes in his ‘Forward’ to a book on environmental stewardship published in 2006:

This book is particularly pertinent at a time when the one remaining superpower is governed by Christians whose fundamentalist way of interpreting the bible allows them to believe that destruction is permitted on the grounds that we live near to a prophesied end of time. This allows them to assume that they have a mandate to destroy rather than steward the earth.

The influence of the religious right on USA politics is more complex and constrained than Prance’s observation suggests, and the political landscape in the USA has changed since 2006. In the USA, Berlinerblau notes that most appeals to the Bible in the political arena are brief and not “labor intensive”. “The American electorate…..rarely demands intellectual depth and scholarly precision from its leaders” and neither does the Australian electorate. As an example, Berlinerblau

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99 Conradie, An Ecological Anthropology : At Home on Earth?2
102 Berlinerblau, Thumpin’ It. The use and abuse of the Bible in today’s presidential politics.21
refers to Al Gore’s use of Biblical references as “cite and run”, meaning that after he has made a point with a text thrown in, he moves on. Berlinerblau describes the Bible as “raw power”, which can be used for good or ill, whether by politicians, or within churches themselves.

The “raw power” of apocalyptic writing is particularly dangerous, especially when fundamentalist interpretations uncritically impose twenty-first century literalism on first century images of end times. That “raw power” is invoked, for example, in this warning to Christian leaders not to be distracted by allegedly dubious claims of climate science, but to keep their eyes on the main game of saving souls:

God has some serious global warming of his own planned (2 Peter 3:10). Christian leaders ought to be warning people about that rather than looking for ways to mitigate the questionable effects of the current heat wave.

Edward Adams describes II Peter chapter 3:5-13 as “at first sight, one of the least eco-friendly texts in the New Testament”. Not only does the writer of II Peter warn his readers about the coming fiery end to the heavens and earth, he urges his readers to “hasten the day” when it will happen. Furthermore, it “is not alone in the Biblical canon in affirming the dissolution of creation”. Adams moves from “first sight” to in-depth exegesis, and concludes that “the text almost certainly presupposes the created goodness of the earth, which I regard as the primary biblical motivation for environmental concern.” Barbara Rossing also sees particular ecological danger in this text, and compares it with the destruction of “Babylon” depicted in Revelation 18. She argues that in II Peter it is the earth (ge) and heavens (kosmos) which are doomed to fiery destruction, but in Revelation 18 it is the dominant economic system (oikumene) which is doomed to judgment. She concludes that:

103 ibid.44
104 ibid.1-3.
107 ibid.116
108 ibid.118. See also Clive W Ayre, Earth, Faith and Mission. The Theology and Practice of Earthcare (Preston Vic.: Mosaic Press, 2013).71
2 Peter definitely represents the moralistic use of apocalyptic threats to control individual behaviour. By contrast, Revelation targets its primary threats of judgment against the system and structures of empire, especially the economic system (Revelation 18).  

Adams and Rossing exemplify that there are good exegetical resources to assist in countering simplistic answers to questions on difficult Biblical themes. When ecology is under discussion, it is a particularly demanding task as today’s knowledge is very different from in the ancient world. Careful exegesis of a text will make that clear and then, as Brendan Byrne puts it, hermeneutically “we are engaging with (the texts) from a wider horizon of discourse, informed by the concerns peculiar to our own time, notably the global situation.” However, the theologian who works with careful exegesis and responsible hermeneutics is competing in a market-place where public perceptions of what Christians believe, and what some Christians do believe, comes from naively literal teaching and quick answers on-line. Literalism also produces a form of public theology which can be used to legitimate climate change denial and ecological destruction.

If the church is to be a community from which people concerned to enact public theology on climate change go into the wider world, it has to be a location for critical reflection on the relationship between theology and climate change. How Jesus is interpreted as Christ is fundamental to Christian belief, and how fossil carbon causes climate change is fundamental to understanding global warming. At first sight talking of Christ and coal in one sentence may cause incredulity. However, in Christian thought Christ is central to how people of Christian faith attempt to live responsibly on Earth and, for much of humankind, coal both contributes to and is a symbol of how much of humankind is failing to do so. As for any public, the church is a place where meeting of ideas and mingling of experiences takes place but its theological commitments make it uniquely important for the gestation of public theology.

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3.5 Public theology of climate change and the Academy.

In Tracy’s analysis of the publics in which theologians are situated and which they address, the academy has a central role:

The very drive to publicness which defines theology’s task, the normative status of theological and philosophical discourses, does demand explicit reflection upon theology’s constitution as an academic discipline.\textsuperscript{111}

Although many church members have tertiary education, few will have undertaken academic theological studies. The theologian’s experience of doing so is likely to have been a journey of transition from naïve religious belief to “sensing the presence of a second naïvete towards that same reality”.\textsuperscript{112} Doubt becomes associated not with disbelief, but with the dynamic questioning of faith which engages with relational and intellectual issues in the contemporary world. The same academic culture of questioning probes Enlightenment hopes for the power of reason alone, and exposes the devastating narrowing of reason to instrumental ends.\textsuperscript{113} The work of theologians then becomes a significant resource for other church members, some of whom can and do experience similar development of faith and questioning.

Much theological writing, including on ecotheology and on climate change, is the work of people with academic positions in or who are associated with colleges and universities. Like lay church people, people with theology specialization also are confronted with the challenges of integrating their ways of making meaning in different parts of their lives. Tracy’s description of an academically situated public theologian could also be applied to any person with religious belief who engages directly or indirectly with academia. Such a person is:

An intellectual related to three publics, socialized in each, internalizing their sometimes divergent plausibility structures, in a symbiosis often so personal, complex and sometimes unconscious that conflicts on particular issues must be taken singly or “retail”, not globally or wholesale.\textsuperscript{114}

\textsuperscript{111} Tracy, \textit{The Analogical Imagination. Christian Theology and the Culture of Pluralism}.17
\textsuperscript{112} ibid.30
\textsuperscript{113} ibid.31
\textsuperscript{114} ibid.26
Besides being in an academic institution, she or he is also a member of the general public and is likely to share in the life and worship of a church. Church, academy and the general public domain all contribute to their work on public theology and all are publics where it may be enacted.

Because public theology brings together theology and public issues, public theology is necessarily interdisciplinary. Pearson notes that:

The interdisciplinary nature of a public theology is one of this emerging discipline’s imperatives and assets. The ever-present dilemma is that only a handful of theologians have the necessary interdisciplinary competence and are capable of being able to shape what transpires on a public stage. Interdisciplinary competence need not mean a high level of specialized knowledge and professional experience in disciplines other than theology, although some theologians do have that sort of experience. However, climate change is a ‘wicked’ problem in the sense of the extent and complexity of the interactions its causes and consequences have within the economy and the natural environment. Attempts to present a comprehensive picture of climate change inevitably draw on the work of multiple specialists across a range of disciplines, leading to emergence of new transdisciplinary approaches. Interdisciplinary competence calls for an approach to specialist and transdisciplinary presentations with a hermeneutic of suspicion. Questions of the sort central to academic commitment to critical thought need to be asked. What syntheses and opinions are likely to be reliable, how may they be cross-checked with alternative sources, what biases may be present, and whose interests are being served?

Public theology of climate change is not simply another critique of the global economy, presentation of climate science, or narrative on ecological degradation. However, these all form context, and explaining context may at times be necessary. As theology, public theology of climate change reaches to what Sallie McFague calls “The heart of the matter: Who are we? Who is God? How shall we live?” McFague sees reflection on the life and death of Christ in ecological context as the way forward in today’s increasingly damaged world:

Jesus did not live in order to die; rather, he died in order to live – in order that all of us might see a new way to live. His suffering was in order to open our eyes to the way of the cross, the way in which we all must live so that creation may

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115 Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change." 366
116 McFague, A New Climate for Theology. God, the World and Global Warming. 3
flourish. The death of Jesus says to us that living in solidarity with others, even when it involves sacrifice and suffering, is the only way to life.\footnote{ibid.39}

Public theology of climate change includes giving voice to these ‘others’ whose voices may be suppressed or absent, and kindling imagination and hope for healing of relationships, people with people, people with all creation and all with God. Major theological movements of recent times have enabled suppressed voices to be heard more clearly and in ways directly relevant to how humankind interacts with the Earth environment. The voices of the poor are heard in liberation theologies\footnote{Rue, "Climate Change - Mapping and Australian Catholic Response". Chapter 10. “Latin American Theologies”, 287-310}, the voices of women’s insights into how humankind lives on Earth in ecofeminist theologies\footnote{ibid. Chapter 8.”Western Ecofeminist Theologies”,237-264}, and the voice of Earth\footnote{Norman Habel, ed. Readings from the Perspective of Earth, vol. 1, The Earth Bible (Sheffield: Sheffield Academic Press, 2000).} in ecotheologies. The theologians who have wrestled with and shaped these theologies often have academic affiliation, but their work reflects belonging to church communities where the suffering of Christ and hope of redemption are central to self-understanding. Some of the theologians themselves have first-hand experience of being on the front-line with those whose suffering is exacerbated due to climate change, or are in close communion with others who are.

Public theology concerned with climate change, or indeed any public theology, is ultimately aimed to “shape what transpires on the public stage”. Pearson’s observation that few theologians are capable of doing so raises the question of how that influence might take place.\footnote{Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change."366} There are some theologians with established public profiles, including on the implications of climate change.\footnote{For example, the British theologians Michael Northcott and Rowan Williams.} The influence of the large and growing body of theological writing which reflects on climate change is more diffuse. Theologians in the academy have structured opportunities to be heard and to have ideas critically debated and tested in academic circles. Their work then influences colleagues and students, some of whom become pastors. In turn, that influence passes on into the life of some congregations, and it may also do so more directly when church members read their works. This diffusion of theological work across the academy and into the church is difficult to quantify. Conradie identifies this problem in his discussion on the
difficulty of knowing who really has read church reports. Nevertheless diffusion of theological work from academy to church does occur and has potential to bridge the gap which McDonagh found between the environmental and Christian commitments of ‘committed Christians’. They then are better placed to enact public theology, in the broad sense of public work motivated and informed by theological reflection. Public work of this sort is part of the “faithful Christian citizenship” which Charles Mathewes explores.

Direct explicit public theology on climate change or any other public issue is confronted by greater difficulties. No discourse, theological or otherwise, attempted in the general public arena carries a guarantee of being heard and seriously debated, let alone leading to social change. Tracy himself highlights the potential for any cultural discourse to fail to connect with society in general. He notes that cultural enclaves may flourish but:

- do not offer other than ‘personal preference’ options to the instrumentalist discussion of values for the society as a whole. Narcissus may be allowed his curious pastimes. The polis, however, is both unaffected and unimpressed.

Theology is not the only academic discipline which circulates ideas within academia, but which may fail to make any discernible difference to public affairs. To be true to its public character, public theology is committed to move beyond church and academy into society at large. Like prophesy in the Hebrew Scriptures, it is likely to be met with indifference or with hostility. Nevertheless, as John Bowlin puts it:

At times Christians must speak boldly and make nuisances of themselves, above all when the worship of some other god or the devotions of some other piety legitimate injustice inflicted upon the weak by those who rule.

What distinctive emphases does theology bring to a public which already sees climate change as the concern of well-established players ranging from activist green groups, to

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125 Tracy, *The Analogical Imagination. Christian Theology and the Culture of Pluralism*. 9
127 Craig notes the same danger for philosophers: “the temptations and pressures are there to write on puzzles, for other professional philosophers, and let civilization take its own course.”
scientists, economists and politicians right to the highest level of the largest nations of the world? What strategies could make the distinctive contributions of public theologians sufficiently compelling to be worth consideration? Why should the general public take any notice, when it may be hostile, sceptical or simply indifferent, particularly if the public advocate is seen to have Christian or other religious background?

3.6 Theology and climate change in the wider public

The causes and effects of climate change reach deeply into human affairs and widely out into the global environment. Like Australian weather patterns which fluctuate but trend towards higher temperatures and more extremes, public discussion of climate change rises and falls from prominence, but is carried upward by a tide of international concern.\(^\text{128}\) How to respond to climate change is and will remain a contested public issue, making this a *kairos* time for theologically informed contributions to public debate and action.\(^\text{129}\) Writing of public theology directed to the general public, Tracy suggests that three broad realms of human affairs need to be addressed. These realms are the “technoeconomic structure” which deals with goods and services, polity which is concerned with use of power and social justice, and culture which includes art, religion, philosophy and other ways in which people “explore and express the meaning and values of individual, group and communal existence.”\(^\text{130}\) Each realm is described in terms of its distinctive domain of human activity and thought. With climate change, the issues affecting human publics lie within the greater context of the whole web of life and the global physical environment. Problems which may appear primarily to be in one of the three realms cannot be adequately addressed without exploring how they affect the other realms and the wider global environment. When viewed from the perspectives of a scientific, technical, economic or other specialist, specific solutions to well defined problems related to climate change may look attractive. If the wider context is neglected the solutions are likely to have unintended consequences in other

\(^{128}\) For example, Tom Allard reports on how international determination to introduce climate change in the g20 Brisbane 2014 agenda overruled local political desire to exclude it. Tom Allard, "Climate change in G20 communique after 'trench warfare'," *Sydney Morning Herald* (2014), http://www.smh.com.au/business/g20/climate-change-in-g20-communique-after-trench-warfare-20141116-11no3q.html. (accessed 05/12/2014)

\(^{129}\) Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change." 262-264

\(^{130}\) Tracy, *The Analogical Imagination. Christian Theology and the Culture of Pluralism.* 7
areas and in the longer term. Public policy and public theology concerned with climate change are of limited effectiveness if there is not serious engagement with the complexity and reach of its causes and consequences.

The dilemma of specialization which Pearson identifies\textsuperscript{131} applies as much in the technoeconomic and polity realms as in public theology. Commenting on the specialized nature of employment in many areas of society, Hannay observes that “what we educate nowadays are specialists able to fill roles in a complex economic machine”\textsuperscript{132}. No one person has multiple specializations, and public policy makers and public theologians depend on intermediaries who synthesize and interpret the work of a range of specialists. These intermediaries may be national or international bodies, government funded reports, the interpretive work of individuals\textsuperscript{133}, and ‘think-tanks’ typically set up with funding and orientation which may reflect particular interests and ideologies\textsuperscript{134}. In a well-informed democracy there will be robust public and political debate in which competing interests and ideologies are exposed to scrutiny. Public theology brings distinctive voices and perspectives to this process. Referring to the work of Duncan Forrester, de Gruchy identifies the practice of public theology as “engaging the secular world in terms of its issues while at the same time digging deeply into the Christian tradition for the resources necessary for doing this.”\textsuperscript{135}

In his exploration of the “genre” of public theology, de Gruchy draws on specific examples from South Africa. His examples relate to the struggle against apartheid and to the processes of truth and reconciliation following the transition to majority government.\textsuperscript{136} Christian beliefs and commitments played significant roles both in justifying apartheid and in repudiating it, and also in shaping the process of truth and reconciliation. De Gruchy sees patterns having wider application emerging from the South African experience of public theology:

\textsuperscript{131} Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change." 366
\textsuperscript{132} Hannay, \textit{On The Public}. 48
\textsuperscript{133} In Australia, Tim Flannery and Clive Hamilton are among those with public profiles in this area. (e.g.Flannery, \textit{Here on Earth. An Argument for Hope.} and Clive Hamilton, \textit{Earth Masters. Playing God with the Climate} (Crows Nest NSW: Allen and Unwin, 2013).
\textsuperscript{134} For example the Institute of Public Affairs has links to mining, business and conservative government. Robert M. Carter, an Australian geologist who argues against anthropogenic climate change, is one of the Institute’s consultants. The web site points to several articles decrying the main direction of international concern on climate change. Institute of Public Affairs. https://www.ipa.org.au/sectors/climate-change. (accessed 28/11/2014)
\textsuperscript{135} De Gruchy, "Public Theology as Christian Witness: Exploring the Genre." 27
\textsuperscript{136} ibid.27
There is no universal ‘public theology’, but only theologies that seek to engage the political realm within particular localities. There are, however, commonalities, both confessional and ecumenical, in approach and substance between theologies that do this.\textsuperscript{137}

When public theology is concerned with climate change, the theological commonalities are brought to bear on a common overall problem, as well as on issues specific to particular places and communities.

In exploring theological commonalities, de Gruchy proposes seven theses for the praxis of effective public theology. These theses are that:

good public theological praxis –

1. does not seek to preference Christianity but to witness to values that Christians believe are important for the common good.  
2. requires the development of a language that is accessible to people outside the Christian tradition, and is convincing in its own right; but it also needs to address Christian congregations in a language whereby public debates are related to the traditions of faith.  
3. requires an informed knowledge of public policy and issues, grasping the implications of what is at stake, and subjecting this to sharp analytical evaluation and theological critique.  
4. doing theology in a way that is interdisciplinary in character and uses a methodology in which content and process are intertwined.  
5. gives priority to the perspectives of victims and survivors, and to the restoration of justice; it sides with the powerless against the powerful, and seeks to speak truth to power drawing its inspiration from the prophetic trajectory in the Bible.  
6. requires congregations that are consciously nurtured and informed by biblical and theological reflection and a rich life of worship in relation to the context within which they are situated, both locally and more widely.  
7. requires a spirituality which enables a lived experience of God, with people and with creation, fed by a longing for justice and wholeness and a resistance to all that thwarts wellbeing.\textsuperscript{138}

Although the range and nature of issues arising from climate change are very different from those arising from apartheid in South Africa, there is an underlying pattern of injustice common to both. In South Africa under apartheid, a privileged minority resisted change, and a large majority paid the greater price. The anthropogenic drivers\textsuperscript{139} of climate change are closely tied to fossil-carbon based energy-intensive economies which accrue greatest benefits to a privileged minority of the global

\textsuperscript{137} ibid.27  
\textsuperscript{138} ibid.39,40  
\textsuperscript{139} The main primary drivers are assumed here to be carbon dioxide and methane production arising from use of fossil carbon and from land-use practices. See, for example, Houghton, \textit{Global Warming. The Complete Briefing}.  

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population. The first to suffer adverse consequences of climate change are to be found amongst the large majority which has benefited least from use of fossil carbon. They are those least able to afford costly adaptation strategies. Theologies which address injustice are directly applicable to each situation.

In post-apartheid South Africa and globally under climate change, a more hopeful future depends on truth being told, and on repentance of complicity in structures perpetrating injustice and oppression, particularly by those with privilege and power. The healing work of reconciliation takes place as deep structural changes are made in how people relate to each other. Under climate change healing of relations not only requires addressing the global disparities between rich and poor, it also requires the healing work of reconciliation between humankind and the rest of creation. Each of these redemptive works takes place in all three of Tracy’s realms for public theology. Hopes and fears for the future lie in the realm of culture where we “explore and express the meaning and values of individual, group and communal existence.”

The current phenomenon of anthropogenic climate change is best understood in the context of evolution of global climate, with a deep past long before humankind emerged, and a deep future likely to extend far beyond when humankind as known today has faded into cosmic history. Even if there were immediate international agreement to change radically global practices which contribute to climate change, it is optimistic to think that they could be implemented within a generation. It will take many centuries, if not millennia, for the consequences of decision or indecision to be fully felt and for carbon dioxide derived from fossil carbon to be re-absorbed from the atmosphere and oceans. Both the temporal and the spatial implications of climate change raise questions about what it is to be human and of human origins and destiny. Whether or not God is named, hope for a reconciled and healed long-term relationship between humankind and the rest of the Earth provokes visions of possibility with potential

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141 Tracy, The Analogical Imagination. Christian Theology and the Culture of Pluralism, 7

powerfully to motivate change in how we live on Earth in the present. In Christian theology, such visions are eschatological visions of the reign of God.

Climate change raises numerous themes which could be addressed using resources from Christian tradition. Hope for the healing of unjust and destructive relationships lies at the heart of the Good News of Jesus. When theology emphasises God’s care for all creation, it has much to contribute to addressing “the rampant and often irreversible destruction of God’s creation.”\textsuperscript{143} When theology places Jesus’ death at the centre of God’s redemptive work for all creation\textsuperscript{144}, sacrificial living in hope for the thriving of all creation becomes a core Christian commitment, whether or not Christ is explicitly named. As de Gruchy’s theses recognize, relevant resources from Christian tradition need to be shown as “convincing in their own right” and expressed in ways which do not preference Christianity. As Christianity is likely to be the theologian’s own preference, it is wise to ask, as Bowlin does: “Is (the) theological content too blatant or too subtle given the character, aims, and norms of propriety of the society in question?”\textsuperscript{145}

Habermas’ observation that “Non-public opinions are at work in great numbers, and ‘the’ public opinion is indeed a fiction”\textsuperscript{146} applies to climate change. As Pearson notes, climate change is studied in depth from multiple perspectives.\textsuperscript{147} Some people are very well informed, and dealing with climate change may even be a major professional commitment. Others may have become attached to sceptical views which question climate science and justify ‘business as usual’ and its dependence on fossil carbon.\textsuperscript{148} One aspect of de Gruchy’s advice not to give preference to Christianity is giving respect where respect is due, appropriately acknowledging and affirming the many significant contributions made by people from their varied perspectives. These include environmental concerns informed by spirituality\textsuperscript{149} which, as Gary Bouma finds, is not declining even though church participation is doing so. A public theologian addressing climate change enters a market place where there already are many well-informed, highly committed people who have experience of dealing with ill-informed arguments.

\textsuperscript{143} McDonagh, "Ecology and Religion. A Green Christology".
\textsuperscript{144} Gregersen, "The Cross of Christ in an Evolutionary World."
\textsuperscript{145} Bowlin, "Some Thoughts on Doing Theology in Public." 235
\textsuperscript{146} Outhwaite, \textit{The Habermas Reader}. 35
\textsuperscript{147} Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change." 357
\textsuperscript{148} As expressed on the Institute of Public Affairs web site.
\textsuperscript{149} Australian earthlaws alliance, "Exploring Ecospirituality,”
abuse and even threats. Nevertheless, the public theologian may still have distinctive and important things to say.

Tracy emphasises the importance of a public theologian presenting a sustained, “reasoned, public discourse in a critical and argued fashion”. He sees this as necessary in order to avoid ceding the field to the particular interests and concerns of technoeconomic professionals and to provide a critical depth to the discourse which may otherwise be missing. Michael Northcott makes a similar point when he emphasises the tendency for society to look for “technical fixes” to environmental problems while neglecting deeper analysis of the values by which we live. Informed public discussion of technologies which could reduce greenhouse gas emissions has an important place. Should Australia, for example, seriously consider nuclear energy as a long-term source of base-load electric power? Dominant conversations may narrow to the political domain. They may then further collapse to which political party offers the economically least painful way of working towards a target for greenhouse gas emission reduction with little critical appraisal of how they propose to do so, or the likely effectiveness of the target. Deeper questions of global and intergenerational justice have less prominence, and questioning the values by which we live barely rates mention.

Bowlin suggests that:

> certain dominant conversations need to be stopped and then restarted in other directions and often the best way to do this is to locate the topic to be discussed . . . in theology’s broader horizon of creation, fall and redemption.

In the public arena, creation, fall and redemption are alien vocabulary. In terms of de Gruchy’s second thesis, theological language needs translation into language and concepts which are understood and relevant. The inter-relatedness of all creation, the place of humankind in evolutionary development, relationships which destroy and which create, and the healing of broken relationships make these core theological concepts more meaningful to Church congregations and the general public alike. Justice is a core theological concern, and the language of justice is shared between church and world. Issues of justice arising from climate change are of concern to

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150 Tracy, *The Analogical Imagination, Christian Theology and the Culture of Pluralism*. 9-12
151 Northcott, *A Moral Climate: The Ethics of Global Warming*. 43
152 Bowlin, "Some Thoughts on Doing Theology in Public." 235
Climate justice cannot be separated from the most obvious and serious cause of climate change – our current reliance on fossil carbon.

Christian churches are strongly placed to speak publicly on climate justice, and ecumenical bodies like the WCC have been doing so for decades. The church is a global koinonia, with voices from the margins heard in councils, synods, and at the congregational level. The flow of information is enhanced by partnerships in mission, visits and prayer. Stories from the margins provide a sharp focus for climate change and climate justice, whether told in church communities or in the wider public. They transcend local preoccupations in energy-intensive economies such as marginal costs of policy change. How does the future of people’s lives and homes far away balance against a few dollars on an electricity bill at home? De Gruchy’s fifth thesis for good public theology is to give “priority to the perspectives of victims and survivors, and to the restoration of justice; it sides with the powerless against the powerful, and seeks to speak truth to power.” Effective public theology allows victims and survivors, however marginalized, to tell their stories, but it also probes the wider context to expose structures and injustices which lie behind these stories, and looks for redemption and for hope.

Climate change placed within the wider context of how humankind lives on Earth is the subject of a growing theological literature. Pearson refers to particular perspectives used by some representative theologians. McFague provokes a deeper sense of responsibility to nurture the total Earth environment by re-imagining the Earth metaphorically as the body of God. Conradie explores a theological anthropology: what is it to be human amongst all creatures in the oikos or household of God?

154 McDonagh, Climate Change : The Challenge to All of Us. Chapter 9 “How the churches have responded to climate change.”
156 De Gruchy, "Public theology as Christian Witness: Exploring the Genre."40
157 Pearson, "The Purpose and Practice of a Public Theology in a Time of Climate Change."358-359
159 Conradie, An Ecological Anthropology : At Home on Earth?
Deane-Drummond explores theodicy, the Spirit and eschatology, and Edwards looks to God as relational trinity to interpret creation relationally. Northcott brings Christian ethics to how we live on Earth, and critiques the political and economic structures which currently dominate. Many others could be added, including Williams who, as a public figure with high profile, also addresses issues of global justice and the climate crisis in his writings. McDonagh draws on his own front-line experiences of exploitation and marginalization of rural people in the Philippines to educate the church and anyone else who is listening about the devastation and injustice which climate change represents.

The sheer complexity of issues represented by climate change makes de Gruchy’s third thesis particularly difficult to implement. It “requires an informed knowledge of public policy and issues, grasping the implications of what is at stake, and subjecting this to sharp analytical evaluation and theological critique.” To approach the ideals set out in de Gruchy’s third thesis requires integration of a wide range of theological and secular insights. Ecumenical bodies and institutional Churches typically have specialized arms which draw on praxis and research and are a vital resource for those who enact public theology. Ann Wansbrough describes public theology built on wide communion and consultation as “Speaking Together.

In her thesis “Speaking Together”, Wansbrough critically examines how the National Council of Churches in Australia and member churches develop public theological praxis. She describes the process as a hermeneutical circle. The process of developing and enacting public theology starts with identification and naming of the particular issue of concern. It progresses through critiques of ideology and religion to “renewing principles of interpretation of Tradition and Reality,” using “middle axioms” to build bridges between the two. When public theology is then enacted, change may (or may not) take place, and the process continues around the circle again. A hermeneutic of suspicion is critical to each stage: nothing should be accepted

160 Deane-Drummond, Eco-theology.
161 Anglican Archbishop of Canterbury from 2002 to 2012.
163 McDonagh, Climate Change : The Challenge to All of Us.
164 de Gruchy, "Public theology as Christian Witness: Exploring the Genre."40
166 ibid. Chapters 11-13, 258-333
167 ibid.263
uncritically, as secular and religious ideologies and practices may all be part of the problem.

Individual theologians, too, are part of churches as well as often being part of academic communities. They too may use principles similar to those described by Wansbrough, but they carry a greater burden of individual research and discernment. Northcott takes up this challenge across a broad front, bringing to his readership and audiences ethical arguments supported by multiple references to many specific issues contingent to climate change. It is a daunting task, with its own particular opportunities and hazards.

Appeals to multiple sources calls for caution and requires careful attention to the limits of one’s knowledge and to the effect on readers of decisions made as to what to include in the discussion, how it is included, and what to leave out. The public includes many people with knowledge of particular areas, some of which may be referred to in the theologian’s presentation. If reference to a particular area is believed to be simplistic or even erroneous, this will undermine the reader’s confidence in references to other areas with which the reader may be less familiar. If the reader is sympathetic to the main argument, perceived errors or simplistic analyses may be overlooked or constructively debated. If they are hostile, these perceived limitations are likely to become a destructive distraction. Public discussion of climate change is often marked by hostility, and perceived shortcomings in arguments are used to discredit total arguments, even though they may be only a small part of solidly supported work.

Northcott’s *A Moral Climate* exemplifies the hazards of arguments based on detailed reference to multidisciplinary sources. Northcott’s primary focus is the pervasive injustice and ecological destruction perpetuated as a result of global application of neo-liberal economics. He also makes the case that a consequence of neo-liberal economics is to distance the consumer from the supplier of goods and services, diminishing awareness of and sense of moral responsibility for how goods and

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169 A much publicised example was the erroneous claim made in IPCC work that the Himalayan Glaciers would melt by 2035. The IPCC retracted this claim; see Damian Carrington, “IPCC Officials Admit Mistake over Melting Himalayan Glaciers,” Guardian, http://www.theguardian.com/environment/2010/jan/20/ipcc-himalayan-glaciers-mistake.(accessed 07/07/2015)
services are provided. He illustrates this important point by reference to the electric power industry, and also is highly critical of how he perceives engineering practice in the power industry to be out of tune with nature. The interpretations he brings to these case studies and the ethical implications he draws from them would be strongly contested by people familiar with physics and engineering. A critique of these case studies and clarification of the underlying physics, which Northcott appears to have poorly understood, are given in Appendix B.

One of the issues at stake is that science and technology are human artefacts under human control. As such they are part of a network of human activity which is neither morally neutral nor devoid of theological content. They are an integral part of the web of human and environmental ‘becoming’. They may be viewed as flowing from God’s gift of human creativity and the creative dynamic of the Earth, albeit hobbled by human attributes which could theologically be regarded as sin. In the context of human ‘becoming’ – of where humankind is now and of how we might contribute to shaping the future – energy technologies have a central role. “Technological fixes and the construction of new economic instruments” do not inevitably serve the “nefarious bargains of the powerful” as Northcott claims, although at times they may do so in ways such as those which he identifies. A theologian will also want to ask where God is in this extraordinary scientific and technological creativity, and what guidance as to its wise use may be found in religious traditions.

3.7 Summary and forward vision

De Gruchy’s description of public theology as “a form of Christian witness in the secular world that arises out of theological reflection and the life and worship of the church” identifies it as much more than individual theologians speaking into public

\[172\] Northcott, *A Moral Climate: The Ethics of Global Warming*. 109-113  
\[174\] De Gruchy, ”Public theology as Christian Witness: Exploring the Genre.” 29
debate. The practice of public theology may be described as an enactment of public Christian witness because it may take place in a variety of ways. These could, for example, be professionals in their work, conversations in the course of daily life, demonstrations, and documents released by councils and synods of the church as well as direct participation by individuals in public debate through literature and the media. New possibilities are emerging as the internet has made possible individual participation in public debate to a degree unimagined a generation ago.

In a whole-church vision of public theology, pastors, leaders and theological specialists occupy a particularly strategic place. They have a primary role in equipping the church to reflect theologically, including on public issues. Their work includes equipping church members to integrate their Christian faith with concerns for justice and ecological care, bridging the gulf which McDonagh laments.\textsuperscript{175} When climate change in all its ‘wicked’ complexity is the public issue, they will depend on the expertise of others, some of whom may be Church members with in-depth knowledge in relevant professional areas. The ubiquitous impact of climate change makes it a fearsome prospect, threatening human interests and resulting in denial of the science, or accepting the science while living in denial.\textsuperscript{176} In order to develop “an informed knowledge of public policy and issues”\textsuperscript{177} relating to climate change, a hermeneutic of suspicion and exercise of critical skills is required. Traditionally, the academy is where many people in church and secular life develop these skills, gifts to be shared alike with church and wider public.

Climate change is exacerbating global ecological and human problems and exposes deep injustices in the global economy. It is of great concern to many people, including some of the most influential and well-trained among humankind. Their commitments deserve respect and acknowledgement, even while subjecting the directions of their work to “sharp analytical evaluation and theological critique.”\textsuperscript{178} Public theology has priestly as well as prophetic dimensions. Like the description of the High Priest in the letter to the Hebrews,\textsuperscript{179} a public theologian is one of the people, called to repent and make atonement for complicity in a way of life which is destroying the creation and

\textsuperscript{175} McDonagh, "Ecology and Religion. A Green Christology".  
\textsuperscript{176} Kari Marie Norgaard, " "We Don't Really Want to Know". Environmental Justice and Socially Organized Denial of Global Warming in Norway," \textit{Organization & Environment} 19, no. 3 (2006). The theme of denial is developed in Chapter 6 of this thesis.  
\textsuperscript{177} De Gruchy, "Public theology as Christian Witness: Exploring the Genre."  
\textsuperscript{178} ibid.40  
\textsuperscript{179} Heb 5:1-3
perpetrating injustice. This is no one-off act, but rather a commitment to walk with all who work for redemption, acknowledging and encouraging the labours of hope undertaken by others.\textsuperscript{180} The prophetic role is to tell truth, expose injustice and idolatry, and dare to proclaim that God is love and that there is still hope, even though we are staring into an abyss of human destructiveness.\textsuperscript{181}

The beliefs and heritage which undergird Christian theological reflection and public theology are rich in stories of God relating to people and people to God. The Hebrew Scriptures tell a story of gift and promise, blessing and curse, and of hope against hope as the Israelites entered, lived in and were exiled from the Promised Land. This story speaks into the contemporary story of the blessing and curse of fossil carbon and the existential threat its use is causing.\textsuperscript{182} In the Christian Scriptures Jesus of Nazareth is interpreted as the Christ, through whom God created all things and reconciles all things to God. The incarnation of the divine Logos brings God’s presence into the “very tissue of life”\textsuperscript{183}, and the Cross of Christ brings God’s suffering into the deepest problems of theodicy which arise as humankind lives in an evolutionary world.\textsuperscript{184} Death and new life are inseparable in evolutionary creation and also are inseparable as the reign of God unfolds, with the Spirit/Breath of God animating hopeful work in the world, even in the face of the worst that climate change may bring. Eschatological hope, like the reign of God, is both present and future, with horizons of hope expanded to the limits of faith and imagination. Climate change as a public issue is ‘wicked’ in complexity, but theology has resources to equip public theology to make a distinctive and vital contribution. Public theology is, as de Gruchy writes, dependent on “a spirituality which enables a lived experience of God, with people and with creation, fed by a longing for justice and wholeness and a resistance to all that thwarts wellbeing.”\textsuperscript{185} Public theology has a vital role in critiquing preoccupation with short-term and local goals, and in encouraging imagination of transcendence, from local to global, from present to future, and beyond all time and place to a telos which Christian tradition locates with Christ in God.

\textsuperscript{180} Ayre, “Climate Change and a Climate of Change in the Church.”61
\textsuperscript{181} Jürgen Moltmann, \textit{Sun of Righteousness, Arise! God’s Future for Humanity and the Earth} (Minneapolis: Fortress Press, 2010).38
\textsuperscript{182} The theme of blessing and curse is developed in Chapters 4 and 5 of this thesis.
\textsuperscript{183} Gregersen, ”The Cross of Christ in an Evolutionary World.”205
\textsuperscript{184} ibid.205
\textsuperscript{185} De Gruchy, ”Public theology as Christian Witness: Exploring the Genre.”40
Part 2

Judgment and Hope in a Warming World
Chapter 4

The Ambiguous Blessing of Fossil Carbon

4.1 Biblical and theological themes in response to our reliance on fossil carbon

The themes of science-theology conversation and the Anthropocene set the context within which to explore what it is to be human in today’s world. Set in this context, our reliance on fossil carbon is symbolic of the tension between human creativity and destructiveness – the works of homo sapiens and homo demens. It is also the context in which Christian tradition brings imagination of God’s action and Christ’s presence in the world. Public theology is then an expression of the praxis of participation in Christ and in God’s mission in the world.

Conradie reflects on how remarkable it is that we can and do relate “Biblical texts in all their plurality and ambiguity to an equally complex contemporary context”, yet we do it in sermons and moral instruction all the time. He also insists that retrieving Biblical wisdom goes beyond using specific Biblical texts. In the second part of the thesis, Biblical texts and theological themes are brought to the complex of issues which cluster around climate change. The initial chapters bring the Biblical themes of blessing and curse to our reliance on fossil carbon. The task is bilingual, bridging differences in meaning between Biblical and contemporary Christian understanding and how blessing and curse might be expressed in the public domain. Speaking out today, telling truth to power, and to fear, builds on Scriptural traditions of prophesy. In Christian understanding, prophetic ministry reached its climax and found its deepest meaning in Jesus. Prophetic ministry in the context of climate change calls for soteriology with comprehensive ecological reference. Truth-telling, reconciliation and redemption then extend beyond God-human relationships. They also include relationships between all Earth-creatures and the Earth-environment with humankind and with God. A hopeful future depends on healing of relationships, and prophetic

2 ibid.296
ministry grounds future hope in God’s promises. In Christian understanding, the resurrection of Christ is God’s promise of hope which transcends even death.

Christian theology depends on how Jesus is understood to be Christ, in Biblical memory and interpretation, in Church history, and today. Christology which brings together Biblical and contemporary understanding of the inter-relatedness of all creation, imagines the incarnate presence of God reaching to the depths of creation. The suffering and death of Christ is then seen as significant for human and non-human creatures, incarnating God into all suffering and bringing hope to all creation. The thesis concludes with the theme of ‘deep’ Christology, presenting it as both Biblically grounded and ground for transformative hope in our deeply threatened world. Hoped for blessing is found in Christ and the way of the cross. It is the blessing of compassionate labour for a better future, sustained by a faith that sees fulfilment beyond even the worst that climate change may bring.

4.2 Biblical Traditions of Blessing, Curse and Covenant

This brief review of the biblical themes of blessing, curse and woe, and of covenantal relationship, aims to expose these themes so that they may be re-imagined and reinterpreted into today’s world. The review of texts deals with topics which are subject of detailed critical exegesis in a wide literature, of which a sample is cited. The hermeneutical task of re-imagination and reinterpretation is described by Anne Elvey as a cross-cultural dialogue:

Taken as a sacred text for Jews and Christians, the biblical text can also be read as offering modes of social, cultural and ecological contexts that might suggest modes of situated interpretations of such relationships today. Such a dialogue is cross-cultural conversation, between contemporary cultures and the ancient worlds and worldviews of the biblical texts, and requires a kind of cultural sensitivity and humility.3

Relationships make dialogue possible, and link us in common humanity with the ancient world of the Bible. The biblical themes of blessing and of curse and woe invite exploration into the health of the deepest relationships on which we depend – with each other, with the non-human creation, and ultimately with the dynamic and driving source of all creation, however we may name or imagine that to be.

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This relational hermeneutic used to re-imagine and reinterpret biblical texts into the contemporary world draws on parallels between the living under existential threat present in biblical stories and living under the existential threat of climate change today. In developing the themes of fossil carbon as blessing and as curse, I draw analogies between stories of Israel, the Promised Land and exile, and humankind’s access to fossil carbon. In Christian thought, hope of a restored Israel as articulated by the prophets comes to fulfilment in Jesus as the Christ/Messiah. I then explore how Jesus’ teaching of blessing and woe, and of blessing and curse more widely in the New Testament, set the patterns of Christian hope which may be reinterpreted in view of global threat today, particularly due to climate change.

Tracey describes the nature of analogy when relating biblical texts and Christian tradition to contemporary situations:

Analogy is a language of ordered relationships articulating similarity-in-difference. . . . The order is developed by explicating the analogous relationships among various realities (self, others, world, God), by clarifying the relationship of each to the primary analogue, the meaning chosen as the primary focus for interpreting reality. In Christian systematics, the primary focal meaning will be the event of Jesus Christ (usually mediated through particular forms and particular traditions).

Conradie observes that analogical imagination involves much more than drawing analogies. The strategy identifies “something of abiding value in the text that may still be relevant today.” In Jesus’ teaching, blessing and woe reflect actions and attitudes consistent with or contrary to the incoming reign of God and hence to the ultimate fulfilment of all things.

Blessing, as an expression of God’s grace towards people, is a recurrent theme from the beginning to the end of the Bible. So also is the opposite of blessing, expressed as curse and woe. In Genesis 1:28 God blesses humankind: “God blessed them, and God said to them ‘Be fruitful and multiply, and fill the earth and subdue it, and have dominion over the fish of the sea and the birds of the air and over every living thing that moves on the earth.’” David Cotter notes the earth-orientation of this blessing. From

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today’s perspective, humankind has been fruitful and multiplied by exploiting other
creatures and the earth environment beyond ancient imagining. The biblical blessings
of human fecundity and of dominance among earth creatures have become deeply
ambiguous, bringing consequences which readily attract the language of curse and woe.
The final state of blessedness in the Bible is found in Revelation 22:13,14 where the one
who is “the Alpha and the Omega, the first and the last, the beginning and the end”
pronounces: “Blessed are those who wash their robes⁷, so that they will have the right to
the tree of life and may enter the city by the gates.” The Old Testament earth-
orientation of blessing has been replaced by the New Testament location of divine
blessing as participation in the kingdom, or reign, of God. The orientation has become
eschatological, anticipating the final fulfilment of all things in God, with God’s reign
breaking into earthly life in the resurrection of Jesus and the presence of the Spirit.⁸

In the Old Testament, beginning at Genesis 1:28, the main theme of blessing is
expressed in words derived from the Hebrew root brk. Christopher Mitchell describes
the meanings conveyed by brk:

The common feature of all the meanings of brk is that blessing, whether it consists
of a speech act (benediction) or a physical act (benefaction), is an act freely
performed which expresses the grace and good-will of the blesser. It has the
connotation of a favourable relationship between the blesser and the person
blessed.⁹

There are many biblical examples of benediction and benefaction at the level of person
to person relationships. However, the theologically most consequential relationship is
with God, and the health of that relationship is reflected in divine blessing and curse.
In the Greek Septuagint, the equivalent of the root brk is eulogeo, meaning ‘to speak
well of’.¹⁰ In the New Testament speech acts of blessing (benediction) are also based
on eulogeo (e.g. the injunction to bless enemies in Matt 5:44). Those who are in a
blessed state are described by words based on makarios. The meaning of makarios is
illustrated by Mary’s blessedness in Luke 1:45. Joel Green describes the blessed in
general and Mary in particular as:

⁷ The NRSV notes of “washes their robes” that “Other ancient authorities read do his
commandments.”
J.J.M. Roberts and Charles Talbert, vol. 95, S B L Dissertation Series (Atlanta: Scholars
Press, 1987).2
¹⁰ Elpenor’s Bilingual (Greek/English) Old Testament http://www.ellopos.net/elpenor/greek-
texts/septuagint/ (accessed February 2016). Note that the equivalent Latin is benedicere.
those who are judged to possess what is necessary for a joyful life and especially over those who are recipients of God’s gift of redemption. . . . She is declared blessed (makaria) because of her faith.\footnote{Joel B Green, \textit{The Gospel of Luke} (Grand Rapids: Eerdmans, 1997).86}

As the Genesis narrative unfolds, the focus of divine blessing narrows from humankind to Abram/Abraham and Sarai/Sarah and their descendants. In Genesis 12:1-3, the LORD\footnote{In the NRSV, the LORD (capitalized) expresses the divine name YHWH.} calls Abram and promises blessing:

‘Go from your country and your kindred and your father’s house to the land that I will show you. I will make you a great nation, and I will bless you, and make your name great, so that you will be a blessing. I will bless those who bless you, and the one who curses you I will curse; and in you all the families of the earth shall be blessed.’

Cotter notes that God’s first promise to Abram is “a land, a place where he can be rooted in the world.”\footnote{Cotter, \textit{Genesis}.90} The relationship between Abram and his family and God is emphatically affirmed in Gen 17, where God makes an “everlasting covenant” (17:7) with Abram, changing his name to Abraham (multitude), and barren Sarai’s name to Sarah (she who laughs).\footnote{Bernhard W Anderson, \textit{Contours of Old Testament Theology} (Minneapolis: Fortress Press, 1999).102,103} The substance of the covenantal promise to Abraham is that he will be very fruitful (17:6), his descendants will be given “the land of Canaan, for a perpetual holding” (17:8), and God will be their God (17:8). Bernhard Anderson describes Gen 17 as “one of the most important theological discourses in the Old Testament,”\footnote{ibid.101} setting in place the theological foundations of Jewish and, later, Christian hope. God’s blessing of Abraham’s progeny is further confirmed in Gen 22:15-18 after the near-sacrifice of Isaac. The blessing to Abraham functions as a precious possession, passed on from generation to generation. In Gen 27 Jacob tricks Isaac into blessing him, so that he, rather than Esau, receives God’s promises to Abraham (Gen 28:3,4). In Genesis 35:9-12, God confirms the blessing on Jacob, and re-names him Israel. At the end of Genesis, Jacob in turn blesses Joseph (Genesis 49:22-26).

In a later generation, as the Israelites travel through the wilderness, the blessing of the LORD is given again, this time conveyed to the people by the chosen priestly family of Aaron. In Numbers 6:22-27:

The LORD spoke to Moses, saying: Speak to Aaron and his sons, saying, thus you shall bless the Israelites: you shall say to them,
The LORD bless you and keep you;  
The LORD make his face to shine upon you and be gracious to you, and give you peace.  
So they shall put my name on the Israelites, and I will bless them.

Denis Olson emphasises that “the ultimate word is peace” (shalom), and the blessing follows from the LORD’s gracious disposition towards the Israelites. The shining upon them of the LORD’s face is also linked to blessing in the Psalms (e.g. Ps 67:1; “May God be gracious to us and bless us, and may his face shine upon us”). Baruch Levine sums up the blessings which would follow: “Blessings would come in the form of substantial gifts and material benefits, of progeny and prosperity, of well-being in the land.” These blessings, however, are conditional on the continuing favourable disposition of the LORD:

let it be said that the countenance of God was believed to be a potent force. When God is well disposed, his face brings blessings and power, but when he is ill disposed, his face shows it, and danger follows.

The image of God’s countenance conveys the theological basis of divine blessing and curse. If God is well disposed towards the Israelites, blessings will follow. If not, then blessings are withdrawn and curses follow. Divine blessing and curse are directly related to the state of relationship between God and people.

The theme of divine blessing and curse is prominent in Deuteronomy, which Deanna Thompson describes as a “retelling of Israel’s life between its coming out of Egypt and its going into the promised land”. With the exception of the final chapter (Deut 34), Deuteronomy is presented as “the words that Moses spoke to all Israel beyond the Jordan” (Deut 1:1) prior to Israel entering the Promised Land. There is scholarly support for Deuteronomy being “set in its final form during Israel’s exile in Judah in the seventh century BCE” due to conquest of Israel by Assyria. One line of evidence is similarity between curse formulations in Deuteronomy and “traditional

16 Dennis T Olson, Numbers, Interpretation (Louisville: John Knox Press, 1996).40-43  
18 ibid.228  
curse formulations known from Near Eastern treaties and elsewhere”\textsuperscript{21}, including Assyria.\textsuperscript{22}

The relationship between God and the Israelites in Deuteronomy rests on God’s promises to Abraham, but the experiences of slavery in Egypt and the Exodus provide a new covenantal formulation which reflects that history. Exodus 19:4-5 has Moses citing the LORD affirming covenantal relationship by reference to the Egypt-Exodus experience:

‘You have seen what I did to the Egyptians and how I bore you on eagles’ wings and brought you to myself. Now therefore, if you obey my voice and keep my covenant, you shall be my treasured possession out of all peoples.’

This Mosaic covenant is conditional, and Deuteronomy spells out what will happen if the conditions are not met. Anderson notes that the consequences may be understood in terms of obedient submission and severe sanctions for rebellion imposed by a conquering nation:

One striking indication of affinity (with other suzerainty treaties) is that the stipulations of the Mosaic covenant, according to the book of Deuteronomy, are sanctioned by blessing and curse. (Deut 11:26-28) \textsuperscript{23}

The Hebrew word for curse used in Deuteronomy 27 and 28 is \textit{arar} and in the Septuagint the cursed are described as \textit{epikataratos}, based on \textit{katar} (curse).\textsuperscript{24} Deut 28 vividly describes what it would be like, and what it proved to be like, living under divine curse. The withdrawal of blessing and resulting experience of curse led to destruction and exile from the land promised to Abraham, with reduction of population to a remnant. Instead of enjoying the favourable countenance of the LORD, the ominous words of Duet 28:64 were fulfilled: “There you shall serve other gods of wood and stone, which neither you nor your ancestors have known.”

In the New Testament writings, God’s covenantal promises to Abraham are understood to be fulfilled in Jesus. Zechariah’s prophecy in Luke 1:67-79 has the words: “Thus he has shown mercy promised to our ancestors, and has remembered his

\textsuperscript{21} Miller, \textit{Deuteronomy}.197  
\textsuperscript{22} Nelson, \textit{Deuteronomy}.6; Thompson, \textit{Deuteronomy}.199,200  
holy covenant, the oath that he swore to our ancestor Abraham.” (Luke 1:72,73)

David Jeffrey finds echoes of the same promise in Elizabeth’s words:

The coda of Elizabeth’s brief speech is theologically rich from a Jewish perspective: “Blessed is she who believed, for there will be fulfilment of those things which were told her from the Lord (1:45).” Echoes of the faithfulness that accords with God’s blessing reaching back to Abraham are here present.25

In the Gospel according to Matthew, Jesus is placed firmly in Jewish history, with genealogy reaching back to Abraham (Matthew 1). The infancy story of Matthew 2 is also rich with Jewish theological perspective. Daniel Harrington argues that “when Matthew 2 is taken as a literary whole and read against the background of Exodus 1-2, Jesus emerges as a Moses-figure.”26 The theme of the blessed in Matthew’s version of the beatitudes (Matt 5:1-11) reflects Old Testament versions of blessedness, but in place of the blessing of actual land, blessedness is found in the new order of the “kingdom of heaven”. In the beatitudes in both Matthew and Luke, those who are blessed are the makarios. James Edwards observes that:

The Greek word makarios carried strong and palpable connotations in Luke’s day that are only partially captured by the word “Blessing” . . . In the NT makarios has by and large shed its quantitative reference to goods and things and has become reserved for qualitative characteristics, especially joy, happiness, and well-being that manifest themselves in believers as the participate in God’s kingdom.27

Harrington compares the beatitudes in Matthew 5 with beatitudes in the Old Testament wisdom books: “The NT Beatitudes refer to a future (or eschatological reward), whereas the wisdom beatitudes assume that the reward is already present.”28 Harrington also notes the Old Testament background of each of the beatitudes. Those who mourn reflect “those who in Isaiah 61:1-2 “mourn in Zion” lamenting the destruction of the First Temple in Jerusalem in 587BC.”29 Of the peacemakers Harrington writes:

Although all peace comes from God and perfect peace will be realized only in the fullness of God’s kingdom, following Jesus in the present demands an active pursuit of peace.30

26 Harrington, The Gospel of Matthew.49
28 Harrington, The Gospel of Matthew.78
29 ibid.79
30 ibid.79
As in Matthew, the blessed in Luke’s version of the beatitudes (Luke 6:20-26) are also the *makarioi*. However, Joseph Fitzmyer identifies a difference of emphasis:

The Lucan beatitudes are addressed to the “disciples” as the real poor, hungry, grief stricken, and outcasts of this world; they are declared “blessed” because their share in the kingdom will guarantee them abundance, joy, and a reward in heaven. Luke has not spiritualized the condition of the disciples as Matthew has done.\textsuperscript{31}

Whether spiritualized or not, the blessedness of participation in God’s kingdom will also include experience of persecution and suffering, and has eschatological hope which sees beyond the present condition. “Jesus’ blessings are the surprising eschatological gift of God to those who follow him in costly discipleship.”\textsuperscript{32}

In Luke the blessings are followed by “woes”. “Woe” translates the Greek interjection *ouïai*. Fitzmyer sees the woes as deeply threatening: “The woes are minatory in nature and pronounce the opposite of the beatitudes.”\textsuperscript{33} Edwards relates the woes to prophetic tradition:

The precedent for such woes is not found in Jesus’ rabbinic contemporaries, but rather in the prophets who, like Jesus, teach both righteousness and the calamitous consequences of unrighteousness.\textsuperscript{34}

Woes in the New Testament therefore function similarly to divine curse in the Old Testament. They occur most frequently in Matthew and Luke. Besides in the context of the Lucan beatitudes, they occur elsewhere, including in the parallel sayings where Jesus rebukes Chorazin for unbelief (Matt 11:21; Luke10:13) and upbraids the Scribes and Pharisees (Matt 23:13-36; Luke 11:42-44) for leading people away from God. Woes also occur in Revelation 8 and 9 as judgment falls on “the inhabitants of the earth” (Rev 8:13).

The Greek *katara* used for curse in the Septuagint Old Testament is also used in the New Testament, both to describe people cursing others and the experience of divine curse. James laments how people use their tongues to bless God, but “with it we curse (*katarometha*) those who are made in the likeness of God” (James 3:9). In Romans

12:14 Paul exhorts followers of Christ to “bless (eulogeite) those who persecute you: bless and do not curse (katarasthe) them.” In Galatians, Paul directly relates faith, as exemplified by Abraham, and law, as in Deuteronomy, to conflict over the teachings of “some who are confusing you and want to pervert the gospel of Christ” (Gal 1:7). He argues that:

Christ has redeemed us from the curse of the law by becoming a curse for us – for it is written, “Cursed is everyone who hangs on a tree” – in order that in Christ Jesus the blessing of Abraham might come to the Gentiles, so that we might receive the promise of the Spirit through faith.(Gal 3:13,14)

The phrase “hang on a tree” is also found in Acts 5:30, and clearly refers to crucifixion. Jason Meyer emphasises how this statement relates curse to failure to rightly relate to God through obedience under the Mosaic covenant:

The full phrase “the curse of the law” (tes kataras tou nomou) in v13 leaves no doubt as to what curse Paul has in mind. Paul refers to the curse of the law that the OT discusses in tandem with the Mosaic covenant. The relationship between the curse and the Mosaic covenant is so interwoven into the fabric of the OT that one reads of the “curses of the covenant” in Deut 29:1.

In Paul’s time there was the real and immanent threat that the Jewish people in Judea, who still zealously tried to follow the law, would again experience the curse of decimation and exile. Those who followed the law lived “with the warning of the divine curses on covenant breakers, which entails their expulsion from the land of covenant inheritance (Deut 29:27-28; 30:1).”

The trajectory of relationship with God, and of blessing and curse, develops across the Old Testament. Towards the end of the monarchic period, God’s promises to Abraham, and the law as a detailed pathway to follow in pursuit of the blessings of land, progeny and peace, move into critical tension with the terrifying realities of invasion and conquest. The prophets foresaw that a future in which right relationships would prevail depended on God-given renewal – a “new heart and a new spirit”, (Ezekiel 36:26); new hope in a messianic figure (Isaiah 42:1-9); “new heavens and a new earth” (Isaiah 65:17) and “a new covenant” (Jeremiah 31:31-34). In the New Testament

35 Douglas J Moo, Galatians (Grand Rapids: Baker Academic, 2015).120
37 It is unclear whether, or to what extent, the prevailing Roman threat was interpreted within Judaism as sign of divine curse: de Boer, Galatians. A Commentary,200
their visions found fulfilment in Jesus as the Christ, and in eschatological hope in the reign of God. In Paul’s writings, renewal is no less than death and resurrection with Christ, symbolized by baptism (Romans 6:1-11).\(^{40}\) Brendan Byrne expands on what baptism into Christ’s death means:

As in the parallel references to baptism in Gal 3:27-28 and I Cor 12:12-13, behind the expression here lies the characteristic Pauline idea of the risen Lord as personally constituting a sphere or milieu of salvation “into” which believers are drawn through faith and baptism, henceforth to live “in Christ”.\(^{41}\)

Byrne argues that Christ:

somehow “contains” within his person, in a communal sense, the messianic community destined for salvation. The present allusion to this truth goes beyond earlier presentations (Gal 3:27-28 and I Cor 12:12-13) in its suggestion that baptism involves not simply being joined to Christ in a static “spatial” sense, but also a dynamic insertion into what might be called his overall “career” – death, burial and risen life.\(^{42}\)

It is notable that in this interpretation of Paul’s writings, Byrne does not include in Jesus’ “career” his life, from birth to death, as remembered and interpreted in the gospels. It is there that we learn of blessings and woes, of right relationships, and meet the human who, in Christian belief, represents God in the very web of life of which we are part.

The biblical themes of blessing and curse/woe as absence of blessing are fundamentally relational. The simple equation between doing what is right in God’s sight and divine blessing, and doing wrong and curse/woe is strongly expressed in Deuteronomy and more widely in the Old Testament, but it is also questioned. Thompson observes that:

it is important to point to the ways in which a vision of God as one who rewards those who obey and punishes those who fail to fulfil the commands is called into question, both within the biblical text as well as by countless numbers of human beings who have suffered innocently through the ages. As we see in the book of Job, a tidy theology of retribution is simply not up to the task of explaining why humans suffer, especially with respect to those who like Job, do nothing to deserve it.\(^{43}\)

In the New Testament, Jesus confronts and bears the burden of sin and the “curse of the law” (Gal 3:13), opening up the blessings of the reign of God. The blessed who would

\(^{40}\) ibid.40-43
\(^{41}\) Brendan Byrne, *Romans*, Sacra Pagina (Collegeville: Liturgical Press, 1996).190
\(^{42}\) ibid.190
\(^{43}\) Thompson, *Deuteronomy*.110
follow Jesus are told to expect persecution (Matt 5:11, Luke 6:22) and to embrace eschatological hope (Matt 5:11,12; Luke 6:22,23). The Bible tells a complex and nuanced story of blessing and curse, and of what it means to relate rightly to God. We now turn to explore ways in which its themes of blessing and curse and of covenant relationship may speak to us as we face a world spiralling into human and ecological crisis.

4.3 What makes a blessing?

In public discourse, if ‘blessing’ is used at all, it is used as a general expression of goodwill. As expression of an enduring relationship of love and care, blessing has deep roots in culture and religion. For the purposes of this thesis we return to these roots by drawing on traditions of blessing in the Old and New Testament Scriptures. There the theme of blessing is intermingled with themes of gift, promise, and of right relationships between people, the land, and God. In the Biblical story, the relationship between people and God is ambiguous. Relationships marked by righteousness and peace remain elusive as divine gifts with potential for blessing are misused and the source of the gifts is ignored. The primal blessing that humankind should increase, multiply and fill the Earth is frustrated by difficulties with agriculture and by violent conflict.

In Biblical tradition right relationships are established within covenants. A covenant between people and God is necessarily asymmetrical, dependent on God’s grace in giving life and the gifts that support life. A covenant with God is far more than a treaty entered into to establish a working relationship. Rather, it is a relationship in which God’s love reaches out to people so that they may respond in love. It is imaged by the closest of human relationships, in marriage, or between parents and children. The strength and depth of covenantal relationship with God depends on people growing into the image God in a blessed combination of dependence and independence. Kelly Johnson describes “Blessings, by definition, (as) most fundamentally a sharing in God’s joyous life”. However, in the Biblical narratives blessings are repeatedly lost as selfish misappropriation of the gifts which support life and ruthless exploitation of fellow humans replace just and generous sharing. The result is curse. “Curses are the flip side of blessings, because they are the result of God’s continuing to engage with

44 Genesis 2 and 3 reflect this frustration, using the medium of ancestral myth.
creatures even when they have rejected blessings."46 A curse is not the result of God’s withdrawal, but when blessings “lose their orientation towards God” they become curses. “What we learn from considering the proximity of curses to blessing is that the encounter with blessing is perilous. Would we truly want God’s face to shine on us?”47

Today, relationships remain much to the fore. Our interrelatedness with all creation is understood in scientific depth as never before. Our very existence is relational, with other humans and with all creation. These visible and immediate relationships provoke questions of relationship with the transcendent ‘other’, where faith seeks ultimate meaning and hope. The immediate concern in this thesis – the ambiguity of our reliance on fossil carbon – is a sign and symbol of the ambiguity of all our relationships, including relationships with the transcendent ‘other’. As we use the gifts which support life, including fossil carbon, where are boundaries at which blessing drifts into curse? Who or what is the giver, and what is our relationship with the giver? For Christians, relationship with God is grounded in relationship with Christ. Where is Christ in the ambiguity of our reliance on fossil carbon? How may we imagine Christ judging, healing and redeeming relationships which our reliance on fossil carbon is disrupting? How is fossil carbon a blessing, and how does it become a curse?

4.4 Blessing and affirmation of life

Blessing is life-enriching, flowing back and forth between those who bless to those who are blessed. In the Old Testament, blessing flows in several directions. God blesses all non-human creatures and then blesses humankind. People bless God and bless each other. Johnson observes that “We will be wise not to search for a single, univocal sense of blessing across all the Scripture, but in its most basic and continuous sense, blessing is the gift of God, typically a gift which allows life to flourish more fully.”48

In the Old Testament the central story of blessing becomes ambiguous, intermingled with curse, as the nation’s responses to God’s blessing through the gift of the Promised Land go awry. What hope of blessing could there be as conquest, exile and subjection engulfed the people? Isaiah had visions of hope in the Suffering Servant, and for

46 ibid.87
47 ibid.87
48 ibid.83
Christians these visions are being fulfilled in Jesus. In the gospels, Jesus’ teachings place blessings in the midst of suffering. The blessed (*makarioi*) are those who seek the reign of God and who hunger and thirst for righteousness. In following Jesus, their blessedness carries no promise of peace and prosperity in a secure homeland, although there is promise of fulfilment in a new heavens and a new earth. Blessedness in this life is found in hope against hope that as they commit to the reign of God on Earth, rejection and even death are not the end of the story, for blessedness and hope extend far beyond into the divine presence.

The Biblical traditions of blessing and curse find parallels in the ambiguous promise of blessing as humankind appropriates the gift of fossil carbon. For better and for worse the discovery and use of fossil carbon has transformed how humankind lives. It has also transformed the impact of human living on the environment. Theology sees God’s action in the unfolding of creation, bringing humankind into being and making provision for human flourishing as part of a flourishing creation. The promise of blessing is conditional on right relationships – with God, amongst people, and with all creation. Our reliance on fossil carbon has come at great human and environmental cost, stressing relationships and making blessing restricted and ambiguous.

The impact of fossil carbon on human affairs is ubiquitous, sometimes directly and obviously and sometimes in more indirect and hidden ways. Its use shapes global economics, makes possible much of science and technology and supports human health and population growth. It delivers political and economic power; it powers modern warfare and wars are fought over who controls access to it. Smoke and fumes from burning it endanger life and so too do some of the materials synthesized from it. Unseen and without even a warning smell, the carbon dioxide which inevitably results from burning fossil carbon is now modifying the atmosphere and oceans on a scale capable of precipitating global ecological catastrophe. Fossil carbon is an agent of flourishing and an agent of death, of blessing and of cursing. In itself, fossil carbon does not feature much in theology. However, it is there in the background as theologians deal with questions of justice and just use of resources, of war and conflict, and of the sacredness of human life and of all creation.

How then may the ambiguous blessing of fossil carbon be explored through interpretation of the biblical story of God, humankind and all creation? How do the stories of *brk* blessing in the Hebrew Scriptures and the blessedness of the *makarioi* in
the Christian Scriptures illuminate the contemporary story of humankind’s use of fossil carbon? Fossil carbon is a group of material substances capable of being received as gift and wisely used or of becoming a destructive idol when possession is driven by obsessive dependence. It also may be thought of as a symbol of the many consequences of its use, both in the blessings it brings and in the curses its use leads to. This chapter focuses on fossil carbon as blessing, and the next on curse.

The Biblical theme of blessing is introduced in the creation stories. In the first creation story in Genesis, God blesses humankind. God’s “grace and good-will” are to be with humankind as they increase to fill the earth and, as they do so, modify the environment and exercise god-like ‘dominion’ over all creatures. Blessing and gift go together, the gift of seeds and fruit for human food and the gift of “green plants” as food for “everything that has the breath of life.” (Gen 1:28-30)

The story concludes with God’s blessing of the seventh day. On it, God rests from the work of creation and, as other texts affirm, God makes it a special day for humans to rest in the presence of God. In today’s understanding, photosynthesis by green plants has a vital role in conversion of energy from the ferocious and unapproachable thermonuclear furnace which is the Sun into gentle and life-sustaining energy on Earth. The gift of green plants has enabled animal life to evolve and flourish throughout the long history of life on Earth. Fossil carbon in the form of coal has formed from green plants, and oil and carbonates have formed from creatures that were parts of food chains ultimately dependent on photosynthesis. In what way may these fossil remains of ancestral life also be seen as a gift to support the flourishing of life today, and in particular human life?

As the Genesis stories unfold, God chooses Abram to become the father of many nations. God tells Abram that he will be blessed and a blessing, and “all the families of the earth shall be blessed” in him (Gen 12:1-3). God’s promises of blessing to Abram become more specific, with the gift of land to his descendants (Gen 12:7) and, more critically to childless Abram and Sarai, the promise of a son, confirmed by their new names Abraham and Sarah (Gen 17). God’s relationship with humankind and all creation has become a covenantal promise to a particular couple and their descendants. They are blessed so that others in turn may be blessed, with blessing flowing out to embrace “all the families of the earth.” Johnson uses the image of ripples moving out over water to capture the living and dynamic nature of blessing:

49 For a discussion of ‘stewardship’ as exercise of ‘dominion’, see Conradie, *An Ecological Anthropology: At Home on Earth?* 202-217
God’s blessing does not only touch individuals; it creates communities who care for each other, networks of reciprocity and gift that ripple out among creatures.\(^{50}\)

The Biblical story focuses on human families, but Johnson’s reference to creatures is a timely reminder that the flourishing of human communities is inextricably woven into the thriving of a multitude of other living creatures. All depend on a sustaining physical environment and all creatures, including human and non-human life and the physical environment, flow from the creative love of the Creator. The blessing of thriving human life depends on the blessing of a nurturing environment, so the ripples of blessing converge on each creature as well as spreading out from each one that is blessed.

As the story of the descendants of Abraham and Sarah unfolds, it is marred by deceit in successive generations. The reach of God’s blessing, however, is not only expanding. It also has power to heal:

Blessing opens up an economy of blessing, as its gift is fertile or is to be passed on rather than hoarded or settled by a payment in return. More precisely, it is not the one gift that is passed on, but a new event arising from the original gift but now coming from the one who was blessed by that original gift in a new way. It draws together those who are different, even those who might be enemies, as between Jacob and Esau.\(^{51}\)

The pattern of deceit and violent intent which is overcome by the flow of blessing is repeated again in the following generation, as Joseph is first betrayed by his brothers, but later reconciled as he becomes the agent of God’s generous provision in time of famine. The “economy of blessing” has made possible healing and reconciliation. In today’s world, it is not only healing and reconciliation between people that is a sign of blessing. Where it occurs, healing and reconciliation between people and the rest of creation may also be seen as a sign of blessing.

In the New Testament God’s blessing moves from family, inheritance of land and a peaceful and secure life to Jesus and how his life and teaching proclaim the kingdom of God. Collapsing texts from different Biblical traditions, Johnson points out that, even before Jesus was born, an angel pronounced his mother Mary blessed even although her pregnancy nearly led to divorce and her firstborn was born in poverty, far from the support of her home community, and she lived to see her son executed.\(^{52}\) Jesus was also

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\(^{50}\) Johnson, "Blessings, Curses, and the Cross." 85

\(^{51}\) ibid. 85

\(^{52}\) Section 4.2 explores the birth narratives in more detail
pronounced blessed (albeit by a crowd rather than an angel), even though he was childless, riding on a colt, and soon to crucified. Johnson sees the blessings which flow from the vulnerability of Christ and of the early disciples as fully at one with the blessings found in the Pentateuch:

We might note, for example, that the mighty gifts of creation come through the peaceful word of God, and the blessings of fertility and Sabbath are gifts which demonstrate God’s power by making room for others to live, which leaves God’s work vulnerable, for humans can—and do—abuse them. Such blessings draw humans into the full life of God’s shalom, but they neither guarantee nor control it.

In both the Old and New Testament Scriptures the heart of blessing is right relationship with God. In the Old Testament, divine blessing takes down-to-earth form in covenantal promises of increasing population and of the gift of land where generations to come may continue to experience the shalom of God. Although this blessing was at best partially experienced by the children of Israel, it offered hope even in the extremities of conquest, destruction and exile. The blessing of God towards all humankind is proclaimed from the beginning, and the blessing of the Israelites carries divine intention that all humankind would be blessed through them. In the New Testament, the divine blessing of right relationship with God is found in following Christ in an often hostile world. It is found is seeing and believing that, despite circumstances and outward appearances, the kingdom of God is already coming and is subverting the kingdoms of this world. Blessedness marked by down-to-earth hungering and thirsting for God-centred order in the world of everyday experience (Matt 5:6) exists in tension with the hope of other-worldly fulfilment.

The redactors of the stories in Genesis affirmed as fundamental two human attributes which are as relevant now as they were millennia ago. The first is the special dignity ascribed to humans. The second is the propensity for humankind to increase and fill the earth. In Biblical tradition, each of these carries with it the blessing of God. Today, representatives of the billions of people who do now fill the earth still affirm the dignity of every individual human through the UN Universal Declaration of Human Rights. In Jewish and Christian tradition that inherent dignity is also ascribed sacredness, a belief succinctly expressed in the Genesis story in which God

53 Johnson, "Blessings, Curses, and the Cross." 90,92
54 ibid.94
declares that humans are made in the image of God (imago Dei).\textsuperscript{56} There are a wide variety of interpretations of imago Dei and it remains problematic, even though (or perhaps because) it is commonly regarded as central to Jewish and Christian anthropology.\textsuperscript{57,58,59} The redactors of those ancient stories may have been amongst the Israelite remnant in exile in Babylon, reclaiming their belief that God would give them hope and a future. Maybe they were reflecting on their known world, already well-populated, and saw in it a part-fulfilment of God’s command to fill the earth. Whatever they had in mind, it is all too clear today that the present high and rising global population poses an acute challenge to achieving and sustaining conditions in which every human is able to live in dignity and which honour their sacredness. To what extent do we live together on Earth so that we are at least working towards practical support for the fundamental rights, dignity and sacredness of each of our fellow humans, now and into the future? How can we live wisely so that the blessing of flourishing life may be experienced by all humankind and by all of creation? How may the themes of blessing and of curse be used to interpret human use of fossil carbon as humankind moves from economic growth dependent on it to ways of flourishing which no longer do so?

\section*{4.5 Blessing for whom? Resources and population}

In the first creation story in Genesis (Gen 1:1-2:4) humankind has a unique place, created in the image of God and blessed by God. The fulfilment of this blessing takes place through human thriving, with God-given instruction to “multiply and fill the earth”. The writer knew well that if people are to thrive they must have adequate resources to support them, so the story continues with God giving humankind “dominion” over the animal kingdom and abundant food from fruit and seeds. This idealized and symbolic vision of the beginning of human life is far removed from the trials and difficulties narrated in the Old and New Testament Scriptures. It is even further removed from today’s unfolding crisis of rising population and impact on the environment. Nevertheless, blessing and gift remain as theological themes with which to critique human activity. In what ways does human activity live up to or fall short of

\begin{small}
\textsuperscript{56} Gen 1:26  
\textsuperscript{58} Val Webb, Like Catching Water in a Net (New York: Continuum, 2007).136-153  
\textsuperscript{59} Soskice, The Kindness of God. Metaphor, Gender, and Religious Language.
\end{small}
visions of possibility conveyed in Christian belief and align with ways in which God’s creative and healing presence may be discerned in today’s world?

By the time the biblical creation stories were written in their present form\(^{60}\), the global human population was already in the millions. For more than 100,000 years, small human populations had survived extreme global climate variations, including the most recent major glaciation which peaked about 20,000 years ago.\(^{61}\) By 12,000 years ago, at the start of the Holocene\(^{62}\) era, vast quantities of ice on land had melted, raising sea-levels, inundating coastal lands, forming new islands, and isolating flora and fauna, including human populations.\(^{63,64}\) By 8,000 years ago global climate entered a period of relative stability including relative stability of atmospheric carbon dioxide.\(^{65}\) One estimate of the total human population early in the Holocene is about 250,000\(^{66}\) and another 5 million.\(^{67}\) Compared to today, it was small, even if we cannot be sure how small. Nevertheless, it carried within it a well-developed heritage of cultural adaptation developed in a wide range of environments. As sea-levels and climate became more stable, with the only remaining ice at high latitudes and on mountainous terrain of sufficient altitude, humans and non-human animals alike had new opportunities and challenges. Free from ice, vast areas became habitable, with forests, savannah and desert receding and growing in response to ongoing climate variation. Humankind has flourished in this relatively stable post-glacial global environment, with the growing population creatively accessing an ever-widening range of resources. The Holocene has been a window of opportunity for human thriving because of relative climatic

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\(^{60}\) Possibly during or after the Babylonian exile, about 2,500 years ago.


\(^{62}\) The “Holocene Era” is a geological term used for the most recent era of geological history. “Holocene” means “wholly new”, reflecting the proliferation of human artefacts in the geological record.


\(^{64}\) Ice melting and most sea level rise took place following the glaciation maximum some 20,000 years ago, when sea levels were about 120m below present sea-levels. The last major melting phase marks the start of the Holocene, and raised sea-levels some 28m. Vivien Gornitz, "Sea Level Rise, After the Ice Melted and Today," NASA Goddard Institute, www.giss.nasa.gov/research/briefs/gornitz_09/. (accessed 14/10/2011)

\(^{65}\) Houghton, *Global Warming. The Complete Briefing.* 87-90


stability, which in turn depends on atmospheric carbon dioxide content. With Northcott, we may read these as divine providence, setting the scene for the emergence of the Judaeo-Christian epic within the broader epic of emerging modern civilizations.68

By 1800CE, after some 8,000 favourable years, the total human population had risen to about 1 billion. In the 1980s it passed 3.5 billion. By 2012 it had reached 7 billion.69,70 Declining fertility, which is most pronounced in more developed countries, may contribute to eventual population stability. However, the multiple factors influencing population growth make modelling highly uncertain and projections of population by 2100CE range from 10 billion to 22 billion, and even then it may continue to rise.71 The Genesis creation story is set in a simple economy in which humans and their means of support come directly from the Earth and are absorbed back into Earth. Today the flow of human generations may still be interpreted as a blessing from God and life-supporting resources as a gift from God, but simple balance between human activity and the Earth environment is long gone. Blessing and gift have both become more ambiguous, calling into question much that sections of humankind have come to take for granted. Both growing human population and expanding resource use have become critical issues on which the future shape, and even survival, of human life depend.

Widespread high regard for human life as expressed, for example in the Judaeo-Christian tradition of imago Dei and in the UN Charter of Human Rights, makes consideration of the large and rising human population conflicted. One the one hand, in principle if not always in practice, every individual is equally valued. On the other hand, the question of how the Earth can sustainably support a very large and growing population is becoming increasingly urgent. Is it possible even in principle for seven billion humans to live on earth in an environmentally sustainable way, let alone probable future larger populations? Thomas Berry reminds us that: “We need to think of twice the present human population facing the future with half the resources.”72 As a resource, some forms of fossil carbon such as readily accessible oil and gas are

70 O'Neill, Mackellar, and Lutz, Population and Climate Change.41
71 ibid. Chapter 2."The Human Population” 39-80
72 Thomas Berry, Evening Thoughts (San Francisco: Sierra Club, 2006).115
already becoming depleted, and Berry gives particular attention to their use to produce an enormous variety of chemicals and materials as well as the fuels on which transportation heavily depends. Many of the chemicals and materials produced are not easily broken down and persist in the Earth environment, leading to “subversion of life processes……..much of the planet, including the land, water, and air, has become toxic due to petrochemicals.” Berry condemns the folly of present high dependence on oil and gas, which are non-renewable resources already extensively depleted and which as presently used cause irreversible environmental damage, including to the atmosphere and oceans. He does note that parts of humankind have experienced benefits as a result of science and technology and the rise of industrialization, but he vividly describes industrial society as “plundering” the Earth and driven by a “cultural pathology.”

Berry focuses on resource use and availability rather than population reduction. The proposition that a substantial decrease in human population is a desirable goal in order to achieve ecological sustainability is, for many Christians, a priori unacceptable. Amongst theologians Northcott is less typical in explicitly stating that human population reduction is desirable. However, he appears to do so more as a passing notion which would, in principle, solve many environmental problems rather than a possibility that could be driven by policies which would be either practical or ethically acceptable:

It is the rise in consumption (and waste) levels amongst the richest nations in the twentieth century, and amongst rich people in poor nations, which accounts for most of the increased detrimental impact of human activity on the environment. But it remains true that these impacts are exacerbated by population pressures and so reductions in population in both North and South are highly desirable in light of the environmental crisis.

Northcott does not propose how or when such reductions in human population might occur, nor does he expand further on why they are “highly desirable”. He does,

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73 ibid.87
74 ibid.17
however, criticise James Lovelock’s suggestion that the Earth, functioning as a self-regulating entity, might eliminate humankind in a way analogous to that in which a body eliminates disease.\textsuperscript{77} He observes that:

\begin{quote}
This kind of extreme ecocentrism is clearly inconsistent with a Hebrew and Christian approach which regards human life as closest in form and purpose to the life of God, and which therefore places supreme moral value on human persons and communities.\textsuperscript{78}
\end{quote}

In ecotheology, as in ecological writings generally, the main driver of environmental degradation is typically identified as the combination of the very large human population and how resources are used. The strongest criticisms and calls for change are directed at profligate use of resources by a minority of humankind. Even attempting to restrict ongoing population increase raises ethical questions. To what extent, and how, should the state or the Church (where it has continuing influence) interfere in people’s reproductive life? The ongoing position of the Roman Catholic Church in opposing widely used forms of contraception is informed by a view of the sacredness of individual human life, but individuals do not exist in ecological isolation. Ecological degradation takes its toll on human and non-human life alike. In today’s context Conradie argues that:

\begin{quote}
The health of the ecosystem has priority over the health of individual specimens, including humans. This implies, for example, that human population growth, together with human consumption, has to be curbed in order to allow other species to flourish too.\textsuperscript{79}
\end{quote}

Here Conradie touches on a profound challenge in human affairs. How may finite resources best be deployed to promote the health of individual humans, human communities, and the ecosystems of which all are part? Economic decisions with which one party may be “at home” may be experienced as detrimental by another. A blessing for one may be a curse for another. The recurrent theme in Conradie’s \textit{An Ecological Christian Anthropology}\textsuperscript{80} is that the ageless struggle with threats to human life and the new wave of threats arising in the present ecological crisis all point to humans experiencing earth as a place where it is often not possible to feel fully at home. There is a longing for something more, something better.

\textsuperscript{77} James Lovelock, \textit{The Revenge of Gaia} (London: Allen Lane, 2006).
\textsuperscript{78} Northcott \textit{The Environment and Christian Ethics} 112
\textsuperscript{79} Conradie, \textit{An Ecological Anthropology: At Home on Earth?} 127
\textsuperscript{80} ibid. 127
For humans, the earth has not always been a place where they could be at home. At best it describes a vision for the future, a vision where life will be abundant and where the whole household of God will be able to flourish.\textsuperscript{81}

Irrespective of dreams or nightmares of a future with broader ecological flourishing based on human population reduction or at least on curbing population growth, human global population is still relentlessly on the rise and likely to continue doing so well into the future. Population increase is most rapid in poorer countries, particularly in Africa, and a minority of people, mainly in industrialized or industrializing countries, continue to consume a hugely disproportionate amount of resources. Inevitably, rising population and competition for resources will become an increasingly divisive threat to humankind. McFague warns that:

If the human population doubles in forty or fifty years, as appears likely, and the pressure on the planet for the basics of existence intensifies, those with power will do what is necessary to insure their own piece of the disappearing pie. The population versus high life-style issue divides the developing from the developed nations, with each claiming the ecological issue is the other’s excess.\textsuperscript{82}

Conradie also cautions against any approach which one-sidedly seeks a way forward either by emphasising the need for changed consumption patterns without population control, or population control without changed consumption patterns:

The real limits to the earth’s carrying capacity preclude both unlimited growth in human population and an increased consumption of the earth’s resources. This implies that wasteful consumption and population growth must be addressed together.\textsuperscript{83}

Both McFague and Conradie emphasise that separating the issues of population and consumption encourages placing the burden of action on others rather than accepting change for oneself.\textsuperscript{84} Conradie observes that there is little sign of the affluent not seeking more affluence, or of the poor reducing birth rates. A ray of hope may, however, be seen in the midst of this bleak assessment. Even modest increase in wealth and improved educational opportunities are likely to lead to a voluntary levelling off in population amongst the poorest nations, although by then further long-term ecological

\textsuperscript{81} ibid. 234
\textsuperscript{82} McFague, The Body of God: Theology for an Ecological, Nuclear Age. 4 (italics in original)
\textsuperscript{83} Conradie, An Ecological Anthropology : At Home on Earth? 233
\textsuperscript{84} ibid. 232-233
damage will have been done.\textsuperscript{85} Northcott sounds a similar note of caution. He notes that “growth in human numbers is regarded by many environmentalists as the single most significant factor in the environmental crisis”\textsuperscript{86}, but cautions that “A purely quantitative approach to human population interactions with environmental problems and resource availability can, however, be misleading.”\textsuperscript{87} He points out that in the latter part of the 20\textsuperscript{th} century when the global population rose by 3 times fossil carbon use increased 413 times.\textsuperscript{88} That disproportionate increase in use of fossil carbon and other resources is substantially accounted for by nations which already have high consumption patterns and by nations with significant sectors of their population in transition to such patterns.\textsuperscript{89}

The rise of modern civilizations and of human population during the Holocene correlates with creative development of a wide range of energy sources, with fossil carbon becoming significant only in the last three hundred years. The massive expansion in its use to which Northcott refers is even more recent.\textsuperscript{90} In the last sixty years it has enabled unprecedented developments in science and technology, transforming the material quality of life for an ever-growing number of people and leading to ever-increasing consumption of resources. Conradie identifies a tendency to be one-sided and negative in Christian discussion of these trends and insists that the positive side also needs to be acknowledged. “There is no need to deny the liberating benefits that (at least one segment of) humanity has reaped from modern science and technology.”\textsuperscript{91} Writing from a North American perspective, McFague likewise affirms the benefits of growth:

As with the value of individualism, the value of growth must not be underestimated. We middle-class North Americans have benefited enormously from it. Our standard of living has skyrocketed during this century, and every one

\textsuperscript{85} ibid.234.  
\textsuperscript{86} Northcott The Environment and Christian Ethics.26.  
\textsuperscript{87} ibid.27.  
\textsuperscript{88} ibid.28.  
\textsuperscript{89} World Coal Association, "Coal Mining," http://www.worldcoal.org/coal/coal-mining/. Data given shows more than half of global hard coal production is in the PRChina. (accessed 18/02/2013)  
\textsuperscript{90} The last 40 years have seen fossil carbon use and atmospheric carbon dioxide content accelerating significantly. Houghton, Global Warming. The Complete Briefing.38,39  
\textsuperscript{91} Conradie, Christianity and Earthkeeping. In Search of an Inspiring Vision.29 (parenthesis in original)
of us enjoys (and takes for granted) its many comforts and conveniences. . . . We are the world’s privileged people, and we owe it to growth. 92

These changes have led to better health, longer life and greatly improved educational opportunities for a great many people, and may be read as a blessing. However, it is a qualified blessing, for blessing misused and blessing which loses sight of the bigger picture of the flourishing of other humans and all creation and of answerability to the Creator ceases to be a blessing and becomes a curse. 93 Conradi emphasises that it is how humans use the resources, not the resources themselves, which leads to blessing or to curse:

Although the environmental crisis affects natural eco-systems more directly, it is not primarily a crisis pertaining to nature but to the dominant and increasingly global economic system and the cultural values supporting it. This cultural crisis clearly has to be dealt with at its ideological roots. This is why an analysis of the consumer society and its culture of consumerism is so critical. 94

Northcott roundly condemns excessive consumption as he reflects on how, in one reading of history, the Roman Empire fell as it lost “classic virtues of prudence and temperance”:

The last forty years of industrial consumerism has conferred on a minority of the world’s people levels of luxury and surfeit unimagined by the Romans. The consumer cornucopia of material goods is driven by advertising and fashion and by the entertainment industry and it has fostered a culture of superficial hedonism and waste. 95

The human population has expanded to fill the Earth because of the gifts of supportive energy and a supportive environment particularly during the Holocene, with fossil carbon playing a critical role late in the story. “In its most basic and continuous sense, blessing is the gift of God, typically a gift which allows life to flourish more fully” 96 and without energy, there would be no life. Flourishing humanity is creative humanity and, as Johnson observes, gifts which support life “demonstrate God’s power by making room for others to live, which leaves God’s work vulnerable, for humans

92 Sallie McFague, Life Abundant: Rethinking Theology and Economy for a Planet in Peril (Minneapolis: Fortress, 2000).7 (Italics in original)
93 Johnson, "Blessings, Curses, and the Cross." 87,88
94 Conradi, Christianity and Earthkeeping. In Search of an Inspiring Vision. 29
95 Northcott, A Moral Climate: The Ethics of Global Warming. 32,33
96 Johnson, "Blessings, Curses, and the Cross." 83
can—and do—abuse them.” The story of creative use of energy is a story of gift for the flourishing of life and a story of abuse which, whether intentionally or unintentionally, diminishes and even extinguishes life.

4.6 The ambiguous blessing of energy

The extraordinary success of humankind in expanding to occupy so much of the Earth is dependent on access to and creative use of earth resources, and in particular energy. Theologically, God’s blessing of humankind by abundant increase goes with God’s gift of resources to make this increase possible. Prior to the industrial revolution, human creativity in recognizing and taking advantage of the energy sources which allow life to flourish exemplifies Gregersen’s dictum that “a theological view must see God as the creator of creativity and the human person as God’s created co-creator who is destined to participate in nature’s creativity.” On Earth, nature’s creativity and human participation in it are absolutely dependent on solar energy and until recent times almost all energy sources which humankind has learned to access are traceable back to the Sun. The first phase of the story of human access to energy tells of creative ingenuity in finding effective ways of tapping into the natural flows of energy which enable life to evolve and flourish. The story then recounts a radical discontinuity, with the rise of fossil-carbon powered industrialization and globalization. By using energy from outside natural life-sustaining flows humankind has increasingly departed from “participation in nature’s creativity”. The Anthropocene names this shift, as nature becomes subverted by human creativity. Any sense that human creativity is in accord with divine creativity because of participation in nature’s creativity is called into question. The haunting question remains: is the present trajectory of human creativity with its high dependence on fossil carbon and nuclear energy ultimately life affirming or life destroying?

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97 Ibid. 94
98 The term ‘energy’ is used here in narrow sense of the physical quantity usually measured in joules or calories, and not in any broader and more mystical sense sometimes found in religious work. An example of the latter is Pierre Teilhard de Chardin, Human Energy, trans. J.M. Cohen (London: Collins, 1969).
99 Gregersen, ”The Creation of Creativity and the Flourishing of Creation.”
100 Examples of energy not derived from the sun are nuclear (fission and fusion), tidal and geothermal energy.
The relationship between access to energy and the rising human population is complex, with each stimulating the other in a wide range of geographical and cultural environments. The higher energy demands necessary to support larger and more concentrated human populations have stimulated ways of accessing more concentrated sources of energy. In turn, these have enabled human populations to grow further. The first great breakthrough made by pre-human or early human ancestors was learning to control fire. There is evidence for use of fire by *homo erectus* as far back as 400,000 years ago.\(^\text{101}\) Through its use in hunting, in providing warmth and light and by expanding what could be eaten and when, fire has helped sustain humans in a great variety of environments, including during long periods when ice covered much of the Earth. The more settled conditions of the Holocene provided conditions for expansion of agriculture, representing the control and concentration of energy from plants and animals to provide food. The limitations of human power in food production were overcome by use of animal power, followed by energy from wind and water.\(^\text{102,103}\) Energy released by fire became the key to new technologies, such as firing clay to make bricks and ceramics, burning of limestone to make lime and lime mortars, and the development of metallurgy. Fire-based technologies were becoming well established by the time of the epic recounted in the Old Testament, which has numerous references to furnaces, bricks, bronze and iron.\(^\text{104}\)

The historical setting of Jesus’ life, too, may be placed within the history of energy. To Christian faith, Jesus as Son and Saviour is the greatest of all God’s gifts to the world, but like any other living creature depended on God’s life-supporting gifts, including energy. The opportune timing of Jesus’ life typically is interpreted in terms of the prevailing social and political conditions of the Roman Empire. The *pax Romana* facilitated proclamation of the Good News “to all nations, beginning from Jerusalem” (Luke 24:47). The Roman Empire, in all its power, depended on harnessing necessary energy, and was limited by the energy sources which the people in the Empire had learned to access.

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\(^\text{101}\) Price, "Energy and Human Evolution." 305
\(^\text{104}\) There are many references metal refining (e.g. Gen 4:22). In the narratives of occupation of the Promised Land, the Israelites are portrayed as at a disadvantage through not having iron technology (e.g.Joshua 17:18, Judges 1:19), although it became commonplace later.
Jesus was born into a world which already had large cities, complex trade networks, impressive civil engineering projects and a wide range of technologies, together with a large and highly organized military. All of these demanded expenditure of energy, and much of their purpose was to draw in food, that most basic of human energy sources, from the provinces to support Rome and the Empire. Although coal had been discovered by the third century BCE and was in limited use for heating and metallurgy in China\textsuperscript{105} and by Greeks and later by Romans in Europe,\textsuperscript{106} the primary sources of energy supporting Roman civilization were still human and animal power, energy from biomass (e.g. wood and charcoal) and wind for transport. As in the Roman Empire, world-wide human population was on the rise, but still constrained by flow of solar energy through the web of life and the movements of wind and water. Human activity more or less remained within nature’s carbon cycle and energy flows.\textsuperscript{107} “The human person as God’s created co-creator who is destined to participate in nature’s creativity”\textsuperscript{108} had made great strides in concentrating energy to support developing technologies and rising population, but fundamentally still remained within the cycles of nature’s creativity.

The small-scale use of coal in the Roman Empire went into decline as the Empire went into decline.\textsuperscript{109} As long as forests were abundant, wood remained the dominant fuel as well as being the source of charcoal for manufacture of iron. However, by the 13\textsuperscript{th} century CE, coal again had an established place as an alternative resource for metalworking and in firing lime-kilns.\textsuperscript{110} By the 18\textsuperscript{th} century CE, wood and charcoal were no longer able to meet the growing demand for energy and for carbon in manufacture of iron and steel, and the British re-discovered how to make coke from coal.\textsuperscript{111} Coal mining rapidly became a major industry, opening the floodgates of industrial innovation.

\textsuperscript{107} An exception is land use which involves decline in forest cover. Compared to today, it would have been relatively insignificant. Houghton, \textit{Global Warming. The Complete Briefing},38-40
\textsuperscript{108} Gregersen, ”The Creation of Creativity and the Flourishing of Creation.”410
\textsuperscript{109} Freese, \textit{Coal. A Human History},22
\textsuperscript{110} By 1306CE coal smoke pollution in London was sufficiently noxious that a royal decree was issued banning its use. ibid.25
\textsuperscript{111} ibid.205,206. By the 11\textsuperscript{th} century CE China already had a thriving coke-based steel industry.
and expansion in Europe and North America. Since then fossil carbon has supported three centuries of industrialization, globalization and urbanization, with burgeoning population growth. In industrialized nations the per capita energy use, largely met from fossil carbon, now far exceeds anything in previous human history.

This enormous rise in use of fossil carbon places human creativity outside of Gregersen’s description of the relationship between divine, human and natural creativity. Rather than tapping into nature’s creative energy flows and balanced carbon cycle, burning fossil carbon releases energy stored in the deep geological past at a rate roughly a million times the rate at which the storage took place. It disrupts nature’s creativity by changing the delicate balance of atmospheric and oceanic carbon dioxide which has made the Holocene so hospitable for humankind and multiple other species. The blessing of human life it has enabled for billions has come at great cost, with the curse of increasing atmospheric and oceanic carbon dioxide and all its consequences beginning to make the Earth less hospitable for humans and non-human creatures alike.

Price describes the move to coal as like introducing a species to a favourable environment: rapid population increase follows, but in the end the population collapses because the resources which enabled it to expand become exhausted:

The use of..... energy from fossil fuels, has made it possible for humans to exploit a wealth of resources that accumulated before they evolved. .... By the beginning of the ‘60s there were three billion, by 1975 it was four billion, and after only eleven more years it was five billion. That cannot go on forever; collapse is inevitable. The only question is when.

Price’s prognosis draws on examples of population explosions and collapses which have occurred for non-human species. The threat of human population collapse is different, for at least two reasons. It arises not from long-term exhaustion of fossil carbon, but from the consequences of its shorter-term ongoing use and, unlike the non-human populations which Price uses as examples of collapse, humankind has the ability to critically analyse what is going on and strategically plan for the future. The great

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113 The least developed and most traditional economies are estimated to produce of order 0.1 tonnes of CO2 equivalent per capita per annum. Carbon intensive economies range from of order 10 to 40 tonnes. Carbon Planet, “Greenhouse Gas Emissions by Country”, http://www.carbonplanet.com/country_emissions (accessed 15/11/2011)
114 A million times faster is a rough estimate based on most coal formation taking place over 200My and most fossil coal burning occurring over the last 200y.
115 Price, "Energy and Human Evolution.” 308-9
advances in climate science which have taken place during the last half century represent one of the ways that humankind can, and does, reflect on what is going on and plan ahead. Another is looking beyond fossil fuel dependence and the development of alternate energy sources. Transitioning from fossil carbon to non-carbon energy sources presents enormous social, political and technical challenges. People at all levels from the local to global are already urgently thinking ahead on greenhouse gas emission reduction in order to contain climate change, and on adaptation to effects of climate change which already appear unavoidable. Can that process generate sufficient action so that widespread suffering and regional population collapse is avoided?

Jared Diamond\textsuperscript{116} explores the rise and fall of relatively isolated human populations, suggesting why some have survived and others have not. He calls us today, in our unfolding crisis, to the immense task of appropriately modifying how we live so that we, too, may be among those who thrive and survive. Can we do so in ways in which it may be possible for each individual amongst the billions to live with dignity and honour in the sacred image of God? Clare Short starkly states the alternatives:

Every single human being in the world could have all the basics and access to education and health care, and then we would have to seek life’s happiness in nature, poetry, spirituality, love and community, rather than the constant acquisition of more and more material goods. That is the challenge. I think if we rise to it we can build a better world. But if we don’t, it’s going to be hell.\textsuperscript{117}

As a political and social commentator, Short decisively identifies the social and economic drive for consumption of ever more material goods as the road to hell on Earth. Her position is similar to that of Berry, Conradie, McFague and Northcott, all of whom see change in attitude and practice towards resource use as more critical for a sustainable future than constraint in population growth or even population reduction. As Johnson warns, God’s gifts of creation and blessings of fertility and Sabbath “draw humans into the full life of God’s \textit{shalom}, but they neither guarantee nor control it.”\textsuperscript{118}

What models are there in Judaeo-Christian heritage which affirm life-sustaining ways of living on Earth? What models call into account the direction and consequences of human creativity and guide it in ways which reflect God’s \textit{shalom} and

\textsuperscript{116} Jared Diamond, \textit{Collapse: How Societies Choose to Fail or Survive} (London: Allen Lane, 2005).


\textsuperscript{118} Johnson, "Blessings, Curses, and the Cross."94
the reign of God on Earth? These questions invite the bilingual approach that is characteristic of public theology. How may God’s presence be imagined as people strive to find a way forward towards a more just and ecologically sustainable world order? The blessings we experience are given, out of the heritage of our evolutionary past and, for those who look beyond even that, from God. Gift may be made a central theme, raising questions about who or what the giver is, and what sort of relationship we have with the source of the gifts. How is the source of the gifts imagined and named in secular discourse?

4.7 Gift, giving and ‘givens’

From the modest supply of petrol and diesel for transport and electric power generation in small island nations to the high tonnages of fossil carbon consumed in industrialized nations, humankind is highly dependent on fossil carbon. If its use were to stop abruptly, the result would be chaos with widespread suffering and death. However, as long as the supply is reliable and prices stable, it is so integrated into daily life that it is likely to be taken for granted as a ‘given’. Even though often used with little thought, the word ‘given’ implies ‘gift’. ‘Gift’ invites reflection on whom or on what provides this ‘given’. How was this ‘gift’ brought into being in the first place, and what is its place in the ongoing story of the evolutionary creation of Planet Earth? What implications have such questions for how we receive and use this gift? These questions bring together the reflection which places the gifts which support life in a greater, even transcendent, frame, and the immediate realities and responsibilities of daily life. How indeed may God’s pervading presence be imagined as we, in our generation, participate in the evolutionary story?

The theme of ‘gift’ gains its meaning and power from the context of relationship between the giver and receiver. Gift-giving and receiving are widespread in human society, often fulfilling important and often complex functions. As such, they are the subject of extensive contemporary philosophical and theological writing. In her reflections on contemporary approaches to giving and receiving, Risto Saarinen observes that “‘No free gifts’ is a slogan of anthropologists and sociologists, but at the

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same time is a challenge to theology.”\textsuperscript{120} “God is the supreme giver, whereas human persons remain receivers”. That does not mean humans are unable to give anything to God, for giving is not necessarily material, but may be “a mental or linguistic reality” as in thanksgiving and giving of praise to God.\textsuperscript{121} In Jewish tradition God is the giver and gives out of chesed, or loving-kindness. The Psalms, for example, bear witness to deeply embedded traditions of praising and thanking God for the very creation itself, for deliverance of the nation from bondage in Egypt, from sickness and from enemies. The prophets bear witness to belief that righteous living is itself the appropriate response to God. Although sacrifices may have been regarded as ‘gifts’ offered to God, they are worse than useless without first addressing issues of justice and of righteous living. Thus, God’s gifts of the Promised Land and of sufficient harvests for well-being are gifts to be shared for the blessing of all. Misappropriation of the gifts for selfish gain, personal pride and oppression of others violates the fundamental relationship between God the giver and humankind as receiver.

Saarinen points out that in the Christian Scriptures words related to giving (Greek verb didomi/διδόμενοι) are widely used to convey God’s love towards humankind:

Since the divine love, agape, is not only an attitude but an active outpouring reality, God’s love to humans is commonly portrayed in terms of gift and giving in the New Testament. This is already a basic reason why divine giving occupies a central place in so many biblical passages. God is love, and as love God is the giver.\textsuperscript{122}

At the practical pastoral level, Paul rebukes the Corinthian believers for self-aggrandisement and broken relationships, reminding them that they have been given the things they boast about (I Cor 4:7). The profoundly relational nature of gift and giving is developed in John’s gospel, where the flow of giving is from the Father to the Son and from the Son to the disciples and to the world. Gifts which sustain physical life, like the water which the Samaritan woman was drawing from Jacob’s well and the manna or ‘bread from heaven’ which sustained the Israelites in the wilderness (John 4 and 6), are presented as symbols of Jesus’ giving of himself. Jesus is the greatest of all gifts, transcending even death, and is entered into when a person’s relationship with him reflects his relationship with the Father (John 6:57). Jesus as gift is universal, given by God for the salvation of the world/kosmos (John 3:16). Saarinen observes that Jesus

\textsuperscript{120} Saarinen, God and the Gift. An Ecumenical Theology of Giving. 18
\textsuperscript{121} ibid.1
\textsuperscript{122} ibid.36
“occupies all three places related to giving: first he is the gift of God to the world, then the recipient of all things, and finally the giver of living water.”

Throughout church history, Christ is the Gift continually celebrated by the church in word and sacrament, in which everyday gifts like bread, water and wine are infused with Christ-centred meaning.

In Christian thought, Christ’s life, death and resurrection are God’s revelation of the ultimate meaning of all life, death and regeneration. When the scientific narrative of creation through evolution with its cycles of life, death and new life are seen as the outworking of divine creativity then, as Gregersen suggests, humans participate in divine creativity through participation in nature’s creativity. However, cultural evolution has taken humankind well outside of the normal flow of non-human nature’s creativity. When the rise of cultural evolution is seen within the overall story of evolution, human creativity represents a new phase in nature’s creativity. As science and technology have developed, human creativity has become highly dependent on mineral resources which normally remain buried and outside the flow of natural creativity. The carbon in fossil carbon now enters the creative story for a second time. The first time around, the plants and animals that lived, died, were buried and eventually turned into fossil carbon were participants in the normal flow of nature’s created creativity. They were part of the flow of natural creativity which has brought all living things, including humankind, into being and have fulfilled their first role in the evolution of life.

In recent centuries, fossil carbon has accelerated the departure of human cultural creativity from the mainstream of nature’s creativity. However, this departure does not place cultural creativity outside of God’s creative work. Rather, it represents a new phase of creativity, and in the last few hundred years access to and use of fossil carbon has thrust it forward spectacularly. When the rise of modern science and technology and increasing human population are seen as blessing, fossil carbon as enabler may be received as gift. Paul’s warning is timely: gifts are not given by God for human power and boasting. All that anyone is able to do or possess depends on others, and ultimately on God. Material gifts are means to an end, and in Christian tradition that end is described as the reign of God. Use of fossil carbon is a prime example of the tendency for the pursuit of ends, which are perceived to be good, also to have

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destructive consequences. Continual vigilance is necessary to recognize this ambiguity, and as far as possible, to judge in what ways the creativity at work reflects the reign of God, and in what ways it opposes it.

In the reign of God blessing is to be found by participation in Christ, through whom creativity which leads to healing and redeeming of broken relationships takes place. That is where true humanity, the ‘image of God’ which in Christian belief is fully expressed in Christ, is to be found.

Christian understanding of Jesus as Christ provides an enduring and specific response to questions of what it is to be truly human, of what human consciousness is, and of how being human finds and gives meaning within the wonder-provoking existence of the universe. Such questions have a deep history and remain vitally current today and, indeed, are themselves core elements of being human. They suggest that life itself is a like a gift which speaks to us of the transcendent ‘other’, extending to the boundaries of rational thought and provoking imagination beyond. Life is a gift which flows to us through our experience of the multiple ‘givens’ on which our lives depend. If we pause to reflect on whom or on what is the ‘giver’ of these many ‘givens’, our responses may find expression in the beliefs and language of religious tradition, or in other terms such as reverence for life or the awe-inspiring interconnectedness of nature. Either way, all that supports life through creativity, healing and reconciliation may be received as a gift.

The idea of ‘gift’ implies a giver, and a giver implies relationship. Instead of the model of autonomous consumer, ‘gift’ points to a network of interdependence. How the gift is received, used and shared will affect our relationship with the source of the gift, our relationships with each other and our relationships with the world around us. Such reflection, whether cast in religious or other terms, places the ‘gift’ in a larger context of meaning, consequence and responsibility. The language of ‘gift’ is language which could be readily used when people with religious and non-religious affiliations seek to work together on environmental issues, and particularly on the future of fossil carbon as a source of energy and materials.
4.8 Blessing in covenantal relationship

In Jewish and Christian tradition, the relationship between God as giver and humans as receivers, and the proper use of God’s gifts, is expressed in terms of covenant. A covenant relationship with God is asymmetric, with gifting flowing from God to the covenant people. It is dependent on God’s grace, and it invites a response of love and awe – the ‘fear of the Lord’. Several covenant-establishing events occur in the Old Testament. However, Ellen Christiansen argues that when:

read from a holistic perspective as one, coherent past tradition, the covenant relationship may be seen as one covenant, taking on a variety of forms; fundamental to this is the belief that there is one God whose presence guarantees that the covenant is valid and that covenantal boundaries express limits of divine presence.  

In the Old Testament God’s covenantal relationship with Israel is an interpretive framework for national history, constitutive of the nation and a benchmark of appropriate social and religious behaviour which, if followed, will be a path of blessing and of peace. Conversely, failure to so live will lead to curses and destruction. In the epic of Israel, a point of high drama comes in Deuteronomy when Moses rehearses the covenant with the Israelites as the people are poised to enter the Promised Land. The covenant is neither too hard nor too distant, but is immediate and down-to earth:

No, the word is very near to you; it is in your mouth and in your heart for you to observe. See I have set before you today life and prosperity, death and adversity.......I call heaven and earth to witness against you today that I have set before you life and death, blessings and curses. Choose life so that you and your descendants may live, loving the Lord your God, obeying him, and holding fast to him; for that means life to you and length of days, so that you may live in the land that the LORD swore to give to your ancestors, to Abraham, to Isaac and to Jacob (Deut 30:14-15 and 30:19-20).

This statement of covenant envisages a people supportively working together, continually mindful of the giftedness of their very existence as a nation, and of the land on which they are to make their home. On the one hand, it is immanent, achievable and practical. On the other hand, it insists on continual reference to God as the one who gives them life and sets before them how life should be lived so that they may flourish. As the history of Israel progressed, again and again prophets condemned violations of

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126 ibid.37
the covenant, and in particular idolatry and failure to uphold justice. Richard Horsley describes their work in terms of rebuke for covenant violation:

The very center of the classical prophets’ message was God’s condemnation of the rulers and their officers for violating the Covenant by oppressing the people……Their oracles were pronouncements of God’s condemnation of the rulers……The criteria that the prophets applied were covenantal. The crimes for which the rulers were indicted and sentenced were violations of the commandments and principles of the Mosaic Covenant.\textsuperscript{127}

In the New Testament, the new covenant of relatedness to God the Father through Jesus the Son likewise brings together a people whose existence as a community flows from God’s gift of Christ and of the Holy Spirit.\textsuperscript{128} This new community is called to live in the world but not be of the world (John 17:14-18), bearing witness to the basilea or kingdom/reign of God. Although Christian tradition has a long history of expressing the nature and hopes of the Christian community in ‘other-worldly’ terms, it also has a demanding down-to-earth dimension, committing disciples to counter-cultural living and meaning-making. Walter Brueggemann, for example, asks what covenant means today, particularly in the context of high consumption developed economies.

I understand covenant in our time and place to be a radical alternative to consumer autonomy, which is the governing ideology of our society and which invades the life of the church in debilitating ways.\textsuperscript{129}

For Brueggemann, covenant for humans is covenant with one who is ‘other’, and he describes living in covenantal relationship as “othering”.

I take the liberty of using the word “other” as a verb, for I mean to suggest that “other” is not simply a counter-object, but it is the risky, demanding, dynamic process of relating to one who is not us, one to whom we are accountable, who commands us, and from whom we receive our very life.\textsuperscript{130}

Brueggemann grounds his exploration of covenant relationships in the Old and New Testament Scriptures, and finds in them underlying characteristics of covenant relationship which are applicable to contemporary situations. For him, “Covenanting means self-abandonment, giving self up for the other, and requires the healthy capacity

\textsuperscript{128} Seasoltz, \textit{God’s Gift Giving. In Christ and Through the Spirit}.pp16-20
\textsuperscript{130} ibid.1
to move beyond self-concern to the unutterable graciousness and awesomeness of God.” Covenanting is learned “through urgent insistence that God can be bonded to my issues, so that I may be bonded to God’s expectations” and through an ongoing dialectic of lament and hymns of praise. “Lament concerns the full assertion of self over against God and praise concerns the full abandonment of self to God.” It is this dynamic of interaction of people with God, the ‘transcendent other’, which is the radical alternative to consumer autonomy.

The social context of which he writes is contemporary, but to what extent does his description of covenant relationship as relationship with the transcendent ‘other’ speak to the contemporary world? For those who do not follow or believe in Christian or other theistic ways, is it possible to speak of the ‘transcendent other’? If so, who or what is the ‘transcendent other’, and is it possible for covenant relationship with the ‘transcendent other’ to motivate a person to radical change of life? The Earth Charter is drafted with questions like these in view. J. Ronald Engel, who worked on the Earth Charter from its early days in the 1980s, explicitly identifies it as covenantal in character:

The Earth Charter stands in a long line of covenantal thinking that holds our most fundamental covenant to be a covenant with the creativity of life – variously called a primordial bond, a covenant of creation, or a cosmic covenant. Once we affirm our own life, we affirm all that life entails – our emergence from, our dependence on, and our impact upon, the whole evolving community of life.

Like Brueggemann, Engel sees the underlying concept of covenant as a highly relevant way of articulating direction-changing commitments in the context of the modern world. Each seeks ways of expressing covenant relations in the context of contemporary living, although doing so may require departing from the specific expressions of covenant in Christian and Jewish tradition. Engel asks:

How can we reclaim the concept of “covenant” for the modern world? Two problems face us. On the one hand, covenant is often so closely associated with a particular religious tradition that it is inappropriate for public life. On the other hand, we are so accustomed to living by “contract,” the notion that our obligations need extend only as far as our self-interest warrants, that the inevitable covenantal basis of social life is eclipsed. Yet, there is little hope that societies based on

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131 ibid.6
132 ibid.18. Italics in original
sectarian dogma, contract, or even an overlapping consensus on values, will ever have sufficient motivation to live in accord with Earth Charter principles.\(^{135}\)

Brueggemann’s expansion of what he describes as “othering” is grounded in the history of Israel and in “the dialectic of complaint and praise” to YHWH. His choice of “othering” as a verb for living in covenant relationship invites dialogue between those who recognize the ‘other’ as God in Christian or other theistic traditions. It also does so for those who identify the ‘other’ in a variety of less specifically religious ways. In the Earth Charter, for example, reference to the “mystery of being” and “humility regarding the human place in nature” suggests that the ‘other’ is experienced as both transcendent and immanent.\(^{136}\) We are accountable to that ‘other’ in the sense that our choices and our behaviour have consequences, bringing blessing or cursing on ourselves and on the other species with which we share the Earth. The words of Deuteronomy 30, “See I have set before you today life and prosperity, death and adversity……...I call heaven and earth to witness against you today that I have set before you life and death, blessings and curses”, are as applicable today as they were in the history of Israel. Even if the ‘other’ is named in non-religious ways which emphasise ecological and social interdependence, as in the Earth Charter, the consumer autonomy against which Brueggemann writes is still repudiated. Seeing humankind as an assembly of autonomous consumers is an impoverished model of society which is destructive of the complex web of relationships of sharing and gifting on which creative life depends. As a model, it looks inwards to the individual, rather than outwards to community, to humankind in relationship with all of nature, and beyond to that elusive ‘other’. Where there is vision of transcendence there is hope and, as Jonathan Sacks writes:

Covenant is what allows us to face the future without fear, because we know we are not alone. The purest line of covenant says ‘Even though I walk through the valley of the shadow of death, I will fear no evil for You are with me.’ Covenant is the redemption of solitude.\(^{137}\)

Brueggemann and Engel both interpret covenantal relationship as life-directing relationship with ‘the other’ who (or which) transcends all short-term plans and preoccupations. Covenantal relationship with God and with Creation creates

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\(^{135}\) ibid.

\(^{136}\) Earth Charter, "The Earth Charter". Preamble (accessed 14/02 2012)

obligations to live in the present so as to prepare for the future. When the trajectory of climate change is understood and internalized, we may feel fearful and alone, for the Earth is becoming the “valley of the shadow of death.” Transition through the valley, or transformation of the valley, may be hard to imagine, but in covenant relationship we are part of a greater reality. We do not stand alone. The Giver of covenant, in whom “we live and move and have our being” (Acts 17:28), is at our side, even in the immediate and wickedly difficult problem of transition from fossil carbon to more future-friendly forms of energy.

4.9 Imaging God in a time of transition

If fossil carbon is to be interpreted as a blessing, it is an ambiguous and qualified blessing. In biblical tradition, the primordial blessing of humankind in the first creation story sets the course for humans to “multiply and fill the earth and subdue it and have dominion over . . . every living thing that moves on the earth.” (Gen 1:28) Until fossil carbon came into widespread use, humankind moved slowly towards this goal. With fossil carbon human population growth and subjection of the global environment to human purposes have accelerated to such an extent that ‘playing God’ is a phrase used to question whether bounds are being overstepped. Does humankind know what it is doing?

Theologically, ‘playing God’ is a parody of reflecting the image of God. In Christian thought, true humanity is found in the “ontology of communion” which Hall describes.  

138 Humans are nurtured, shaped and defined by relationships, relationships with one another, with the rest of creation, and with God. Gunton asserts that: “the relationship to God takes shape through the Son and the Spirit. To be in the image of God therefore means to be conformed to the image of Christ”.  

139 Receiving anything, including fossil carbon, as gift places it within covenantal relationship with the giver. Where resources are exploited without due regard to the network of relationships which bind together humankind, the resources in question and all creation, then these relationships become ruptured. So too are relationships with the greater reality in which ultimate meaning is to be found, however named or imagined. When Jesus’

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138 Hall, Professing the Faith. Christian Theology in a North American Context. 218
139 Gunton, ”Trinity, Ontology and Anthropology. Towards a Renewal of the Doctrine of the Imago Dei.” 6-13
teaching concerning loving neighbour and loving God is interpreted ecologically, concern for the health of relationships within the ecological neighbourhood on which humankind depends becomes a vital sign of love for God.

For many people today, both within and outside religious traditions, use of fossil carbon is contextualized within an understanding of obligation and relationship. Concern for human environmental impact is world-wide and expressed at every level from local communities to international councils. So too is obligation to those who are suffering and those who will suffer the consequences of climate change, including future generations. The “new kind of consciousness of global proportions” which Boff describes\(^{140}\) includes increasingly urgent global concern wisely and urgently to manage transition to a future in which fossil carbon plays a greatly reduced role. Where global consciousness commits to creativity and life and resists destruction and death, it may be seen as participation in God’s creativity, and as such reflects the image of God. It even may be possible to place the conditional ongoing use of fossil carbon as participation in God’s creativity. It is then possible for people to live and act in ways which reflect the image of God, creatively using fossil carbon to accelerate the process of transition to a low-carbon future.

In biological evolutionary creation, the new emerges from the old. The old passes into memory, embedded in the biological structure and ecological relationships of the new. Human culture lies within the bigger picture of evolution and use of fossil carbon fits the same pattern. Use of fossil carbon has opened up previously unimagined new possibilities and supported the flourishing of human life on a scale unprecedented in human history. Much of what it has been used for has, for many, been a blessing and continues to be a blessing, although increasingly ambiguous. If the blessing is to continue and the curse of climate change to be constrained, present and future use of fossil carbon must increasingly support transition to a future where its role is greatly reduced and its heyday fades into memory.

Transition from high to low dependence on fossil carbon is proving ‘wickedly’ difficult, with complex interacting political, social, psychological, economic, scientific and technical dimensions, to list some of the more obvious ones. Although ecotheology repeatedly highlights the need for radical change in human self-perceptions

\(^{140}\) Boff, *Global Civilization. Challenges to Society and Christianity.* 1

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in order for the transition to take place\textsuperscript{141}, science and technology also have a critical role to play. They have enabled the world to become connected and conscious in faster and more comprehensive ways, and opened up possibilities of energy capture and distribution capable of replacing much of the energy derived from fossil carbon used today. Science and technology too may be thought of as gifts for blessing in this dangerous and difficult time of transition. Noreen Herzfeld finds the “beginnings of our relationship to technology” and its constructive and destructive potential already present in the Genesis stories.\textsuperscript{142} The gift of creativity is a necessary part of having ‘dominion’ over the Earth and its other creatures, and being ‘in the image of God’ is “declared in the context of a commission to exercise dominion.”

As creatures bearing the image of God, humans are also creators. This precludes taking a totally negative view of technology. We are creators just as our God is a creator. Second, our creation of tools and methods with which to alter our environment should not be considered negative, for we understand ourselves to have been given dominion over the rest of creation.\textsuperscript{143}

Rather than take a “totally negative view of technology”, it may be thought of positively and, if received as gift, carefully used in a measured way within a framework of obligation to the ‘giver’. The ‘giver’ may be understood in ways captured by the Earth Charter, or in theistic traditions as God. Either view insists on placing the gift in a framework which transcends the local, short-term and immediate and has in view global and inter-generational justice and care for life.

The relating and sharing which constitutes global consciousness is expressed in innumerable ways, calling forth creative engagement with the myriad of issues which arise as we live together on our finite, fragile planet Earth. Such global consciousness calls us to look beyond the immediate and to develop an expanded vision of our place in time and space, and to reflect on the mystery of life itself. One specific expression of global consciousness is co-operation amongst research scientists. It is an abundantly creative consciousness, continually feeding ideas and stimulating technologies which not only change how we live in the world, but also change the world in which we live.

It is the nature of research to push on boundaries of knowledge and, although scientific

\textsuperscript{141} Berry, for example says that “Radical new cultural forms are needed. These new cultural forms would place the human within the dynamics of the planet rather than place the planet within the dynamics of the human.” Thomas Berry, \textit{The Great Work} ; \textit{Our way into the future} ( New York: Bell Tower,, 1999.),160

\textsuperscript{142} Herzfeld, \textit{Technology and Religion. Remaining Human in a Co-created World}. 10-15

\textsuperscript{143} ibid.10-11
methodology does not in itself consider ultimate questions of meaning and purpose, it may stimulate humility in the face of the mysteries of the cosmos.\textsuperscript{144}

The themes of gift and of covenant offer a way of reminding ourselves that our thriving and surviving on Earth depends on looking beyond immediate gratification, encouraging awareness of the larger contexts of time, space and the unknown and mysterious of which we are part. We have obligation to future generations of life, and their experiences of blessing and of curse will depend how we live now. The Ten Commandments, which formed the core of the Mosaic covenant between God and Israel, may be re-interpreted to offer a pattern for living rightly today. Brueggemann writes of the Ten Commandments:

Three are on the holiness of God; six on the requirements of a viable social life concerning parents, neighbors, courts, and property; and one in the middle on “rest” as the goal and purpose of life.\textsuperscript{145}

Reinterpreting them for today, there are to be no other gods, in the sense that our primary source of meaning must not be substituted by preoccupation with the immediate and material, such as financial goals, national security or the energy resources on which these depend. We replace or ignore the transcendent ‘other’ at our peril. When the transcendent ‘other’ is ignored and thought and action is directed to short-term goals and local advantage, with minimal regard to global and long-term consequences, we can no longer plead ignorance of likely consequences. Global consciousness, which is a gift which has been greatly expanded by the carbon economy, shows that such thinking is wilfully and woefully inadequate.

The Sabbath commandment, which relates to rest and the meaning of life, prescribes restraint. It is a command that we forego opportunities to squeeze out maximum economic advantage for self or for one’s own community or nation. Positively, it is a command to stand back in renewed and demanding reflection on where we stand in relationship to the whole global community, and to the transcendent ‘other’ who beckons us in the immanence of our experience and encourages our visions for the future.

There is to be no killing, which calls into question anything that enables part of humankind to prosper at the expense of the supportive web of life and global ecology.

\textsuperscript{144} Dawkins, \textit{The God Delusion}. 26.

\textsuperscript{145} Brueggemann, \textit{The Covenanted Self}. Explorations in Law and Covenant.
driving other humans to an early grave and other species to extinction. There is to be no stealing or coveting, which means gathering resources for self at the expense of others. But there is to be honour for parents, for those who gave us birth and raised us, an honour which extends far beyond human parents to include the totality of nature, past and present.146

Fossil carbon has been and remains a gift, to be recognized as such and used for blessing of humankind and the Earth community as a whole, rather than for sectional and selfish gain. As a gift, its wise use is possible only in covenant responsibility to the giver. We may regard it as a gift for a short period in the history of humankind, and for a miniscule period in the history of the Earth. The gifts of scientific creativity and of global consciousness, which enable us to read the pulse of planet Earth and predict the ongoing consequences of large-scale use of fossil carbon, leave us in no doubt that this period is rapidly drawing to a close.

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146 ibid.77
Chapter 5

From Ambiguity to Curse

5.1 A curse on the world

Exploitation of fossil carbon has brought immense benefits to large parts of humankind. At the same time, it has brought a great deal of suffering and environmental damage, and is the prime cause of climate change. The tension between beneficial and destructive results of its use reflects a dynamic as old as humankind. At some level, all human activity has an environmental impact. Even in early human history, hunting and use of fire modified landscapes, depleted other species and accelerated extinctions.\(^1\) As populations increased, and where agriculture developed, the impact became steadily greater until, in the present period of the dawning Anthropocene, human activity has become a major force determining the future course of life on Earth.

The sacred stories of religious tradition reflect the complex and ambiguous human experience of living in culturally bonded interdependence with other people and dependence on multiple other species and the Earth environment. In the Old Testament the language of blessing and curse is used to express this ambiguity, with each causally related to how people respond to God’s commands. This theological response to human experience finds typical expression in the blessings and curses of Deuteronomy 27-30.

The human and environmental downsides of exploitation of fossil carbon are explored using Biblical stories and traditions of curse. In particular, the curse teachings from Deuteronomy and their Pauline application in Galatians are developed using the work of Kjell Arne Morland.\(^2\) In these teachings, curse follows failure of the covenantal relationship between people and God. Visions of inter-generational blessing are lost in pursuit of wealth far beyond needs, and injustice is perpetuated as the rich-poor divide widens. Today, similar patterns are worked out globally, as rich nations access and consume vastly more energy per capita than poor ones. The economic drivers of fossil carbon exploitation have enormous power to sideline objections based on long-term consequences. The sacred and transcendent commitment to long-term life-giving blessing struggles for influence, and relationship with God falters.

\(^1\) Flannery, *Here on Earth. An Argument for Hope.* 82, 83
Curse and sin describe destructive dimensions of human behaviour and the human condition. As such they may be interpreted within a theological anthropology. In the Judaeo-Christian tradition, the central anthropological insight is the conviction that humans are made in the image of God and yet fall far short of their potential. Conradie argues that one result of this tension is that humankind is not yet at home on Earth. When Christ makes known the fullness of the image of God, falling short and missing the mark is interpreted Christologically. The question of why human use of fossil carbon can be both a blessing and a curse then changes focus to humankind itself. In what sense may human destructiveness be interpreted as a result of humankind falling short of the image of God, interpreted as falling short of Christ who is the fullness of the image of God? How may a Christological interpretation of humanity made in the image of God provide direction for change in which redemption, salvation and hope are brought to the contemporary world for which the Anthropocene is becoming an increasingly critical reality? How may these insights from Christian tradition be interpreted and expressed so that they speak meaningfully to those who experience the world as globalized and scientifically informed?

Reference to sin is rare in public discourse. In striking contrast, in Christian theology sin remains the central doctrine dealing with broken relationships; with God, amongst people, and between humans and other creatures. Original sin, which captures the social prevalence and inter-generational persistence of sin, provides a platform for exploring this shadow side of human nature. Tatha Wiley’s history of the concept of original sin and her analysis of its theological function bridges between biblical tradition and contemporary interpretations of sin. The naming, meaning and theological function of ‘original sin’ all have changed and developed throughout church history, drawing at various times and places on myth, metaphysics, sociology and psychology. In contemporary scientifically-informed society where “pragmatic atheism” is prevalent, Alistair McFadyen notes that “there is a thoroughgoing substitution of social categories for the ontological and metaphysical language through which the doctrine of original sin is traditionally expressed.” Traditionally sin names the common awareness that all is not well in human affairs, and that a weight of guilt

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3 Conradie, *An Ecological Anthropology: At Home on Earth?*
5 ibid. Chapter 6 “Original Sin in Contemporary Context” 127-152
7 ibid.36
for this dis-ease rests on humankind, individually and in community. Although sociology and psychology provide analysis of and insight into human dysfunction, McFadyen makes the case that sin and original sin in particular, are irreducibly about relationships between people and God and as such ultimately theological concepts.  

The idea of curse and the underlying experiences of frustration and sanction have deep roots in many cultures, including Jewish and Christian traditions. As a term, it also has currency in contemporary economic discourse, naming socially and economically damaging consequences of a resource boom as a ‘resource curse’. Its dual secular and religious use gives ‘curse’ the potential to act as a language bridge in public theology. ‘Sin’ does not have comparable currency in secular use. However, human destructiveness and failure to reach full potential remain deeply concerning and are themselves sources of bridging language. They are middle ground where theology, psychology and sociology meet.

The blessing, which for many means health and opportunities on a scale which were beyond human reach before the industrial revolution, is accompanied by a curse. That human activity often leads to death and destruction is, of course, not in itself new. What is new is the extent to which fossil carbon provides power, materials and waste products on a scale which greatly amplify this destructive potential. The potential for humankind to be *homo demens* is being realized globally and to a previously unimagined extent.

Exploitation of fossil carbon negatively impacts humankind and the global environment in three general areas. The first is materials derived from fossil carbon, most of which end up as chemical pollutants and discarded materials. As these spread over the face of the Earth they disrupt global ecosystems on a large scale, they are highly resistant to natural processes of breakdown and they may directly impair human health. Berry pertinently emphasises that many of these materials will leave their malign residues on Earth for a very long time to come. The second is materials such as steel and concrete which depend on fossil carbon for their manufacture, and the third is energy. Each of these endows nations and corporations with economic and military

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8 ibid.5
10 Berry, Evening Thoughts.87-100
power. Metallurgy, concrete manufacture and energy production lead to most of the greenhouse gas emissions driving climate change and ocean acidification. Energy and materials are two of many possible themes under which the ambiguity of fossil carbon use may be explored. Issues of social justice and ecological care are also widely discussed in eco-theological literature.11  Humankind, the land, the oceans, the atmosphere and all life on earth cry for attention. The scars and wounds of human suffering through mine disasters, respiratory illness, fossil-fuelled war and exploitation of the powerful by the weak run deep and continue to be inflicted. The land, too, bears wounds and scars, both visible and underground, as demand for coal, oil and gas continues unabated. As the oceans and atmosphere carry an increasing burden of carbon dioxide the curse of global warming and climate change threaten to become much worse if tipping points are reached.12

The situation for humanity in our Earth home at this time may be likened to standing on a sea-shore. Humankind has long experience of testing the boundaries of nature’s provision and of surviving the chaotic powers often encountered in our stormy history. Entering the new era of the Anthropocene is like experiencing successive storms and tides which increasingly violate known boundaries. As it responds to the ever increasing burden of human activity, the usually dependable and more or less hospitable Earth is gradually but inexorably becoming less dependable and less hospitable. The Anthropocene is like an incoming tide which flows over, seeps into, and changes the environmental fabric on which all life on Earth depends. For two millennia Christendom has stood with Christ on that stormy boundary and now the boundary itself is collapsing. Where is Christ in the Anthropocene, at this dawning time of increasingly threatening global change? Where is Christ to be discerned amongst humankind, which Judaeo-Christian belief understands to be in some sense made in the image of God, but which overall is driving such destructive change? How are the themes of creation, salvation and final fulfilment for humans and for all creation to be interpreted in this context of change?

11 See, for example, Northcott, A Moral Climate:The Ethics of Global Warming.
Discerning Christ in today’s world necessitates asking how memory and interpretation of Christ’s death and resurrection are relevant today. Today’s woes may be interpreted in Christian tradition using the language of curse and sin. The question then arises, how may the language of curse and sin translate into language of public discourse? To what extent is common language of life-giving and death-dealing relationships adequate?

### 5.2 Curse and covenant

Use of curses has a long history and is still practised in many societies today. Morland observes that “Curses are used in many cultures to enforce law and morality: they are regarded as an effective force when spoken, charged with energy.”\(^\text{13}\) A curse may have great psychological power, even leading to death.\(^\text{14}\) When curses are “charged with energy” they reflect a sense that there may be unknown and uncontrollable magical or supernatural powers at work. In both the Old and New Testaments, there are numerous references to curses. To pronounce something or someone accursed is to predict a future of hardship, humiliation and possible premature death. Disrupted relationships between humans and God, humans and other humans, and humans and the land are embedded early in story in the Hebrew Bible and when they are, the language of curse is used. In the Genesis story of temptation and fall, the serpent is cursed (Gen 3:1). In Hebrew, the root word used is *arar*, with corresponding Greek root *katara* used in the Septuagint (LXX). In the LXX the serpent has become *epikataros*, or accursed. In Genesis 4:11, the same words are used of Cain. In the flood story of Genesis 7 and 8, when YHWH promises never again to curse the ground because of humankind, the Hebrew *qalal* is used, but the LXX once more uses the root curse word *katara*. The pattern of disrupted relationships and curse, with predictions of a bleak future, finds particularly strong expression in Deuteronomy. There the same language is used, and those who will be cursed are again described as *epikataros*. The context of this curse is covenant between YHWH and the people. The blessings and curses which are pronounced are neither arbitrary nor mysterious and magical. They are consequences of how people live in response to covenant with God. “The covenant framework of the

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\(^{13}\) Morland, *The Rhetoric of Curse in Galatians*.1

\(^{14}\) ibid.1
awe-inspiring list of curses and blessings in Deut 27:15-26 and 28:1-6 appears to corroborate this."\(^{15}\)

Although the narrative setting of Deuteronomy 27-30 has Israel poised to enter the Promised Land, Deuteronomy is commonly interpreted as written in its present form in the exilic period, long after the events depicted in its narrative. Taken “as a lesson to the exiled or newly freed Israelites, the goal of the book of Deuteronomy is to re-establish the new Israel on a covenantal basis in the shadow of the exile.”\(^{16}\) So taken, the underlying themes are covenantal promise, sin and failure, exile, restoration and hope. The curses in this lesson come in two parts. In Deut. 27:15-26 the curses are a threat to individuals. “Anyone” who violates specific social codes which embody covenantal living shall become cursed. In Deut.28:15-68 the curses are communal. They threaten to engulf the people in a terrifying re-run of the worst experiences of drought, disease, conquest, exile and death depicted in the foundation stories of the nation. The final humiliation will be a return to Egypt to be sold as slaves, with no-one prepared to buy them. In the narrative of Deuteronomy 27-30 the blessings and curses are liturgically enacted, with six tribes on Mt Gerizim and six on Mt Ebal. They are pronounced with the clear intent that the people, who repeatedly say “amen”, will actually follow up on this solemn assent and choose to obediently live in covenantal relationship with YHWH:

When the motif was transported …into the covenantal relationship between Yahweh and Israel, a powerful and major motive was the parenetic need to exhort covenantal obedience. This aim is clear both in Deut 27-30 and in succeeding texts expounding it.\(^{17}\)

Covenantal obedience is all embracing of how people live in relationship with each other and with God. In his review of a variety of Jewish texts which deal with the “curse of the law”, Morland concludes that:

they refer to the “curse of the law” as a constant threat to Israel in their history, and most of them identify the disobedient and punished Israel with the curse.\(^{18}\)

The curses described in Deuteronomy 27-30 bring disease, crop failure, drought, famine, utter deprivation and social breakdown in time of siege, conquest by other nations and humiliation and extreme testing of hope for survivors in exile. These

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\(^{15}\) Morland, *The Rhetoric of Curse in Galatians*.1  
\(^{16}\) ibid.36  
\(^{17}\) ibid.35  
\(^{18}\) ibid.71
biblical descriptions have a timeless power, resonating with human experience down the ages. Such things can and do overwhelm people, a great many of whom today would be considered as innocent victims. However, these particular biblical narratives do not speak of innocent victims. The curses are understood to be consequent on broken relationship between the people and YHWH, their God. Individuals, tribes and the whole nation are included in the covenant. Failure to live in right covenantal relationship with each other and with God results in the curse falling on all. God is active in bringing the blessings of the covenant and God is active in bringing the curses. The narratives have the parenetic purpose to provoke repentance, but they also require the wisdom of Job to find meaning in the suffering of the innocent. Theological reflection on curse has the task of naming and exposing underlying sin and other causes of suffering while avoiding any simple correlation between blame and suffering. Those who suffer most are unlikely to be those who are most blameworthy.

The curses of Deut 27 and 28 reverberate through the Old Testament, and continue as a theme in the New Testament. In the Gospel of Luke, pronouncement of woe functions similarly to prophetic warnings of curse. Luke Timothy Johnson explains that: “The term “woe” (ouai) is especially associated with the prophets in the LXX, an expletive for disfavour or calamity either described or desired.”

In the Gospel, woes are pronounced on the rich whose enjoyment of material prosperity leads them to disregard the poverty and suffering of others. Unlike the poor, whom they ignore and even despise, the woe awaiting them is exclusion from the reign of God. Woes are pronounced on those whom Jesus likens to false prophets and to those whose apparent zeal for God makes them, in their own estimation, above others before God. As in the prophets, woes also engulf the innocent. The deepest of woes comes from denying and betraying God’s greatest gift, the Son of Man (Luke 6.26; 11:42-54; 21:23 and 22.22).

The contrast between blessings and woes in the Gospel of Luke becomes, in Paul’s thought, the contrast between freedom in Christ and the curse of the law. Paul, in the letter to the Galatians, sees the “curse of the law” (katara tou nomou) as a relentless burden from which Christ sets people free (Gal 3:10-13). In his letters and particularly in the letter to the Galatians, Paul draws on the LXX translation of the Hebrew Scriptures, using the word for curse, katara, used in Deuteronomy 27 and 28 to describe the situation of his Jewish contemporaries. In Paul’s time the “curse of the law” was

20 ibid. 108
not only remembered in the Babylonian exile, but also in post-exilic cycles of hope and struggle, with the trauma of attempted forced Hellenization, a period of restoration, and then Roman domination. The Jewish people lived under the curse of being highly-taxed and oppressed under foreign military rule. Those who were in the diaspora were a vulnerable minority scattered amongst the nations. In Judea the storm-clouds of crushing defeat and further dispersion and exile were looming large. The curse of the law experienced as Babylonian exile and Greek conquest was repeating itself again. Once again, would YHWH “annihilate Israel” and bring them to the “condition of finding no rest, of despair, and of never-ending terror into which disobedient Israel is to be thrust.”?  

Paul is concerned that the Galatian Christian community decisively understand that Jesus had saved them from this curse. In his letter to the Galatians Paul writes with passion to defend the good news that the curse of the law (katara tou nomou) has been overcome by Christ (Gal 3:10-14). Paul himself curses those who teach otherwise, using a different form of curse (anathema) in which those so cursed are excluded from God’s people and passed over to God to deal with in judgment (Gal 1:8-9). Under Roman oppression, Israel could never properly enjoy the ‘rest’ of an autonomous theocratic state where YHWH was honoured and the law carefully observed. The religious leaders attempted to sustain observance as they believed best in the circumstances, but the curse of ongoing ‘exile’ from the promise remained, and the most terrifying symbol of Roman oppression was crucifixion. Jesus went to the heart of the curse of Roman oppression, died by crucifixion and in resurrection showed once and for all that he was the way of freedom from the curse. For Paul, salvation through Christ from the curse of living under Roman occupation would never come using the forceful ways of the world. Rather, by the Spirit, its down-to-earth expression would be fruitful manner of life marked by loving relationships, in which conceit, envy and ruthless competition had no place (Gal 5:14,26). Blessing is to be found in following the servant Christ, even to death if needs be. For Paul, such was the nature of the kingdom of God, in which transformative life in the here and now, re-born through the death and resurrection of Christ, carried sure hope of final future fulfilment in Christ.

22 Morland discusses the links between anathema and devotion to God in contexts of war and extermination: Morland, The Rhetoric of Curse in Galatians. 82
Persecution, exile, and even death would not separate them from the love of God in Christ Jesus (Rom 8:36-39).

This pattern of broken relationships, hardship, humiliation and the threat of premature death, and of hope and redemption in Christ may become words of judgment and of hope to humankind in the Anthropocene. The language of blessing and curse needs to be used with caution, remembering that in the Old Testament the portrayal of blessing and curse used in Deuteronomy is radically questioned in the Book of Job. Climate change, like the times of conquest, destruction and exile which produced agonized searches for meaning in Biblical times, stands to affect the lives of innocent and guilty alike. Then, as now, individual innocence and guilt become blurred as large sectors of humankind conduct the commerce of life in ways which appear innocuous at the time, but which have long-term destructive consequences. Today’s perceived blessing of high consumption energy intensive life for some is already bringing in tomorrow’s curse on others. In contemporary terms, what covenant relations are being broken and what laws violated as humankind faces the rising, destructive tide of global warming in this period of the early Anthropocene?

5.3 Ecological law and curse

The “curse of the law” finds ecological parallels today in the curse which comes with violation of the laws of nature. Violation of the laws of nature is, in turn, a consequence of unwise and often profligate use of the resources of the Earth. God-given gifts for the flourishing of life have become means of indulging excess, to be exploited to exhaustion. The laws by which life on Earth thrives and evolves cannot be flouted without damaging consequences. Ecological prophets spell out what consequent ‘exile’ could mean. Using James Lovelock’s dramatic image, it would mean surviving with difficulty on a hostile and avenging Earth/Gaia. For some, a consequence of climate change will be literal and permanent exile from homes lost to the oceans or from land no longer able to support the human population. For others, exile is more likely to be a symbolic description of lost opportunities for peace and prosperity. For all, it will be an experience which calls for hope and which takes a long view transcending generations, knowing that successive generations will live with the consequences of ecological curse in their here and now. It will be an exile experience

to which the words of warning in Deut. 27-29 and the words of hope in Galatians 3 speak. However to be heard, these words of warning and of hope need expression in contemporary terms.

Jesus’ teachings on blessing and curse are more difficult to project into a future in which climate change is becoming more severe. Unlike the pending disaster of the sack of Jerusalem, in which those who had most were likely to lose most, people who live in prosperous countries are best able to adapt to climate change. In the ancient world, the poorest of the poor and those with least political influence were most likely to be spared and left to till the land. Today, those who live in less prosperous countries will be first to suffer most, whether by becoming refugees in a crowded, inhospitable world, or through struggling to survive in their ancestral homes. Unless war engulfs them, the rich will continue to “receive their consolation” (Luke 6:24), at least for a little longer. Sooner or later, defence of prosperity and borders by ‘whatever it takes’\textsuperscript{25}, and neglect of the needs of those less fortunate, will prove to be a woeful policy. In a prosperous country like Australia, it has a degree of popular appeal. The language of global woe and global curse is entirely absent from future planning.

In contemporary Australia, religious or supernatural reference using the language of curse is more likely to be a manner of speaking than intentional invocation of supernatural powers. To say a place, community or a human enterprise is cursed may invite natural explanations such as human failure or a natural environment hostile to humans and human activities. Nevertheless, there may still be a residual sense that something more sinister and inaccessible is going on. Bad things have happened in the past, worse might happen in the future and there may be little anyone can do about it. Such sinister mysteries are the stuff of a genre of fiction in which human and superhuman heroes encounter and usually overcome supernatural forces of evil. In the imaginative world of such stories, it is still acceptable to portray the supernatural. In the real world of a secularized society, where “operational” or “pragmatic” atheism applies\textsuperscript{26}, the supernatural is excluded from most public discussion, even if the experience and language of curse persists.

\textsuperscript{25} ‘Whatever it takes’ has become an Australian Government mantra when referring to turning back refugee and asylum seeker boats. The context for this comment is found in: http://www.abc.net.au/news/2015-06-14/abbott-dodges-questions-again-about-boat-turn-back-claims/6544458. (accessed 15/06/2015)

\textsuperscript{26} McFadyen, \textit{Bound to Sin. Abuse, Holocaust and the} Christian Doctrine of Sin.8
The language of curse does persist in public discussion in relation to exploitation of mineral resources. Its persistence makes use of curse particularly relevant to discussion of human use of fossil carbon. The economic and social situation typically described as a resource curse arises when a nation exploits and sells a resource resulting in a rapid surge of wealth, but the overall effect on national economic development is negative. It also is referred to as ‘Dutch Disease’, after the paradigmatic example of decline in the Dutch manufacturing sector as a result of a boom in natural gas exploitation during the 1970s. The recent Australian mining boom has had similar effects. Reasons for a resource curse are many and varied, and include possibilities such as diversion of labour into the resources sector, appreciation of national currency disadvantaging local producers, and failure to appropriate the wealth for national benefit as a result of corruption or poor policies. Even if fossil carbon is not the actual resource in question, it is critical to industrial scale exploitation of virtually all other resources. The language of resource curse is readily extended to include negative and damaging situations beyond the specifics of measurable economic performance. It shall be used here of any negative consequences of resource exploitation, whether or not such consequences are ascribed economic value. The resource curse then includes social distress and environmental degradation following from resource development. In turn, it is symptomatic of deeply-rooted pathologies in the complex web of human affairs. It is not simply that negative consequences of exploitation of a resource are described as a curse. At a deeper level, it is humans who drive these consequences and it is humans (not always the same ones), who experience them as they and the Earth upon which they depend becomes cursed. In the case of exploitation of fossil carbon, consequent climate change and dispersion of pollutants and garbage from discarded petrochemical products globalizes the curse, affecting all life on earth.

The language of blessing and of curse carries within it questions of theodicy and of justice. People who could be described either as more or less guilty or more or less innocent of causing the curse may be all caught up in it. The inclusive consequences of curse are implicit in the narrative of Deuteronomy 26-28, where the curse is liable to fall

29 All of these are frequently in the news media in resource-rich Australia, although seldom if ever named as a curse.
on the nation of Israel as a whole. The effects of the curse also will be felt for generations to come. Even the blessing which is promised to Israel if they live rightly in the land is limited and exclusive. In both the historic and narrative settings there is a sub-text of exclusion of peoples already in the land. One people’s blessing will be other peoples’ curse. For the blessed, the blessings of covenantal obedience will include a position of dominance over other nations, which will fear Israel (Deut 28:10,13). How may the blessing of a bountiful land experienced by one particular people become a blessing for all peoples, including those who first occupied the land but who are marginalized or displaced by later arrivals? This question becomes more acute when, as in Australia, the resources of the land are not only appropriated by later arrivals, but the land itself also is cursed as a result of how the new arrivals use it. All that lives on this land is impoverished when the land itself, the oceans surrounding it, and the atmosphere which sustains it all are damaged.30

In the narratives of the Old Testament the people drifted away from right relationship with God. The blessings which the bountiful land provided for its Israelite conquerors grew fewer and were finally lost. Instead of promised blessing, the people were cursed by crop failure, injustice, internal conflict, conflict between the kingdoms of Israel and Judah, and finally by attacks from outside climaxing in conquest by the Assyrians and Babylonians. Survivors who were exiled were then cursed with the humiliation of living far from home under foreign rule and foreign gods.

Two and a half millennia later, on the other side of the world, Australians live in the ‘lucky country’, so named by those who have come to Australia in these brief two centuries during which world population and industrialization have powered ahead. Yet again, one people’s blessings have proven another people’s curse as occupation led to dispossession, deprivation and death for a great many First Australians.31 The National Anthem rejoices in Australia as a land with “golden soil and wealth for toil” which “abounds in nature’s gifts of beauty rich and rare”. In some parts, large amounts of that soil have blown out to sea in dust storms. In other parts it is scoured by massive open-cut pits, and nature’s rich gifts of iron ore, coal, oil and gas are neither beautiful nor rare. In the 21st century in Australia, the extraction, use and export of fossil carbon

proceeds at a rate per head of population barely matched anywhere else on the planet. The same is true of iron ore, destined to have its oxygen stripped by coke derived from fossil carbon, further contributing to global atmospheric carbon dioxide. Yet without this, the steel, concrete and much else which improves living conditions for millions would not be possible. The blessings and the curse which follow from exploitation of fossil carbon are inextricably intertwined. The blessings accruing to those who have occupied the land in recent centuries are similarly inextricable from the curse that occupation and dispossession has proved to be for those whose ancestors have lived here for tens of thousands of years.

The rising global human population and climate change driven in large part by use of fossil carbon each presents enormous challenges to humankind and the rest of life on Earth. Predictions of consequent future hardship and suffering as the Earth becomes decreasingly hospitable may be described as predictions of curse. The voracious and global quest for resources by industrialized and industrializing nations often occurs at the expense of traditional ways of life of indigenous peoples and it is invariably at the expense of habitat for non-human species. The ‘blessing’ of material prosperity may seem a ‘land of promise’ to some, but it is exclusive of other humans, it is to the detriment of other species and it is an unfolding curse on future generations, human and non-human alike. The booming growth of resource consumption, including high dependence on fossil carbon, is a sure path to a future in which woes will increasingly engulf the Earth.32

5.4 Sin in society and in public discourse

Hardship, oppression and premature death remain a persistent part of human experience, and so does a sense that these arise because all is not right in the world. In some instances people feel accursed as the result of natural events without human cause. In other instances, curses are a consequence of human decisions which lead to suffering and destruction. In Christian tradition the human causes of such curses are probed using

32 For a major review of how Australia could play a responsible part in avoiding this scenario, see Ross Garnaut, “Garnaut Climate Change Review” http://www.garnautreview.org.au (accessed 12/07/2015)
the language of sin. A curse then may be thought of as a consequence of falling short of the creative possibilities with which humans are endowed, whether by failing to do something both possible and better, or by deliberate choice of paths known to have destructive consequences. ‘Falling short’ is the root meaning of hamartia or sin. Writing to the Romans, Paul expresses his own inner conflict as he falls short of what he believed to be right:

So I find it to be a law that when I want to do what is good, evil lies close at hand. For I delight in the law of God in my inmost self, but I see in my members another law at work, making me captive to the law of sin that dwells in my members. (Rom 7:21-24)

This quotation is set within a complex argument which explores the difference between living under ‘the law’ and living under grace through Christ. Brendan Byrne offers a reading in which the argument “provides the negative background against which to set all the more effectively the liberation that comes with life “in Christ”.33 Whether or not Paul is in fact describing his present experience, he expresses an intense inner struggle between good and evil and a clear sense of which is which. Today, people who feel conflicted as they try to discern between good and evil in the impact of human activity on the global environment may find the distinction far less clear. How the conflict may be resolved through Christ is also far from clear. Writing as a “well-off North American”, McFague could equally well be writing about all who live as beneficiaries of energy intensive societies. Knowing what is both possible and necessary for an ecologically healthy planet, but choosing something less is literally falling short. In terms of theology it is sin:

There is no direct connection between knowing the good and doing the good. This is what Christian tradition has called “sin” – being conscious of a better way and not choosing it. Moving beyond this paralysis is terribly difficult, especially when our culture rewards us for staying with a very different picture of who we are and what we ought to do. We do not have to commit active sins in order to contribute to the individualistic, greedy picture of human and planetary life that has resulted in climate change. All that we well off North Americans have to do is to live like everyone else around us is living. The Christian tradition calls this the sin of omission rather than the sin of commission, and in many ways it is more insidious because we don’t feel we have done anything bad.34

Even “knowing the good” and discerning “a better way” may be far from obvious, particularly when there is a desire to contribute to mitigation of climate change. As

33 Brendan Byrne, Romans, Sacra Pagina (Collegeville: Liturgical Press, 1996).224-230
34 McFague, A New Climate for Theology. God, the World and Global Warming.153
long as fossil carbon is the primary source of energy for an industrialized economy, it has environmentally damaging consequences at every level from putting food on the table to running heavy industry. Even to live in ways that otherwise promote the flourishing of life and avoid greed and waste there is likely to be no immediate choice but to use energy derived from fossil carbon. As far as dependence on fossil carbon is concerned, we gradually have been co-opted in. Over time we have reached the stage where opting out is wickedly difficult.

Conradie points out that contemporary theology tends to

…..view the power of evil as the result of an accumulation, magnification and institutionalisation of collective human wrongdoing, of insensitive decisions, unsustainable habits, and dangerous practices. This leads to societal structures which are unjust because they are used to enforce domination, exploitation and alienation.

He identifies “rampant consumerism” as a driving force of societal structures leading to social injustice and environmental devastation. Consumerism builds on and drives demand for energy which at present translates into demand for fossil carbon. Today it is abundantly clear that its ongoing use is an “unsustainable habit and dangerous practice.” Rampant consumerism is a way of life for a relatively prosperous minority of humankind, but its environmental consequences are likely to impact most on a much poorer majority. Consumerism fosters the individualistic and greedy approach to life which McFague sees as leading to climate change. As she points out, in rich countries and the better off parts of less prosperous ones, environmental sin may result from no more than unthinkingly going along with the flow of consumer-oriented culture.

In Christian tradition, the doctrine of original sin attempts to penetrate into the underlying causes of the struggle to discern what is right and the conflict between knowing what is right and failure to do it. Wiley traces the roots of this doctrine in Jewish Biblical thought, and then follows its evolution in the Christian scriptures and

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35 McFague contrasts rampant consumerism with ‘voluntary poverty’, practised in order to share the resources of the Earth more justly: Sallie McFague, Blessed Are the Consumers: Climate Change and the Practice of Restraint. (Minneapolis: Fortress Press, 2013).
37 ibid.4
church history. The Hebrew “inclination to do evil” (yester ha-ra) became “evil desire” (epithumia) in the Greek Christian scriptures:

For early church theologians, the burning question was not about the character of evil but of the need of Christ. What, they asked, makes Christ’s redemption universal? Why do all persons need Christ’s grace of forgiveness?

The ontology of evil, however, remained a pressing question and found its most enduring interpretation in Augustine’s writings in the 5th century CE. In Augustine’s writing, “disordered desire”, or concupiscence, is the consequence of change in nature due to original sin – expressed in Latin as peccatum originale originans. Augustine also believed this “disordered desire” to be passed on biologically, thus meeting the double requirement of establishing its universal character and affirming universal need for redemption by Christ.

The world-view of Paul and of Augustine was one in which a literal Adam and Eve sinned and set in train the woes which beset the creation in general, and humankind in particular. For many Christians today, too, a literal interpretation of this story is crucial to a whole edifice of theological understanding. However, it depends on a world-view which inhibits rather than facilitates conversation between Christian and contemporary scientific understanding of what it is to be human. Insisting on it makes public perceptions of the Christian doctrine of original sin seem so out of touch with how reality is widely perceived that it is liable to be dismissed entirely. Wiley asks:

Does the doctrine correspond with what is so? If the reality to which the doctrine refers is an historical Adam and Eve, the answer must be No. But if the reality is understood as the sustained unauthenticity of human beings, their alienation from the divine source of their existence, and the personal and systematic evils that issue forth from individual and collective unauthenticity, then, Yes, the doctrine does correspond with what is so. But this Yes is contingent. Rethinking the reality of human alienation and sin – its origin, root – requires a theological anthropology that attends to actual psychological and social experience. It

38 Wiley, Original Sin.
39 ibid.4
40 ibid.30
41 Peter Enns, The Evolution of Adam. What the Bible Does and Doesn’t say About Human Origins. (Grand Rapids: Brazos Press, 2012). Enns specifically addresses those who hold to the theological necessity of a literal Adam and Eve, and he argues that traditional theology of sin and redemption is as well supported by interpretation dependent on metaphor and myth.
42 McFadyen, Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin.18
demands a critical theory of history congruent with the dynamic evolutionary universe apprehended by modern science and history.\textsuperscript{43}

Augustine’s belief in biological transmission of original sin is not entirely contradicted by contemporary science. Selfish survival instincts, for example, have deep evolutionary roots and are at least in part inherited genetically. The inheritance of “original selfishness” offers a partial insight into human behaviours which may be interpreted as symptoms of original sin. Daryl Domning, in conversation with Hellwig, brings biological science to this approach.\textsuperscript{44}

Biological inheritance is a necessary part, but only a part, of the complex social and psychological factors which make up human consciousness and which at the same time both form and restrict human freedom. Murphy and Brown explore this frontier territory of the science and philosophy of the mind. They reject reduction of mental to physical states, and argue for an understanding of the mental “as pertaining to a higher-level dynamical system that is the brain in the body involved in interaction with the world, both physical and social.” This interaction is physical, with flows of energy, and also involves flows of information and it takes place in the immensely complex domain of the physical person and their total environment.\textsuperscript{45} Although the contemporary science of genetics and human consciousness does provide ever-deepening insights into human behaviour, it does so in ways which provide additional data for theological attention rather than supplanting theology itself.

McFadyen explores the societal and inter-generational nature of sin empirically and theologically.\textsuperscript{46} He does so using the Holocaust and child-abuse as extreme and devastating examples of social pathology. He then makes the case that reductionist understanding of pathological human behaviour in terms either of individualism or of social psychology is inadequate for the task. McFadyen insists that ultimately sin-talk is theological language: it is only when God is understood to be present and active in the world that it has theological meaning. “Sin-talk cannot survive testing unless it continues to function as a distinctive theological language, speaking of concrete pathologies in relation to God”.\textsuperscript{47} McFadyen argues that in public or church discourse sin-talk loses its integrity if used as a gloss for social psychology, like a temporary

\textsuperscript{43} Wiley, \textit{Original Sin}.107  
\textsuperscript{44} Domning and Hellwig, \textit{Original Selfishness. Original Sin and Evil in the Light of Evolution}.  
\textsuperscript{45} Murphy and Brown, \textit{Did My Neurons Make Me Do It?} 11  
\textsuperscript{46} McFadyen, \textit{Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin}.  
\textsuperscript{47} ibid.5  

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sticker attached to a document and removed at will. If public theologians are to make a distinctive contribution then:

This means constructing a conversation between theology and secular analyses in which the Christian theological tradition (in this case, its understanding of sin) participates on the basis of its own integrity. 48

Speaking directly on sin in public discourse encounters the difficulty that sin-language is commonly trivialized. It is acceptable to talk of it being a ‘sin’ not to buy this or that product or to enjoy something that might once have been a source of shame brought up in a confessional. Public theology is distinctive only if it adds to public discourse by maintaining the integrity of its Christian roots. The integrity of Christian theological tradition is more likely to be projected by the integrity of those enacting public theology, than by use of verbal logic internal to Christian tradition.

Conradie similarly emphasises that sin is primarily about relationship to God. “Sin is primarily a theological concept which describes our alienation from God and only secondarily refers to specific forms of moral behaviour.” 49 More than “sin-talk” is at stake. So too is speaking of God and of the sacred and the transcendent. Insistence on both the immanence and transcendence of God is necessary to prevent talk of God from collapsing into a manner of speaking which tends to secular discourse. 50 McFadyen chooses case studies which illustrate ways in which not only do perpetrators of manifest evil go down a path of damaged and increasingly destructive willing; significant parts of the society of which they are part do so as well. The dynamic of interaction between individuals and society results in a downward spiral of destructiveness. “...willing is not so much disempowered as ‘bent’ by a superior attractive force, pulling into the vortex of a pathological dynamic and oriented towards its service.” 51 When McFague says “All that we... have to do is to live like everyone else around us is living” in order to perpetrate the practices that are causing climate change, she is describing a slowly moving and less obvious pathological dynamic. It is a continuous process of habit forming and of dependence in which people are caught up in “the irresistible, logical drive or unpredictable drift of events” resulting in “subjection of subjective

48 ibid.12
50 McFadyen, Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin. 43,44
51 ibid.128
willing to the objective truth of ‘how things really are.’” The resulting perception of “How things really are” may serve adequately for a time in local and day to day affairs, but at the same time numb our willingness to engage with global and long-term consequences of how we live.

A sense of ‘how things really are’ which is dominated by, or even defined by, acquisition of material goods is seriously deficient when viewed in light of global justice and ecological health. William H. Becker uses the doctrine of original sin to expose and name as ‘ecological sin’ ecologically destructive ways of living. Like McFague, he sees ecological evil as so embedded in affluent societies that it is not only regarded as normal, but also as positively right:

How have we come to this place? Why do we socialize ourselves and our children, using the most powerful media of communication at our disposal, to want more and waste more, even though we know we thereby mortgage our future? We do this ecological evil because we believe it to be spiritually good. We do this because, looking at it from a carefully constructed social and economic perspective, we find fundamental spiritual meaning and satisfaction in it; it is our symbol of being "number one" and blessed by God.

No doubt there are those who see spiritual good and blessing from God in their successful pursuit of wants far beyond necessities of life. No doubt, for many others, neither spirituality nor God is in mind. Either way, Becker captures two themes recurrent in contemporary theology of ecological sin. It is socially perpetuated and it is idolatrous. McFadyen’s analysis of the insidious socialization which set the scene for the Holocaust is readily adapted to ecological sin by replacing ‘racial’ with ‘economic’:

Moral space was colonised by the criteria and standards of normative reference offered by technical-instrumental rationality. That incapacitated transcendent (supposedly non-objective) criteria of evaluation and left the regulation of moral space to the regulatory force of supposedly neutral, objective and value free dynamics, in fact already sequestered by and oriented towards those of racial (substitute ‘economic’) order.

McFadyen is here describing a tragic tendency to see the world in ‘left brain’ terms. Jonathan Sacks describes doing so as following the ways of Athens, rather than keeping

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52 ibid.117
53 Becker, "Ecological Sin."153
54 McFadyen, Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin.231
‘left brain’ insights in balance with the more ‘right brain’ ways of Jerusalem. Like the world-view which promoted a highly destructive notion of racial order and led to the Holocaust, the currently dominant neo-liberal world economic order also promotes a “normative reference” based on “technical-instrumental rationality”. In that order, economic growth as widely conceived at present is regarded as an “irresistible necessity” to human thriving. McFadyen argues that denial of the transcendent is a necessary part of subverting and redirecting people’s lives and energies to ends which reinforce destructive activities.

Acknowledging and working with transcendence operates at several levels. Global and intergenerational visions of reality and good transcend the limits and constraints of local or national politics and economics. They challenge the apparently “irresistible necessities” set by three or four year electoral cycles, annual economic reports and politically constructed portrayals of national interest. Beyond that, religious traditions insist that there is more than meets the eyes of imagination even of those with global and inter-generational visions. In Christian tradition the vision of life on Earth which transcends all others is the vision of the reign of God or kingdom of heaven in the synoptic gospels, and of eternal life in John’s gospel. In this vision love and self-giving reflect the glory of God as known through Jesus Christ. McFague emphasises how this vision represents God’s invitation to humankind to strive towards fullness of life on Earth:

God is radically transcendent and radically immanent: the one who is more awesome than all the galaxies in the universe and nearer to us than our own breath. This God is the One who invites all of us into community to live and flourish together as God’s beloved.

McFague’s vision is in stark contrast to the realities of a world in which human activity is having the opposite effect. Her vision is eschatological, and is a vision of hope that has its grounds in conviction of God’s love. The reality of this world is that the actions and attitudes that drive the world away from her vision go with rejection of God, or talk of God, altogether. The Christian understanding of sin needs to be recovered, translated if needs be, and given firm ecological application.

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56 McFadyen, Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin.231
57 McFague, Life Abundant: Rethinking Theology and Economy for a Planet in Peril.23
5.5 Ecological sin and denial of the image of God

Becker and McFague each identifies ecological sin as deeply rooted in ways of living and thinking which are widely accepted as perfectly normal but which have ecologically destructive consequences. Ecological sin may be latent, lying low and not causing too much problem to people’s consciences so long as knowledge of where it is leading the Earth is kept out of sight and out of mind. Ecological sin comes into focus when knowledge of what is happening to global ecology, including global climate, moves beyond intellectual awareness and is allowed to penetrate into everyday decisions of how to live. When writing to the Romans, Paul describes how knowledge of the Torah makes clear to him the awful reality of sin. He says of the law “I was once alive apart from the law, but when the commandment came, sin revived and I died” (Rom 7:9). Similarly, when knowledge of what is happening to global ecology as nature responds to human impacts is internalized, ecological sin becomes a living reality. That reality may appear so fearful that it too comes as a sentence of death, if not to the person so affected, then actually to people vulnerable to climate change now, and potentially to future generations. Paul’s rhetorical cry “Who will rescue me from this body of death?” (Rom 8:24) finds a contemporary echo in the question of how humankind may be saved in and through the unfolding consequences of climate change which may in time prove to be catastrophic. For those who look to Christ, the question then is: What meaning does salvation through Christ have in the Anthropocene?

The projected consequences of climate change under ‘business as usual’ use of fossil carbon are so dire that there is a widespread tendency to live in denial, or even outright deny the strength of the climate science. It is an ironic situation in an age where truth is often equated with scientifically verifiable facts of nature. Jon Sobrino writes that sin is about suppression of the truth. It is a distortion of reality that is justified as if it were reality:

To face and live reality in an adequate, human way, we need a “will” to truth; we must want to know the reality and not conceal it. That is the lesson of the New Testament tradition. It asks some existential questions, which are fundamental for today’s world: How can one not see the tragedy of this world, given the incredible amount of knowledge that is available? And it offers wise answers: we human

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beings, even after the enlightenment, often fall into culpable blindness; not only blindness but often concealment, hypocrisy, and manipulation.  

In Christian thought, Jesus of Nazareth makes known what it is to be fully human and to live truly as one made in the image of God. Sobrino describes Jesus as “‘enlightened’ with respect to God’s truth, a ‘master of suspicion’ about the ways that God is used”, exposing corrupt or distorted traditions. Although neither MacFadyen nor Sobrino writes of ecological sin as such, each identifies the functioning of will to be of critical importance to sin. A desire to live much like everyone else encourages willingness to avoid realities which challenge the wisdom of so living. The direction of will controls actions as much in determining ecological responsibility as it does within the particular social conditions which MacFadyen and Sobrino consider.

The questions “where is Christ?” asked by Moltmann after Chernobyl, and “where is God” asked by Sobrino after the El Salvador Earthquakes of 2001, are endlessly recurrent questions to all who seek Christ amidst the agonies of the world. Clive Marsh asks: “What motifs from the story of Jesus Christ should be we looking for?” and answers: “An overarching one is that of loving relationships which enable people to flourish as human beings.” Hall interprets the ‘image of God’ using an “ontology of communion” and suggests that we may discern God and the image of God wherever there are people and communities reaching out to the world with Christ-like insight and compassion. Two motifs from the story of Jesus Christ which are directly relevant to the world at this time of anthropogenic climate change are his exposure of those who wilfully suppress reality, and his compassion towards those who suffer. In today’s world, social reality and ecological reality are increasingly coupled, with each affecting the other. “Culpable blindness, concealment, hypocrisy and manipulation” of environmental knowledge have social consequences, one of which is the reinforcement of denial of ecological reality.

The story of Jesus Christ, in its historical context, is primarily about how people relate to each other and to God. This emphasis readily supports Hall’s interpretation of the ‘image of God’ as an “ontology of communion” amongst people and in their relationships to God. Sobrino discerns the Christ-like attributes of insight and

59 Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope.43
60 ibid.37
62 Hall, Professing the Faith. Christian Theology in a North American Context.218
compassion in the midst of people who suffer from a combination of natural disaster and oppressive social structures. He describes the suffering poor as a “crucified people”. When Sobrino asked “Where is God?” following the El Salvador earthquakes, he could have been writing about any number of disasters and especially those in poorly resourced countries. Although the occurrence of earthquakes is unaffected by climate change, Sobrino’s observations on their impact could equally apply to cyclones, droughts and other extreme weather events. Of a major earthquake, he observes that “All it needs is to strike a structurally poor country, and we can take as given that it will destroy mostly poor homes and injure mostly poor people.” Emergency assistance may flow to allow survival and possibly recovery, but the root causes of poverty do not change. Well off people and well-off nations do not lack knowledge of the suffering, but if it does not directly impinge on them that knowledge produces little change. “We live in a heartless world, in which Dives and Lazarus can live together and nobody cares.” Some people do care, and care sacrificially, but Sobrino makes the point that much more could be done to alleviate poverty than ever is done. The politics and economics of Dives, be he a person, a corporation or a nation, are such that his immanent interests take precedence over those of people with little political or economic power. They also may be easily ignored because of social or physical distance, or both. Contemporary media makes Lazarus ever near, and ignoring those he symbolizes more culpable. Sobrino reflects the theodicy question “does God want to alleviate suffering?” back onto humankind. He calls this “anthropodicy” and asks, “Do we want to, and can we?”

The unfolding and potentially disastrous situation arising from anthropogenic climate change repeatedly has been predicted to fall most severely on the poor in poorer nations which have few resources to mitigate its effects. National and international emergency responses will no doubt continue as climate change driven disasters proliferate, but will large numbers of climate-change refugees be welcomed in well-off countries? Pacific area international funding has provided desalination plant for parts of Tuvalu where water supply has collapsed due to climate change and sea-level rise, but who will provide a new home for the people of Tuvalu when disaster mitigation ceases

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63 Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope.49
64 ibid.56,57
65 ibid.61
66 ibid.26
Tuvalu and Kiribati have small populations, but what will happen to the far greater populations of the delta regions of Asia and drought-ridden parts of East Africa when population relocation becomes a matter of life or death? Who, and what nations, will support those able to stay and welcome those forced to move, and in so doing express God’s compassion and generosity?

Sobrino looks to the poor and suffering themselves to discern the presence of God:

To say it from the beginning, although it belongs more logically at the end: an earthquake forces Christianity to face the problem of God without easy answers to solve it. But in a mysterious way, that same God is bearing the burden of the earthquake. The earthquake expresses the reality of God, no longer as power but – scandalously – as solidarity, love and hope.

The mystery of whether “God wants to alleviate suffering” and why God allows it in the first place defies logic, but points to the suffering of Christ. Sobrino writes of the poor and marginalized as “The Crucified People”, those who are, like the Suffering Servant of Isaiah, despised and rejected (Isaiah 53:3). When disasters strike communities, people show care and solidarity towards one another. Sobrino describes this as “primordial saintliness”:

What we call primordial saintliness is the will to live and to survive amid great suffering, the decision and effort that it requires, the unlimited creativity, the strength, the constancy, defying innumerable problems and obstacles. Even in the midst of catastrophe and daily hardship, the poor and the victims – especially the women, and their children – put into practice and fulfil with distinction God’s call to live, and to give life to others.

Wilful ignorance of the ecological consequences of how we live, and of the consequences for those who suffer in this and in future generations, lies at the heart of ecological sin. Living in ecological sin denies the image of God in several ways. Acting like Dives who ignores Lazarus, metaphorically stepping over him by remaining unmoved by the abundant media images of disaster and poverty, is to deny the image of God in those who suffer as well as in oneself. The utopian ideals of the UN Charter of human rights ascribe dignity to all, and Christian belief sees this dignity as arising from being made in the image of God. However, as Sobrino observes:

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68 Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope.24
69 Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope.73
Let us be clear: that all human beings possess equal dignity and come into the world with the same rights is hopefully true as a utopia that might be realized as an end result of humanization in history. But in the present historical reality it is absolutely false to say that we all have the same rights; the way to that humanization is not even visible on the horizon – although by speaking of equality we may be able, in some small way, to avoid giving more power to those who threaten the life of the poor. It is good to declare equal rights as a utopia, but not to act as if it were true.\(^\text{70}\)

In the Gospel according to Matthew, Jesus self-identifies with the poor and suffering, commending those who do show practical care. “Truly I tell you, just as you did it to the least of these who are members of my family you did it to me.”\(^\text{(Matt 25:40)}\) In that the poor and suffering represent the image of Christ, they also represent the image of God.

Biblical references to the ecological context of the story of Jesus reflect how nature was experienced and interpreted in Biblical times. The natural environment and its creaturely inhabitants were understood to be created and cared for by God, and the forces of nature were instruments of God’s mercy and judgment and demonstrations of God’s power. They do not see the image of God in non-human nature, nor do they identify an “ontology of communion” between humans and non-human nature. However, contemporary science reminds us of how intimately humans are part of the totality of nature. Is it then possible to find and to affirm or deny the image of God in all of creation, and in the interdependence between all of creation and humankind? If so, how is that image denied by the curse of environmental destruction which, whether directly or indirectly, is to a large degree the consequence of massive use of fossil carbon? Richard Bauckham\(^\text{71}\) writes of the “desacralization of nature”, drawing on traditions which see nature as sacred, a sign of God’s creative grace. All creation “worships” God\(^\text{72}\) at least in the sense that to those who will so hear or see, nature proclaims God’s worth. As the psalmist puts it, “The heavens are telling the glory of God; and the firmament (God’s) handiwork” (Ps 19:1). Bringing together evolutionary science and theology suggests an even stronger way in which nature speaks to us of God. Judaeo-Christian tradition identifies the image of God as uniquely vested in humans, but humans have evolved within and remain an interdependent part of the totality of nature. Embryonic humankind has had an exceedingly long gestation period.

\(^{70}\) ibid.59
\(^{72}\) ibid.49
as part of evolving life on Earth. The monistic understanding of humans, which is found in science-theology discourse, sees the human capacity to relate to God through reflective consciousness as having evolved within human culture. In that vision, the human soul is not a separate entity uniquely breathed into primal humans by the Creator but, instead, speaking of soul speaks of human capacity for relatedness – including to God – created through evolutionary processes. So interpreted, the image of God in humans existed in embryonic form shared with all of nature. All non-human living creatures are then ‘family’ sharing in various degrees of common ancestry, a common planet Earth, and an uncertain common future.

Humankind has been endowed with extraordinary creativity within the communion of the self-creating creation. Ecological sin is action without grace – dis-graceful action – towards other creatures, both human and non-human, impairing the creative matrix on which future life on earth depends. There is, however, much ambiguity in human impact on the wider natural world. The boundaries between blessing and curse are far from clear as large numbers of humans aspire to live healthier, more supported lives. Are we able to draw boundaries between the blessings of the gift of human life – of seven billion human lives and rising – and the desires for a better supported life, and the curse of environmental destruction which is taking place?

5.6 The ambiguity of curse and blessing

The blessings of land, victory and prosperity promised to Israel in Deuteronomy 28 were explicitly conditional on Israel’s obedience in covenantal relationship with YHWH, and implicitly a curse for those they were to displace. The ambiguity of blessing and curse, possession and dispossession, has been an inextricable part of migration involving conquest throughout human history. For the Israelites promises of blessing were accompanied by warnings of curse if they failed to obey. In the subsequent narratives in the Old Testament, as failure to obey led to loss of blessing, the curses took hold. “Israel’s blessings of land are, in fact, the site of greatest grief when idolatry and injustice pervert those good gifts.”\(^\text{73}\) The stories of blessing and of curse on the Israelites carry warnings applicable to humankind in general. Curses arise from misuse of blessings flowing from the bounty of creation received as gifts from God. Curses also follow the misappropriation of power and wealth by means which most

\(^{73}\) Johnson, "Blessings, Curses, and the Cross." 88
religious traditions condemn. Such “ill-gotten gains” are not gifts from God misused, but were never gifts from God. Whether the curses come from good gifts misused, or sheer greed, as McFague sharply puts it: “It is notable that none of the world’s major religions has as its maxim: ‘blessed are the greedy’.”

Today the urge for elements within humankind to seek and sequester privilege, power and control remains as strong as ever. The last century has been a century of wars and political intrigue in which securing fossil carbon resources has played a large part. Today, the ‘promised land’ is more an energy-intensive strand of the global economy at present substantially powered by fossil carbon than any particular location. The nations of the world range from those which are prosperous but where there is still some poverty to nations struggling with poverty where a small minority of people prosper. This energy-intensive ‘promised land’ is dominated by a global economy which encourages growth in consumption on a scale which, if shared globally, is well beyond Earth’s carrying capacity. For those who are marginal participants in it, the experience of blessing flowing from fossil carbon is more limited, with at best a measure of improvement in health, transport and communications. However, if they are urbanized, they are liable to the hazards of industrial pollution, uncertain employment and of living in crowded slums on the edges of the world’s mega-cities. If they live in rural settings, they may be subject to uncertain land tenure or exploitative tenancies, uncertain income as decisions made far away affect the value of cash crops, as well as the inevitable uncertainties of weather. For others, even traditional pre-industrial ways of living are collapsing under population pressures, climate change, and loss of traditional lands to mining and agribusinesses. The fossil carbon that enables numerous benefits for at least some of humankind fuels the machines of war used to defend their energy-intensive economies. Those who occupy positions of energy privilege commonly assume a lifestyle which is literally displacing other people from their homes as climate change takes hold. It is also denying a future to many other species, whose share of this Earth home is diminished through habitat loss. The blessing of possession of this ‘promised land’ of high energy dependence is overshadowed by modern versions of the curses that afflicted and accompanied the Israelites long ago. There are curses on the privileged themselves as a result of greed and injustice, curses on those treated unjustly, curses on people and on non-human...

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74 ibid.88
75 McFague, A New Climate for Theology. God, the World and Global Warming.82
species who are being dispossessed and displaced, curses of war and threats of war, and
curses on the very land and air on which all depend.

The inseparability of blessing and curse may be taken as a result of the
inseparability of human potential for grace and self-sacrificing generosity and for
selfishness and greed. Humankind is indeed both homo sapiens and homo demens.
Blessing or curse flows from how humans relate to each other, to the rest of the
creation, and to God. However, just as relationships are often complicated and
ambiguous so too are blessing and curse. They are particularly ambiguous in how
humans live on earth and the affects that is having on the global environment. Conradie
links “environmental devastation” to human sinfulness:

I have argued above that it is important to acknowledge that suffering, violence,
decay, death, and the extinction of species formed an integral part of nature from
the very beginning. At the same time, an emphasis on natural suffering associated
with human finitude may lead to a dangerous under-estimation of the seriousness
of the human predicament. The suffering and death that forms a necessary part of
creation is radicalised by the inexplicable and devastating consequences of the
emergence of sin. Environmental devastation is primarily the product of human
sin. After the fall, suffering as a result of the vulnerability that spatial finitude
entails, has become inseparable from the impact of sin. Some may even argue that
it has become negligible. Indeed, even the destruction that is nowadays caused by
the weather may be the result of human interference and therefore of the pervasive
contamination of sin. The notion of a "natural" disaster may soon sound like
nostalgia for a lost cosmos!  

There are issues here needing to be probed more deeply. Conradie makes it clear
that suffering, violence, death and extinctions are integral to the creative processes of all
things living. It is hard to imagine how humankind could have expanded to seven
billion without environmental consequences which are devastating for many other
creatures. No doubt those consequences could have been less devastating in the past,
just as they could be today, if human affairs were managed with greater environmental
awareness and care. That, however, is a matter of degree. When does the inevitable
environmental modification which humans cause become environmental devastation
which is “primarily the product of human sin”?

Conradie argues that “Sin is primarily a theological concept which describes our
alienation from God and only secondarily refers to specific forms of moral

76 Conradie, "Towards an Ecological Reformulation of the Christian Doctrine of Sin.”20-21
behaviour." Taking the ‘fall’ to be a way of speaking of the emergence of sin during the evolution of human culture and awareness of divine transcendence, the possibility of conscious relationship with God allows the possibility of rupture of that relationship. This possibility is captured in the story of the ‘fall’ in Genesis 3, where humankind’s woes arise from knowledge of good and evil. Specific forms of environmental moral behaviour may be more ambiguous. Entering the ‘promised land’ of abundant energy offered by coal, oil and gas sets in train human dependencies, aspirations and economic structures which have brought blessing and cursing, including greatly accelerated environmental devastation. The myriad of decisions made during this process include those made in knowledge and ignorance, in good conscience and bad, and for the most part utilitarian. When does environmental modification caused by use of fossil carbon become “devastation which is primarily the product of human sin”?

Recognizing the ambiguity of blessing and curse surrounding issues of human population, energy use and environmental destruction cannot be an excuse for indecision on how we live on earth at this present time. What, then, has Christian belief and faith in Christ to offer this crowded and unstable world in which humans too often fail to live peaceably with each other and in which humans increasingly determine which species will survive and which ones will be driven to extinction? One response which is recurrent in ecotheology is to contextualize sin and salvation ecologically. How we think of ecological salvation depends on how we think of ecological sin. Conradie insists that:

The problem lies not outside but inside ourselves, not in the ecosystem but in the human heart, in the collective psyche. What is therefore required is a fundamental change of orientation, in Christian terms a metanoia. This implies that an ecological reformulation of the doctrine of sin is only possible if coupled with an adequate soteriology.78

Ecological soteriology is manifest in individual lives and in communities which are changing from ecological destructive ways to ways which are ecologically healing and promote the blessings of flourishing life. McFague, like Conradie, calls for a change in mind, a metanoia, or ecological conversion. “In order to begin to act differently, we must submerge ourselves in a different view of who we are.”79 At the level of self-

77 ibid.13
78 Conradie, "Towards ecological Reformulation of the Christian Doctrine of Sin."22
79 McFague, A New Climate for Theology. God, the World and Global Warming.15
understanding, this requires ecological literacy and conviction which arouse an ecologically informed life-orienting awareness of who we are within the interdependent web of life on Earth:

An ecological anthropology is neither an esoteric knowledge for specialists nor a sentimental plea to “love nature”. Rather it is the truth about who we are – the best truth, at least, that we presently have. . . . Instead of the only ones who matter, we have become the caretakers of everything else.\textsuperscript{80}

The need for an ecological anthropology and ecological re-orientation is common ground in ecological discourse, whether it has scientific, religious, or other foundations. McFague brings a distinctively Christian understanding of how such an ecological metanoia may be formed:

Jesus did not live in order to die; rather, he died in order to live – in order that all of us might see a new way to live. His suffering was in order to open our eyes to the way of the cross, the way in which we all must live so that creation may flourish. The death of Jesus says to us that living in solidarity with others, even when it involves sacrifice and suffering, is the only way to life.\textsuperscript{81}

The solidarity of which McFague writes is the solidarity which Sobrino finds amongst the poor, particularly in times of natural disaster, but which is so often tragically absent when the Dives’ of this world disregard Lazarus as they come and go from energy-intensive, well supported homes and places of work.\textsuperscript{82} Referring to the same parable, Johnson notes that:

Although “Woe to you rich” is found in only one Gospel, cautions about the dangers of wealth abound in the NT. Insofar as receiving blessings may put one into a position of power, clinging to that power and claiming it as one’s own inverts the logic of blessing. Nothing in Luke’s story suggests that the wealth of the rich man who neglected Lazarus was ill-gotten. But his using it for his own comfort and neglecting the needs of the poor man at his door means that only a fool would call that wealth a blessing.\textsuperscript{83}

The Lazarus referred to by both Sobrino and Johnson is symbolic of today’s fellow humans who suffer in poverty and for whom the blessings of the carbon economy are slight and the curses great. Interpreting the parable ecologically, Lazarus also becomes symbolic of all creatures which live in environmental poverty as a result of human

\textsuperscript{80} ibid.58,59
\textsuperscript{81} ibid.39
\textsuperscript{82} Sobrino, \textit{Where is God? Earthquake, Terrorism, Barbarity and Hope}.59-61
\textsuperscript{83} Johnson, "Blessings, Curses, and the Cross."96
excess. A Christian ecological *metanoia* draws people into Christ and “to the way of the cross, the way in which we all must live so that creation may flourish”\(^{84}\)

Pragmatically the problem is how to achieve transformation of global human activity in all its immense diversity from the present level of dependence on fossil carbon to a greatly reduced level. Unless transition away from dependence on fossil carbon is effective, rapid and smooth, the full force of the power of fossil carbon as an agent of curse will be felt. Any such transformation will be self-defeating if it leads to widespread chaos in human affairs and results in conflict and struggle for survival. When human affairs are chaotic, environmental concerns take a distant second place. As in the last days of Jerusalem under the monarchy, those who hope to continue business as usual may hear and see but really are blind, cannot understand and deny the imminent danger (Isaiah 6:9-10). Ecological original sin is evident when people and societal structures promote living in the present, the short-term, with no vision or compassion for life to come and, at a deeper level, deny transcendence. A theology of ecological sin must squarely face the sacredness of all life, including life of all humans. It therefore must face the massive tension between immediate human interests and the long-term goal of humankind thriving alongside other species in a context of planetary ecological wellbeing. The future of fossil carbon and its ambiguity as blessing and curse lie in the midst of this tension.

Chapter 6
Profits, Prophets and False Prophets.
Denial and Climate Change

6.1 Prophecy and denial

Climate change is a looming curse, even for those of us who live with the material blessings that come with an energy-intensive economy. Warnings which call for radical change in how we live are not well received. So far only a few communities well away from the centres of global political and economic power experience this developing curse as unambiguously immanent and life-changing. When separated by space and time from life changing climate change it is tempting to deny, or at least to live in denial, of this curse. Prophetic figures who hear the voice of the creation mediated by climate scientists tell forth the signs of the times and warn of a difficult and challenging future. They proclaim a *kairos* time, a passing opportunity for radical change in hope of a better future. Those who oppose them sow doubt and confusion about what the earth is saying and envisage the future in ways which justify ‘business as usual’. In turn, business as usual depends for its growth and profitability on abundant, low cost energy from fossil carbon.

We are far removed from the religious and geopolitical realities of Israel in the period leading up to and during the Babylonian exile. Nevertheless, the words of prophets from that time express enduring themes of judgment and of hope. Northcott’s *A Moral Climate* provides one example of how the words of the prophets may be used today. Each chapter opens with a quote from Jeremiah which expresses a universal theme. One relevant example is quotation of Jeremiah 16:10-12 at the start of chapter 4 on “Climate Economics”.¹ In the quotation, the people ask “why has the LORD pronounced all this great evil against us?” It concludes: “here you are, every one of you, following your stubborn, evil will, refusing to listen to me.” The chapter is developed using the theme of wilful blindness. The text then functions as a window through which to explore contemporary issues.

¹ Northcott, *A Moral Climate: The Ethics of Global Warming*. 120
Raymond Fung uses a different approach. He draws on visions of justice and wellbeing from Isaiah, which he then applies in a more direct way to contemporary issues. Referring to Isaiah 65:20-23, he proposes an “Isaiah Agenda” for congregational mission:

What is the Isaiah Agenda? It is concrete and clear in its objective. It specifies:

- That children do not die;
- That old people live in dignity;
- That those who build houses live in them;
- And those who plant vineyards eat the fruit.

Our intention is to get involved with people, to work together for the Isaiah Agenda and in the process make sense of Christianity to those who are not interested in Jesus Christ.² Fung does not appear to engage in any in-depth exegesis. His use of the text is shaped by his Agenda. Fung’s direct approach may be extended to how parts of humankind react to today’s knowledge of the causes and consequences of climate change. Isaiah’s words of rebuke to those who neither would hear nor see what was going on around them may be applied to how scientific understanding of climate change and its human and environmental consequences often are received today:

Go and say to this people: ‘Keep listening, but do not comprehend: keep looking, but do not understand.’ Make the mind of this people dull, and stop their ears, and shut their eyes, so that they may not look with their eyes, and listen with their ears, and comprehend with their minds, and turn and be healed. (Isaiah 6:9-10)

The inability to see and listen clearly, and to act accordingly, is a mark of homo demens. Theologically it is an expression of sin and of broken relationship with God.

There is a large conceptual gulf between today’s scientific understanding of global ecology and ecological wisdom found in the Bible. Nevertheless, a range of ecological hermeneutics has been developed to bridge that gulf so that biblical ecological wisdom may be interpreted and brought to bear on today’s ecological woes.³ Conradie describes hermeneutics as “best understood as a systematic and disciplined form of second-order

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³ Horrell et al., *Ecological Hermeneutics. Biblical, Historical and Theological Perspectives*. 193
reflection on the praxis of interpretation.”

Brendan Byrne cautions that a Biblical text may not be concerned with ecology in any contemporary sense, but hermeneutically:

we are engaging with it from a wider horizon of discourse, informed by the concerns peculiar to our own time, notably the global situation.

Direct application may not be exegetically justified, but principles may be identified and applied by analogy, using the “analogical imagination” which Tracey develops. Habel’s “Six Ecojustice Principles” are an example of this approach.

In order effectively to shape an ecological hermeneutic Conradie insists that “a retrieval of the ecological wisdom in the Biblical traditions has to be doctrinally comprehensive”, rather than a simple use of texts about relations between people and the natural world. Biblical tradition may then be used to bring themes of redemption and hope to the fearful, as well as rebuke and judgment where there is ecological deafness and blindness.

Despite the differences between now and then, Isaiah’s words have a contemporary ring because those to whom he was called to speak were living in a state of denial in the face of destructive social practices and pending disaster. They were in denial about the importance of care for the poor and needy and about their idolatrous practices, both of which were symptoms of failed relationships within their community and with YHWH, their God. They were also in denial about potential disaster at the hands of Assyrians and Babylonians, which Isaiah saw as coming judgment. Denial had become a way of life, making them increasingly unwilling and unable to grasp the gravity of their situation and to respond appropriately to it. In Australia today, as atmospheric carbon dioxide content rises above 400ppm (parts per million) and evidence of global

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4 Conradie, "What on Earth is an Ecological Hermeneutic?." 296
5 Byrne, "An Ecological Reading of Rom.8.19-22: Possibilities and Hesitations." 83
6 Tracey, The Analogical Imagination. Christian Theology and the Culture of Pluralism.referred to in Conradie, "What on Earth is an Ecological Hermeneutic?." 300
7 Habel, Readings from the Perspective of Earth. 24
8 Conradie, "What on Earth is an Ecological Hermeneutic?.
9 Charles David Keeling, "Record 400ppm CO2 milestone 'feels like we're moving into another era', Guardian Environment Network (2012), http://www.guardian.co.uk/environment/series/guardian-environment-network. (accessed 16/05/2013)
warming and consequent climate change relentlessly accumulates, there is a persistent gulf between the warnings of climate science and the levels of public response.\textsuperscript{10,11}

Isaiah’s words have direct application today to those parts of humankind which enjoy the benefits of an energy-intensive economic order. We live in varying degrees of ignorance and denial of how our riches in part depend on oppression and poverty of others. Pursuit of material prosperity and short-term gratification readily excludes reflection on life’s deeper meaning and becomes idolatrous. In the end, our current reliance on fossil carbon, on which the riches largely depend, threatens us all. Even where there is knowledge, the will to change the situation is often sadly lacking.\textsuperscript{12} As in Isaiah’s day, warnings of the collapse and loss of cherished ways of life are too hard to bear and fear becomes submerged in the demands of everyday living.\textsuperscript{13} Ordering of life with humility and restraint as a responsible part of the total creation is readily postponed or set aside in pursuit of narrow visions of economic growth. Reflection on the mysteries of our very existence barely registers in public policy debate.

Isaiah’s prophecies were set in a context of social and political issues which are ongoing features of human history – poverty, riches and conflict amongst nations. In this present time of unprecedented globalization and human environmental impact, caring for the earth and justly sharing its resources remains an elusive ideal. Climate change is already making it more elusive as predictions that it will make many places uninhabitable are already beginning to be realized.\textsuperscript{14} Predictions of the likely displacement of millions of people due to climate change are clear and convincing amongst climate scientists themselves and are being taken very seriously by some who can and do hear. However, the ‘business as usual’ direction of global use of fossil carbon is symptomatic of widespread living in denial that seriously disruptive climate change is already upon us, and that it is on track to become far worse, even within the lifetime of today’s children. Living in denial is not necessarily the same as outright,

\textsuperscript{11} Hamilton, \textit{Earth Masters. Playing God with the Climate}.5,8
\textsuperscript{12} Sobrino, \textit{Where is God? Earthquake, Terrorism, Barbarity and Hope}.43
\textsuperscript{13} Norgaard, "We Don’t Really Want to Know". Environmental Justice and Socially Organized Denial of Global Warming in Norway."and ———, \textit{Living in Denial. Climate Change, Emotions, and Everyday Life}.
spoken denial that climate change driven by human activity is occurring. Each, however, supports inaction or responses far short of what is necessary to prevent extensive, dangerous change.

Those whose homes and livelihoods are already threatened by climate change speak with the unique authority which comes from direct experience of suffering. Their minority voices may be heard but then effectively are ignored by those who drive the economies of the dominant nations of the world.\textsuperscript{15} For those of us who live in energy intensive economies in which the direct impact of climate change is so far relatively minor, speaking with authority requires inter-disciplinary awareness. It also requires awareness of what is already happening to vulnerable communities in other parts of the world. The growing body of data from scientific observation, and how it is interpreted, is mediated in the first instance by climate scientists, through reports aimed to inform the public and public policy makers. How it is then received takes us into the vastly more complex domain of human affairs, where economics, social psychology, national and international politics, ethics, environmental concerns and much more are at play. The domain of human affairs is profoundly influenced by modern equivalents of the ‘principalities and powers’ which the early Christians resisted and understood Christ to have overcome.\textsuperscript{16} The Roman Empire and spiritual powers behind it have been replaced by other forms of economic and political empire, replete with visible and invisible networks of power, influence and control. Whether Roman or contemporary, these imperial powers shape public perceptions of reality, affirming their own interests.

Biblical prophets were first and foremost spokespersons for God. They interpreted what was going on around them in terms of God’s covenantal relationship with Israel, and Israel’s failure to live in covenantal obedience. From their perspective they were publicly telling it as it really was, in terms of the deepest reality they knew. For Christian faith, Jesus incarnates the deepest realities of relationship between people and God. The prophets suffered rejection, and so too did Jesus. The truths which they told and lived out were confronting and, for many, too hard to hear. To be true to Biblical

\textsuperscript{15} The nations of Tuvalu and Kiribati are already seriously threatened by climate change, and their voices were emphatically heard at the 2009 Copenhagen Climate Conference. See, for example John Vidal, “Copenhagen talks break down as nations split over ‘Tuvalu’ protocol”, http://www.guardian.co.uk/environment/2009/dec/09/copenhagen-tuvalu-protocol-split. (accessed 13/03/2015)

traditions of prophecy, prophetic ministry today also speaks from the deepest reality known. For Christian faith, that reality is God known in Jesus Christ, and it is interpreted as Christ’s presence in and to the realities of everyday life.

Today, telling uncomfortable and ‘inconvenient’ truths about our reliance on fossil carbon lays foundations for theologically informed prophetic ministry which addresses climate change. Those who speak out can, and do, face hostile reactions, denial, character assassination, and even death threats. The name ‘prophet’ may or may not be appropriate for climate scientists and others who speak out: that is a matter of definition.¹⁷ They are, at the very least, in the company of prophets, and they encounter the opposition that prophets expect to meet. They speak out of the scientifically tried and tested reality of what the Earth is saying. They speak into a culture of complex interests and contradictions, where Enlightenment thought elevates science to god-like status. They then find that status abandoned when science contradicts the ‘principalities and powers’ in their pursuit of wealth and power.

6.2 Contending for the authority of science: sowing seeds of doubt

Because the present phase of global climate change is primarily driven by human activity, it is in human power to contain it, at least to some extent. Action, or inaction, has predictable consequences for human and all life on earth. Markus Vogt identifies its strong ethical content: “Global climate change is, primarily, an anthropogenic phenomenon. So, from an ethical point of view, it has to be classified not as a result of fate, but as a question of justice.”¹⁸ However, in Australia, as in the USA and more widely, perceptions persist that global warming, if it is indeed occurring, is a natural phenomenon unrelated to human activity. Reducing use of fossil carbon would then have no effect on climate change, but large-scale geo-engineering projects could counteract it. Such perceptions fit well with the illusion that we, in energy intensive carbon-based economies, are doing nothing wrong. Faith in our technological prowess tells us we should be able to find ways of overcoming natural climate change if and

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when nature proves hostile. Seeds of doubt about the validity of what climate science is telling us have been sown, taken root, and are producing a flourishing crop. Where these doubts flourish, urgency to act is delayed or lost, and with it ethical imperatives for doing so.

Contests to control what people perceive as truth to live by have taken place throughout the history of civilizations. Such contests find Biblical expression in Jesus’ parable of the sower who plants good seed in a field, and then finds someone else has planted weeds amongst it (Matt 13:24-31). It is an ageless story about that which is good and enduring growing intermingled with that which is ultimately worse than useless and destined for destruction. As the weeds and wheat grow together, pulling out the weeds without uprooting the wheat is not possible. In the end when the crops mature the difference will be clear. God’s messengers will sort the wheat from the weeds, and burn the weeds.

This parable of the sower invites retelling as a parable about climate change. Such a re-telling engages an ecological hermeneutic, which Santmire describes as “not in terms of God and humanity over against nature, but in terms of God and humanity with nature.” Biblical stories still speak to us today, sometimes directly and sometimes with figurative interpretation, because of enduring patterns in how humans relate to each other, to the rest of the creation and, for those who believe, to the Creator. Scott Bader-Saye makes this point when he observes that:

The capacity of figurative interpretation to reveal truth about God and the world rests in the belief that God is, in fact, guiding human history, and therefore the figurative connections are not arbitrary but are evidence of a divine pattern of activity.

The seeds sown by climate scientists over several decades have been tended and watered into a firm and prolific crop of climate science knowledge. During the same time, others have set about sowing seeds of doubt. For many in the public, there is confusion about what is growing in the field because the two sorts of plants look similar – just variations of ‘uncertain’ science. Each sort of plant has its advocates, claiming

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21 Scott Bader-Saye, *Following Jesus in a Culture of Fear* (Grand Rapids: Brazos Press, 2007), 82
their crop represents scientific reality and advising the public to look to it for healthy policy development. The weeds make few demands, but the wheat will require labour and processing in order to sustain life. In the end, the creation itself will be God’s messenger, sorting the true from the false.

Paul and Anne Ehrlich identify the sowing of seeds of doubt about climate science as part of a wider backlash against ‘green’ policies. They refer to this backlash as “brownlash”:

While it assumes a variety of forms, the brownlash appears most clearly as an outpouring of seemingly authoritative opinions in books, articles, and media appearances that greatly distort what is or isn't known by environmental scientists. Taken together, despite the variety of its forms, sources, and issues addressed, the brownlash has produced what amounts to a body of anti-science—a twisting of the findings of empirical science—to bolster a predetermined worldview and to support a political agenda. By virtue of relentless repetition, this flood of anti-environmental sentiment has acquired an unfortunate aura of credibility.  

The Erhlichs write in the context of the USA, where denial of climate change science is so entrenched and politicised that it is the official position taken by the Republican Party. Their description of “brownlash” also is a good description of what is happening with denial of climate science internationally. Northcott, for example, describes how oil interests working with backing of the Canadian Fraser Institute, lobbied British parliamentarians as soon as the IPCC released its Fourth Assessment Report in 2007. The message to the politicians was clear – any evidence for climate change was questionable, and if it is happening, it is probably natural. In Australia, Ian Plimer’s book *Heaven and Earth* is an influential example of writing which gives an “unfortunate aura of credibility” to climate change denial. Plimer’s understanding of climate science and his arguments that any climate change occurring is unrelated to fossil fuels have been comprehensively refuted by Australian specialists in climate science. Nevertheless, to a general reader his book presents as extensively

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22 Paul R Ehrlich and Anne H Ehrlich, "Brownlash," *Humanist* 56, no. 6 (1996).21
23 Fraser Institute, www.fraserinstitute.org/ The web site states its goal to be “a free and prosperous world through choice, markets and responsibility.” (accessed 29/05/2013)
25 Plimer, *Heaven and Earth*.
27 My assessment of Plimer’s work is that he writes as a geologist, correctly observing that climate change has occurred often in geological history. However, he fails to understand the
researched and authoritative science. It has a wide readership and has been reprinted several times. It is one of the many influences undermining acceptance of climate science in Australia. Denial reached particular prominence when Tony Abbott, then as leader of the Liberal-National opposition, is reported to have described the science underlying climate change as “crap”.

The “outpouring of seemingly authoritative opinions” to which the Ehrlichs refer may be thought of as a contemporary version of the false-prophesy described in the Hebrew Scriptures. These false prophesies are words which play into people’s hopes and fears in times of crisis, downplaying the need for radical change in individual and communal behaviour and denying the seriousness of what is likely to lie ahead in the future. They are also words which may originate in institutions and amongst people who have strong vested interests in not making changes. Michael Mann, who is a climate scientist with high public profile, is one of many who see the articulate, well-funded and apparently authoritative public denial of climate change as part of a wider movement disseminating public disinformation backed by interests whose products and activities are under scrutiny for causing public harm. As the threat of climate change and calls for fossil fuel reduction became clearer in the 1980s, vested interests responded by forming the Global Climate Coalition (GCC):

Formed in the late 1980s, the GCC was a consortium of more than fifty companies and trade associations . . . . . with the purpose of funding and organizing opposition to emerging policy efforts aimed at greenhouse gas emission reductions. . . . . The GCC itself was disbanded in 2001 following the defection of prominent members such as British Petroleum.

Mann notes that some publicly listed companies such as BP withdrew from the GCC because of concerns about their environmental credentials. However, private foundations and industries, some with billion dollar budgets, continue to fund influential ‘think-tanks’ which present the public and the media with climate-change denial information which claims to be both authoritative and well-researched.
these sources and channels of doubt are based in the USA, but their influence and the influence of similar activity in other nations is felt internationally.  

One tactic used to cast doubt on climate science is to target the integrity of climate scientists themselves. Mann himself had his emails hacked and their content misrepresented in a concerted effort to discredit climate science prior to the Copenhagen Climate Conference in December 2009.  

Attacks on his academic integrity expanded to personal harassment and threats against him and his family. Similar threats and attacks on climate scientists appear to be widespread and have also occurred in Australia.  

What is happening to the Earth is deeply threatening and, as when Isaiah prophesied about threats to his people, alternative false prophesies of peace when there was no peace are willingly received. From Moses to Jesus and the early church, the story of prophecy is remembered as a story of rejection of the message and persecution of the messenger (Matt 23:29-36). As the writer of Ecclesiastes noted, “There is nothing new under the sun” (Eccl 1:9).

In public debate about climate science, those who question its main findings and predictions typically identify themselves as ‘climate sceptics’ and avoid or disown the label ‘denier’. Scepticism is scientifically commendable and even virtuous, but denial is neither. Claiming to be a ‘climate sceptic’ is an attempt to claim the authority of a scientific attitude in a culture where speaking with the authority of science is given the status once given to speaking in the name of God. Climate sceptics express their suspicion of the abilities and motivations of climate scientists in order to garner support for rejection of climate science and its predictions of a future to be feared. Bader-Saye observes that “suspicion can look very much like a virtue when people are afraid.”

Carefully holding back from commitment to new insights into the workings of nature while more evidence comes in is indeed an important part of scientific work. That is scientific scepticism at work. It is part of an intentional journey towards reaching a level of confidence where credible advice may be given to shape public

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32 Houghton and Tavner, In the Eye of the Storm. An Autobiography. 182-191 Chapter 16 “Dirty Tactics” recounts the nature and impact of attacks on the work of the IPCC. See also Hamilton, Earth Masters. Playing God with the Climate.95
33 Mann, The Hockey Stick and the Climate Wars. Dispatches from the Front Lines. Chapter 14 “Climategate: The Real Story” 207-232
34 ibid. 227-232
36 Bader-Saye, Following Jesus in a Culture of Fear.33
policy or to invest in technological developments. In contrast, denial means that no matter what the evidence, it will be rejected if it does not agree with preconceived ideologies or beliefs.\textsuperscript{37} Washington and Cook\textsuperscript{38} write as scientists practising in climate and related fields. They insist on this fundamental difference between scepticism and denial and they repudiate the use of ‘sceptic’ by those who continue to question the main findings of climate science.\textsuperscript{39}

For Washington and Cook and the great majority of climate scientists climate science has reached the stage of refinement where sceptical questioning of its broad parameters, and many of its details, is no longer either productive nor is it justified. From this perspective, a good approximation to what really is going on in nature has been achieved with high probability, and to say otherwise is to deny that reality. The great majority of climate scientists are willing to accept its main results because they know how they have been arrived at. They have a good grasp of scientific use of terms such as uncertainty and probability used to describe the limitations of scientific knowledge. They also trust the scientific care and integrity of most of their colleagues. Anthropogenic climate change is a clear reality, understood and affirmed within the social and intellectual setting of the global community of climate scientists and the many others who accept their work. However, an intellectually accepted reality is not necessarily a reality to live by. Most climate scientists, like those around them, are highly dependent on fossil carbon for everyday living. It is quite possible to fully accept climate science and yet continue to use fossil carbon in ways that leave one open to accusations of living in denial about the predicted consequences.\textsuperscript{40} Accuser and accused alike are more or less dependent on fossil carbon, unless they are exceptionally isolated from contemporary industrialized society.

In the public domain, debate about climate science occurs in an environment which is more complex than that in which climate science is studied. It cannot be assumed that ‘reality’ for climate scientists will be readily accepted as ground for public and political acceptance and will to act.\textsuperscript{41} The demands of everyday living form an immanent reality to which all of us and our communities have to respond. For commercial companies, the ‘bottom line’ of annual reports is a definitive check on the

\textsuperscript{37} Hamilton, \textit{Earth Masters. Playing God with the Climate.}\textsuperscript{11}
\textsuperscript{38} Washington and Cook, \textit{Climate Change Denial. Heads in the Sand.}
\textsuperscript{39} ibid. Chapter 1 “Denial and the Nature of Science”,1-13
\textsuperscript{40} Northcott, \textit{A Moral Climate: The Ethics of Global Warming.}107-109
\textsuperscript{41} ibid.67
reality of whether or not the company can survive. Political realities form around the
c highly complex business of balancing the many demands of guiding and regulating the
nation, its economy in the inclusive sense of national ‘household affairs’, and its
relationship with other nations. How these political and corporate realities are to be
integrated with the realities of scientifically informed climate change is a major
challenge. Different nations and corporations respond in a wide variety of ways. The
political leaders in a democracy also contend with the reality of fostering a favourably
disposed electorate made up of people living with what Hannay calls “close to home”
issues.\textsuperscript{42} Fossil carbon underlies many of these, such as the cost of fuels and
electricity, whether employment opportunities are at risk, and what will happen to a
local community when a mine or power station shuts down or when wind generators are
built nearby. For those with religious belief, there is yet another layer of reality, shaped
by history and tradition and engagement with the mysteries of life and existence. This
transcendent reality has power to speak into the whole range of domestic, national and
international realities.

This complex web of public and personal realities is fertile ground for those vested
interests which wish to promote use of fossil carbon to sow doubts about the findings
and the integrity of climate science and climate scientists. The rhetorical contest for
intellectual high ground symbolized by ownership of the words scepticism and denial is
part of a much larger contest between truths to live by. This contest calls for widely
disseminated and clearly communicated scientific information about what is happening
to climate,\textsuperscript{43} brought into conversation with the multiple realities of how to sustain and
progress the well-being of human and all life on earth, while radically decreasing use of
fossil carbon. However, it calls for much more – for prophetic visions in which that
which is good and creative is distinguished from that which is destructive and anti-
creative. It calls for visions of hope and compassion which sustain in times of great
suffering. Above all, it calls for visions which raise and nurture within people deep
questions of meaning and existence and of our place in the all-embracing flow of
evolving creation. These are deeper dimensions of the prophetic tradition of the
Hebrew prophets, and for Christians they find their climax in Jesus Christ and the life of
the church. For Christians, those questions are questions about how to discern the

\textsuperscript{42} Hannay, \textit{On The Public}.\textsuperscript{61}
\textsuperscript{43} The Climate Commission (now crowd-funded Climate Council) is dedicated to this task.
See for example the report “The Angry Summer” (2013).
presence of Christ today and how to live as Christian disciples while environmental and social changes unprecedented in the history of humankind take place.

6.3 Who wants climate change as part of prophetic witness?

Responses of Christian churches to climate change are partly shaped by how Christian belief is understood, and partly by public perceptions of climate change and climate science. There is tension between being faithful to Christian traditions and how to respond appropriately to the ‘wickedly’ difficult complex of issues around climate change. Tensions may arise due to specific religious beliefs. Some Christians are suspicious of any science, including climate science, as science is seen to contradict the Bible. Allegiance to God and God alone causes wariness towards ecological concerns. Wariness turns to hostility when ecological movements are seen to have tendencies towards Earth-worship. Individual salvation rooted in a dualistic view of Church and world is deeply embedded in Christian understanding, whether Evangelical or Catholic. Ecological concerns, including climate change, may be seen as a distraction when the primary calling is understood to be salvation of souls.

People of faith are also living in the world, and share common fears of material disadvantage if fossil carbon use is phased out. Does decarbonisation of the global economy stand in the way of economic growth? Is decarbonisation going to make worse the situation for those already struggling to survive? The implications of climate science are so far-reaching that rejection of the science and scientists may seem the only possible way to uphold entrenched beliefs.

The tensions become acute in sections of the church broadly described as Evangelical. Evangelicalism typically emphasises commitment to mission understood as evangelism and social reform, personal conversion, the death of Christ understood as substitutionary atonement, and strong allegiance to the Bible understood to be the word of God.44 David Bebbington offers a similar fourfold description:

Conversionism: the belief that lives need to be transformed through a “born-again” experience and a life-long process of following Jesus.

44 Peter Jensen describes evangelical understanding of the Bible as being the word of God ‘in a primary sense’. Peter Jensen, The Revelation of God (Leicester: IVP, 2002).
Activism: the expression and demonstration of the gospel in missionary and social reform efforts

Biblicism: a high regard for and obedience to the Bible as the ultimate authority

Crucicentrism: a stress on the sacrifice of Jesus Christ on the cross as making possible the redemption of humanity.\(^{45}\)

Biblicism, as defined by Bebbington, need not become Biblical literalism. There is a great difference between the Biblical literalism of groups which could be called “hard-line fundamentalists” and the more nuanced interpretations of main-stream Evangelicals. When biblical literalism is used, suspicion and rejection of science follows. Evolution is “a ‘make or break’ issue for many evangelicals”.\(^{46}\) When it is, the scientific account of climate change is likely to be rejected, along with the whole evolutionary narrative. Trumping all is belief in the immanent apocalyptic end of the world when Christ returns to take believers to heaven. Climate change and ecological destruction may even be seen as welcome signs of the approaching end.

In contrast, many churches understand their calling to mission as participation in God’s mission in the world, engaging broadly with the world’s problems. Salvation is conceived in comprehensive terms, extending to all “the needs and exigencies of human existence.”\(^{47}\) This broadly conceived approach to soteriology is characteristic of the World Council of Churches. The history of engagement with climate change by the Word Council of Churches in international forums bears witness to widespread acceptance of the science of climate change within the leadership of member churches, and a deep concern about its likely impact on human and non-human life on earth.\(^{48}\) A similar acceptance of the science of climate change and its implications is evident in the Roman Catholic Church, and finds expression in the Catholic Climate Covenant\(^{49}\) and in Papal encyclicals “Caritas in Veritate”\(^{50}\) and “Laudato Si”.\(^{51}\) Concerns about climate change expressed in “Laudato Si” are informed by comprehensive up to the moment


\(^{46}\) Ibid.112

\(^{47}\) Bosch, *Transforming Mission. Paradigm Shifts in Theology of Mission*.400


\(^{49}\) http://catholicclimatecovenant.org/ (accessed 30/04/2013)

\(^{50}\) http://txipl.org/encyclical2009 (accessed 30/04/2013)

transdisciplinary research. Within its wider scope of social justice and ecological issues, Pope Francis explicitly appeals for coal to be “progressively displaced without delay.”

Ecumenical bodies like the WCC, and global churches like the Roman Catholic Church, inevitably have church leaders whose concerns and public statements differ from those agreed to in international councils. Denial of climate science may be motivated by reasonable fear of environmentalism becoming idolatry, and concern that reduction in use of fossil carbon may have negative impacts on the poor. Denial of climate science and these theological and social concerns are evident in public statements made by the former Roman Catholic Archbishop of Sydney, Cardinal George Pell.

In a report in The Australian of an address given by Pell in London, he claims that his position on anthropogenic climate change is one of “informed scepticism”:

I first became interested in the question in the 1990s when studying the anti-human claims of the "deep greens". Mine is not an appeal to the authority of any religious truth in the face of contrary scientific evidence. Neither is it even remotely tinged by a postmodernist hostility to rationality. My appeal is to reason and evidence, and in my view the evidence is insufficient to achieve practical certainty on many of these scientific issues. The rewards for proper environmental behaviour are uncertain, unlike the grim scenarios for the future as a result of human irresponsibility which have a dash of the apocalyptic about them. The immense financial costs true believers would impose on economies can be compared with the sacrifices offered traditionally in religion, and the sale of carbon credits with the pre-Reformation practice of selling indulgences.

Pell’s “informed scepticism” depends on arguments found in a variety of literature which attempts to refute mainstream climate science, and appears to be strongly influenced by Plimer’s book Heaven and Earth. Referring to this address by Pell, Hamilton observes that:

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52 Peter Hannan. “Climate Scientist has ear of Francis”. Sydney Morning Herald June 19 2015. The scientist referred to is Joachim Schellnhuber, of the Potsdam Institute for Climate Impact Research. https://www.pik-potsdam.de/members/john (accessed 19/06/2015)


54 Cardinal Pell was the Archbishop of the Roman Catholic Archdiocese of Sydney until he moved to Rome in March 2014.


56 http://www.abc.net.au/unleashed/44454.html (accessed 30/04/2013)
Anyone who studies the arguments of deniers soon discovers that, although the terrain of the debate appears to be science, in truth it is about deep cultural and political beliefs, and Cardinal Pell is no exception. He concedes that his entry into the climate science debate was motivated by his disdain for environmentalism, which he sees as anti-human, and reading his arguments it is immediately clear that he filters the science through ideological lenses.57

In an address to a forum of business people in Florida, Pell again showed his ideological distrust of at least some who urgently promote reduction of carbon dioxide emissions:

Some of the hysterical and extreme claims about global warming are also a symptom of pagan emptiness, of Western fear when confronted by the immense and basically uncontrollable forces of nature. . . . . In the past pagans sacrificed animals and even humans in vain attempts to placate capricious and cruel gods. Today they demand a reduction in carbon dioxide emissions.58

Pell is a Church leader whose reality is grounded in his conservative interpretation of Catholic Christianity. This reality shapes his reaction to readings of environmentalism which tend to be ecocentric, and which in more extreme forms appear from his perspective to be anti-human and idolatrous. It also shapes his concern that driving change in energy sources away from coal will negatively impact those who are living in poverty. Valuing human life, rejecting the idolatrous and concern for the poor are deeply rooted concerns of Christian tradition, and his position may be similar to that of the Church of England bishop of Chester, Peter Foster. Foster’s public profile comes in part from his place in the UK House of Lords, where he too has publicly promoted scepticism about climate science.59

The positions on climate change taken by the WCC and Roman Catholic Church contrast with the more diverse responses to climate change found in church traditions which typically are described as fundamentalist, conservative or evangelical.60 In the USA, for example, the Cornwall Alliance for the Stewardship of Creation61 (formerly

60 ibid.107. See also Timothy Larsen and Daniel J Treier, eds., The Cambridge Companion to Evangelical Theology (Cambridge: Cambridge University Press, 2007). 7-9
the Interfaith Stewardship Alliance) is drawn from a conservative Christian base, and
takes the position that “There is no convincing scientific evidence that human
contribution to greenhouse gases is causing dangerous global warming.” The
Cornwall Alliance website also states that:

We believe Earth and its ecosystems—created by God’s intelligent design and
infinite power and sustained by His faithful providence —are robust, resilient,
self-regulating, and self-correcting, admirably suited for human flourishing, and
displaying His glory. Earth’s climate system is no exception. Recent global
warming is one of many natural cycles of warming and cooling in geologic
history. Confidence that the world has been created too great and robust for human activity to
significantly affect it is similar to Pell’s description of “the immense and basically
uncontrollable forces of nature”. Each represents an untested dogmatic denial of
climate science. Denial of anthropogenic climate change then leaves the way clear to
continue exploiting fossil carbon freely. Its ongoing use is further justified by the
qualitative argument that any restriction on doing so will only perpetuate poverty and
“so condemn millions to a premature death.” Denial of the predictions of climate
science abrogates any obligation to critically examine this laudable-sounding concern.

In contrast to the Cornwall Alliance, the Evangelical Climate Initiative (ECI) brings
together over 300 leaders in evangelical traditions who are convinced that
climate change is occurring and that it is primarily anthropogenic. This initiative urges
action to mitigate or restrict climate change and expresses particular responsibility for
those whom climate change will impact most severely – the poor of the world.
Roberts relates how the polarization of conservative Christians in the USA on climate
change became sharper when the English conservative Christian and leading climate
scientist John Houghton “played a key role in gaining support among (largely
Republican) conservative Christians.” This support led to formation of the ECI and,
as a reaction, the Interfaith Stewardship Alliance.

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62 ibid. “What We Deny”, point 3
63 ibid. “What We Believe”, point 1
64 ibid. “Preamble”.
65 http://christiansandclimate.org/ (accessed 30/04/2013)
66 Roberts, "Evangelicals and Climate Change." 114
67 Laurel Kearns, "Religious Activism in the United States,” in Religion in Environmental and
Climate Change. Suffering, Values, Lifestyles, ed. Dieter Gerten and Sigurd Bergmann
(London: Continuum, 2012). 142,143
In England and in the USA, alignment of conservative Christians towards denial or acceptance of climate science is part of a pattern of longer-term responses by conservative Christians to environmental issues. Some of these responses have been given credibility, both scientifically and in terms of conservative Christianity, due to the leading roles played by prominent scientists who themselves have strong conservative Christian beliefs. In England, John Houghton and Ghillean Prance have had leading roles in the John Ray Initiative, as has Calvin de Witt in the Au Sable Institute in the USA. In Australia, ISCAST (Christians in Science and Technology) is a similar organization. These institutions interact with each other and with a wide range of church organizations. They represent a robust tradition of evangelical Christianity which accepts an evolutionary understanding of creation and brings contemporary science and theology into conversation. William Dyrness identifies the Lausanne Congress of 1974 as of particular significance in shaping attitudes towards culture within evangelicalism. Widening acceptance of evolutionary science within evangelicalism has taken place as part of this broader cultural movement. In particular, Lausanne brought together British evangelicals who often had strong roots in universities, and North American evangelicals who had “been influenced by the fundamentalism that troubled American Christianity.”

There are many churches worldwide which could be described as evangelical or fundamentalist and which insist on the Genesis creation stories as literal history. The implicit rejection of the scientific story of evolution is likely to correlate with rejection of climate science. However, this rejection does not exclude environmental care,

69 Calvin de Witt was director of the Au Sable Institute for 25 years. See http://ausable.org/about/ (accessed 17/06/2013)
70 www.iscast.org (accessed 17/06/2013)
71 The Faraday Institute for Science and Religion in the UK and ISCAST in Australia are both evangelical in tradition, and are dedicated to the conversation between science and Christianity. See http://www.faraday.st-edmunds.cam.ac.uk/ and http://www.iscast.org/. (accessed 18/06/2013)
73 ibid.153
74 Cloke, "Creation and Climate Change Denial: The Not-so-missing Link."
understood as ‘stewardship’, and some creationists do accept that climate change is real and is anthropogenic.\textsuperscript{75}

In their qualitative study of a sample of evangelical Christians in Texas, Wylie Carr et al. go below the level of church alliance responses to climate change and look in detail at the more complex and nuanced responses of church members.\textsuperscript{76} They found that:

Interviewees could, and often did, state that a specific religious belief brought up by the interviewer had little or no relevance to their views on climate change. Every interviewee, however, discussed at least one of the following five beliefs in relation to climate change without prompting: biblical inerrancy; God's sovereignty; human sinfulness; eschatology; and/or evangelism.\textsuperscript{77}

For some, belief in biblical inerrancy leads to rejection of evolutionary science as incompatible with the narratives of Genesis 1 and 2, and a suspicion of science and scientists in general. The tendency of interviewees to deny the science of climate change is for them part of a more general denial of scientific understanding that the world is dynamic and evolving. Understanding of God’s sovereignty led some to reject claims that humans could influence climate,\textsuperscript{78} the position held by the Cornwall Alliance and Pell. However, “The evangelicals in this sample were, in fact, unanimously supportive of environmental awareness and action if motivated by concern for God's creation.”\textsuperscript{79} Their concern for God’s creation is expressed in terms of stewardship, whether the concern led to views supportive of the positions held by ECI, or of positions held by the Cornwall Alliance. Concern about climate change was also seen as a distraction from the primary task of evangelism aimed at the conversion of unbelievers. Many of the interviewees took their concern further, seeing environmentalism as tending towards idolatrous earth worship. Some saw indications of the eschatological end-time in either or both of idolatrous earth worship and climate change itself.\textsuperscript{80}

In North America, the influence of Christian religious conservatism in shaping attitudes towards climate change takes place within a larger context of political

\textsuperscript{75} Roberts, "Evangelicals and Climate Change." 115-121
\textsuperscript{77} ibid.282-283
\textsuperscript{78} ibid.288
\textsuperscript{79} ibid.289. Italics in original
\textsuperscript{80} ibid.290
conservatism. The continuing attacks on climate science by apparently authoritative ‘think tanks’ and other sources fits comfortably into what people desirous of conserving their vision of the American way of life want to believe, whether their world-view is secular or conservatively religious. North American conservatism’s international influence extends beyond the political and economic spheres to the religious sphere. One example is the propagation of ‘creation science’, with exchanges of ideas and materials between the USA and Australia.81

Leduc develops the theme of apocalypse to explore how secular and religious conservative interests converge.82 He argues that political conservatism, particularly as represented by the Republican Party in the USA, is in part a response to threats to the ideological myth of the ‘blessed’ American way of life.83 Such threats come from financial factors such as speculative bubbles and increasing foreign debt, energy resource uncertainty and climate change. Leduc observes that:

For many secular people the potential coincidence of global climate change with energy shortages that are commonly talked about in the language of “peak oil” offer a uniquely secular apocalyptic projection.84 Rejection of the science of climate change and commitment to expanding exploitation of fossil carbon (now increasingly extraction of oil and gas from shale and tar sands) are both ways of dealing with such fears. This position is reflected in the Republican Party’s platform on climate change which promotes continued expanding use of fossil fuels and effectively denies that they are causing any long-term changes to the atmosphere or global climate.85 Climate change denial makes the Republican Party a compatible political home for fundamentalist Christians who reject science for faith reasons.

For many fundamentalist Christians, religious plausibility structures guide them to sideline scientific causal relationships in favour of divine judgment on immorality and godlessness. There is no perceived necessity to integrate scientific and religious

81 “Answers in Genesis” http://www.answersingenesis.org/, which was founded by an Australian, has a strong presence in the USA. (accessed 29/04/2013)
83 ibid.256
84 ibid.257
85 The Republican Party platform on energy includes positive commitment to ongoing exploitation of fossil fuel, and strong criticism of the Obama Administration for seeking to curtail fossil fuel use. See http://www.gop.com/2012-republican-platform_America/#Item5 (accessed 29/04/2013)
interpretations when the science is rejected and a plausible supernatural explanation is at hand:

A climatic disruption like Hurricane Katrina is not fuelled by the GHG emissions of fossil fuels, but by God’s disapproval of a sinful world. Scientific models of climate change are to be rejected because they are based upon an earth that is millions of years older than the 6,000 year limit suggested in the literalist history of the biblical Genesis. For these fundamentalist believers the social disruption of climate change, wars, energy shortages are divine moral responses to the liberal order’s ungodly homosexuality, humanism, and environmentalism.\(^{86}\)

Carr and Leduc identify several common themes within climate change denial amongst North American conservative Christians. Some of these themes are adopted by church people from public discourse, and all are found in Australia. They include suspicion of scientists generally, readiness to accept the denials of climate science by apparently authoritative ‘contrarian’ sources, fear of environmentalism becoming idolatry, and the belief that reduction of use of fossil fuels will negatively impact the poor.

So who wants climate change to be part of prophetic witness? Who is hearing and responding to prophetic ministry which brings the gospel to bear on issues related to climate change? On issues related to climate change, Church membership is as divided and diverse as among the wider public. Climate change as public theology has church as part of the public, and has had notable impact in many parts of the church. The Roman Catholic Church has reached the stage where the most recent Papal encyclical, “Laudato Si”, comprehensively acknowledges global ecological concerns and anthropogenic climate change, and calls for ecological conversion. The councils of Churches represented in the World Council of Churches have developed many clear statements of environmental concern, including concern about climate change and its anthropogenic drivers. Churches with emphases characteristic of evangelicalism are more divided. Amongst some, there is still denial that humankind is causing climate change, so it has no relevance to them either as people or as Christians. The witness of scientifically informed evangelicals has led many to accept that anthropogenic climate change is real, and to appreciation it has demanding implications. The work of Houghton with the ECI in the USA is one particularly notable example. So too are a range of evangelically oriented institutes which are concerned with science and

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\(^{86}\) Leduc, "Fuelling America's Climatic Apocalypse." 266
Christian faith. Prophetic witness on climate change is heard and heeded in a wide range of church traditions. The gospel of hope in Christ may then be brought to the fearful predictions of climate science.

In both church and world, Brueggemann finds “a strange mix of denial and despair”:

In that situation of denial that pretends it will all work out and of despair that suspects it will not work out, the old tradition of YHWH as the God who enforces covenant and the God who gives newness lurks in prophetic utterances waiting to be mobilized.87

Today, change is occurring at a rapid pace. We are hurtling into a future of fearful possibilities. Prophetic ministry may not always have immediate effect, but people who find their security in entrenched beliefs discordant with new situations need time to change. Change is a process and, for Brueggemann: “The first task of the prophet is to process the relinquishment of what is treasured being taken from us.”88 For the prosperous in energy-intensive economies, the old certainties of growth models and notions of ever-increasing globalized prosperity are increasingly seen as unsustainable. For peoples in the margins, even the old constants of provision of a living from land and sea are collapsing. For people secure in their faith traditions, re-interpreting them to engage with new realities may be unsettling. The church is called to exercise a prophetic role in these and all circumstances of unsettling change.

Prophecy is much more than words spoken by individuals. Luke Timothy Johnson describes prophesy as a way of life:

Prophecy is not merely a matter of words spoken, but a way of being in the world: it brings God’s will into human history through the words, yes, but also the deeds and character of the prophet. The meaning of prophecy here is not “speaking beforehand” as in prediction, but “speaking for,” as in representation.89

In Christian understanding, the prophet represents God as God is known in Jesus Christ. She or he is called, however imperfectly, to bear witness to Christ’s redemptive and healing presence in church and world. In Biblically authentic prophecy, the costs may be great:

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88 ibid.138
The terse New Testament report that “Jesus wept” (John11:35) is fully congruent with the God he serves. Jesus wept in a death scene over Lazarus. But Jesus has more weeping to do, also over Jerusalem that kills the prophets and that would come to a very sorry end (Luke 19:41-44; see13:31-35). The God of Israel has been weeping over Jerusalem forever. That same God weeps over the savage judgment that comes in the historical process. But that same weeping, it is attested, becomes ground for new possibility.  

Jesus wept over Jerusalem because it did not recognize the signs of the times. Prophetic imagination for today finds Jesus weeping over a world where there is denial, and living in denial, of the dangerous trajectory of climate change and all it represents.

6.4 Living in denial: living in sin

Being prophetic means encounter with people in denial. Norgaard cites the work of Stanley Cohen91 who identifies three forms of denial: “literal, interpretive and implicatory”.92 All three are evident in reactions to climate change. There is literal, outright denial that climate change is occurring. Even if it is agreed that climate change is occurring, there is literal denial of the scientifically established causal relationship to use of fossil carbon. Interpretive denial looks for alternative explanations. It finds them in pseudo-science and in belief that the world God has created is too perfect and large for humankind radically to affect it. Literal and interpretive denial of climate change each disregards of the expertise of climate scientists. Cohen’s third form of denial, implicatory denial, accepts the science of climate change, but denies its implications. Implicatory denial is more complex, rooted in social psychology or splitting of personality.93 The science of climate change and its direct impact are becoming harder to deny. Implicatory denial is emerging as the greatest barrier to mobilization of the public and political will necessary to effect change on the scale indicated by climate science and earth systems analysis. That is the situation which Norgaard found in her studies in Norway.

92 Norgaard, "“We Don’t Really Want to Know”. Environmental Justice and Socially Organized Denial of Global Warming in Norway."  
Norgaard considers the seriousness of the predicted future impact of climate change and the “meager public response in the form of social movement activity, behavioural changes, or public pressure on governments (which) is noteworthy in all Western nations”94. She asks:

What can explain the mismatch between scientific information and public concern? Are people just uninformed? Are they inherently greedy and selfish? These are the questions that chart the course of my work, which concerns not the outright rejection of science by climate skeptics, but the more pervasive and common problem of how and why most people who say they are concerned about climate change nevertheless manage to ignore it.95

Climate change is one of many realities which people may believe true and perceive to be profoundly threatening or morally demanding, but which often have little influence on how they live. Questions of social justice are another example of such realities. Sobrino asks how better off people can live with little practical regard for the large parts of humankind who live in dire poverty, even when the well-off are so well informed that it is as if the suffering poor are on their own doorstep.96 Looking beyond this life, a long tradition of Christian orthodoxy has taught of that after death each person goes to heaven or to hell, with eternal state determined by whether or not they believe in Christ.97 For those who claim to believe in Christ and who say they believe this particular doctrine, it is perhaps the ultimate existential reality. Yet today Christians who claim to hold this belief in the main relate to those who do not claim to believe in Christ as if it were not true. In either of these examples, at first sight a commensurate response could be utterly life-changing and all consuming. Some people do respond in ways that could attract epithets such as ‘totally committed’ or even ‘fanatical’. However, most people go on with the realities of their everyday lives as if the suffering of others separated by time, place or circumstances, beliefs about the eternal destiny of non-believers or global issues such as climate change are of little immediate consequence. What are some of the social, psychological and religious dimensions of such responses?

94 Norgaard, "We Don’t Really Want to Know". Environmental Justice and Socially Organized Denial of Global Warming in Norway.347
96 Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope.43
97 For a contemporary conservative Roman Catholic statement and historical review of this doctrine, see www.catholic.com/tracts/the-hell-there-is (accessed 04/06/2013)
To explore how people who are well educated and informed about climate change live as if it had no implications for their fossil-fuel dependence, Norgaard conducted a social-psychological study of a Norwegian population. This population lives in an area which at that time was experiencing an unusual weather event of the sort predicted by climate science. Climate change was ‘close to home’ for them, ending their tradition of ice-fishing and shortening the skiing season because winters had become warmer. The majority of those interviewed agreed that climate change was real and that fossil fuels were the prime cause. Nevertheless, life for them went on much as usual. They made minor adjustments to accommodate to the unseasonal weather and there was almost no discussion on how either changes in personal lifestyle or political action could reduce fossil fuel use.

Norgaard asks again:

How did people manage to produce an everyday reality in which this critically serious problem remained invisible? What difference did it make that people who knew about global warming failed to take action?\(^{98}\) She interprets this shaping of everyday reality which denies a place for any significant discussion of climate change action as “a socially organized process”.\(^{99}\) It had become an accepted coping strategy which enabled people to live in denial of present responsibility for climate change and of its future more serious impact. As one of Norgaard’s respondents put it, “We live in one way and we think in another. We learn to think in parallel. It’s a skill, an art of living.”\(^{100}\) It is the art of denying our vulnerability to major changes in our environment, whether from climate change or other causes. Bader-Saye interprets it as an attempt to deny fear:

We seek invulnerability because we fear the loss of what we love, but could it be that our attempts at invulnerability, whether on a national or a personal level, only destroy the things we wish to save?\(^{101}\)

Norway and Australia have a number of features in common and the attitudes which Norgaard found have obvious parallels in Australia. Each country has a small population of whom the majority have a high standard of living and education. Each

\(^{98}\) Norgaard, ”“We Don’t Really Want to Know”. Environmental Justice and Socially Organized Denial of Global Warming in Norway.”350

\(^{99}\) ibid.350

\(^{100}\) ibid.357

\(^{101}\) Bader-Saye, Following Jesus in a Culture of Fear.46
experiences prosperity in part due to abundant fossil carbon providing wealth from exports and from low-cost on-shore energy. Several strategies are used to justify ongoing levels of reliance on fossil carbon. One strategy is to argue that national gross greenhouse gas production is relatively small compared with world output, and to contributions from countries such as the USA and China. Another is to argue that fossil carbon exports are benefiting other nations which otherwise might use even more carbon intensive energy sources. Appeals are made to national interest, and to the sense that climate change is not making too much difference in the here and now. The threat of seriously disruptive climate change seems distant in time and place rather than immanent, although that distinction is becoming harder to sustain, whether in Australia, Norway or anywhere else on Earth.

In places where human life is well supported by energy from fossil carbon, the same energy sources enable people to adjust to the impact of more frequent and extreme weather events. In Australia that adjustment may be as simple as using more air conditioning or making more artificial snow for skiing. It may be as disruptive and painful as recovering or re-locating following floods, droughts, fires, cyclones and coastal erosion. Emergency responses to the effects of extreme weather depend on immediately available fossil carbon energy sources, particularly diesel fuel. When a weather-induced crisis strikes, fossil fuels enable action which brings hope and restoration.

Hamilton interprets living as if climate change neither raises responsibilities nor poses threats to be an act of defiance against nature. “Against the dream of the scientific-technological revolution, global warming reminds us that Nature is untamable (sic) and fractious”. In industrialized nations, we have become used to and dependent on energy-intensive ways of living which protect us from the weather. This security is threatened by global warming and climate change. “The return of chaos is a particular

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102 Norgaard, " “We Don’t Really Want to Know”. Environmental Justice and Socially Organized Denial of Global Warming in Norway." 358
103 Vogt, "Climate Justice from a Christian Point of View: Challenges for a New Definition of Wealth." 71
105 My personal memories of utilities restoration crews and dependence on generators following cyclone Yasi in North Queensland in February 2011 leave vivid images which illustrate this general observation.
106 Hamilton, Requiem for a Species. Why We Resist the Truth About Climate Change. 118
challenge to those who fear uncertainty and believe the environment can be controlled by application of rationality.”

Hamilton portrays ‘Nature’ as a greater reality which people wish to control but ultimately cannot. Science and technology provide partial security at best, but science also reminds us that we are a small and transient part of nature. Hamilton’s ‘Nature’ is part-way transcendent, defying the aspirations of those who believe that taming nature and averting climate change by geo-engineering the oceans or atmosphere is both possible and desirable. He describes those who so aspire as “playing God with the climate”, as if standing objectively apart with all power to effect change and with all knowledge of the consequences. Andrew Dutney calls this “kind of conceited pride that regards the limits of mortality and nature as only applying to other people” hubris. Those who so behave are liable to meet their nemesis: “punishment that inevitably follows the transgression of the boundaries which the gods or nature have set for human beings.” Nature defies hubris of that kind, but nature re-framed as creation points at once to a Creator, and so to a further transcendent reality which is apprehended by faith, imagination and intuition. This frame calls for a further depth of humility in the face of mysteries of our existence. In it biblical prophecy finds words of authority and power which speak of repentance – of fundamental change of relationship to creation and Creator– affirming the possibility of blessedness and hope even in the midst of the suffering and death. Human creativity is not all hubris: Dutney argues it is possible to relate to creation and Creator in ways which make ‘playing God’ a positive affirmation of human creativity.

When re-framed into the context of relationship with the Creator, living with knowledge of climate science but living as if that knowledge carries no responsibilities becomes living in broken relationship with both Creator and creation. It is living in failure to reflect God’s image as “created co-creator”. Climate change denial, or living in denial, is one aspect of ecological sin which Becker, McFague and others describe as so thoroughly embedded in our social structures as to be largely invisible. Denial and living in denial are examples of the broader picture of naming destructive

107 ibid.118
110 ibid.1-4
111 Gregersen, "The Creation of Creativity and the Flourishing of Creation." 410
112 As discussed in Chapter 5,section 5.4
social movements and peoples’ responses to them as sin. Sin names more than moral falling short of better possibilities or of a social pathology which permeates how people think or act, although it does do both. McFadyen insists that: “Sin-talk cannot survive testing unless it continues to function as a distinctive theological language, speaking of concrete pathologies in relation to God”.\textsuperscript{113} It has theological depth when contextualized within belief in a Creator who is intimately present in and to the creation in all its wonder and complexity, and who also transcends the limits of human imagination.

In Christian tradition, Jesus’ teaching about love of God, of neighbour and of self was given in the context of social dysfunction in the first century CE, using the immanent example of caring for the enemy who is a victim of highway robbery (Luke 10:25-37). It is a long stretch to reinterpret this teaching and story with an ecological hermeneutic and to apply it to climate change. However, as Bader-Saye observes, we may look for underlying patterns of God’s creative and life-giving presence in the world in order to re-imagine biblical stories in contemporary contexts. Jesus’ teaching and parable about love of God and neighbour is about healing of bodies and relationships and opening up new creative possibilities for the future. Many bodies, human and non-human, are being and will be pushed to the limits of life as fossil carbon continues to be exploited. Is it too much of a stretch to say that the minority of humankind which enjoys an energy-intensive carbon-based economy is robbing the majority of humankind and all life on Earth now and into the future?

How to live, day by day, as part of a fossil-fuel dependent economy and yet maintain a steady, consistent path of commitment to reduction in its use may be far from clear. Yet the voices of the creation heard through climate science and of those who clearly see its implications cry out. They cry out that rapid reduction of fossil carbon use and replacement with more benign energy sources would be an act of compassion and a commitment to healing. The present time is an opportune moment, a \textit{kairos} time, to aim with care towards the mark of a future in which we “share with justice the resources of the earth”\textsuperscript{114} for the blessing and benefit of all creatures. The alternative is to miss the mark, following the path of \textit{hamartia},\textsuperscript{115} which is a path strewn

\textsuperscript{113} McFadyen, \textit{Bound to Sin. Abuse, Holocaust and the Christian Doctrine of Sin}.5
\textsuperscript{114} An Australian Prayer Book, (AIO Press, 1978). 157
\textsuperscript{115} The words \textit{kairos} and \textit{hamartia} (commonly translated ‘sin’) both have origins in archery. For the etymology of kairos, see http://english.ttu.edu/kairos/layers/metaphor.html . (accessed 8/06/ 2013).
with broken relationships between humans, humans and the rest of creation, and humans and God.

6.5 The prophetic voice

Human responses to climate change and predictions of climate change vary greatly, reflecting global diversity of economic and geographic circumstances. The work of prophetic figures in the context of climate change will necessarily reflect this diversity. People who live in nations such as Kiribati and Tuvalu already experience loss of land and fresh water and have very different responses to those found in nations such as Australia, with its large land-mass and enormous investment in fossil fuel extraction. The difference was highlighted in June 2013 when a delegation from Kiribati visited the Australian Parliament. They were surprised to find the representatives debating the reality of climate science, when for them its predictions are a present reality.116 The president of Kiribati, Anote Tong, has even visited the Arctic in order to better understand the global nature of climate change.117

Unsurprisingly, denial and living in denial are more possible and prevalent in Australia than in Kiribati. Nevertheless, Australia also faces the prospect of large scale disruptive climate change, and additionally has the ethical and economic burden of how and when to effect major reductions in fossil carbon extraction, use and export. The meagre response so far shows that careful reason, which is the guiding light of the Enlightenment and the foundation of climate science, is inadequate to provide motivation to respond in an adequate way to the implications of climate change.

Sobrino observes that the New Testament offers other “wise answers” to guide towards “a ‘will’ to truth” since “we human beings, even after the enlightenment, often fall into culpable blindness; not only blindness but often concealment, hypocrisy, and manipulation.”118 The New Testament Scriptures have their own deep roots in the Old Testament Scriptures, with their stories of covenant, of blessing and curse, and of

116 Peter Hartcher, "Canary Isle shows climate change is real," Sydney Morning Herald, 4th June 2013. Hartcher notes that a number of representatives known to have publicly questioned climate science absented themselves from this debate.
118 Sobrino, Where is God? Earthquake, Terrorism, Bararity and Hope
judgement and hope. The prophets and Jesus directly confronted blindness, hypocrisy and manipulation. Reason had a place in their ministry, but it went far beyond reasoning alone and searched the inner lives of people, exposing how they related to each other and to God. Who speaks prophetically today in the context of the multiple issues raised by climate change? What makes prophetic words on climate change different from words which are carefully reasoned? How could the tradition of the Hebrew prophets inform this contemporary prophetic ministry? In Christian thought, Jesus fulfils the prophetic ministry of the Hebrew prophets, and his own ministry is proclaimed to be prophetic. Using the Gospel according to Luke, Luke Timothy Johnson highlights Jesus’ prophetic ministry:

Luke uses the term prophetes for Jesus, particularly after he is filled with the Holy Spirit and then rejected in his native place. He is proclaimed a prophet after the raising of the son of the widow of Nain (7:16). Jesus again declares himself a prophet (13:33) because “it is impossible that a prophet should die outside of Jerusalem”. Finally his followers remember him “as a man who was a prophet mighty in deed and word before God and all the people.” (24:19)¹¹⁹

How may Jesus be remembered and represented today in prophetic ministry addressing issues around climate change?

The prophets of the Old Testament were individuals whose calling and inspiration were so intense that they kept on speaking out even though they suffered rejection and at times risked being killed. Having heard the voice of God, they had to speak words from God, whether or not people wanted to hear. They spoke out against human inhumanity towards other humans, because they passionately believed it was offensive to God. Prophets like Jeremiah and Isaiah¹²⁰ made it abundantly clear that God calls God’s people to account, with a divine anger which is inseparable from divine love. Elizabeth Johnson describes the “wrath of God” as:

a symbol of holy mystery that we can ill afford to lose. For the wrath of God in the sense of righteous anger against injustice is not an opposite of mercy but its correlative. It is a mode of caring response in the face of evil.¹²¹

¹²⁰ When referring to Isaiah, the prophet(s) behind the book are intended. For a discussion of the structure of Isaiah, see for example Brevard S. Childs, Isaiah (Louisville: Westminster John Knox Press, 2001).1-10
¹²¹ Elizabeth Johnson, She Who Is. The mystery of God in Feminist Theological Discourse (New York: Crossroad, 1992).258. This quotation is cited by Mary Alice Mulligan and Rufus Jr. Burrow, Daring to Speak in God’s Name. Ethical Prophecy in Ministry
Isaiah mocked the false gods and idols which his people turned to for help. He urged his people to return to an exclusive, living and healing relationship with YHWH, the God of their nation’s history, the only true God, the creator of heaven and earth. Isaiah repeatedly reminded them that God still loved them, even though their circumstances might be terrifying. Even in the most hopeless of times, God still gave them hope beyond terror and hopelessness, whether that hope would be fulfilled in the lifetimes of those who heard, or later for their descendants.

Human inhumanity towards other humans is still rife today. So too is preoccupation with material prosperity by a privileged minority at the expense of the majority of humankind and of non-human creatures. Each tendency is a denial of the essential core of being human, which in biblical tradition is expressed as being created in God’s image and in ecological narrative as being intimately part of the whole web of life. These expressions of social and ecological sin are deeply engrained into social structures and are ultimately idolatrous. There still are those who speak and live in ways which radically challenge such inhumanity, and there still are those who are killed for doing so. Today, as in biblical times, some continue to speak out impelled by a strong sense of divine call. Others express their passion for a more humane and just world in non-religious ways. Either way, there is shared compassion for fellow human beings and for non-human creatures in their suffering and marginalization. There is recognition that all life is interdependent within a whole which far exceeds human needs and aspirations. Their prophetic ministry draws on an ecological hermeneutic which Santmire describes as “God and humanity with nature” and “a divine and human concomitance with nature”.

Passion about injustice in human affairs is still very much alive today, whether or not it is understood as a divine calling or more earthily as a passion for the sacredness of life. In Biblical tradition passion for justice is an important part of prophecy, the power of prophecy is rooted in belief in God and God’s righteousness, and its aim is to confront people with God and God’s love and judgment.

Isaiah, Jeremiah and other biblical prophets were charismatic individuals who “shared God’s nightmares and dreams.” For them, God was not dispassionate and distant, but immanent and passionately involved with human persons. They dared to

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speak because they had themselves been caught up in visions of what Abraham Heschel calls “the divine pathos.” Mulligan and Burrow explore Heschel’s meaning, which is grounded on:

. . . the assertion that the prophets espoused the idea that God needs persons. This, then, is the true message of the Hebrew prophets: God needs persons and persons need God. It is not a one-way dependency, but a mutual one. Why would God create persons as beings with the highest intrinsic worth and imbue them with the divine image, Heschel wondered, only to withdraw from them and to desire no divinely initiated interaction with them? Mulligan and Burrow ask what today could be described as “ethical prophecy in ministry.” They find such ministry in the work of people like Heschel and Martin Luther King in combating racial discrimination in the USA, and Oscar Romero and others martyred in El Salvador, killed because they cared about the poor. These people did what they did because they could do no other. “. . .one of the chief characteristics of the ethical prophet is his (sic) belief that because he speaks God’s word, he dare not compromise.” Mulligan and Burrow see this commitment to the poor as a central part of prophetic ministry today, because all people are precious to God. “Once one recognizes the sacredness of persons, it becomes almost as powerful a driving force as the divine call itself.” Although they look beyond social justice at the core of prophetic ministry, it remains the primary focus:

All of creation matters to God. This notwithstanding, it is our contention that so precious is each person to God, that God is involved in, and has a stake in, everything that happens to every individual.

Global warming and climate change are stark reminders that each individual person, while precious to God, also is inescapably part of the whole of creation. The social justice concerns of prophetic ministry today are strongly coupled to what humankind, or at least part of humankind, is doing to the global climate system. The creation which “matters to God” is not a separate concern, but is intimately linked to all other concerns within the “divine pathos.” Isaiah looked for good news of hope in the
midst of and beyond the immanent threats of his time. He was opposed by those who wanted good news to legitimate perpetuation of the status quo.

In the Old Testament Scriptures, false prophets were notable for contradicting the warnings and judgments brought by authentic prophets. These false prophets were received as bearers of good news. They prophesied that dire situations were not as bad as had been prophesied by others, or were deferred into a future so distant as to be of no immediate concern. Today there are false prophets who claim to bring good news that global warming is unrelated to human activity, or that it is too distant to require immediate responses. Their visions justify ‘business as usual’, driving thriving consumerism which in turn thrives on individualism, all primarily powered by fossil carbon. They even claim this is good news for the poor who will eventually benefit from an ever expanding global consumer economy. These false visions are blind to the gathering storms of greater future climate change and deaf to the cries of those whose lives are already being disrupted by climate change. They are also deaf and blind to the enormous body of scientific evidence that anthropogenic climate change is already measurably occurring and is on track to cause extensive and disruptive change to the global environment.

Christian tradition inherits the passions of the Hebrew prophets through Jesus. To Christian faith, Jesus not only lived prophetically and spoke God’s words with authority. Jesus incarnated God’s presence in the world and, to Christian faith, continues to do so. The incarnation is not only about human embodiment. When incarnation is understood as ‘deep’, Jesus incarnates the Cosmic Christ and divine Logos into the depths of all creation and creative processes. Christ’s prophetic power is present as the Holy Spirit moves people to words and deeds which reflect the ‘image of God’. Christian prophetic tradition enters into the resurrection of Christ, proclaiming good news of new life, in and beyond the worst that can be imagined. Brueggemann describes life in process of renewal as “a mode of life, faith and discourse that lives in deep tension with every faith option that does not mediate active rescue from our common deathliness.”

Brueggemann’s vision of evangelical community which

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129 See, for example, the story of Hananiah in Jeremiah 27 and 28. The words of Ezekiel 12:27 are a biblical example of ignoring by deferring: “The vision that he sees is for many years ahead; he prophesies for distant times.”

chooses life rather than “deathliness” parallels the emphasis on community which is a characteristic of feminist theology.

Mary Grey re-imagines theology which emphasises relationship in God. Following insights which have been developed in process theology and honed in feminist theology, her theology is earthed in experience and in praxis: “the spiralling process of action/reflection.”

Its elements:

coalesce as Feminist Theology gathers them into the formation of a relational theology, where the key concepts are mutuality, reciprocity, interdependence, a passion for right relation, and the just interconnectedness of all things.

She asks whether, in societies where consumerism which so strongly promotes individualism is the norm, the image of prophet as charismatic individual might not even be a hindrance to prophecy today. Instead, communities whose stories are of God and Christ understood relationally are able to live out prophetic witness through their experience and praxis.

Brueggemann and Grey each envisions life-affirming ways of living which represent real change from ‘business as usual’, which defy the individualism promoted by consumer culture and which re-imagine God and God’s action in the world:

The question becomes: could re-imagining God as the vulnerable source of relational power, and seeing the whole Christ-event as embodiment and incarnation of relational power in action, actually make a difference to the way we behave? Could it work, in other words, as a basis for the ethics of the ‘Beloved Community’?

Grey then asks:

What then are the key elements of a creation theology which will nurture prophetic action springing from a gathered community aware that consumerism is the disease which has hijacked our energies for de-creation, for blocking the divine creative energies and God’s intention that all should share the Messianic feast?

Her answer is cast in terms of the life in community which celebrates creation and Creator, lived in solidarity “with the suffering of all earth creatures and the poor

131 Mary C Grey, Prophecy and Mysticism. The Heart of the Postmodern Church, ed. Iain Torrance, Scottish Journal of Theology: Current Issues in Theology (Edinburgh: T and T Clark, 1997), 27
132 ibid. 29,30
133 ibid.62
134 ibid.36
135 ibid.71
communities whose survival is so intertwined with it.” The Biblical image of the Messianic feast places her answer within a vision of sharing with and in Christ in eschatological fulfilment.

Prophetic witness today, as at any time, is forth-telling from a narrative which stands over and against dominant prevailing narratives. Notwithstanding the witness of a community or an individual, the prevailing dominant culture and its narratives are likely to continue to wield influence in ways so much taken for granted as to be largely unnoticed. Brueggemann observes that “The preacher must be continually aware of the many and deep ways in which the dominant narrative is defining for her own life, so that no one of us is immune to the contradiction that is to be faced.” This contradiction must be confronted by both the prophetic speaker and those who are inclined to affirm what is said:

We are, for the most part, double minded. There is hidden deep within most of us, I suspect, a profound tension between these narratives, knowing better than to trust the dominant narrative but having a huge stake in its being true, wanting the gospel narrative to be true but reluctant to speak another language about the world other than the one in which we are palpably invested. It is the hard work of prophetic preaching, I propose, to make that tension explicit, available, and visible in order to permit informed, knowing choices. The reason it is such hard work is that the people with whom we do ministry, in their anxiety, have a huge stake in denial and keeping the tension hidden. And we ourselves share in that hope of keeping the tension hidden, because when it is acknowledged, we are held accountable for the work that is to be done and the decisions that are to be made.

This double-mindedness is a response to the multiple realities with which we live and the narratives which underlie them. The immanent reality formed by the immediate demands of everyday life tends to obscure the underlying narrative of economic growth and consumption on which much of the global economy is based. We may assent to narratives which expose how aspects of the goods and services we consume adversely affect other people, separated from us in both place and in time. The scientific narrative which links burning of fossil carbon to climate change is one such narrative, well-grounded and with fearful implications. Brueggemann observes that assent to a narrative is in tension with fear of accountability. Part of the prophetic task is truth-telling and working with people to imagine a different way of understanding their place

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136 ibid.75,76
138 ibid.18
in the world and within the even bigger picture of existence. A change in imagination may then lead to changes in how to live. McFague identifies the importance of seeing ourselves as creatures whose lives are given meaning and direction by understanding our inter-relatedness with all creation:

A radically different understanding of ourselves is necessary. Climate change is making us realize how profoundly dependent we are on the health of our planet, graphically illustrated by each breath which we take. . . . In order to begin to act differently, we must submerge ourselves in a different view of who we are. 139

The task of the prophetic preacher is to walk with people in the journey from fear to faith – fear of loss and fear of accountability, to faith that a different and better future is possible in closer harmony with creation and Creator. Whether the journey is taken in anticipation of disruptive climate change or as a result of it, it will require hard decisions to leave behind ways of living and imagining which may seem good for now, but which are ultimately destructive. Transition may mean proactive relinquishment in order to work towards a better and more sustainable future. It also may mean response to loss forced by disruption and turmoil caused by climate change. Isaiah and Jeremiah prophesied alongside their people in the midst of turmoil as their treasured possessions were literally torn away from them. Yet they had visions of a future, possibly generations away, when a new and peaceful national life would be possible.

In imminently threatened nations like Kiribati, prophetic ministry speaks to people already living with climate-change disruption and wondering if there is hope for a future when their ancestral home is no more. 140 Prophets like Isaiah and Jeremiah spoke to Israel about hope of return to their homeland. For the people of Kiribati, and increasingly for many more, that option will not be available. Death and resurrection, rather than exile and return, gives a motif and a vision of hope as prophetic ministers journey with their grieving people. In nations like Australia, the immediate burden of prophetic ministry in the context of climate change is to cut to the roots of injustice. Part of doing so is pressing moral obligation to reduce fossil carbon extraction and to realign the economy to other energy sources. Another part is to reach out with generous hospitality and assistance to people in nations such as Kiribati in their painful transition

139 McFague, A New Climate for Theology. God, the World and Global Warming. 15
140 Tioti Timon, "A Theological Reflection of Land in the Context of Climate Change in Kiribati," School of Theology (North Parramatta NSW: United Theological College Charles Sturt University, 2013). Unpublished work.
to an unknown future. In the longer term it will also be about journeying with people already living in Australia or wanting to do so as they grieve loss and struggle to adapt to change as increasing weather extremes force them to abandon cherished places and ways of living.

Prophetic ministry is not only about justice, but also about exposing idolatry. Today’s god-substitutes are many. Some are propped up by the dominant narrative of consumerism and growth. Others rest on belief that human reason has the power to dissolve all mysteries and to solve all problems. Christian tradition emphasises an alternative narrative, a narrative of sharing and of care for the vulnerable and for creation rather than pursuit of material prosperity, or even material security. Above all, Christian expression of this alternative narrative is grounded in the Christ who makes God known. In Luke Timothy Johnson’s interpretation of the gospel according to Luke, he insists that:

There is here no prosperity gospel, no identification of fruitfulness with worldly success. The kingdom belongs to the poor and to those whose sharing of possessions with others includes them among the poor. 141

The hope which the gospel brings to those who have faith is not, according to Vogt, about progress:

Christian faith has nothing in common with a belief in progress. It is a hope that is quite different from the expectations of security and prosperity we are used to in the West. It is a way of managing contingency in the face of the ambivalence of progress and setbacks, security and risk, joy and suffering, life and death. 142

Christian prophetic ministry interprets and witnesses to Christ so that “We meet God in the face of Jesus“143 as we discern and encounter Christ in all humankind and all creation. It is eschatological, proclaiming the coming of Christ in history, in our times, and in futures which are imaginable and which go beyond imagination. It journeys with people in crisis who fear worse to come, but it sees the journey with a long horizon which reaches deeply into and out beyond the futures which climate science predicts. It is a labour in love to find words that stir up awe and humility in the face of the mystery

142 Vogt, “Climate Justice from a Christian Point of View: Challenges for a New Definition of Wealth.”78
143 McFague, A New Climate for Theology. God, the World and Global Warming.40
of our existence, hallowing the name of the Creator. Christian prophetic ministry is enacted in church and world so that those who hear may “look with their eyes, and listen with their ears, and comprehend with their minds, and turn and be healed.” (Isaiah 6:9-10)
Chapter 7
Eschatology and Hope in a Warming World

7.1 The meeting of secular and Christian eschatology

For prophets, present events are signs of a greater reality, making the present an opportune or kairos moment in which to work towards a more hopeful future. A kairos moment emerges when people are able to discern both the need and the opportunity for action on an issue of concern. The moment is set in a larger context of unfolding events, and may attract the language of the ‘signs of the times’. Anne Elvey describes discerning the signs of the times as:

a quality of responsiveness that has implications for social relations in the present. It implies the capacity to discern, and presumably act on, what is just . . . The ‘present time’ (this kairos) has both a present and a future orientation.  

Elvey takes the story of Jesus rebuking the crowd for failure to read the signs of the times (Luke 12:54-56) and asks how a reading of the “Lukan time or season (kairos) might speak to our contemporary kairos of climate change.” As a hermeneutical option, she develops the relationship between weather, signs of the times, and eschatology.

In Luke, Jesus uses ability to discern weather as a metaphor, but it is a particularly ‘close to home’ metaphor. Correctly reading the weather and responding with planting and harvest mattered critically. Jesus was speaking to a crowd labouring under debt imposed by the oppressive minions of the Roman Empire. Failed harvests could mean deprivation and forfeit of land in lieu of unpaid debt. Jesus’ presence among them is a sign of the eschatological breaking-in of the Messianic reign of God, but they fail to see beyond their immediate burdens. The curse might continue, but the Messiah who was bringing surpassing blessing was already among them.

2 Elvey, "Interpreting the Time:Climate Change and the Climate in/of the Gospel of Luke." 78-79
3 ibid. 88
4 ibid.87
In Luke, weather signs were familiar, providing local forecasts of coming seasonal change. Today, climate change and shifting weather patterns are signs of life-threatening global warming. Interpretation of weather has a new significance. Interpreting:

the face of earth and sky requires instead interpreting the weather as a priority. The challenge of Luke is not to stop here, but to ask in what way our response to this present material situation – like the release from debt that is not only a metaphor for a theological concept of forgiveness but material good news to the poor – can be understood as calling for a response to the visitation of God, a liberating visitation that might make another future possible.5

The ambiguity of fossil carbon as blessing and curse defines the present as another kairos time. Within it, secular and religious voices speak of the future both with hope and in fear. Is the demens orientation of human endeavour going to dominate and drive us to catastrophe, or shall wisdom – sapiens – prevail? Christian and secular voices interpret the present, and offer visions which may complement each other and draw people together in common commitment to achieve a better future. Their visions may also be divergent, driving people apart. One form of Christian eschatology which drives a fatal wedge between people is based on naïve Biblical literalism, using texts such as II Peter and Revelation.

In what has been described as “at first sight, one of the least eco-friendly texts in the New Testament”6, the author of II Peter warns his Christian audience of “the coming day of God, because of which the heavens will be set ablaze and dissolved, and the elements will melt with fire” (II Pet 3:12). His hoped-for apocalypse anticipates the laying bare of all things, exposed to the unrestrained judgement of God. Christ will return. The suffering of the chosen ones under persecution will end and their faith in God’s promises vindicated. This event will be so cataclysmic that the old order must go, in fiery destruction, to make way for the new. The image of the fiery purging of the old to make way for the new is both ancient and modern7. It is a potent reminder of

5 ibid.90-91
6 Adams, "Retrieving the Earth from the Conflagration: 2 Peter 3:5-13 and the Environment."108
7 Rossing, "Hastening the Day when the Earth Will Burn: Global Warming, 2 Peter, and the Book of Revelation."30. Rossing notes that fire as a means of destruction and end of the material order is also found in classical Greek philosophy, as ekpyrosis.
human transience and vulnerability. Today, fundamentalist Christian preoccupations with reading ominous signs of the times:

see present world events as fulfilsments of biblical descriptions of the end of time and as heading, by God’s predetermination, toward the cataclysmic end of history.\(^8\)

The language of religious apocalypse and of divine judgement is dangerous. Migliore describes its potential to become:

a gruesome portrayal of final cosmic warfare with terrorist political action. Dividing the world into the good and the evil, neo-apocalypticism demonizes all who are considered enemies, is absolutely convinced of the righteousness of its own cause, and in some cases calls for holy warfare.\(^9\)

Even when the claimed absolute of words from God is not invoked, the language of apocalypse morphs into the justifying language of violent attempts to enact ideologies of human progress towards heaven on earth. The purging of the demonized is accompanied by the fires of war and horrors like the Holocaust.

Biblical apocalyptic texts are used to exacerbate fears engendered by human failure to live peaceably and sustainably on Earth. Why be concerned for the longer term thriving of life on Earth when the signs of its immanent end are all around? This question exemplifies really eco-unfriendly eschatology.\(^10\) Such imagining of a radical supernatural end is far removed from possible cataclysmic ends of civilizations due to human folly or to an astrophysical catastrophe. The course of terrestrial evolutionary history has been changed at least once by an asteroid impact, and it could happen again, even during an imaginable human future. Far beyond the likely span of humankind as a species, astrophysics places a fiery bookend to terrestrial history when, in a few billion years, the dying sun evolves into a giant red star and engulfs the Earth.\(^11\)

The author of II Peter wrote his apocalyptic image to remind his readers of their hope in a new heavens and a new earth to be ushered in by the \textit{parousia} (arrival or

\(^8\) Migliore, \textit{Faith Seeking Understanding. An Introduction to Christian Theology}.353

\(^9\) ibid.352

\(^10\) Tom Wright, \textit{Surprised by Hope} (London: SPCK, 2007).132

return) of Christ. They were being urged to reform their lives lest they miss out. Astrophysical predictions offer no such hope, and within the limits of scientific narrative they carry the burden of ultimate futility. In between the extremes of ancient apocalyptic vision and modern astrophysical prediction, there is a range of imaginable human-induced ways in which human civilization and global ecology could be drastically disrupted. We live with choice as to how the Anthropocene develops. Will predictions of what may come to pass as the world warms motivate us to hopeful reform or resignation to ultimate futility? Even the most pessimistic predictions of climate science do not imagine that global warming is going to bring the earth to a fiery end, or even to drive all life to extinction. However, experiences of disruptive change in local climate and of extreme weather events already are making the catastrophic possibilities of global warming more imaginable. They may be taken as a foretaste of the end of the way the world is known today by substantial parts of humankind. Even with rapid reduction of greenhouse gas emissions, it is entirely predictable that widespread local climate changes will render presently habitable areas much less so. In that future, many species will fade away and human communities will face either costly adaptation or uncertain migration as alternatives to decline marked by suffering and death. We may imagine fearful possibilities, but we may also imagine other more hopeful ones.

Richard Bauckham and Trevor Hart describe imagination as:

the source of our ability as humans to protest in the face of the given, to refuse to accept its limitations and lacks and unacceptable features, to reject the inevitability of the intolerable.

The language of imagination may be used to capture the idea of an eschatological alternative to what appears to be an inescapable ‘given’. Christian eschatology imagines Christological fulfilment of all things. Grigg argues that when attempting to speak of Christ as “the manifestation of an infinite God” the choice is between saying

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12 Rossing puts it this way: “2 Peter definitely represents the moralistic use of apocalyptic threats to control individual behaviour.” Rossing, "Hastening the Day when the Earth Will Burn: Global Warming, 2 Peter, and the Book of Revelation." 33

13 Stoeger, "Scientific Accounts of Ultimate Catastrophes in our Life-bearing Universe." 19

what it is not “or an imaginative use of language that creatively stretches it beyond its usual capabilities.”

Imagination plays a vital and complex role in human affairs more generally. Using imagination, we construct realms of possibility in which questions of hope and fear, meaning and identity are explored. In psychology and social sciences, such a realm is sometimes referred to as an ‘imaginary’. For example, in her study of Australian identity, Miriam Dixson relates subjective imaginary and its creativity to creation of new understanding and new ways of living in human society. As a migrant society, Australia already is, and will predictably develop as a poly-ethnic nation, with an evolving sense of national identity. Imagination of futures for the nation is informed by current trends; it is both creative and predictive. There is a complex interplay between what is happening in society, including research and analysis, and how the future is imagined. In particular, what is likely, possible and imaginable in the future is a major area of public concern and source of policy guidance. Future studies are now well represented in think-tanks, in universities and by international organizations. For these institutions, knowledge and analysis of the past and present provide a foundation to predict and imagine future possibilities. Future studies are multidisciplinary, embracing demographics, climate science, politics and economics, social psychology, theology and much else.

Some future possibilities which could credibly evolve from what is known at present are so dire that they are portrayed using ‘end’ language more often associated with Christian eschatology. Hamilton, for example, uses end language to title his book *Requiem for a Species*, capturing the spirit of his argument that present global economics and high dependence on fossil carbon are driving death-dealing

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17 ibid.19
19 See, for example WFSF, "World Futures Studies Federation," www.wfsf.org. (accessed 19/03/2014)
20 ———. "Futures Conference 2014," www.futuresconference.fi/2014. This conference is highly directed to implications of climate change. (accessed 10/01/2014)
21 The consequences of nuclear warfare, for example, are sometimes described in terms of holocaust and of apocalypse.
destruction.\textsuperscript{22} As with the writer of II Peter, his warnings urge reform of how humans live on Earth, in hope of redemption from the seemingly relentless momentum towards catastrophe to which humankind is currently in thrall. Only with profound and widespread change can there be hope of a future in which life may not only survive, but also thrive.\textsuperscript{23} James Lovelock’s apocalypse envisages the possible end of civilization but not of humankind, conceding that “we are tough and it would take more than the predicted climate catastrophe to eliminate all breeding pairs of humans.”\textsuperscript{24} He imagines raw biological survival in a greatly depleted world far less hospitable to humankind than the world which we presently enjoy.

Lovelock and Hamilton use ‘apocalyptic’ as a way of naming catastrophic destruction of humankind and the earth environment. With this meaning, they each imagine an apocalyptic eschatology due to global warming.\textsuperscript{25} They are deeply pessimistic about what lies beyond any climate-change driven end to civilizations: their secular apocalypses are followed by no promised heaven, whether on earth or in some other form, not even for a chosen few. The apocalyptic eschatologies of II Peter and of Hamilton and Lovelock all warn of extreme threat. They also urge change in direction of life, though for different reasons. In the minds of those who read the Bible more literally, actual and imaginable catastrophes are signs of the not-to-be missed return of Christ and they encourage hope of heaven. In secular eschatology, hope of avoiding catastrophe depends on radical change in how humankind lives on Earth. More reflective Christian eschatology draws both together.

Christian eschatology is often associated with an apocalypse, but in systematic theology apocalypse is generally regarded as only one aspect of eschatology. Eschatological themes such as the \textit{parousia} of Christ, resurrection, judgment, eternal life and the reign of God draw more widely on the Bible than from its apocalyptic literature. These themes may be interpreted in terms of progressive realization of the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{22} Hamilton, \textit{Requiem for a Species. Why We Resist the Truth About Climate Change}. 222,223
\item \textsuperscript{23} ibid.226. “Only by acting, and acting ethically, can we redeem our humanity.”
\item \textsuperscript{24} Lovelock, \textit{The Revenge of Gaia}. 10
\item \textsuperscript{25} In popular use today, ‘apocalypse’ typically refers to the end of human civilization, or of the world. It ranges from scientifically imaginable scenarios, as in the work of Lovelock and Hamilton, to less credible but more spectacular destruction presented by the entertainment industry. The Biblical meaning of apocalypse is something that is revealed. In Biblical studies, apocalyptic refers to a particular genre of biblical literature. For a more extended discussion of apocalypse and apocalyptic, see Daniel Migliore, \textit{Faith Seeking Understanding. An Introduction to Christian Theology}, third ed. (Grand Rapids: Eerdmans, 2014). 348-355
\end{itemize}
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“Ends of God” throughout time, as well as in terms of final fulfilment. The Christian horizon of hope is not only future-oriented, but also is immediate and present. It looks to redemption of all things past, present and future. It is rooted and grounded in the Christ of faith, imagined as God’s presence in the hope and the pain of a dynamic and evolving created order within which humans have knowledge of good and evil and freedom to choose.

Secular eschatology based on observation, analysis and interpretation of the past and present also may take a variety of forms. Imagined futures are informed by possibilities which are partly predictable, even though subject to the many uncertainties in future evolution of the earth environment and of human behaviour. They also reflect the tension between the pursuit of ends with short-term horizons, and concern about how what is happening in the present will affect the world inherited by future generations. The possibility of a cataclysmic natural event, or of unleashed human mass-destruction, hangs like a dark cloud over all hopes, feeding imagination of an apocalyptic end. On even more distant horizons, the end of the Earth as a life-bearing planet and, beyond that, the end of the universe, entomb meaning making within the limits of scientific thought.

John Polkinghorne and Michael Welker observe that:

Eschatology might seem to be a demanding – if not impossible – topic for the interaction of science and theology, but it proves to be a most promising starting point to demonstrate the fruitfulness of the dialogue.

Secular and Christian eschatology are very different from each other. Each is concerned with human hopes and fears for the future and, depending on how the future is imagined, on how to live hopefully in the present. As in science-theology discourse generally, productive dialogue on eschatology depends on avoiding claims that either science or theology has an exclusive and self-sufficient narrative. Re-imagining Christian eschatology to bring hope to the world today is a major theological project, stimulated in part by the ending of the second millennium CE. In re-imagining

27 The image of a horizon is used by a number of writers. See for example Jürgen Moltmann, Ethics of Hope, trans. Margaret Kohl (Minneapolis: Fortress, 2012). “Introduction” xi
28 Polkinghorne and Welker, The End of the World and the Ends of God. Science and Theology on Eschatology, 7
29 See, for example, Miroslav Volf and William Katerberg, eds., The Future of Hope. Christian Tradition amid Modernity and Postmodernity (Grand Rapids: Eerdmans,
eschatology for today, a number of issues are addressed. What do the “ends of God” and ends of secular eschatology have in common, and how do they differ? How does Christian imagination of the progressive fulfilment of God’s ends through the Christ of faith critique the human institutions which are driving global warming? How does Christian eschatological imagining bring hope even in the face of possibly radical discontinuity of human civilizations and life on earth? How does it do so while at the same time motivating commitment to living for a future in which life, including human life, will continue to survive and thrive? How may imagining of Christ in this science-theology eschatological conversation recognizably remain within Christian tradition? To do so it must satisfy Grigg’s criteria that “Christ is the presence of God” and that Christ is imagined in a way which is sufficiently related to Christian tradition to refer “essentially to the same reality intended by the word in the past.”

Using eschatological traditions and imagination to shape present action towards fulfilment of visions of the future is perilous. History is littered with the casualties of destructive eschatology, whether religious, secular, or a hybrid of both. The urge to hasten human destiny has driven crusades, colonial projects, wars, revolutions and campaigns of terror, often causing immense human suffering and environmental damage. The lessons of history provide some guidance on how to discern and avoid eschatology which is destructive in today’s world. Eschatological visions may raise false hopes and encourage ways of living which seem good to at least some people in their time and place, but which in retrospect will be seen as unjust and destructive. Perhaps most dangerous of all at the present time is when visions of the future destiny of humankind and life on earth are largely lost from public discourse. When this happens, dominant high-energy consuming sections of humankind become entrapped in pursuit of short-term political and economic goals. Horizons of hope collapse inwards and visions of transcendence are few.

In Christian eschatology, short-term goals are contextualized within long-term visions. There are immediate concerns to address, but the imperative to do so flows from commitment to the reign of God. The reign of God is both immanent and transcendent. Justice and righteousness in the here and now are signs of its immanence.

Moltmann, for example, concisely outlines the shape of ethics which he sees as appropriate to the current situation in which a minority of the human population is disproportionately degrading the global environment at the expense of all. “The ethics is related to the ethos which has to do with endangered life, the threatened earth and the lack of justice and righteousness.”

Christian eschatology does bring moral dimensions to secular discourse about what is happening in and to the world. But Christian eschatology does much more, with horizons of hope which embrace and transcend the immediate call to live with loving responsibility for ongoing thriving of life on earth. Christ imagined as “the presence of God” places the core Christian tradition of Christ as Saviour and Redeemer at the centre of Christian eschatology. Miroslav Volf explains that as well as the past, the present and future also need redeeming:

The present . . . cries out for redemption, too! Our defective and enfeebled bodies, our wounded souls, even our eyes and ears as organs of perception need to be made whole. The future also needs redeeming – not future events that haven’t yet happened of course, but our projected future, toward which we stretch ourselves in dreams and labors. For unhealthy dreams and misdirected labors often become broken realities.

Volf explores how final reconciliation between humans may be imagined, within and beyond the limits of human frailty and finitude. By doing so, he portrays a horizon of hope which is both inspired by and gains clarity through its partial realization in everyday relationships.

Global warming is fraught with enormous potential to add to the long history of human suffering and conflict. It is also fraught with enormous potential for environmental damage. Volf’s eschatological vision for human healing is readily expanded to eschatological fulfilment and healing for all creation. Future reconciliation between people is inseparable from “dreams and labors” in the present. So too, the eschatological fulfilment of all creation is inseparable from “dreams and labors” directed to ecological healing in the present.

32 Moltmann, Ethics of Hope. “Introduction” xi
34 ibid. “Postscript” 215-230
Volf’s visions of transcendent possibility are cast in the midst of damaged and difficult everyday relationships. They parallel the “glimpses of glory” which Janet Soskice describes:

The scientist, like the artist or the person of faith, believes we may on occasion glimpse a greater glory – a beauty that surrounds us but which we are too blind to see. To move toward this “given” in hope, in reverence and with awe is a shared project of science and of faith, and the basis of an anthropology based on eschatology. In this we would seek not our own ends but the future of God, and in doing so perhaps discover what it is to be truly, fully human beings.  

Pursuit of discovery of what is means to be more “truly, fully human beings” lies at the core of conversation between science and theology. Formed within the dynamic of the created self-creating universe, humans bear the image of the Creator. When Christ is received as full human expression of the indwelling of God, Christ is the source, sustenance and destiny of all creation and Christ is the one in whom all horizons of hope find substance and validation.

### 7.2 Horizons of hope and limits of imagination

In his meditation on what is transient and what is enduring, Paul places hope alongside faith and love as attributes which ‘abide’ when all else passes away (I Cor 13:13). The object of Paul’s hope was the risen Christ and his horizon of hope was eschatological. For him, the *parousia* of Christ was about to happen. It was anticipated by the suffering believers and all of creation, and it would be a revelation of incomparable glory. Although the *parousia* of Christ did not happen with the timing and in the way Paul imagined, interpretations of this eschatological horizon still define the ultimate ground of Christian hope, with its power to motivate in the present and to endure through discouragement and difficulty.

The image of a horizon suggests a boundary between the visible and invisible, between the known and the imagined, the experienced and the hoped-for. Life’s journey reaches out in hope towards ever changing horizons. On a sea journey “Land-
ho!” or its equivalent in many languages is an expectant call, signalling that the journey is nearing its end and raising expectation of change and of new ground on which to live. Faith, for the writer of Hebrews, is the “assurance of things hoped for, the conviction of things not seen.” (Heb 11:1) The exemplars of faith described in Hebrews “all . . . died in faith without having received the promises, but from a distance they saw and greeted them.” (Heb 11:13) As told in the Hebrew Scriptures, their journeys were profoundly unsettling journeys of faith and their sustaining horizon of hope was the promises of God.

Journeying while continually looking at a distant horizon simply does not work. One will trip over or neglect the immediate demands and obligations of daily life. The horizons which they define are more immediate and are readily conceived in light of daily realities. Yet it is also amidst everyday encounters that the “glimpses of glory” to which Soskice refers may take place, lifting the eyes of imagination towards horizons which transcend the mundane and the immediate.

In contemporary Australia, for many people much of the time, life is relatively settled and predictable. The visible, the known and the experienced are, for the most part, encircled by the limited horizons of a materially well-supported domestic and civil order. The eschatological horizon towards which Paul strained has no place in public discourse, other than at funerals and memorials. The resurrection of Christ remains a powerful symbol of death-defying hope, but believing it as other than a symbol or metaphor is as incredible to most people now as it was in the world into which the Christian church was born. On Easter Sunday Christians gather, albeit in decreasing numbers, and greet one another with the proclamation “Christ is risen! He is risen indeed!” In weekly church gatherings, the sacraments proclaim Christ’s death and resurrection, and anticipate his parousia, or coming again. However, Christiaan Mostert questions how lively this hope really is:

If ‘Christian hope is resurrection hope’, as it should be, the lack of a lively hope is perhaps an index of a less than robust embrace of the resurrection. The resurrection is more a problem than a deep source of hope. But if the source of our hope is not here, where else might we find it? . . . Hope that is Christian has

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38 Wright, Surprised by Hope. 46-52
its basis in that problematic but indisputably central event of the resurrection of Jesus.\textsuperscript{39}

In the everyday lives of those who share in Christian communities the power of Christian eschatological hope is in stiff competition with what Jesus in Matthew refers to as the “the cares of the world and the lure of wealth.” (Matt 13:23) Dorothy Lee writes of her perception of a typical Australian attitude to hope in these times which are, at least locally, comparatively peaceful and prosperous:

If hope there is, it is a hope that life will last as long as possible, with as little experience of illness and calamity as possible: to maximise enjoyment and minimise pain.\textsuperscript{40}

Lee describes a very human hope, shared by people of all faiths and none alike. This shared hope reaches from self to family and community and beyond, for the welfare of anyone is dependent on the general wellbeing of society. However, it is a hope that sooner or later is inevitably challenged. Grief and loss, too, whether due to illness and death or to other calamities, are also an integral part of human experience. So too are encounters with new ideas and establishment of new relationships. Old certainties are questioned and the horizons of hope which they have offered prove inadequate. Wider horizons open up, provoking imagination of new possibilities and raising new hopes and fears. “Glimpses of glory” intimate transcendent hope, whether or not interpreted within a faith tradition.

However conceived and with its many horizons, hope is a human attribute essential for the moral functioning and survival of individuals and of communities. Ellen Ott Marshall writes that hope has:

...a job to do. In the continuous and far-reaching labor of the moral life, hope is the sense of possibility that generates and sustains moral agency. Hope’s object provides an impetus for action, a sense of direction, and a cause that renders process meaningful.\textsuperscript{41}

Even when circumstances are dire and hope is best described as hope against hope, hope motivates ongoing commitment to find some way through. It underpins the instinct for


\textsuperscript{41} Ellen Ott Marshall, \textit{Though the Fig Tree does not Blossom. Towards a Responsible Theology of Christian Hope} (Nashville: Abingdon, 2006)."Introduction” xii
survival, to hold on and still work for a more hopeful future even when the odds seem against it:

Even in the most difficult and threatening of situations hope ‘is always slow to admit that all the facts are in, that all the doors have been tried, and that it is defeated.’

Hope is a communal attribute as well as an individual one. In steadily evolving democracies, we elect our representatives in the hope that ideally they will form government which leads the nation with wisdom and justice, vision and integrity. The national designation of ‘commonwealth’ is itself aspirational, a name expressing hope of shared wellbeing for all. In more turbulent political environments, whether ancient or modern, peoples and nations have embarked on violent political revolutions hoped to bring on a better, more fulfilled world order. The naming of a political order as a republic projects the hopeful idea that ‘the people’ are in control for the equal benefit of all, rejecting the social stratification of monarchy or empire. Whether influenced by Christian eschatology and visions of God’s reign on earth, or by Marxist, National Socialist or other beliefs and ideologies, such revolutionary political movements have brought transient hope for some and much suffering for others. Some have ended apocalyptically in blood and fire and some morphed into new orders with new hopes. Mostert observes that:

There is nothing in history that will guarantee the victory of the proletariat – certainly no socialist state has managed it – or the triumph of goodness over evil, or life over death, or peace over our taste for war.

Indeed, there is nothing in history that will guarantee the triumph of justice and equal opportunity for all under any political system, but hope does not depend on guarantees.

During the Enlightenment, in western nations, the ground of hope moved from belief in the promises of God to hope based on actual and potential human achievement. Bauckham and Hart describe this shift in horizons of hope:

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43 Latin ‘res publica’, literally a ‘thing of the people’. Clearly, in Roman times, ‘the people’ were elite male citizens. Today, ‘republic’ may still function rhetorically to disguise controlling power groups.

44 Mostert, “Living in Hope.” 49
What essentially happened in the enlightenment origins of the myth of progress was the loss of transcendence and the reduction of eschatology to the immanent goal of human history.\textsuperscript{46}

The 19\textsuperscript{th} century CE is notable for many expressions of this secular hope and for a secular eschatology grounded on hope of boundless human progress.\textsuperscript{47} The rapid expansion of scientific knowledge, transformation of possibilities by technological advances, and an optimistic extension of Darwinian ideas to human cultural evolution supported imagination of unlimited improvement towards an ultimate utopia. The 20\textsuperscript{th} century CE has shown how illusory this myth of progress is. Bauckham and Hart note that “the idea of progress was common both to liberal progressivism and to Marxism.”\textsuperscript{48}

The clash of these ideologies is a clash over how to pursue the myth of progress and has played a large part in “the horror of history and the terror of history”\textsuperscript{49} during the 20\textsuperscript{th} century CE. Visions of an ideal human utopia as the goal of either ideology may have faded, but the commitment to more immanent horizons of progress based on expanding consumption has not. Although full of warnings and contradictions, the myth of progress through unending material growth still persists and still dominates global economics. Bauckham and Hart describe this domination as like riding in an out of control vehicle:

But, even to the extent that ways of avoiding the worst effects are now known, it seems impossible to control the technological and economic juggernaut which seems now to be hurtling without a driver towards Armageddon. It appears driverless because the real drivers are those of us who make up the affluent elite of the world, those who continue to pursue economic growth while consuming the world’s resources and destroying its ecosystems at a rate with which others could not catch up without catastrophe for the planet. We are in the driver’s seat, but the ghost of progress sits at our side.\textsuperscript{50}

The sheer momentum of the energy-intensive and still largely fossil carbon based commitment to growth has made it extraordinarily disquieting to look beyond short-term goals. Climate change radically confronts this narrowing of horizons. In a secular frame it is a call to transcend preoccupation with the immediate, look to future

\textsuperscript{45} The transfer of hope from religious to secular is expressed by the expression “God is Dead”. See, for example, Moltmann, \textit{Theology of Hope}. 168-172
\textsuperscript{46} Bauckham and Hart, \textit{Hope Against Hope. Christian Eschatology in Contemporary Context}. 38
\textsuperscript{47} ibid.10-14
\textsuperscript{48} ibid.11
\textsuperscript{49} ibid.11
\textsuperscript{50} ibid.17
generations, and imagine possibilities for the ongoing world and how life, including human life, could continue to evolve.

Insofar as climate science is a global co-operative enterprise, it transcends political ideologies and national boundaries. Climate science has a unique role in expanding horizons from local to global, and from the immediate to a future which extends for tens, hundreds and even thousands of years. It confronts all nations and all political and economic systems with a new reality. In light of that reality, ongoing economic progress through unlimited exploitation of earth’s resources, and particularly fossil carbon, will have disastrous consequences. Climate science calls for planning with far broader horizons in view, in both space and time, than the politics and economics of the energy-intensive nations previously have had to deal with. Hamilton notes that:

The lag between emissions and their effects on climate and the irreversibility of those effects make global warming a uniquely dangerous and intractable problem for humanity. Among other things . . . . these features of climate change render standard economic analysis of the problem hopelessly inappropriate.\(^{51}\)

The horizons of possibility which climate science opens bring both fear and hope. Climate science is a messenger which confronts us with the inexorable reality about how humankind is modifying our Earth-home. For those who understand the message, hope is to be found in facing up to how the myth of progress is currently pursued, and in responding radically and appropriately. Theologically, climate science is a messenger of creation and, as such, an angel of the Creator warning that, as has happened many times in history, “there is a way that seems right to a person, but its end is the way to death.”\(^{52}\)

What hope is there, then, for future generations and for the future of human civilization under the new reality of rapid, human induced global warming? It is not a hopeless situation, but as Bauckham and Hart observe, although catastrophe is not inevitable “it can easily seem so, because the route to it is the continuation of the route we used to consider the sure route to utopia.”\(^{53}\) Many organizations and individuals, from national and international planners to local activists, advocate ways forward which

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51 Hamilton, *Requiem for a Species. Why We Resist the Truth About Climate Change.* 25
52 Proverbs 14:12
53 Bauckham and Hart, *Hope Against Hope. Christian Eschatology in Contemporary Context.* 17
attempt to balance ongoing viability of human progress with moderated demand on Earth’s resources, including phasing out of most fossil carbon use. Within secular horizons, hope is kept alive because humankind is creative, able to think ahead, and still has the capacity (at least in principle) to steer the global economy away from its current destructive path. It is a difficult, complex and conflicted process, but there are hopeful signs of progress, and continuing progress depends on sustained hope. Whether undertaken from secular or religious motivation, sustaining hope is a vital contemporary part of the “far-reaching labor of the moral life”.

Climate science confronts us with secular horizons which in both time and space go far beyond the seductive short-term and narrowly conceived horizons defined by consumer economics. It also unambiguously locates the primary cause of global warming in present practices, and so places the burden of moral responsibility for the future on the present generation. Today’s most pressing secular future-oriented question is not about working towards imaginable utopias for the future of humankind. It is about how to emerge from the present century with some confidence that humankind and human civilization are on track for a sustainable future as part of a reasonably healthy global ecology. If that can be achieved, secular eschatology will still have a future to build on – a future in which biological and cultural evolution could sustain conditions on Earth in which evolution towards a hopeful future remains open.

Even if life on earth, including human life, thrives and evolves into the deep future, Polkinghorne and Welker claim that, “at best, we see a transient fruitfulness that leads to final futility, with the certain eventual disappearance of all life from the universe.”

Scientific knowledge, however, is dynamic and in the decade since they made this claim, a great deal of evidence has been gathered that planets supporting life could exist elsewhere in the universe. Current scientific knowledge may also be used as a

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54 Flannery, *Here on Earth. An Argument for Hope.* Flannery notes that, despite well publicised failures to achieve international agreements, there have also been significant successes.

55 Ott Marshall, *Though the Fig Tree does not Blossom. Towards a Responsible Theology of Christian Hope.* Introduction xii

springboard to imagine what might evolve in the deep future, even beyond the bounds of space and time, as both scientists and theologians have done.\textsuperscript{57}

### 7.3 Christian eschatology and resurrection hope

Eschatology is etymologically about ‘last things’. One obvious but limited sense for ‘last things’ is the events which will accompany the temporal end of human life on Earth. If the end is to be ground of hope rather than despair or futility, then eschatology is more about the fulfilment of meaning for all creation, for life on earth, and for human life in particular, than its physical termination at some time in the future. It is then an expression of the search for meaning and purpose, for the telos of all things. Moltmann describes eschatology as “real” when the eschatological end intimately includes creation from its very beginnings:

Thus we can speak of a real ‘eschatology’ only at the points where, in the limitations and perspectives of history, the horizon of the promised future embraces in the eschaton the proton of the whole creation. . . \textsuperscript{58}

Christian eschatology differs from secular eschatology because each interprets the cosmos and how we experience it in different and distinctive ways, reflecting the fundamental difference between scientific and theological meaning-making. Fraser Watts offers an anthropocentric version of secular eschatology. In this secular or scientific eschatology, we are masters of our own fate. For all practical purposes there is no God, so for better or for worse the future rests with us. For a hopeful future:

the assumption is that we will have the power to bring about the future that we wish, an optimistic assumption that on the face of things seems exaggerated, even irrational. However, a key part of the appeal of scientific eschatology seems to lie precisely in this proclaimed ability to control our destiny.\textsuperscript{59}

Although the proposition that humankind is able to control its own destiny is at best partial, Watts’ depiction of a “scientific eschatology” does encourage hope. It also

\textsuperscript{57} Examples are Teilhard de Chardin, \textit{The Phenomenon of Man}. and Frank Tipler, \textit{The Physics of Immortality: Modern Cosmology, God and the Resurrection of the Dead} (New York: Random House, 1997).

\textsuperscript{58} Moltmann, \textit{Theology of Hope}.130

implies a heavy moral responsibility. There is obvious responsibility for future human generations, but human destiny need not be imagined solely in anthropocentric terms. The current era is being named the Anthropocene precisely because humankind is increasingly shaping the future of life on Earth. Are we going to do it well or badly, creatively or destructively? If Moltmann’s criterion for a “real eschatology” is applied to the scientific evolutionary story of life, the proton is creativity and the eschaton the evolutionary future of life in the cosmos. Looking beyond anthropocentric concern with “our own destiny” is there a deep future for life on Earth whether or not humans persist and evolve? How will it be affected by what we are doing in this brief moment of geological time? A broad vision of life’s purpose looks towards the perpetuation of life itself, with its abundant potential to continue creating new life endowed with richness of biological and cultural complexity far beyond present imagination. In this vision, the eschaton is the advancing front of life in the ongoing process of evolution into an indefinite future. The vision requires faith that somehow something that life has evolved into can survive even cosmic catastrophe, even if current science says otherwise. It is a vision which embraces the scientific narrative of evolution, extrapolates it to the future and imagines possibilities beyond present and even future human comprehension.

Watts contrasts anthropocentric secular eschatology with Christian eschatology, which is:

about a good future: the Christian future is one promised by a loving and faithful God. When theologians speak of the hoped-for future they are not generally speaking of a particular point in temporal chronology that one day will be present, and then past. Rather, they are speaking of a different kind of future, intended by God and hoped for by humankind. Indeed, eschatology is more a matter of promise than prediction, and relates to eternity more than to the chronological future.\(^{60}\)

Watts struggles with the limitations of language which arise as soon as we speak of God. The “different kind of future” to which he refers is not only about what is to come, but how it may be interpreted in terms of God’s purposes or ends for creation. God’s purposes or ends for creation are being partially fulfilled in history, but ultimately their fulfilment transcends past, present or future history. The fulfilment of God’s purposes lies with God, and God’s purposes permeate and transcend history. When Christian faith finds Christ present to all creation from its origins to its fulfilment,

\(^{60}\) ibid.48
its *proton* to its *eschaton*, Christian hope is through and through eschatological. When creatively imagined scientific and Christian eschatology are brought into conversation, then visions of the sort which Teilhard had are possible. In them the scientific and Christian stories of hopeful becoming converge in God.  

Migliore identifies four “clusters of symbols” in traditional expressions of Christian eschatological hope: the *parousia*, or coming of Christ, resurrection of the dead, final or last judgment and eternal life in the reign of God. Traditionally, these symbols of Christian hope all rest on the resurrection of Jesus and, for the first Christians, the resurrected Jesus was the Jesus whom the first witnesses personally knew, and who had been crucified. The symbols of hope which Migliore identifies are thus anchored in the narratives and interpretations of the history of Jesus, his disciples and the beginnings of the Christian church, as they come to us through the Christian Scriptures. The interpretation of Migliore’s “clusters of symbols” of hope is the combined task of biblical studies and theology, and of living in eschatological hope. How are the scriptures read, what theological significance are they given, and what are implications for living today?

The resurrection of Jesus is “problematic but indisputably central” to Christian hope. Its centrality to Christian faith is grounded in its central place in the Christian Scriptures. Moltmann, for example, sees the raising of Jesus as the only ground of New Testament faith:

> Christianity stands or falls with the reality of the raising of Jesus from the dead by God. In the New Testament there is no faith that does not start a priori with the resurrection of Jesus.

At the same time, he also cautions that the ‘reality’ which the resurrection describes is elusive, and the resurrection may be interpreted in a number of ways. Moltmann suggests some of these:

> Is he risen in the sense of a reality accessible to ‘historical science’? Is he risen in the sense of a reality belonging to the history of ideas and traditions? Is he risen

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61 Teilhard de Chardin, *The Phenomenon of Man*.
63 Moltmann, *Theology of Hope*. 85
64 Mostert, "Living in Hope." 50
66 Moltmann, *Theology of Hope*. 165
in the sense of a reality that affects our own existence? Is he risen in the sense of a wishful reality of human longings and hopes?  

How the resurrection of Jesus is interpreted depends, in turn, on the realities which the interpreter brings to it.  

Gavin D’Costa observes that: “the question of the resurrection is closely related to clusters of complex hermeneutical presuppositions entertained by different reading communities.” The particular realities which Moltmann lists are not mutually exclusive. All four could even be in play at once. However, there is a fundamental contradiction between modern scientific understanding of death as an inescapably irreversible process in which the material of the body returns to the environment, and any ‘reality’ in which Jesus’ resurrection as presented in the Christian Scriptures is read as if it were describing historical events as we might describe them today.

In the canonical New Testament Scriptures, the narratives which tell of the resurrection refer to eyewitnesses who saw the empty tomb and eyewitnesses who had seen the risen Christ. Jesus rising from the dead, however, is hidden from human view. These narratives were written in the midst of a life-changing situation of radically new allegiance. Now Jesus was confirmed to be the hoped for Christ, fulfilling Jewish hopes, even though largely rejected by his own Jewish people. Despite all appearances, Jesus was Lord, and not the Roman Emperor. The writers and their communities looked for the parousia or return of Christ, and the fullness of the reign of God in which God’s glory and God’s righteous judgment would be evident to all. Although they lived in a time of world views very different from modern ones shaped by the Enlightenment, there is no difficulty today in understanding why they were ridiculed. Ridicule came from philosophically sophisticated Greeks who could not imagine the dead ever being bodily raised. Their belief that Jesus was Christ also was offensive to Jews who could not imagine that a crucified person could possibly be God’s chosen one (Acts 17:32 and I Cor 1:23).

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67 ibid. 166
68 ibid.166,167
70 Barclay, "The Resurrection in Contemporary New Testament Scholarship." 14
Today, at least in ‘western’ liberal democracies, dominant allegiances are quite different. In the modern era critical historical research and scientific understanding have entrenched a convincing and comprehensive story of the past and present of the world we live in, and of future possibilities. Even the remote and impersonal God of ancient Greek philosophers is excluded from that story. No one who uses it as the final arbiter of meaning will believe anyone ever rises from the dead, let alone find hope by believing in Jesus’ resurrection as a literal historical fact. There are, however, hermeneutical options besides the extremes of insisting on a naïvely literal historicity for the resurrection narratives, or of dismissing them as incredible stories from an unenlightened age, devoid of significant meaning today. Moltmann chooses the hermeneutical option of movement from knowledge to praxis and hope.

When considering the resurrection stories, Moltmann asserts that questions about “what can I know?” point to the questions “what am I to do?” and “what may I hope for?” Crossan describes these questions as moving from mode to meaning. Mode is about how Christian belief in the resurrection arose. Meaning is practical: “What are the implications, how does it work out, how does it change the world, how do we participate in the new creation?” The “what can I know?” question is explored using biblical studies, and biblical scholars offer a wide range of interpretations and answers. At one end, conservative interpretations read the Easter narratives and memories of encounters with the risen Christ as more or less what actually happened. At the other end, the Easter narratives are regarded as “legendary supplements” to core memories of Jesus, shaped by the gospel writers to address the circumstances of their particular audiences. Although there is a wide range of interpretations of how the first Christians came to believe Jesus had risen from the dead, there is more general agreement that belief that Jesus had risen lay at the heart of their life-changing hope. The resurrection of Christ remains central to many expressions of Christian faith, even if there is considerable latitude in how the resurrection and new creation are understood.

In Australia today the stories of Jesus’ resurrection are likely to be dismissed as belonging to a pre-modern era and relativized as one of many beliefs amongst the cultures and religions of the world. The relentless pressure to interpret Christian faith in

72 Moltmann, Theology of Hope,182
ways consistent with what is perceived to be scientific and rational Enlightenment thought is liable to make “the resurrection . . . more of a problem than a deep source of hope”, as Mostert notes.\textsuperscript{75} In what ways, today, is it possible to find meaning in the “cluster of eschatological symbols” which Migliore identifies? In particular, when people today profess to believe in the resurrection of Christ, what meanings are possible, and how do they relate to Crossan’s strong sense of motivating people to “participate in a new creation” and live in world-changing ways? How could, and how does, belief in the risen Christ lie at the heart of a new ‘reality’ which motivates people to live hopefully in a transformed relationship with the world around them and to radically critique and defy dominant materialistic ways of making meaning which so widely function as religion today?\textsuperscript{76}

Right from the beginning those seeking to discredit the Christian movement have attacked its core ground of hope: that Jesus rose from the dead. In the Gospel according to Matthew, the writer himself sets about discrediting those who tried to discredit the first Christians in this way.\textsuperscript{77} In the last three centuries, reason and scientific-critical approaches to nature and history have provided new methodologies for friend and foe alike to attempt to extricate the ‘historical Jesus’ from aspects of the Christian story seen as supernatural or superstitious. With opponents of Christianity in mind, Luke Timothy Johnson observes:

In the classic form found in Christianity’s cultured despisers, more than a historical correction is involved: the recovery of the “real” (=“historical”) Jesus serves to discredit Christian claims concerning Jesus.\textsuperscript{78}

However, the quest for the historical Jesus also is vigorously pursued by scholars who have a strong commitment to their Christian faith. They too may have a passionate concern to encourage Christian discipleship with commitment to justice, care for the earth, and hope for the future. It is a complex and contested area of scholarship.\textsuperscript{79} While there is wide agreement that the early Church’s belief that Jesus had risen was critical to its survival and growth and its foundation of hope, there are widely differing

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\textsuperscript{75} Mostert, "Living in Hope," 50
\textsuperscript{76} Moltmann describes “the modern world’s view of reality (as) in a sense the ultimate religion of our society”. Moltmann, Theology of Hope. 181.
\textsuperscript{77} Matthew 28:11-15
\textsuperscript{79} See, for example, David B Gowler, What are they saying about The Historical Jesus (Mahwah NJ: Paulist Press, 2007). Gowler has sections on work by Crossan (81-104) and by Wright (51-55)
explanations of how that belief came about, and even of what it may have meant in those early years. Viewed from the perspective of conversation between science and theology, hermeneutic suppositions brought to biblical studies on the historical Jesus tend to fall into two broad zones. In one zone, there is an underlying assumption that any account of how the church came to believe Jesus was risen must be consistent with contemporary scientific understanding of how nature and how the human mind work. Put otherwise, it must be consistent within a scientific-historical frame. In that frame, since the dead do not rise, credible accounts locate the rise of resurrection faith in the psychology and sociology of the church. In turn, biblical studies are then constrained to interpret the scriptures in ways which support this presupposition. In the other zone, there is the presupposition that God transcends history and did so in raising Jesus from the dead. Although there is much that eludes our language and understanding, we then may still speak of the resurrection as something that happened to Jesus, and what the church came to believe then followed. In this case, Biblical studies tend to defend the plausibility of the church’s witness to the risen Christ as historical record rather than later creative interpretation.  

Divergence on answers to Moltmann’s question “what can I know?” does not inevitably mean the same degree of divergence on the questions “what am I to do?” and “what can I hope for?” These latter questions are questions of praxis grounded on the theological interpretation of what is claimed to be known. For Moltmann:

The resurrection of Christ is a meaningful postulate only if its framework is the history which the resurrection itself throws open: the history of the liberation of human beings and nature from the power of death. In the framework of history defined in any other way, the resurrection of Christ is not a meaningful postulate at all.

Christian hope is eschatological in that, despite appearances in the immanent realities of life and death, the resurrection of Christ is God’s promise of hope and freedom which transcends even death itself. This hope is not confined to humans either, but includes all of nature, and has biblical expression in Paul’s longings of Romans 8:18-25. Widely differing interpretations of the New Testament Scriptures are capable of supporting theological interpretation of the liberation of humankind and of nature from the power

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of death as signs of the reign of God and of a new creation. They also may refer to the resurrection of Jesus as the central Christian ground of hope, whether the language of resurrection used is more literal or more metaphorical.\textsuperscript{82}

Wright and Crossan are two contemporary scholars whose hermeneutical presuppositions as used in their biblical studies quests for the historical Jesus lie within the two very different zones. They also are scholars with considerable public profiles within and to some extent beyond academic and church communities. Each has written extensively defending their respective positions.\textsuperscript{83} There are contemporary scholars who from conservative positions are critical of Wright’s work\textsuperscript{84} and others who favour naturalistic explanations which differ from those which Crossan offers.\textsuperscript{85} However, the question of immediate interest here is not the merits of their positions, but how those positions differ, what they have in common and how they encourage hope amongst those who find them convincing. Wright and Crossan also are of particular interest because of their public engagement with each other in search for common ground. The dialogue between Crossan and Wright illustrates some of the differences and commonality in how the question of living with Christian hope in today’s world may be addressed.\textsuperscript{86} Their dialogue offers an approach to identifying grounds of Christian hope which may be shared across a broad range of Christian faith commitments and ways of interpreting the New Testament Scriptures.

Wright starts with the general proposition that whatever it was, something did happen resulting in the early church growing as a body of people sharing life-changing conviction that Jesus was risen and was Lord and Christ. While accepting that interpretation of the relevant scriptures is not always straightforward, Wright nevertheless takes the conservative position that there really were witnesses who saw the empty tomb and who had experiences of encounter with the risen Christ.\textsuperscript{87} For

\begin{footnotes}
\item[82] Stewart, The Crossan-Wright Dialogue. The Resurrection of Jesus.31
\item[83] Among their major works are Wright, The Resurrection of the Son of God and Crossan, The Birth of Christianity. Discovering what happened in the years immediately after the execution of Jesus.
\item[85] ibid.8, where Johnson lists some recent proposals for the historical Jesus.
\item[87] Gowler, What are they saying about The Historical Jesus.55 “Although Wright’s volumes challenge some naïve and dogmatic traditionalist assumptions, they are written from within a
\end{footnotes}
Wright “the only possible reason why early Christianity began and took the shape it did is that the tomb really was empty and that people really did meet Jesus, alive again.”

This assertion follows from the more general observation that:

What happened then, whatever it was, generated something quite new: something that grew and developed in particular ways, but always with this moment as its supposed point of origin. A major part of our enquiry, then, must be to look at the emerging Christian movement, and to ask: what caused it? Even if our eyewitnesses disagree in detail, something must have happened.

Wright further argues that the resurrection is a unique event precisely because God is bringing in a new creation. In so doing, he brings a particular theological hermeneutic to his biblical studies. Because the resurrection of Christ is theologically unique and heralds the new creation, it is unconstrained by the norms of the old creation. Moltmann likewise argues that the “historical approach to history” is itself questionable because it has no place for God to work a fundamentally new creative event, or novum ultimatum. Jesus’ resurrection is the novum ultimatum which transcends history while taking place in history. In the resurrection God reveals the direction of eschatology.

The resurrection of Christ is without parallel in the history known to us, but it can for that very reason be regarded as a ‘history-making event’ in the light of which all other history is illumined, called in question and transformed. It is historic in that it makes history and “It is historic because it discloses an eschatological future.”  Wright describes why he believes the resurrection to be credible:

It is not an absurd event within the old world, but the symbol and starting point of the new world. The claim advanced in Christianity is of that magnitude: that with Jesus of Nazareth there is not simply a new religious possibility, not simply a new ethic or a new way of salvation, but a new creation.

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88 Wright, The Resurrection of the Son of God.
89 Wright, Surprised by Hope.
90 Moltmann, Theology of Hope. 172-182
91 ibid.180
92 ibid.181
93 Wright, Surprised by Hope.
 Whatever the “something” was that happened, it profoundly impacted the world, changing the course of its history. For both Wright and Moltmann, the early church took the resurrection of Jesus as assurance that God had begun the eschatological process of new creation. Wright is particularly insistent that the early church believed Christ had risen bodily. Those who witnessed to encountering the bodily risen Christ were not, as Crossan asserts, seeing “apparitions” as a result of psychological trauma. However, neither did the risen Jesus they encountered have a body in a normal sense. Christ’s resurrection body, and hoped for general resurrection bodies are both continuous and discontinuous with normal mortal bodies. As a result of God raising Jesus, the first Christians believed they were part of God’s new creation. In allegiance to the risen Christ they were part of God’s incoming reign, and they lived in view of what they believed the reign of God to be about and in expectation of the arrival, or parousia, of Christ the King.

Wright stands in a tradition in which faith and allegiance to Christ are shaped by beliefs in conscious continuity with the beliefs of the first Christians as expressed in the New Testament Scriptures. Although tried, tested and often modified in recent centuries by critical scholarship and scientific thought, it remains a faith tradition in which people find hope and lives are changed. It remains theological ground for hope in the face of whatever is happening in the contemporary world, including global warming and climate change. However, it rests on the foundation of the resurrection of Christ being an event wrought by God in the midst of history, while transcending the norms of history as understood today. Those who, like Crossan, combine a hermeneutical commitment to interpret the rise of resurrection belief in naturalistic ways and use of historical and biblical studies to make the case that naturalistic explanations are entirely possible, inevitably reject accounts of the rise of resurrection faith such as the one given by Wright.

Crossan views the Christian story through the lens of historical research into the world of that time. He interprets Jesus as a Galilean peasant teacher whose “ecstatic vision and social program sought to rebuild a society upward from its grass roots but on principles of religious and economic egalitarianism”. His vision “did not invite a

95 Wright, The Resurrection of the Son of God.31,695,696
political revolution but envisaged a social one at the imagination’s most dangerous depths. When the inevitable clash with authorities ended in his crucifixion, Crossan proposes that:

Jesus closest followers knew nothing more about the passion than the fact of the crucifixion, that they had fled and later had no available witnesses for its details, and that they were concerned, in any case, with far more serious matters, such as whether that death negated all that Jesus had said and done, all that they had accepted and believed.

He argues that since the bodies of those the Romans crucified were routinely denied any dignity in death and were thrown out as refuse, it is improbable that Jesus was ever buried. There being no tomb, there was no empty tomb as evidence of his resurrection. In Crossan’s view, although the narratives of Jesus’ crucifixion have historical foundation, the resurrection narratives do not. Nevertheless, they give insight into how the early church interpreted and proclaimed the gospel. He argues that belief that Jesus had risen became a reality in the early Christian communities through many possible influences, the strongest being the life-changing effect of being with Jesus, post-crucifixion “apparitions” of Jesus, and conviction of prophecy fulfilled. In terms of Moltmann’s questions, for Crossan Jesus is not risen “in the sense of a reality accessible to ‘historical science’”. Jesus is risen in the senses of “a reality belonging to the history of ideas and traditions” and “reality that affects our own existence” as well as “in the sense of a wishful reality of human longings and hopes”. The language of resurrection is then metaphorical and is an expression of the subjective ‘reality’ experienced by the first Christians. It fits well with Moltmann’s observation that a “resurrection faith that makes no assertions of the resurrection fits in exactly with the modern world’s view of reality.” Real, as Crossan insists, is not the same as literal. He emphatically warns against simplistic notions of Enlightenment thought which equate them. In Crossan’s view belief that Jesus was risen became a reality for the first Christians, but he uses his contextualization of biblical studies within first century history to propose explanations of how this reality developed, even though the historical, bodily Jesus was himself dead and remained dead.

97 ibid.375
98 Moltmann, Theology of Hope.166
99 ibid.181
100 Stewart, The Crossan-Wright Dialogue. The Resurrection of Jesus.32
What is in common, what is lost and what is gained in Wright’s and Crossan’s positions on the resurrection of Christ? For each, for the early church the resurrection of Christ was an existential reality underlying commitment to God’s reign. This was expressed counter-culturally in ways in which Christian communities defied norms in the world around them, including power-structures of oppression and the idolatrous demands of the Roman Empire. For both Wright and Crossan the church and its members have always been called to embody the incarnate presence of God in the world by living in this same spirit. For Crossan:

Resurrection does not mean, simply, that the spirit or soul of Jesus lives on in the world. And neither does it mean, simply, that the companions or followers of Jesus live on in the world. It must be the embodied life that remains powerfully efficacious in this world. I recognize those claims as an historian, and I believe them as a Christian.101

The meaning of the resurrection therefore is not found in words and ideas alone, but crucially in powerful efficacious living which embodies the person of Jesus who, rather than the powers of this world, incarnates God in the world. Divine intervention, whether at the birth of death of Jesus, or anyone else, is not what matters: it is how life is lived. Crossan states that his:

own position as an historian trying to be ethical and a Christian trying to be faithful is this: I do not accept the divine conception of either Jesus or Augustus as factual history, but I believe that God is incarnate in the Jewish peasant poverty of Jesus and not in the Roman imperial power of Augustus.102

Wright is also emphatic that the resurrection stories have a clear down-to-earth meaning, but insists on the centrality of orthodox resurrection theology:

The resurrection stories in the Gospels do not say Jesus is raised, therefore we are going to heaven or therefore we are going to be raised. They say Jesus is raised, therefore God’s new creation has begun and we’ve got a job to do.103 . . . It is, in fact, only with the bodily resurrection of Jesus, demonstrating that his death dealt the decisive blow to evil, that we can find the proper ground for working to call the kingdoms of the earth to submit to the kingdom of God . . . . Perhaps the most important thing about the resurrection is also the most deeply counter-cultural in our own day – that a deeply orthodox theology about the resurrection, and a good deal else besides, is the proper seedbed of radical politics.104

101 Crossan, The Birth of Christianity. Discovering what happened in the years immediately after the execution of Jesus. “prologue” xxx
102 Stewart, The Crossan-Wright Dialogue. The Resurrection of Jesus.29
103 ibid.21
104 ibid.23
Wright and Crossan find common ground on what the early Christians came to believe as their foundation of hope, and how that foundation shaped their communal and individual lives. In particular, they agree that the early Christians came to believe that Jesus had risen and that they were called to embody his presence, living dangerously in defiance of the idolatrous and oppressive power of the Roman Empire. Wright and Crossan also share a passion that Christian communities today should continue to embody the ongoing presence of the risen Jesus and, if need be, live dangerously, defying idolatrous and oppressive power. The resurrection of Jesus may be understood as a literal and in some sense bodily event transcending the normal course of history. It may be used as a metaphor for the embodied life of Jesus in the church. Either way, the resurrection still has power to bring people together in hope and purpose to expose their own and their communal life to the life of Jesus. Now, as for the first Christians, exposure to the life of Jesus constitutes a calling to confront suffering and evil in society in ways which are at least uncomfortably counter-cultural. Even in a modern liberal democracy so living may also incur the wrath of powerful people and institutions.

Wright and Crossan address Moltmann’s “What can I know?” historical question in very different ways and reach highly divergent conclusions. Convergence of theological meaning, and in particular in finding resurrection speaking of embodiment of Christ, leads to broad agreement on “what am I to do?” This agreement exemplifies how people who see life and its meaning very differently may find common cause and be able to work together when they are convinced that oppression, injustice and destructive practices need to be named and confronted. The possibility that the grandchildren of this generation may still inherit the Earth in reasonable condition, avoiding the worst of human displacement and species extinction, is a widely shared horizon of hope. It is worth working for, and it is possible to do so in hope of making a positive difference. Those who are in a broad spectrum of Christian tradition have rich resources to draw on when sharing with each other and with others in creatively shaping the future. Moltmann’s question “What may I hope for?” finds a widely-shared answer at this level – the possibility of a hopeful future for the next two or three generations, so that the problems they face in passing on a hopeful future to those that follow them do not become ever more intractable.

A horizon of hope located a generation or two in the future fits easily with secular horizons of hope and needs no specific theological reference. If Christian eschatology
is interpreted in terms which fit well with what Moltmann calls “the modern world’s view of reality”, then speaking of God converges with speaking in the language of that view of reality. The end-point becomes ‘scientific pantheism’ and conviction of the transcendence of God fades. Some traditional concerns of Christian eschatology then remain unresolved. One of these is redemption of history. The groaning of creation, including the suffering of innumerable humans, is left in the past, with at best hope that in the broad story of evolution, their suffering and death were not in vain. Only the future of evolving life holds hope for transcendence of the sorrows and pain of the past. Traditional Christian eschatology rests on conviction of promises from God which look to a great deal more.

Bauckham and Hart look for this ‘great deal more’ in eschatology which has not minimized or lost its vision of God’s transcendence. For them:

The only credible eschatology, given the failure of the myth of progress, is a transcendent one, which looks for a resolution of history that exceeds any possible immanent outcome of history. Only from the transcendent possibilities of God can this world be given a satisfying conclusion.¹⁰⁵

Conversation between science and theology suggests horizons of hope which embrace both the known and the unknown, stretching imagination to allow transcendent mystery. How may “resolution of history” and a “satisfying conclusion” be imagined within this conversation? In particular, how may the Christian tradition of soteriological hope in Christ be interpreted in the present context of unsustainable environmental destruction and the overshadowing menace of climate change?

Chapter 8

Judgment, Redemption and Coming Home

8.1 Where is home?

In Christian eschatology, ‘coming home’ is a metaphor for movement towards fully restored relationship with God. The journey of coming home is a journey of transformative hope. The conflicted and ambiguous state of human nature and human affairs makes eschatology inseparable from soteriology. The journey unfolds as the soteriological work of Christ takes effect. Eschatological hope which envisages fulfilment for all creation requires an understanding of soteriology which extends far beyond humankind. It embraces all creation and all relationships, including relationships between humankind and the other creatures which make up our Earth home. Its Biblical roots lie in traditions of Christ in creation, sustenance and fulfilment of all things.¹

Christian eschatology sets a horizon of hope which transcends the failures and fears that permeate today’s world. In view of climate change, the difficulty of mobilizing rapid movement from our reliance on fossil carbon ferments tension between despair and hope. Stefan Skrimshire brings eschatological hope to this precarious tension:

The Fifth Assessment Report of the IPCC has suggested already that exceeding the critical global threshold of 2 degrees Celsius before the end of the century may be unavoidable. An eschatology that denies despair in the face of such epic failures, and encourages action in the face of the death that such failures will bring, may be an extremely welcome one in the light of such a report.²

Eschatological visions of transcendence have power to “encourage action in the face of death”, entering into the soteriological work of Christ. To Christian faith, the resurrection of Christ illuminates the death-defying transcendence of God in the midst of the labours of everyday life. Moltmann looks beyond unresolved historical and scientific questions we may have about the resurrection by insisting it has immediate practical implications: “What am I to do?” and “What may I hope for?”³ Doing is

¹ e.g. as in Colossians 1:15-20
² Skrimshire, "Eschatology."169
³ Moltmann, Theology of Hope.182
entering into Christ’s soteriological work, and hoping is holding to eschatological visions of the fulfilment of all things in Christ.

Our location for doing and hoping is where we are in body and mind, whether or not we feel at home there. It is where we home in on living so that future generations may have a nurturing place to live and an inheritance of hope. It is where we are confronted with choices. Choosing life is, in Christian thought, a commitment to discern and creatively participate in the healing and redemptive work of Christ.

Earth is our home, shared with myriad and diverse forms of life. In the scientific story of evolution we are all members of transient species in the flow of evolutionary becoming. We share common ancestry in deep history and uncertain destiny in a partially imaginable future. For a short time in cosmic history Earth is home for humankind but, as Conradie asks, are we at home on Earth?4 At one level, this is a question about the place of humankind within global ecology, amenable to insights from research across all sciences. However, Conradie asks it as a Christian theologian. Where, he asks, is a “suitable point of departure for a Christian anthropology” which can “do justice to the soteriological thrust of the gospel?”5 How may the gospel speak of homecoming for humankind when our finite Earth-home is under radical threat from a global economy driven by “a suicidal compulsion to growth . . . a fallen Power”,6 as Tim Gorringe describes it? How may the gospel speak to all creation, when our human ways of living on Earth are causing many other species to go extinct through loss of habitat and the Earth is steadily becoming less hospitable for those that have survived so far? What judgment must we come under in order for soteriological change to take root sufficiently widely so that the journey towards being at home on Earth becomes more hopeful, and our interdependence with all life on Earth is nourished by truth and justice?

To be at home is as much an expression of relatedness as of location. Whether or not we are at home depends on the dynamics of our relationships, with their capacity to be creative or destructive, to nurture or to oppress, to heal or to hurt, to reconcile or to alienate. For Steven Bouma-Prediger and Brian Walsh, being at home is grounded in trust and memory:

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4 Conradie, An Ecological Anthropology : At Home on Earth?
5 ibid.10
Home is about belonging, connectedness, and shared memories. Home involves relationships of trust. To be at home in the world, indeed to be at home within ourselves, we must be in a home that is shared. Home is a matter of community. . . . Home is always rooted in memory. Indeed, there is no vision, no future-directed hope, apart from memory.7

For the most part, our immediate experiences of being at home are shaped by the relationships which make up daily life. These form an inner circle within which we are more or less at home in ourselves, with those around us, and with our daily environment. As we are reminded from time to time, that inner circle of relationship is entirely dependent on a vast global network of relationships, with deep evolutionary roots and a future with both hopeful and fearful possibilities. The question of whether we are at home on Earth is local and global and may be asked at every level from the inner self to the total community of life. Could we ever really be at home on Earth in the midst of the suffering which is so inherently part of the evolution of life and so intractably part of human affairs? Intimations of transcendence, journeys of faith, and inheritance of faith traditions expand the context of the question further. Could we be at home with God without being at home on Earth, or could we be at home on Earth, despite the prevalence of suffering, because we are at home with God?

The Old and New Testament Scriptures are about journeying towards being at home with God. As in other traditions, myth and memory give identity and meaning, providing roots from which “future directed hope” may grow. Bouma-Prediger and Walsh observe that:

. . . it seems there is indeed something universal about narratives of exile and return, of homelessness and the perilous journey back home. Humans are incurable storytellers, and our stories seem to be preoccupied with home.8

In the Old Testament Scriptures the Israelites make the journey to an earthly home, a land promised by God where God will dwell with them. The narratives of wilderness, settlement and kingdom tell of how the “land of homecoming devolves into a cursed and idolatrous land of expropriation and homelessness”9 as the people turn away from God. As the monarchy era drew to a close, Jerusalem became less and less a place for people to be at home with God until, in Ezekiel’s vision, God’s glory finally departed.

8 ibid.11
9 ibid.19
The prophets emphatically affirmed that the death and destruction which followed were God’s just retribution for sins but, terrifying as that was, there was still hope – hope beyond disaster and against all appearances. God would restore a remnant with renewed heart to a renewed Jerusalem, to live rightly with each other and towards God. The narrative of journey has become one of judgment, of decimation, exile, renewal and return. Today we too face existential threats, particularly in the forms of climate change and potential for massively destructive warfare. Could the biblical memories of failed relationships, denial, judgment, decimation, exile, renewal and return form a fearful template for the future of humankind in the next few centuries? Rowan Williams captures the human dimension of suffering which could lie ahead:

Not the least horror of our present circumstances is the prospect of a world of spiralling inequality and a culture that has learned again to assume what Christianity has struggled to persuade humanity against since its beginning – that most human beings are essentially dispensable, born to die.\(^\text{10}\)

It does not have to be so. What would it take for the story of the next few centuries to unfold as a time of progressive peace and of reconciliation, people with people, and people with the world-wide web of life? How could we progress towards living together amidst a thriving creation in reverent awe at our very existence, the mystery of our Creator? What has Christian memory and hope to offer in this present time of denial and of fear?

Israel’s story forms the background to Christian imagination. In the New Testament Scriptures, homecoming is imagined in widely differing ways, some of which are, at least prima facie, in extreme tension with each other. The apocalyptic visions in Revelation resonate with Israel’s story of exile and return. However, this time the people of God are re-defined, and so too is Jerusalem. The new people of God are coming home to the New Jerusalem in New Heavens and a New Earth. The images are highly divisive, bringing hope and consolation to ‘God’s peoples’, but there are also those who are not ‘God’s peoples’ and who are consigned to terror and exclusion.\(^\text{11}\) Violent biblical images even include images of the destruction of the Earth itself. Ann Primavesi warns that it is an:

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\(^{10}\) Williams, *Faith in the Public Square*.181

\(^{11}\) A particularly vivid example is found in Revelation 21:1-8
‘inconvenient truth’ that certain readings of sacred texts, and traditional images based on them, have both provided and sanctified violent images of God which have in turn sanctioned violence of all kinds.\textsuperscript{12}

In contrast, the main “soteriological thrust of the gospel” is about God’s love for the world, and God reconciling of the world to God through Jesus. Jesus’ parables of the reign of God include homecoming expressed in homely images. God is the loving parent welcoming home a lost child, providing a residence with place for all, and abundance of generous hospitality. Coming home is possible because of God’s grace, with judgment followed by reconciliation and healing.

\section*{8.2 The way home: truth and reconciliation as a model for ecological soteriology.}

In Matthew’s gospel, Jesus contends with those who hold that God’s way gives precedence to retribution rather than to reconciliation and healing of relationships. He tells them “you have heard that it was said . . . but I say to you . . .” and goes on to insist that reconciliation must precede coming to God (Matt 5:21-24). Christopher Marshall contrasts retributive justice with the restorative justice\textsuperscript{13} commended in the New Testament Scriptures:

Retributive justice seeks to check and punish evil; the justice commended in the New Testament is empowered with self-giving, long-suffering, redemptive love that seeks to overcome evil with good, to repair the damage done by sin, and to restore peace to human relationships.\textsuperscript{14}

Heather Thompson describes Jesus as:

engaged in an argument about God – what God is like, what God requires of us, what God’s justice is like and what God’s desire is for reconciliation. This became for him an argument to the death.\textsuperscript{15}

Thomson’s concern is with the gospel as the power of God for reconciliation amongst peoples who have a bitter history of oppression and conflict. Her examples include

\textsuperscript{12} Primavesi, “Transforming the Theological Climate in Response to Climate Change: Jesus and the Mystery of Giving.”\textsuperscript{22}

\textsuperscript{13} ‘restorative justice’ may be named in other ways, such as transformative justice, relational justice, reparative justice, therapeutic justice, collaborative justice. Christopher D Marshall, Compassionate Justice. An Interdisciplinary Dialogue with Two Gospel Parables on Law, Crime, and Restorative Justice (Eugene Or.: Cascade Books, 2012).4


\textsuperscript{15} Heather Thomson, The Things that Make for Peace (Canberra: Barton Books, 2009).6
Northern Ireland and South Africa, where deeply divided people share the same space but often are far from being at home with each other. Exposing and naming evil done, hearing the stories of victims and perpetrators, and opening the door to forgiveness can and sometimes does bring deep reconciliation and healing. When the course of justice is pursued with priority given to restoration rather than retribution, truth is told, anguish is shared, and reconciliation is possible. Thomson proposes that transition, rather than retribution, is a better way of approaching what God’s justice is like:

While divine justice has long been associated with retributive justice, I am suggesting that divine justice may be better thought of as transitional justice, enabling a move from the regimes that govern this world to entry into the reign of God. This reign is epitomised by Jesus, the Prince of Peace.16

The “soteriological thrust of the gospel” finds practical outworking in truth-telling and reconciliation as healing process. Conradie aims to bring the “soteriological thrust of the gospel” to the human journey towards being at home on Earth. His aim also may be thought of in terms of truth-telling and reconciliation expanded to include the whole web of relationships which make us human. Thomson identifies the myths (“as in falsities”) of difference and superiority/inferiority which some may hold about others as drivers of violence and violation of relationships.17 Exposing and repudiating these myths is a necessary part of truth-telling and reconciliation. When humankind is imagined to be superior to the rest of creation, it tends to legitimate environmental destruction. The Earth, however, is not simply an acquiescent home for the benefit of humankind. Ecologically, humankind is not ‘other’, but is integrally part of the total Earth community. We are as dependent on the Earth and as much part of it as the brain is to the whole of the body. We have the capacity to think, plan and reflect on meaning and shape the future, all of which ends in frustration if the body as a whole is in decline. However, the body-brain analogy is at best partial. Without humankind, the community of life would continue on its evolutionary journey. Theologically, too, the Earth, independent of humans, is still the good creation of a loving Creator. It is an ‘inconvenient truth’ that readings of the sacred text which have God giving to humans ‘dominion’ over the rest of creation have at times been used to legitimize environmental violence. Like other readings of sacred texts which have been used to legitimize

16 ibid. 5
17 ibid. 74,75
violence, such readings have to be rejected when the reign of God is understood to include ecological justice, healing and reconciliation.

A truth and reconciliation approach to destructive alienation of humans from the rest of the global environment requires that the Earth be given voice. Norman Habel laments that in Enlightenment thought “Earth and creation are not considered living entities with voices to be heard” and that “The many biblical references to land, sea, forests or fauna lamenting their plight have been interpreted as irrelevant poetic metaphors”.18 Such interpretations are alien to Habel’s own exegetical focus, which is on biblical interpretations which “read Earth as a subject rather than an object in the text.”19 In doing so, he sees “The Principle of Voice” as one of six fundamental “Ecojustice Principles.”20 Poetry and metaphor have a long history as language of empathy, including with the Earth. Whatever language is used, sensitive awareness of our interconnectedness within creation is highly relevant to shaping how we live on earth. The responsibility to hear, understand and articulate what the Earth is saying falls on mediators, advocates and visionaries from within the human community. Habel describes such people: they “are summoned, like the prophets of old, to confront and comfort, to represent Earth and the creatures of Earth to all in our community.”21 Their prophetic witness draws on the most ancient to the most modern modes of awareness of Earth. Indigenous peoples, already marginalized and often ignored, have deep bonds with ‘country’ which lie at the heart of identity and spirituality. They are uniquely aware of what Earth is saying and grieve at what they hear.22 Scientists represent the most modern mode of environmental truth-telling and are more likely to be heard in the corridors of Earth-destroying power. However, to break the hard shell of anthropocentric utilitarianism, we also need those whom Rosemary Radford Ruether describes as:

scientist-poets who can retell the story . . . in a way that can call us to wonder, to reverence for life, and to the vision of humanity living in community with all its sister and brother beings.23

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19 Habel, *Readings from the Perspective of Earth*. 34
20 ibid. 24
Of course one does not have to be a scientist, a scientist-poet or a traditional story-teller to listen to the Earth and advocate for Earth with truth and power. It is a calling confronting anyone who sees and has heart-felt understanding of how the Earth is changing under human influence.

For environmental reconciliation to take place, truth needs to be told and heeded at many levels. There is the empirical, evidence-based truth which tells us as accurately as scientific resources permit what is happening to Earth as a result of human activity, and what is likely to happen in the future. This is truth based on reason and, despite the denials of those who see it as a threat to their interests, it is achieving a wide measure of intellectual acceptance. The next level of truth is living true to what is known and understood. Living in truth is concerned with the vastly more complex area of human behaviour, attitudes and beliefs. Williams insists that:

If we are to find any realism or truth in our engagement with the accelerating crisis of our environment, we need more than reason – or at least, more than reason defined in the professedly neutral way that modernity has sought to understand it.24

One meaning of truth which Robert Schreiter describes is “coherence among a set of beliefs and practices”.25 Agreement on how to articulate truth and on what is reasonable becomes more difficult when multiple sets of belief and practice are at play. However, when beliefs are put into practice, truth may become embodied and expressed in living relationships which have potential to transcend diversity of belief. Words may fail, but inter-personal, inter-communal and international responses to need, “doing to others as you would have them do to you”, are living signs of a deeper truth which is shared by many of the ‘myths’ by which people of widely different beliefs live.26

The embodiment of truth is central to Christian thought, most explicitly in John’s gospel. In the gospel, Jesus declares he is “the way, the truth and the life” (John 14:6).27 John confronts the reader with supreme irony when Jesus stands before Pilate and declares the very purpose of his life is “to testify to the truth” – provoking Pilate’s

24 Williams, Faith in the Public Square. 176
27 John 14 goes on to say “and no one comes to the Father but by me”, which is dangerously open to being used to justify attitudes which exclude others. Thomson’s understanding of Jesus having an argument to the death about what God is like is particularly relevant.
response “What is truth?” (John 18:37,38). In the gospel, the creation comes into being through the incarnate Word, so in Christian thought creation is inseparable from God’s creative Word who is Truth. Williams describes how creation flows as gift from the relational and self-giving heart of God:

To put it at its strongest, what this theology claims is that which most deeply and basically is the self-giving action of God; everything that happens to exist, everything that belongs in the interlocking pattern of the intelligible world, is, and is the way it is, in virtue of this underlying reality which is God’s giving. This reality is eternal and self-sufficient in the life of God as trinity, as the everlasting exchange of gift between Father, Son and Spirit; but by God’s free decision it is also the ground for what is not God.28

As creatures made in the image of God, humankind is called to respond in truthful relationship to God and to all creation. We are gifted to live as a conscious and responsible part of creation, supporting one another and all creation in light of all being gift from God. Williams takes up what understanding creation as gift implies:

To understand creation as a gift from God, as something that makes relation with God possible, is also to become able to make creation a gift – to receive it from God in blessing and thanksgiving, to offer it back to God by this blessing and gratitude (that is, to let go of the idea that it is just there for our use), and to use it as a means of sharing the divine generosity with others.29

He describes understanding creation as gift as a “truthful ‘myth’” by which to live. We then “shall only tell the truth about the world as and when we treat the world accordingly.”30 When any part of creation – human and non-human – is treated as something to be exploited for exclusive and selfish use, then true relationship is violated, and violence is perpetuated. Truthful, restorative justice is necessary to break this downward spiral. Reconciliation, justice and truth are inseparable. Schreiter insists that:

Reconciliation, as I have tried to show, is about truth. The violence perpetrated against victims is fundamentally a lie about their existence and how they stand before God. That is why truth is essential to justice.31

28 Williams, Faith in the Public Square. 178
29 ibid. 177
30 ibid.179
31 Schreiter, The Ministry of Reconciliation. Spirituality and Strategies.99
A truth and reconciliation approach to soteriology affirms the ongoing interdependence of the parties concerned. Transitional justice has no place for objectifying the ‘other’, seeking some economic or technical solution to the problem of alienation, and then disengaging. This recognition of interdependence makes truth, reconciliation and transitional justice particularly applicable to ecological soteriology. We simply cannot disengage from the Earth, because we are part of it and our future is part of the Earth’s future. In Christian soteriology, reconciliation and healing in our earthly relationships are an expression of the journey towards being at home with God. They are signs of a new creation and of the already present reign of God into which we are drawn through the atoning work of Jesus Christ. Thomson describes the atonement in terms of transitional justice:

The atonement was characterised by mercy and forgiveness overriding the usual demands of justice to allow the conditions for reconciliation to be created. It was a work of grace that allowed for a peaceful transition from old rules (living under sin and death, living over against others as rivals) . . . into a new rule, the reign of God.32

High levels of international cooperation have enabled a basic level of environmental truth-telling to be widely accepted. However, “living over against others as rivals” stands as a formidable barrier to the cooperation required adequately to address global warming. Fossil carbon remains the currency of energy geopolitics, bestowing power and advantage to those who control it. Wars have been fought over access to oil, and nations continue to exert leverage on each other using it.33 Such rivalry is tenacious and ultimately Earth-destroying. It stands in the way of living in truth in light of knowledge about fossil fuel use and climate futures. These rivalries reflect “forms of structural violence deeply embedded in social patterns”34 and are a continual brake on progress towards social and ecological reconciliation and healing. They are not true to the creative patterns of Earth, which in Christian faith perspective reflect the relational glory of God.

Conradie argues that global warming is having both unifying and divisive effects:

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32 Thomson, *The Things that Make for Peace*.90,91
I would argue that the dangers of climate change can only be addressed on the basis of some form of reconciliation which would facilitate cooperation between people from different continents, cultures and religions. Although climate change necessarily requires a collective effort from the international community, it has also put a new spin into old rivalries and lead to further polarisation – between East and West, between North and South, between (over)-industrialised and so-called “developing” economies, between gated communities and (environmental) refugees, between previous generations and coming generations and between the interests of humans and of other species.\(^{35}\)

The Christian good-news is about peaceful transition from “old ways” of rivalry, injustice and structural and personal sin to the “new rule” of the reign of God. The transition is characterised by movement towards greater mercy, grace and generosity towards all humankind and all creation. Carol Dempsey describes this as change to “hospitality of heart . . . the motivating principle of justice”\(^{36}\) which prepares the way for a new heaven and a new earth:

> In a global community today, where social and ecological injustice continues to cause pain and death to both human and nonhuman life, a hospitality of heart that not only welcomes all life but also works to sustain it and free it from the jaws of injustice is absolutely necessary if the web of violence is to be broken, and the vision of “new heavens and a new earth” is to be realized.\(^{37}\)

Justice requires naming of injustice, confession, repentance and forgiveness. It includes transcending the rivalries and healing the polarisations which Conradie names. Northcott insists that ecological justice radically challenges the global economic structures and habits which are driving the growing ecological debt underlying these polarizations:

> Only when the rich confess the ecological harms, or ‘ecological debts’, with which they burden the poor and other species through the deregulated global economy will it be possible for the poor to gain justice and for climate debts to be justly redeemed.\(^{38}\)

\(^{35}\) ibid. 129


\(^{37}\) ibid.46

\(^{38}\) Northcott, *A Moral Climate: The Ethics of Global Warming*. 43
If greenhouse gas emissions continue on their present course\textsuperscript{39}, pressure on resources and places to live will rise dramatically and people’s inclination to be generous and sacrificial will be stretched to the limit. Without sacrificial generosity, Williams’ warning of the likely horror of those privileged with power in a world of spiralling inequality leaving large numbers of others to their fate in a warming Earth will become a hellish reality.

Worst-case scenarios due to global warming are sufficiently well understood for major world economic bodies to be sounding alarm\textsuperscript{40} and for increasingly urgent efforts to be made to envisage how the predictable worst can be avoided.

\section*{8.3 Righteousness, judgment and redemption}

Lovelock vividly imagines the predictable worst. In his scientifically informed metaphor of Gaia for the self-regulating Earth, he sees Gaia as angrily threatening devastating judgment on humankind:

\begin{quote}
Unfortunately, we are a species with schizoid tendencies, and like an old lady who has to share her house with a growing and destructive group of teenagers, Gaia grows angry, and if they do not mend their ways she will evict them.\textsuperscript{41}
\end{quote}

By using this metaphor, Lovelock captures the judgment of cause and effect. Human activity which is causing global warming will inevitably make Earth less homely. Eviction is death: death of non-human species and, in a worst case scenario, death of a large number of humans. It is a shocking metaphor, and meant to be so. But in using the Gaia metaphor Lovelock does much more than capture the cause and effect of climate change. The metaphor provokes questions which cluster around judgment. Who, in justice, should be judged guilty and held to account? Who and what will be first to experience the eviction of death? Is there time for those judged guilty to mend their ways? What obligations do those judged guilty have towards all life on earth, human and non-human? How do such obligations to the creation reflect obligations to the Creator?


\textsuperscript{41} Lovelock, \textit{The Revenge of Gaia}.47
In Christian thought, these questions may be explored in terms of ‘righteousness’ and cognate ideas. Dunn argues that in the New Testament Scriptures, the meaning of ‘righteousness’ is informed more by Hebrew thought than Greek thought. It is more about lived relationships than an objective ideal:

In the typical Greek worldview, “righteousness” is an idea or ideal against which the individual and individual action can be measured . . . In contrast, in Hebrew thought “righteousness” is more a relational concept – “righteousness” as the meeting of obligations laid upon the individual by the relationship of which he or she is part.

Commenting on Romans 5:1, Fitzmyer similarly identifies the importance of Hebrew thought to the meaning of righteousness. The peace which is the result of righteousness is not simply an individual state, but embraces all in the peace of God:

“Peace” is to be understood, not in the sense of peace of mind or conscience about sins forgiven . . . but in the positive sense of shalom, the fullness of right relationship that is implied in justification itself and of all the other bounties that flow from it.

Righteousness understood in this relational way may be thought of as an expression of humanity being shaped in the image of God, living as a creative part of shalom of God. Unrighteousness works against shalom and, in ecological context, absence of shalom is a consequence of ecological sin.

Brueggemann describes shalom as “the substance of the biblical vision embracing all creation. It refers to all those resources and factors that make communal harmony joyous and effective.” It is much more than peace, in the sense of absence of conflict. Randy Woodley sees shalom as God’s new order for the world:

God’s preferred order of existence for our world is shown by such images in Scripture as the Garden of Eden, the Sabbath system, and Jubilee. Other shalom descriptions come to mind from the prophets, such as God’s Holy Mountain and

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42 The Greek root is δικαιο… Derived words are typically translated into English as ‘righteous’, ‘justified’ and related words. See, for example Joseph A Fitzmyer, Romans (New Haven: Yale University Press, 1993).
44 Fitzmyer, Romans.395
45 Conradie says of the image of God, it is “a dynamic longing which constitutes creaturely personhood, a longing for the participation in the peaceful life of the eternal triune God” : Conradie, An Ecological Anthropology : At Home on Earth? 173
46 ———. “Towards and Ecological Reformulation of the Christian Doctrine of Sin.”16. Conradie refers to several ways in which other theologians have attempted to describe ecological sin.
the Great Day of the Lord. Images of shalom in the Second Testament concern the advent of the Messiah, the Kingdom of God, and the church.48

In today’s world, the decline in global ecological shalom and well-being may be thought of as the ecological result of unrighteousness. In both the Old and New Testament Scriptures, divine judgment falls on peoples who are unrighteous, living in violation of the right relationships on which the divine blessing of shalom depends. Dale Patrick defines judgment “as the deliberative procedure dedicated to determining guilt and innocence with respect to social norms."49 This definition may be developed to define judgement in an ecologically more comprehensive way. The norm against which judgment is made may be taken as ecological shalom, in the sense of all-embracing relationships which support the thriving of life, both human and non-human, in all its beauty and diversity. Woodley describes those who live in harmony with this norm as “Jesus’ shalom-keepers,” living in “a Sabbath way, a Jubilee lifestyle, and a shalom way of being in, with, and for the community of creation.”50

Ecological shalom thought of this way is scientifically hopeful and theologically provisional. From a scientific perspective the thriving of life in all its beauty and diversity depends on food chains, predation, including among sentient creatures, death and regeneration, extinctions and emergence of new species. In this sense ecological shalom is a vision for thriving which has hope and promise for a future in which humankind and a great diversity of non-human life continue to thrive and evolve. Ecological shalom so imagined is theologically provisional because, in Christian eschatology, the world as we know it is provisional. The vision of Isaiah 11:6-9 uses images of a transformed natural order to envisage how all will be when the Lord’s chosen one comes.51

The “deliberative procedure” in ecological judgment has several dimensions. Among these is attentive listening to the Earth. Listening is followed by a relentless commitment to critical assessment of how humankind is living on Earth. All needs to

48 Randy S Woodley, Shalom and the Community of Creation. An Indigenous Vision (Grand Rapids: Eerdmans, 2012), 11
50 Woodley, Shalom and the Community of Creation. An Indigenous Vision, 40
51 Hans Wildberger Isaiah 1-12 (Translator Thomas H Trapp), Fortress Minneapolis, Fortress, (1991) : “The images fade into the background and . . . the hearer is told the essential about what is yet to come”, 465
be placed within a frame of reference in which the immanent call to live righteousness in
the here and now is set within a vision of *shalom* which extends to the deep future. This
expanded form of ecological judgment may be used to deliberate in both secular and
theological frames. There is much common ground between secular and theological
ecological judgment, but there are also profound differences. Each is concerned to
expose how humankind is causing ecological devastation and each seeks to identify and
judge the particular agents doing so. Each also is concerned to bring about individual
and communal change of mind and habits so that there is a way forward towards a more
hopeful future. The differences lie in the absence or presence of belief in God, which
determines where ultimate accountability is located, what horizons of hope are
imagined, and how the means and power to effect change are understood.

Lovelock’s Gaia metaphor is visionary and, despite using an ancient Greek religious
image, it is essentially secular. Ultimate accountability is to the natural world and
judgment evolves impassively and relentlessly under the forces of nature. If the
ecologically precarious situation of humankind is to be redeemed, sufficient of
humankind will have to mobilise the will, ingenuity and energy to “mend their ways”.
If there is transcendent hope, it lies in sufficient people now and in the future
transcending the constraints of thought and will which make energy-intensive growth
models of the global economy seem normative. The Gaia metaphor is a broad one,
imagining the destiny of all humankind within the community of the Earth as a whole.
Likening how humankind is living on Earth to debt and living beyond one’s means is a
more immediate way of describing ecological judgment. This analogy brings it ‘close
to home’, which Hannay sees as critical to public engagement. Naomi Oreskes
describes climate change as being:

about a way of life that does not reckon the true cost of living, an economics that
does not take into account environmental damage and loss. Climate change is the
ultimate accounting: it is the bill for a century of unprecedented prosperity, generated by the energy stored in fossil fuels. By and large, this prosperity has been a good thing. More people live longer and healthier lives than before the industrial revolution. The problem, however, is that those people did not pay the full cost of that prosperity. And the remainder of the bill has become due.

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52 Hannay, *On The Public.* 62
53 Oreskes’ assessment that “by and large this prosperity has been a good thing” raises questions of ‘for whom?’, and about the ambiguity of fossil carbon and how its use brings both blessing and curse.
54 Forward by Naomi Oreskes in Washington and Cook, *Climate Change Denial. Heads in the Sand.* xvi-xvii
Woodley bluntly describes the modern age as “Dead on Arrival.” It is a human project which has a dualistic and anthropocentric philosophical foundation, driving alienation from creation as a whole, and inevitably leading to disaster:

The industrial age and neo-colonialism, following the era of colonialism, have written a check to our world that has insufficient funds. We are doomed to die if we don’t change course.\(^{55}\)

A minority of humankind has taken out a mortgage on the Earth, the home to all living creatures. As the debt accumulates and repayments are few, judgment is already at the door. Is it ever possible to redeem this environmental debt? It may be tempting to refinance the debt by taking out a new loan in the hope of going on living on Earth in much the same way as at present, including ongoing large-scale use of fossil carbon. Geo-engineering is one such possibility. Could we not intentionally modify the atmosphere to reflect some of the sunlight, or modify the oceans to absorb more of the carbon dioxide? Hamilton exposes the danger of geo-engineering in such ways, and forewarns against it.\(^{56}\) Could we not capture the carbon dioxide from fossil fuel combustion and store it underground?\(^{57}\) A brief respite might just be possible\(^{58}\), but in the end the cost could be even greater with stored gas leaking back into the atmosphere, laying the burden of deeper environmental debt on future generations.

There are many ways of attempting to manage the mortgage and move more hopefully into the future without engaging in speculative and potentially dangerous intentional modification of the atmosphere, the land and the oceans. It is a task of enormous complexity, demanding innovative transdisciplinary research which brings together multiple influences on the Earth. This “Earth System Analysis” is the focus of

\(^{55}\) Woodley, *Shalom and the Community of Creation. An Indigenous Vision.* \(^{64}\) Also see 61,62 where he gives an eight point critical assessment of philosophy underlying “western” modernity.


\(^{58}\) Writing in the Australian Financial Review, 12/07/2013, Tony Woods states that “Integrated CSG remains unproven at a commercial scale. Lack of industry advocacy or policy support means that CSG development is almost hopelessly behind the projections of the International Energy Agency and Treasury modelling of the last few years.” [http://www.afr.com/p/australia2-0/carbon_capture_cure_no_one_wants_7wHJaWFEQ9alDzMIuJsieM.](http://www.afr.com/p/australia2-0/carbon_capture_cure_no_one_wants_7wHJaWFEQ9alDzMIuJsieM) (accessed 08/07/2014)
extensive international co-operation. The sheer scale of required transition away from fossil carbon as primary energy source is daunting, but technological innovation already is making alternatives financially competitive. Substantial substitution already is occurring in some industrialized economies, setting an emerging pattern for much more widespread change. In an environment as complex as the global economy, global-scale transformation could occur quite rapidly, even in face of opposition from interests concerned to maximize return on current enormous investments in fossil carbon and its exploitation.

Visionary leadership, technological change, movements from within populations, and the actual growing impact of changing climate will all play a part in making the transition politically possible. In the meantime, as we continue to drive global warming, there is increasing likelihood that runaway positive-feedback mechanisms may make global warming even worse than current modelling suggests. Climate-related disasters and consequent geopolitical strife would then make Earth increasingly difficult to be at home in. Gaia’s judgmental revenge will become a harsh and ongoing fact of life, and evidence of judgment literally will be at the door.

Secular judgment on who is causing climate change can be passionate, as people perceive threats to prosperity, and fear for the future. In the Bible, particularly in the Old Testament Scriptures, narratives of threat from extreme weather events or from the geopolitics of the time are widely interpreted in terms of divine judgment. When God is believed to be acting through disasters, whether or not they are at first sight due to human or natural causes, passions are aroused to a new level. People speaking in the name of God are not presenting reasoned analysis, although they may use them. They are proclaiming ultimate indictments. In the Biblical narratives prophets proclaim that God purposefully intervenes in nature and in human affairs in order to bring about judgment on the unrighteous. Patrick observes that:


The contemporary theologian is not obliged to adhere to the concept of direct supernatural intervention. All that is required is to accord certain events the status of divine punishment or interdiction.63

Patrick’s suggestion is a dangerous one. On what basis may a contemporary theologian decide which events have such status? When disaster strikes, populist preachers may rush in to proclaim that the disaster is because God is judging the nation for some perceived godless immorality against which they have been preaching.64 Their zeal deflects from more searching analysis of social, political and environmental issues which may also call the preacher (usually a man) and his supporters to account. Their pontification depends on a dangerous confidence about what God is like and causes others who, like Philip Yancey, look deeper, to “cringe”.65

Heschel offers a deeper theology of prophecy and divine judgment. Heschel’s understanding of prophetic pronouncement of divine judgment brings together the complex dynamics of history and how humankind lives on earth, and a theology which understands God as passionate and compassionate. He describes a prophet as a person:

who feels fiercely. God has thrust a burden upon his soul, and he is bowed and stunned at man’s fierce greed. Frightful is the agony of man; no human voice can convey its full terror. Prophecy is the voice that God has lent to the silent agony, a voice to the plundered poor, to the profaned riches of the world. It is a form of living, a crossing point of God and man. God is raging in the prophet’s words.66

Heschel asserts that God is not impassive, but is “moved and affected by what happens in the world, and reacts accordingly.”67 God’s “raging” through the prophet’s words and actions is an expression of the pathos of God and the passionate way in which God relates to humankind and all creation. The “divine pathos” is:

. . .the unity of the eternal and the temporal, of meaning and mystery, of the metaphysical and the historical. It is the real basis of the relation between God and man, of the correlation of Creator and creation, of the dialogue between the Holy One of Israel and His people. The characteristic of the prophets is not foreknowledge of the future, but insight into the pathos of God.68

63 Patrick, Redeeming Judgment.289
64 Via cites “Falwell and his cohorts” doing so after the attack on the New York Twin Towers on 09/11/2001 Dan O Via, Divine Justice, Divine Judgment (Minneapolis: Fortress, 2007).3-4
65 Philip Yancey, “National tragedy and the empty tomb: not even senseless murder can separate us from the love of God in Christ Jesus,” Christianity Today 57, no. 3 (2013).27
67 ibid.224
68 ibid.231
When extreme climate events or earthquakes cause great suffering, particularly to those who are already vulnerable, God’s “raging” is not manifest in the events themselves. God’s rage is against all the unrighteousness and injustice which exacerbates the suffering and destruction.⁶⁹ When we live in ways careless of both Creator and creation, then we are living unrighteously. Sobrino insists that those most caught up in the suffering do not suffer as a result of their own unrighteousness.⁷⁰ They are in a sense sharing in the suffering of the crucified Christ,⁷¹ and find a measure of redemption in God’s presence experienced as “solidarity, love and hope” in the midst of suffering.⁷²

Conradie suggests that redemption “could be understood as a creative process in which God allows something new to emerge out of a world infected by sin.”⁷³ Love, hope, and solidarity are redemptive as they emerge amongst and with those who are victims of disasters. They are redemptive in the obvious sense of bringing people together to restore more normal conditions. However, they are redemptive at a deeper level. Disasters, whether experienced or observed, can and do lead people to radical change in belief about what matters in life. Redemption may then be worked out through living more towards rather than against shalom. In the context of climate change, this means accepting obligation towards all creation, human and non-human. Living in this way calls for what Sobrino describes as “a ‘will’ to truth; we must want to know the reality and not conceal it.”⁷⁴ Re-shaping how to live with will to truth in view of this obligation is counter-cultural and against the grain of high-energy consumer-oriented society. Elvey and David Gormley-O’Brien see this re-shaping of life to require “a radical and culturally-subversive reappraisal of how we as humans are to live.”⁷⁵ Working towards shalom requires reorientation from cultural mind-sets in which pursuit of privilege and material wealth alienate people from one another and the natural world. It calls for a metanoia, or re-orientation of mind towards righteousness expressed in loving and constructive inter-dependence, and is redemptively forged in

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⁶⁹ Sobrino observes that tragedies may have natural causes, but the extent of suffering is often due to poverty and injustice. Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope. 3-5, 15
⁷⁰ ibid. Chapter 4 “The Crucified People”, 49-70 and 56,57: “All it needs is to strike a structurally poor country, and we can take as given it will destroy mostly poor homes and injure mostly poor people.”
⁷¹ ibid.77-80
⁷² ibid. 24
⁷³ Conradie, An Ecological Anthropology : At Home on Earth? 19
⁷⁴ Sobrino, Where is God? Earthquake, Terrorism, Barbarity and Hope. 43
truth-telling and reconciliation. Conradie describes the journey as *oikeiosis*, the building of a new global *oikos*, or household, a new and redeemed Earth infused with *shalom*, where righteousness prevails. *Oikeiosis* is an affirmation “familiarity and intimacy” shared between humankind, as creatures, and all non-human creatures, in the journey of hope against hope into a deeply uncertain earthly future.

8.4 Coming home on Earth: Coming home to God

Brueggemann describes the Christian season of Advent as an invitation for “people to imagine homecoming.” He asks, “What would it be like to cross over into the new regime . . . to Jesus, to the neighbourhood, to peaceableness where the rule of the God of covenant is underway?” “Homecoming” and “underway” are words which hold the journey and its fulfilment in tension. They are an invitation not only to imagine crossing over, but also to be alive on the other side, bringing a counter-imagination of hope where injustice, suffering, and present and anticipated social and environmental threats are bringing despair. The new “neighborhood” is already present in the world. It is the place where the liberating power of Christ is being worked out in the “praxis of solidarity” of which Gustavo Gutierrez writes:

The praxis on which liberation theology reflects is a praxis of solidarity in the interests of liberation and is inspired by the gospel. It is the activity of “peacemakers” – that is, those who are forging shalom. Western languages translate this Hebrew word as “peace” but in doing so, diminish its meaning. Shalom in fact refers to the whole of life and, as part of this, to the need of establishing justice and peace. . . . This liberating praxis endeavors to transform history in the light of the reign of God. It accepts the reign now, even though knowing that it will arrive in its fullness only at the end of time.

Gutierrez has an inclusive vision of who may be found on the side of the peacemakers in this “praxis of solidarity”. Sharing in the praxis of building a just society is affirmation of “the single vocation to salvation” for “Christian and non-

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76 Conradie, *An Ecological Anthropology: At Home on Earth?* 24
77 ibid. 24
Christian alike.”

It is a “neighborhood” in which there is shared sense of belonging and of being at home, even though being in that place brings its own dangers of rejection. Gutierrez wrote from within a social and political environment where people who worked for justice were being oppressed and killed by those whose material and political privileges were threatened. He sees those who die building a just society as following Jesus to death: “What brought Jesus to his death, and is bringing his present-day followers to their death, is precisely the coherence of message and commitment.”

The Christian vision of being “at home” under threat rests in the resurrection of Jesus. Whether belief in the resurrection of Jesus originated in “something that happened to Jesus” or in “something that happened to the church,” it is bold affirmation that death does not have the last word. It is a “realization that life and not death has the final say about history.”

At one level, this realization is a source of courage in which all may share. It is a core scientific tenet of how life itself evolves, and a basic human experience as each new generation shapes the future and builds on the past, even when emerging from disasters. However, in Christian understanding the ground of courage in face of disaster is based on more than universal observation of regeneration or of human courage and determination to build a better future. It rests in God, with an ultimate horizon which goes even beyond the world as we know it. Rowan Williams affirms this position of faith: “God’s faithfulness stands, assuring us that even in the most appalling disaster love will not let us go; but it will not be a safety net that guarantees a happy ending in this world.”

Interpretation of solidarity with those suffering oppression and injustice as a sign of the reign of God is readily extended to the whole of life on Earth and the Earth environment. Solidarity then is about sharing with and working with oppressed fellow creatures, whether human or non-human. It is about empowerment and being empowered, so that life-affirming thriving and well-being replaces life-destroying impoverishment. It is as wide as the commitment which Jonathan Sacks describes: to

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80 ibid. 46 and 84, where Gutierrez states: “Persons are saved if they open themselves to God and to others, even if they are not clearly aware they are doing so. This is valid for Christians and non-Christians alike – for all people.”
81 ibid. Introduction xliii
82 Habermas, “Trend Toward Bodily Resurrection Appearances.”
83 Gutierrez, A Theology of Liberation. Introduction xxxvi-xxxvii
84 Williams, Faith in the Public Square. 190
“engage in the work of love and creativity”.85 The action it calls for is as diverse as empowering birds and animals on the verge of extinction by providing safe habitat, to working in the corridors of political and economic power to shape policy and its implementation in life-affirming ways.

Gutierrez and Sacks each has an inclusive vision of how people may live on the side of God’s shalom. Their inclusiveness focuses on the witness of shared praxis rather than confession of shared belief. Shalom is expressed in praxis which has at its heart love, justice and the nurturing of vulnerable life. Their visions of shalom interrogate the many ways in which people imagine and plan for living into the future as the impact of climate change becomes increasingly severe. Do these ways affirm or deny life, and particularly the lives of fellow humans and of non-human creatures starved of resources to thrive, or even to survive? Are they primarily about protecting privilege for particular people or particular nations? Are they oriented towards worldwide justice and sacrificial sharing in the dangerous journey of life in the Anthropocene?

As a global problem, climate change is provoking multiple global responses. These include responses as diverse as adaptation for immediate survival within nations like Kiribati and Tuvalu86, and international conferences under the United Nations Convention on Climate Change.87 In Australia, typical of many countries, awareness of climate change and its possible implications has permeated society as a whole, even though significant sectors continue to question whether it is really happening. Federal politics continues to debate the complex interaction of the national economy with causes and projected consequences of climate change, and Australia’s place internationally in addressing climate-change related issues. Climate change is

85 Sacks, The Great Partnership: God, Science and the Search for Meaning. 205. “So in the silence of the soul I listen for the still small voice, which is God’s call to each of us to engage in the work of love and creativity, to bring new life into the world, and to care for it and nurture it during its years of vulnerability. And whenever I see people engaged in that work of love, I sense the divine presence brushing us with a touch so gentle you can miss it, and yet know beyond all possibility of doubt that this is what we are called on to live for, to ease the pain of those who suffer and become an agent of hope in the world. This is a meaningful life. That is what life is when lived in the light of God’s presence, in answer to (God’s) call.”


87 United Nations Framework Convention on Climate Change, "COP19," unfccc.int/meetings/warsaw_nov_2013/session/7767.php. This is a recent example: (accessed 25/03/2015)
increasingly part of planning by business, industry and agriculture. It is recognized as an important factor for assessing insurability of properties. In Australia, some seventy-five local and national organizations whose work is directly affected by climate change are networked with each other and with similar international groupings. These represent a bottom-up force aiming to influence policy and set local examples of climate-friendly practice. The representatives of faith traditions, Christian, Islamic and others, also speak into discourse on climate change, at every level from local to international. Detailed critique of any of these responses is beyond the scope of the present work. However, from a Christian perspective, all stand subject to interrogation against the eschatological vision of shalom.

Shalom is a vision, a horizon of hope for universal peace and wellbeing on Earth. In the gospels, Jesus brings the gift of peace to his disciples in their fear before his crucifixion (John 14:27) and in their terrified amazement after the resurrection (Luke 24:36). ‘Peace’ is a recurrent blessing throughout the epistles, and, in Ephesians, Jesus “is our peace.” (Eph 2:4) In church, the greeting of peace and blessing of peace are an integral expression of Christian community. However, Michael Armstrong found that in the life of the church, the eschatological vision of peace and well-being on Earth may be harder to embrace. In his surveys of church-going people, he found that the unrelenting presence of so much that contradicts the vision makes it difficult to imagine that it could ever be fulfilled on the real, physical Earth:

The point is that it is hard to see what a ‘new earth’ would actually be like. In fact, it is as difficult to envisage a renewed physical environment which would be ‘heavenly’ for all, as it is to imagine a more spiritual concept of the after-life.

Ann Christie, also exploring the “ordinary theology” of church-going people, found the problem of envisioning a Christ-centred new earth further compounded: for a significant part of those surveyed, Jesus was not considered to be God. She describes their Christology as “functional rather than ontological.” Nevertheless, the results of

90 Ayre, "Climate Change and a Climate of Change in the Church."

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encountering Jesus in a community informed by Christian tradition can be powerfully life-directing. This may occur whether or not orthodox Trinitarian Christology is believed, or fulfilment of the reign of God is thought of as *shalom* on Earth or in a dualistic, spiritual way. As in Jesus’ parable of the wheat and weeds (Matt 13:24-30), the reign of God is beyond human sorting. Belonging to a faith community and professing the orthodoxy of its traditions, be they Christian or any other, may be life-shaping towards *shalom*. It may bring particular responsibility both to articulate and live in accord with *shalom*. However, following the inclusive spirit shown by Gutierrez and Sacks, those through whom *shalom* is being effected are scattered throughout the Earth and all of humankind, unconfined by any particular culture or tradition.

The end, or *telos*, of the reign of God is much more than fulfilled destiny for all or part of humankind, whether on Earth or in some spiritual sense. Evolutionary science and Biblical tradition each places humankind in intimate relation with all creation. In both narratives, humankind is of the Earth, and in both narratives the future of life on Earth is intimately linked to the future of humankind. Paul’s first-century theological imagination portrays the creation waiting “with eager longing for the revealing of the children of God,” likening this anticipation to the labour of childbirth (Rom 8:19-22). In Paul’s thought the “children of God” are people who are “led by the Spirit of God” (Rom 8:14). They too share in the pain of bringing forth new life, for they too are part of the creation or *ktisis*, which Harry Hahne interprets as the “creation of God in all its totality”.

The Spirit is both companion and “midwife to the birth of new creation”, as Denis Edwards suggests. The Spirit of God breathes God’s life of creative love and righteousness into people to draw them into the Spirit’s work of bringing forth *shalom*.

The image of participating in childbirth is one which invokes home and security, but it is also an image of uncertainty and utter vulnerability, exacerbated by human violence and natural disaster. Christian tradition remembers this in the stories of Jesus’ birth, and in Jesus’ reminder of the woeful circumstances of those expecting to give birth in the midst of destruction of their earthly home (Matt 24:19). But, in Christian understanding, it is Jesus’ death and resurrection which makes possible being at home

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95 Denis Edwards, *Ecology at the Heart of Faith. The change of heart that leads to a new way of living on Earth* (New York Maryknoll, 2006).44
on Earth because of being at home with God. The reign of God is already but not yet, with intimations of *shalom* already permeating a creation labouring for new life. As a result, homecoming to God makes being at home on Earth also already but not yet. Ernst Conradie likens this journey of homecoming to the restlessness of Jesus’ own life, fulfilled in death and resurrection:

The message of the cross and the resurrection is not only that God dwells through the Son in God’s household but that this shows a Way to make God’s household, tormented by natural suffering and by the devastating impact of human sin, habitable and hospitable. The message about the homeless and restless Son of Man (Luke 9:58) allows us as human beings to become at home on earth, to come to Jesus in order to find a home and rest for ourselves. Indeed the earth is not our home yet. It is only through the work of Jesus Christ that it may become so.  

The ‘not yet’ expresses hopeful anticipation, but it is qualified by the ‘already’ of being at home in the journey of homecoming itself.

In Paul’s eschatological birth image the whole of creation is in labour pains, waiting to be set free “from its bondage to decay”. Today the journey of homecoming to God takes place in a world where climate change hangs like a dark cloud over a world already subject to multiple stresses. As more and more people are on the move seeking refuge, opportunity and hope, will they encounter hospitality in a new home? Will they experience rejection by those who see homecoming as continuing expansion of their own already highly privileged material prosperity? Jione Havea develops the theme that for the people of the Pacific “diaspora is home” and being at home is to be welcoming, wherever one is. In face of highly protective border policies by Australian authorities, he observes that “They too need to learn from First Peoples how to be opening, welcoming and homing.” The antithesis of being “opening, welcoming and homing” is wall-building.

Referring to Isaiah 42:5-7 and 56:7 and Israel’s post-exilic homecoming, Bouma-Predeger and Walsh warn against wall-building:

Home-coming, then, must not be yet another attempt to build a home with even higher protective walls; rather, it is a matter of renewed covenant. It is significant that the text does not say that Yahweh will make a covenant with

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96 Conradie, *An Ecological Anthropology: At Home on Earth?* 70
98 ibid.77

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Israel; instead, Yahweh will give Israel to be a covenant to the peoples. The very existence of the people of God – their return home – is to be of service to others. Such an open, hospitable home is the only kind worth having.\footnote{Bouma-Prediger and Walsh, \textit{Beyond Homelessness. Christian Faith in a Culture of Displacement.} 22}

Wall-building is a metaphor for distancing and separation, whether from human needs or the fate of non-human life. \textit{Shalom}-makers are at home on their journey because of commitment to earthly implementation of a heavenly vision of inclusive peace, harmony and well-being. Their journey has immediacy, for the reign of God already is within and among people. Their journey also cuts across the interests of those who build walls to protect privilege. In Christian understanding, their journey is with Jesus, who made that journey even to crucifixion. The journey is made in confidence that Jesus’ death was not the end, but the beginning of new life in which the Spirit of God enables people to be children of God, bringing in the \textit{shalom} of God, the presence of the reign of God on Earth.

We may look into the future, imagining and working towards a more peaceful, coherent and just world order. It may or may not happen, but beyond extrapolation of reasoned hopes and fears, how may being at home with God be approached, no matter what happens in the world? In our material, scientifically accessed world, time is irreversible and all the suffering, death and injustices of the past lie in the grave of history. The Jewish and Christian traditions of a general resurrection form a way of speaking of history itself being redeemed. In Christian thought, Jesus’ resurrection foreshadows the general resurrection. For Moltmann:

\begin{quote}
The hope that is born of the cross and resurrection transforms the negative, contradictory and torturing aspects of the world into terms of ‘not yet’, and does not suffer them to end in ‘nothing’.\footnote{Moltmann, \textit{Theology of Hope}. 197}
\end{quote}

The ‘not yet’ is the space in which apparent futility arising from the life and death struggles of the evolving creation are held in the memory of God, finally to be redeemed.\footnote{Edwards, \textit{How God Acts. Creation, Redemption and Special Divine Action}. 70-71, 162} ‘Not yet’ looks forward from within an eschatology which is beyond scientific evidence or extrapolation of rational understanding. It is eschatology of ultimate homecoming, emerging like a new dawn breaking above the furthest imaginable horizon of reasoned hope. There all things created through Christ are redeemed and made new in Christ. It is the timeless eschatological space where heaven
and earth meet, and where the Spirit/wind of God creates and recreates, and moves people to be part of creation’s bringing forth of new heavens and new Earth.
Chapter 9

In Conclusion:

Re-imagining Christ in the ‘depth’ of the Anthropocene

9.1 Christology for the edge of an abyss

In exploring a theological response to the ambiguity of our reliance on fossil carbon, we have addressed questions of how we may live with hope in view of the deeply threatening changes which climate change is predicted to cause. Christian eschatology and soteriology give theological depth to visions of hope and patterns of life-affirming action. Christian soteriology and eschatology are themselves shaped by how Christ is remembered and interpreted. Christology lies at the heart of Christian praxis, making how Christ is re-imagined in the Anthropocene the foundation and the drawing together of this response.

The term Anthropocene defines the present era as one of unprecedented human influence on the total Earth-system. It is no longer practical to regard human affairs as separate from the evolutionary development of the Earth. Skrimshire describes how human and geological history have become conflated:

The fact that the effects of anthropogenic global warming could be perceived to come soon, with ‘speed and violence’, has broken down the conceptual barrier separating recorded human history from the idea of the ‘deep history’ of the evolution of the earth.¹

The present era is also marked by unprecedented scientific knowledge, including knowledge about how and why human influence on the Earth is so great. The development of the Anthropocene during the last three centuries has seen anthropogenic creation and destruction become globalized on a grand scale. Moltmann observes that “we are building these globalizations of progress on the abysses of the annihilations we saw and experienced in the twentieth century.”² Future hope is tempered by awareness of the depths to which human destructiveness and anthropocentric sin are capable of going.

¹ Skrimshire, "Eschatology." 159-160
² Moltmann, Sun of Righteousness, Arise! God’s Future for Humanity and the Earth. 38. Moltmann names these ‘abysses’ as nuclear armaments and global warming.
In biblical tradition, humankind is created in the image of God, although the harsh realities of the human condition leave that image obscured, lost in the myth of primeval fall. In Christian tradition, human potential to represent the image of God is fully revealed in Jesus. Jesus Christ is teacher and exemplar of the God-like creative potential of humankind, but as the human representation of God, Jesus Christ is much more. The Christian conviction that Jesus’ death and resurrection bring in the new age of the reign of God means that death and destruction do not have the last word. Jesus’ death-transcending presence in the Spirit brings hope and power to transform all relationships, human to human, human to all creation and all to God.

Moltmann contrasts this hope with false hope in unending progress, and describes it as “The resurrection into life in the midst of the world of possible universal death.” It is hope that has no guarantees that man-made abysses will be avoided in the course of human history. “A beginning out of the end is a beginning in which the possible end is always present.” It is hope in God and hope that God’s ends will be realized, whether in the imaginable world or beyond our imagination. Resurrection hope becomes a living reality when expressed in praxis which bears fruit in meaningful, transformative responses which expose and defy the habits, systems and powers which drive destruction. By bringing together scientific and theological narratives, God’s presence and action may be imagined in the present precarious era of evolution in which humankind has become such a potent force shaping the future of life on Earth. Belief that God creates through the divine Logos who is incarnate in Jesus the Christ informs such imagination, measuring and judging human creativity against Christ-centred visions of creation and new creation.

To re-imagine Christ in the Anthropocene calls for a Christology which engages with issues used to define the Anthropocene. The overall critical issue is that human activity is dangerously modifying the very earth-systems on which the future of human civilization and the future withering or thriving of many species depend. The problems arising from this issue are multi-dimensional, penetrating deeply into the whole interdependent web of life and the physical Earth-environment, and its consequences will be felt into the deep future.

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3 ibid.38 Italics in original
4 ibid.38
The ‘deep’ motif appears to have been used first in secular discourse on human ecological impact. It represents rejection of a narrow focus on human affairs. Instead it signals insistence that the origins and future of humankind are inseparable from the origins and future of all Earth-creatures and the Earth environment. All have common origin and common destiny. If philosophy (or theology) is to interpret the Anthropocene effectively, it must take an “ecological total view”. Arne Naess refers to his philosophical total view as “ecosophy”. It represents a comprehensive world-view which Naess claims supports “motivation and perseverance” amongst its followers and addresses issues of human wellbeing in total ecological context. Christian ecotheology likewise contextualizes humankind ecologically, but as Christian theology it points to Christ creating, sustaining, redeeming and fulfilling all creation. Christian ecotheology likewise provides a basis for motivation towards ecopraxis in which practical concern for justice and human needs is worked out within the greater context of relationships and interdependence among all creatures. Imagination of Christ is re-contextualized within contemporary understanding of the interrelatedness of all global ecology, with particular emphasis on how it is threatened by human activity.

In the course of Christian history Christology has been revisited repeatedly in order to re-imagine Christ in response to changing philosophies and cultures. Christian tradition is rich in resources to draw on when revisiting Christology in the contemporary ecologically-informed context. The relationship of humankind to all creation, and all to God, is a subtext throughout the Old Testament Scriptures, which may be read to hear the ‘voice’ of Earth as well as the word of God to humankind. In the New Testament Scriptures Christ is interpreted as creatively present to all creation from the beginning and is the one in whom all things find fulfilment. In contemporary Christian

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5 The “Deep Ecology” movement emerged in the 1960s and is particularly associated with the work of Arne Naess. “Supporters of the deep ecology movement have, as a main source of motivation and perseverance, a philosophical/ecological total view (an ecosophy) that includes beliefs concerning fundamental goals and values in life, which it applies to political argumentation. That is, they use not only arguments of the usual rather narrow kind, but also arguments from the level of a deep total view and with the ecological crisis in mind”. Arne Naess, "Politics and the ecological crisis:an introductory note," ReVision 13, no. 3 (1991).146
6 ibid.146
7 ibid.146
8 Joel C Daniels, "Christology,Evolution and Cultural Change," Anglican Theological Review 96, no. 3 (2014). “...each age’s conceptions of God are profoundly historically contingent, as theology assimilates new knowledge—scientific as well as philosophical—into its understanding of the Word made flesh.” See also Delio, Christ in Evolution.
9 Habel, Readings from the Perspective of Earth.
understanding, Christ is present to all creation in the complexities of evolutionary and ecological inter-relatedness. This understanding has developed from early theological responses to Darwin’s work on evolution.

Darwin’s work on the interrelatedness and origin of species represented critically important new knowledge which, at the time, provoked both negative and positive theological responses. The latter are antecedents of contemporary ecotheology, grounded as it commonly is in conversation between science and theology. Today’s ecological knowledge is far more detailed and comprehensive than in Darwin’s time, and ecotheology continues the task of assimilating new knowledge of the depths of interrelatedness and interconnectedness of humankind to all creation. Appreciation of that depth has informed ecotheology writings well before the ‘deep’ motif of “ecosophy” began to find use in theology. Ecotheology and ecosophy each looks into the abyss of the destruction being wrought on the Earth environment as a result of human activity. Each confronts us with fundamental questions about who we are in relation to all life on Earth, and how can we live more rightly with visions for the wellbeing of generations of all life into the future.

9.2 A ‘deep’ Christology for the Anthropocene?

When Christian story and theology are brought into conversation with evolutionary science, they encounter an interpretive hermeneutic which has deep space and time as central features. The story of emergence of human culture spans a mere 100,000 years or so and looking 100,000 years into possible human futures is a long stretch for scientifically informed imagination. The complex story of human emergence takes place in a cosmic moment, embedded in the vastness of space and time, inviting perceptions that it is of little consequence within the greater story of the universe.

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10 Daniels, "Christology, Evolution and Cultural Change." 439. Daniels refers to “Lux Mundi, first published in 1889 and edited by Charles Gore . . . . The Lux Mundi authors declared their intention to examine traditional Christian doctrine in light of evolutionary theory: incarnation, certainly, but also atonement, soteriology, eschatology, and so on.”


13 Stager, Deep Future: The Next 100,000 Years of Life on Earth.
Relativisation of the human place in cosmic history which makes it vanishingly small and consigns it to futility is countered by Biblical visions of Christ in creation: Christ understood to be the divine Logos from the beginning, and as the one in whom all story is fulfilled. Christology is deep too, reaching to the depths of creation and the depths of human hopes and fears, offering redemption of humankind from fear of finitude and from cosmic triviality.\textsuperscript{14}

The ‘deep’ motif and the term ‘Anthropocene’ do not necessarily indicate significant new insights in ecologically informed philosophy and theology.\textsuperscript{15} However, they do serve to sharpen focus on two particular issues. The first is the depth of interdependent relationship of all life on Earth. The second is the burden of responsibility which rests within humankind for the enormous and potentially catastrophic forces of destruction which are being unleashed by human activity. The heart of Christology is that God, through Christ, is working transformative redemption or salvation of the world/kosmos.\textsuperscript{16} Re-imagining Christ in the Anthropocene depends on an emphasis on Christ’s intimate presence in and to all creation, particularly in the suffering, death and extinctions which are being driven by human activity as well as those which are integral to natural processes of evolution. It also depends on discernment of Christ’s transformative presence amongst humankind, in individuals and communities, convincing, convicting and bringing about “resurrection into life in the midst of the world of possible universal death.”\textsuperscript{17}

Christian belief that the historical Jesus was both fully human and fully divine has always had a central role in orthodox Christian thought about how God is present in and to the world. It is arguably the case that today belief in Jesus’ humanity and divinity needs to be reinterpreted in view of contemporary understanding of the place of humanity within cosmic evolution. Any human, including Jesus, is a creature whose physical body is made of atoms forged in stars, sharing the same basic molecular architecture with all life, and shaped through the immensely complex processes of

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\textsuperscript{16}Migliore, Faith Seeking Understanding. An Introduction to Christian Theology.172
\textsuperscript{17}Moltmann, Sun of Righteousness, Arise! God’s Future for Humanity and the Earth.38
\end{flushright}
biological and cultural evolution. Any human, too, is a dependent part of the whole web of life, sharing in its past and its future, and belongs to a species which has evolved to become a major force changing the course of evolution. A Christology in the Anthropocene builds on reflection on how the historical Jesus shared in the depths of inter-relatedness of all life and, more generally, all creation. It then draws on the memories and interpretations of Jesus in Christian tradition, using and reinterpreting them to discern how God in Christ is present in every aspect of today’s world, and particularly in the midst of humankind’s increasing influence on its future.

When Jesus’ humanity is contextualized within the evolutionary narrative in this ‘deep’ way, Gregersen proposes that a ‘deep’ interpretation of Jesus’ divinity means that “God emerges from within creation, in the form of a suffering creature: Jesus from Nazareth”. Celia Deane-Drummond sees danger in this language, noting that when “Christ’s incarnation becomes coextensive with a more general sense of divine presence in all that is” there is a danger of compromising God’s transcendence. This danger is always present in science-theology conversation, and how it is regarded and addressed depends on the extent to which each of science and theology is used to constrain how the other is interpreted. Claiming a ‘high christology’, Gregersen insists on the otherness of God from nature:

In Jesus the Father’s eternal Logos took bodily form, so that the fullness of divinity found the pleasure of dwelling in him (Col 2.9), who himself dwelt in our world (John 1.14). . . . This motif of a union between God and the world in Christ does not suggest an identification of God and nature as in pantheism. Love safeguards the otherness of the beloved. Here the subtlety of the Trinitarian view of incarnation comes to the fore.

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19 Gregersen, “The Cross of Christ in an Evolutionary World.” 201
20 Deane-Drummond, “Where on Earth is Jesus Christ? Plumbing the Depths of Deep Incarnation.” 47
21 Another framing of this issue is in terms of theism, panentheism and pantheism, as is argued in chapter 1 section 1.3.5 of this thesis.
22 Gregersen, “The Cross of Christ in an Evolutionary World.” 201
Gregersen interprets ‘flesh/sarx’ to be inclusive of all living creatures, so that when the divine Logos became ‘flesh’ (John 1:14) and the Spirit was “poured out on all flesh” (Joel 2:28; Acts 2:17-21), “God’s eternal Logos is revealed and identified . . . . as Jesus Christ within the matrix of materiality we share with other living beings”.

His casting of ‘deep incarnation’ sees Christ’s redemptive work as comprehensive for all creation, and so addresses not only human suffering and human destructiveness, but also all the suffering which is inherent in the processes of creation through evolution:

. . .the incarnation of God in Christ can be understood as a radical or ‘deep’ incarnation, that is, an incarnation into the very tissue of biological existence, and system of nature. Understood this way, the death of Christ becomes an icon of God’s redemptive co-suffering with all sentient life as well as with the victims of social competition. God bears the costs of evolution, the price involved in the hardship of natural selection. But God does not only suffer with creation, but is so intimately united with sentient life that God’s lifegiving power spreads into the suffering and dying bodies of humans and animals. Redemption, in this view, is not conditioned by subjective awareness. It is conditioned only by God’s gracious power of sharing life with creatures.

‘Deep’ Christology enfolds Christ in creation and Christ in redemption within the overall “theo-drama” in which God is revealed in and to the world. Although the scientific account of evolution favours the strong and successful, the biblical witness to Jesus shows God’s particular care for the weak and vulnerable. Gregersen describes how Jesus, as suffering servant, makes known God’s particular compassion towards those on the margins of evolutionary or human success:

Christians believe that God was identified with this particular person who was finally scorned and ashamed. God is thus seen as the one who compassionately follows the losers of cosmic evolution and the victims and losers of social competition downwards into the very consequence that all is lost, even the bare existence. God, the giver of life, who produced the package deal of natural order and disorder, is also the co-carrier of the costs of creation.

Gregersen’s interpretation of Jesus’ death as an icon of God’s redemptive co-suffering with all sentient life” places the crucifixion in broad evolutionary context.

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24 Deane-Drummond supports this interpretation and expands on its biblical basis: Deane-Drummond, "Where on Earth is Jesus Christ? Plumbing the Depths of Deep Incarnation." 34
25 Gregersen, "Christology." 36
26 ______, "The Cross of Christ in an Evolutionary World." 205
27 Deane-Drummond draws on Urs von Balthasar’s writing to develop “theo-drama” as a way of imagining the dynamics of God’s presence in the world: Deane-Drummond, “Where on Earth is Jesus Christ? Plumbing the Depths of Deep Incarnation.” 39-45
Jesus’ death draws together the incarnate Logos through whom all things are created and Jesus’ suffering as the apex of revelation of God’s compassion for humankind and for all creatures. God’s love reaches to the depths of all creaturely existence. As humans are created in the image of God, human love should do so too. However, just as humankind has a unique place in relationship to God, Jesus’ death has a unique place in human redemption. When natural evolutionary processes are seen as the way in which God creates, the suffering and death inherent in evolution are not a consequence of human sin. Sin is specific to humankind. It describes broken relationships between humans and God, and consequently amongst humans, and between humans and all creation. Human brokenness and sin drove Jesus to the cross: in the Anthropocene, as never before, we see the extent of the consequences of sin. Sin, traditionally located in relationships amongst humankind and towards God now has signs and symptoms writ large ecologically. When Jesus’ suffering is thought of theologically as Jesus bearing sin for all time, rather than as historical cause and effect, then the attitudes and habits which are driving global ecological degradation today are included. Jesus’ suffering on the cross embraces the depths of all creation’s “groaning”, carrying the multifaceted burden of human sin and its consequences, and revealing God’s compassion to all creation in the cycles of life and death on which evolutionary creation depends.

9.3 Eschatology, Christopraxis and ‘resurrection into life’.

The resurrection of Jesus is history-transforming, birthing the Christian church and turning despair to hope. What ‘really’ happened to Jesus remains elusive and endlessly argued, but the witness of the church leaves no doubt that belief in Jesus’ resurrection has persistent power to be life-changing. In Christian thought this power comes from the Holy Spirit – the Spirit of Jesus witnessed to by the church, which in Paul’s writing is the body of Christ. Moltmann describes the resurrection of Jesus as ‘novum ultimatum’. It is a radically new reality occurring in history, but not of history, by which “Christianity stands or falls”. For Tom Wright “Jesus is raised, therefore God’s new creation has begun and we’ve a job to do”. For Dominic Crossan, the resurrection

29 Gregersen asks “how can we develop a contemporary theology of the cross which is sensitive to the fact that evolutionary pain is not a consequence of human sin but the simple result of natural selection?” ibid.192
30 Moltmann, Theology of Hope.165
31 Stewart, The Resurrection of Jesus. John Dominic Crossan and N T Wright in Dialogue.21

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speaks of the “embodied presence” of Christ “that remains powerfully efficacious in this world.”

The life, death and resurrection of Jesus, understood in a wide variety of ways, lead to focus on Moltmann’s questions: “What may I hope for” and “What am I to do?”

The depth of inter-relatedness of all creation and the threatening human impact on the Earth environment calls for inclusive answers, and a theological basis for inclusive answers is present in biblical tradition. Belief in Jesus’ resurrection arose within a strand of Judaism which anticipated and hoped for a general resurrection. Moltmann, like Gregersen, uses biblical references to “all flesh” to give an inclusive interpretation to general resurrection:

In a ‘resurrection of the flesh’ human beings will be redeemed together with the whole interwoven fabric of all the living, and the living space of the earth. Paul was still aware of this when he heard ‘the sighing of creation’ which, together with us, yearns for the redemption of the body (Rom 8:12-22).

The novum ultimatum which dawns with Jesus and is affirmed by Jesus’ resurrection is expressed in the ongoing present as “resurrection into life”. Participation in “resurrection into life” is participation in Christ’s death-defying life, healing and reconciling rather than destroying and dividing. As participation in the reign of God, it is oriented to both the present and the future, participating in Christ’s presence and redemptive work for all creation in the here and now, and anticipating the ultimate fulfilment of all in Christ.

How to live in the present while hoping for ultimate fulfilment in the future has been a source of concern amongst Christians from the earliest years of the church. Stefan Skrimshire observes that:

Believers in a newly crucified and resurrected messiah knew exactly what it was to hold anticipation of the messianic age in tension with the sober reality of living in the world in the time that remains.

32 Crossan, The Birth of Christianity. Discovering what happened in the years immediately after the execution of Jesus. “Prologue” xxx
33 Moltmann, Theology of Hope. 179,182
34 ———, Sun of Righteousness, Arise! God’s Future for Humanity and the Earth.60
35 ibid.60
36 Skrimshire, "Eschatology."157
The first Christians lived in faith that the Spirit of Jesus already was among them forming them into the embodiment of Christ’s ongoing presence. They also lived in eager anticipation of the immanent *parousia* or return of Christ. Skrimshire’s question for today could have been theirs: “To what extent does a vision of a different future turn ethical life into a form of mere *waiting* as opposed to that of *transforming* the present?”

This is an eschatological question, and Skrimshire describes eschatology as:

> The doctrine that is most likely to have direct impact on the direction of political action, generating attitudes that range from resignation and apathy to triumphalism in the face of future crises.

In the Christian scriptures anticipation of the *parousia* of Christ is the strongest of motivations for living and growing in relationship to Christ. It is not a pretext for negligent “mere waiting”. In Jesus’ teaching, diligent care of the household is enhanced rather than diminished by anticipation of the *parousia* (Matt 13:32-37; Luke 12:41-48). Although Paul recommended sitting lightly on normal activities in view of the shortness of time, he also rebuked those who lived in idleness (I Cor 7:29-31; II Thess 3:6-13). Skrimshire sees a balanced understanding of eschatology as strong motivation to ethical living in any age:

> The history of eschatological doctrine describes an attempt to remain faithful to two features of Christian faith. First, that there are grounds for hoping in a future that is given by God. Second, that God’s presence in the world makes possible good action – ethics – in the interim period before the end.

A deep Christology, in which Christ is seen as present to all creation in the depths of space and time as well as the depths of human hopes and fears, integrates the future given by God and God’s ongoing presence in the world. It resists interpretations of the *parousia* of Christ which anticipate radical discontinuity and which consign the world and all left in it to destruction while the chosen few are taken up to be with Christ. A deep Christology has no place either for the apathy of “mere waiting” or for destructive triumphalism which sees the world as doomed to destruction and, by implication, open to unfettered human destructiveness.

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37 ibid.158  Italics in original
38 ibid.158
39 Skrimshire, "Eschatology."161
In contrast to dualistic eschatological triumphalism, Kathryn Tanner’s description of the “widest possible eschaton” looks to a vision of creation in all its depth and glory for moral guidance:

The widest possible eschaton – where the natural world appears in all its glory, human community is transformed along with individual lives, and fulfilment includes both the material and the spiritual sides of life – would, to the contrary, encourage moral responsibility with a similarly universal range, commitment to furthering the good of the whole planet and its peoples in every respect possible.40

Tanner is concerned that eschatology be vitally focussed on the present. She proposes a “de-temporalized eschaton”, realized in the present through being alive to God through Jesus, participating in “eternal life”:

We (and the whole world) are to live in God as Jesus does, through Him. . . Eternal life is less a matter of duration than a matter of the mode of one’s existence in relation to God, and that calibre of relation shows itself in a new pattern for the whole of life.41

Tanner’s de-temporalized eschatology fits well with Crossan’s understanding of resurrection.42 She offers her proposal of a “de-temporalized” eschatology as an alternative to Moltmann’s approach to eschatology in which she sees the future as prime location of motivation:

God’s future comes to the world – it takes the form of an adventus – so as to set history in movement, so as to draw past and present towards itself. The future – not the past and the present – becomes in this way the real motor of history.43

Tanner’s de-temporalized eschatology differs from Moltmann’s in how present relationship with God and future hope in God are presented as providing motivation for ethical living. However, each falls within a vision of Christ’s presence in and to the world in all depths of time and space and of human hopes and fears. For each, the call to the praxis of discipleship is to “Living in God as Jesus does”.

Learning to know and relate to Jesus in the present through Christopraxis is expression of living in anticipation of Jesus’ parousia. Moltmann describes Christopraxis as:

41 ibid.49
42 Crossan, The Birth of Christianity. Discovering what happened in the years immediately after the execution of Jesus. Prologue xxx
43 Tanner, "Eschatology and Ethics."45
a way in which people learn who Jesus is, learn it with all their senses, acting and suffering, in work and prayer. To know Jesus does not simply mean learning the facts of Christological dogma. It means learning to know him in the praxis of discipleship.  

In Andrew Root’s description of Christopraxis, Moltmann’s learning to know Christ with all the senses becomes “participatio Christi”, or participation in Christ:

A Christopraxis perspective sees hermeneutics first and foremost at the level of divine and human action. It seeks to interpret the revelatory realism of God’s action in concrete, lived experience. . . . one of the core commitments of a Christopraxis practical theology of the cross . . . is to think of practical theology from the locale of participatio Christi, of how, from the ontological level, the human being participates in the life of God through Jesus Christ.

Christopraxis becomes ‘deep’ when Christ is discerned and responded to “within the matrix of materiality which we share with other living beings.” For that to be possible there must be sufficient environmental awareness so that empathetic relationship with the environmental ‘other’ may grow. People who traditionally live close to land and see themselves as belonging to land already have a deep empathetic relationship with and concern for ‘the other’ in creation. When interaction with the environmental ‘other’ is diminished through urbanization and technologically supported living, environmental awareness is more dependent on education. It is also likely to be more challenging to self-perception in relation to non-human life and the Earth environment.

Whether awareness of climate change comes from cultural closeness to land and sea where it is seen and felt, or from educational process and public discussion, it provokes and informs life orientation towards the health and future of human and non-human creation. ‘Deep’ Christopraxis is then a Christian expression of empathetic relationship with and concern for the other in creation, whether human, non-human or the physical environment itself. Because it is participation in Christ’s presence to the whole interrelated web of life and environment, learning Christ through active concern for non-human life and the earth environment cannot be separated from learning Christ through human concerns. There will be rejoicing and weeping, for the beauty of thriving life is

45 Andrew Root, Christopraxis. A Practical Theology of the Cross (Minneapolis: Fortress Press, 2014).59,73
46 Gregersen, “Christology.” 36
47 McFague, A New Climate for Theology. 15
always tempered by decline and death. Moltmann’s observation that “Christopraxis inevitably leads the community of Christ to the poor, the sick, to ‘surplus people’ and to the oppressed”\textsuperscript{48} is ‘deepened’ by Gregersen’s insight that God is “seen as the one who compassionately follows the losers of cosmic evolution” as well as “the victims and losers of social competition.”\textsuperscript{49} All neighbours, both human and non-human, are embraced in the novum ultimatum of “resurrection into life”. Christ is to be learned amidst human suffering and Christ is to be learned through working in environments and amongst non-human creatures which are suffering decline, particularly where death and destruction and being wrought by human activity. Jesus not only met suffering with compassion, but he also took on a prophetic role, confronting those who perpetuated systems and habits which exacerbated suffering. Today, in the context of climate change, Christ is also to be learned in exposing the systems and habits which perpetuate high dependence on fossil carbon, and in confronting the many interests that resist change.

\subsection*{9.4 Christopraxis and the blessing and curse of fossil carbon}

Fossil carbon may be thought of as a gift from God with promise to transform how humankind lives on earth. For better and for worse, and as blessing and curse, that promise has been realized far beyond the imagination of our 18\textsuperscript{th} century CE forebears as they began to use coal on an industrial scale. In energy-intensive countries we have so learned to live with fossil carbon that its multiple roles in sustaining the economy are largely hidden and easily taken for granted. This forgetfulness is an example of a human characteristic which Gregersen identifies. He observes that “we live more deeply than we are able to think and experience.”\textsuperscript{50} Whether in our bodies, our human relationships or our total Earth environment there are highly complex structures and processes which make our conscious lives possible but which for the most part we do not think about and of which we may even be unaware. It can be profoundly unsettling to have this self-forgetfulness disturbed by disease, stressed relationships, or warnings that the fossil carbon which is critical for much of the global economy today is destroying the global environment. Global warming and political tension over how to

\textsuperscript{48} Moltmann, \textit{The Way of Jesus Christ}, 43
\textsuperscript{49} Gregersen, "The Cross of Christ in an Evolutionary World." 204
\textsuperscript{50} \textit{———}, "Christology." 33-35
avoid catastrophic climate change are forcing our relationship with fossil carbon out of
the shadows of self-forgetfulness and into the light of ethical and moral choice.

As with the Israelites towards the end of the monarchy, false prophets resist the truth
that there is real existential threat. The rich become richer while desperate poverty
increases as people flee war and famine.\textsuperscript{51} Denial, living in denial and misplaced trust
in gods hoped to provide ways of pursuing business as usual are all commonplace.
Immanent geopolitical tensions distract attention from deeper long term issues on how
to live wisely on Earth. The ravages of global warming are at the gates of civilization,
and transition from an old order built on fossil carbon to a new one in which it has a
greatly reduced role has become increasingly urgent. Viewed scientifically, we are in
the midst of human-induced evolutionary change which is profoundly affecting both
human and non-human life. Viewed theologically, God creates through a creation
endowed with creativity, including human creativity, but human creativity has
developed destructive tendencies which fail to reflect the image of God. Viewed
Christologically, Christ is present in the very “matrix of materiality that we share with
other living beings”\textsuperscript{52} and within which all creative processes and evolutionary change
occurs. Christ is present in the joys of creation and the sorrows of its suffering, and
Christ is both judge and redeemer as we participate in these processes. In Christian
understanding, discipleship is more than attempting to live and relate in ways which
imitate Christ, important as that may be. Both Moltmann and Root describe
Christopraxis more forcefully as “learning to know Jesus in the praxis of discipleship”\textsuperscript{53}
and as “participation in Christ”.\textsuperscript{54}

Participation “in the life of God through Jesus Christ” has always included practical
love for one’s neighbour, particularly in times of suffering and need. For Christians it
has always also included witness to Jesus whose life and death stands in judgment of the
oppressive religious and political systems of his time and of all time. Climate change
exacerbates the suffering of human and non-human neighbours and it is a symptom of
the ecologically and often socially oppressive dynamics of access to and use of fossil
carbon. A “Christopraxis perspective” on how we live with fossil carbon will look to

\textsuperscript{51} Although famine, war and population displacement are continuous features of human
history, climate change has potential to increase these to a scale unprecedented in human
history.

\textsuperscript{52} Gregersen, "Christology.” 37

\textsuperscript{53} Moltmann, The Way of Jesus Christ.43

\textsuperscript{54} Root, Christopraxis. A Practical Theology of the Cross.59,73
participate in Christ within ecological change as well as in the midst of human action, at any level from local suffering to global politics.

Anyone who takes part in public discourse on the science, economics and politics of the carbon economy enters an arena where complex issues are informed by many disciplines. Fear is also present, whether fear of loss of jobs or other threats to prosperity as fossil carbon use is reduced, or fear of what may happen if it is not done quickly enough. From a physical earth-systems point of view, the causes and consequences of the current phase of global warming are relatively simple and widely agreed amongst scientists. However, the human dimensions are far more complex, and constructive discourse requires humility to listen to and learn from others, and wisdom to discern the quality of what they have to contribute. This is a particular challenge for public theology, where not only is sensitivity to the presuppositions and methodologies of secular disciplines called for, but bridging the differences in fundamental ways of thought between sciences and in theology is also necessary. In ‘deep’ Christology Christ is understood to be incarnate in the “matrix of materiality” of which we are part and on which we all depend, and part of that matrix is the flow of human thought, knowledge and action.

Public theology explicitly grounded in Christian faith and tradition may be seen as an expression of participation in Christ. However, even in an area as specific as public discourse on climate change and the carbon economy, participation in Christ may also be present in less explicit and more comprehensive ways. The divine presence and action to which ‘deep’ Christology points permeates all creation and animates and judges all human discourse and activity. Christ is to be found in the extraordinary creativity which is opening up ways of living well on Earth with greatly reduced fossil carbon use, the political struggles for balance between chaos and change as transition takes place, the agonies of those who are losing their homes and those who walk with them in suffering, and the groaning of all creation. Theologically none of this is neutral or a matter of indifference to God, neither should it be to humankind made in God’s image.

\[^{55}\]ibid.273. Root emphasises the importance of interdisciplinary conversation, and the inevitable difficulties which arise from “often radical differences in epistemological focus and experiential resources” between disciplines. He refers to a more comprehensive treatment of interdisciplinarity in Wentzel van Huyssteen, *The Shaping of Rationality: Toward Intersdisciplinarity in Theology and Science* (Grand Rapids: Eerdmans, 1999).
Christian theology is rich in motifs for the divine presence and divine action. The *basilea tou theou* or reign of God is central to the Christian scriptures. In Moltmann’s phrase, God’s reign is about “resurrection into life”, and expresses the eschatological vision of the fulfilment in past, present and future of the *telos* of God. Jesus’ Sermon on the Mount and parables of the *basilea* provoke and excite with open-ended power to encourage pursuit of the reign of God in which re-creation takes place. That pursuit is a journey of faith, not of sight and certainty. It is guided and illuminated by glimpses of glory which encourage faith that participation in Christ is not only possible but also confident ground for hope and redemption. A Christopraxis approach asks what divine redemption and salvation look like on the ground, in the midst of a struggling earth-community now bearing the additional threat of climate change. Answers are to be found in “the things that make for peace” in the healing of relationships, people with people, people with all creation, and all with God, for this is how righteousness and *shalom* are nourished. Redemption and salvation are taking place when truth is told, judgment received, repentance and radical change in how we see ourselves takes place, and hope is revived. Theologically, this is participation in Christ who is God incarnate in the depths of all relationships throughout the fabric of our Earth home and Earth community. Those in Christian tradition have rich resources which may be brought to participation in Christ, and to learn Christ through doing so, but in doing so will find that divine action is already refining, guiding and judging human action, for Christ is already there. Christ may or may not be either named or known, but is already present in encounters marked by the righteousness of unassuming and compassionate hospitality, as the eschatology of Matthew 25 makes clear. The righteousness and *shalom* of the reign of God are found in praxis rather than in dogma, but to Christian faith Christ is already present, and in eschatological fulfilment Christ will be fully known.

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56 Soskice, “The Ends of Man and the Future of God.” 37. “we may on occasion glimpse a greater glory – a beauty that surrounds us but which we are too blind to see”

57 Thomson, *The Things that Make for Peace.*

58 McFague, *A New Climate for Theology. God, the World and Global Warming.* 15

59 Karl Rahner accommodates a broad vision of Christ’s soteriological presence beyond the church but still within orthodox belief by suggesting there are “anonymous Christians” participating in Christ’s salvation. Karl Lehmann and Albert Raffelt, eds., *The Content of Faith. The Best of Karl Rahner’s Theological Writings* (New York: Crossroads, 1994). 51-55. The science-theology conversation developed in this thesis sees the *telos* of all things in God as transcending and subsuming orthodox belief and any dogmatic requirement to name those who act righteously as Christian, anonymous or otherwise.

60 This hope is given explicit expression in I John 3:2
Christopraxis in the Anthropocene is a journey of hope, and of hope against hope, with horizons of faith in God which go beyond imaginable horizons of the world as we know and experience it. The Anthropocene is a deep concept, placing all human thought and human history within the depths of cosmic space and time. Deep Christology believes that Christ is present in and to the depths of all creation, from the vastness of the cosmos to the innermost of human thoughts and to the depths of human hopes and fears. But deep Christology goes far beyond the depths of the Anthropocene in all their comprehensiveness, for deep Christology takes us to that deepest of mysteries, the mystery of God.

The passion of Christ directs those who pursue a journey of faith to enter the mystery of God through the way of the cross. In the journey of hope, and of hope against hope, Tanner insists that:

We should expect defeat as much as success. One with Christ who in his mission of benefit suffered humiliation and defeat to all appearances at the hands of the powers, we must prefer defeat to success everywhere that such success means being favoured by death-dealing forces at work in human life. Better to go to the cross in faithfulness to the mission of a gift-giving God than to reap the riches of a kingdom of death.61

So doing is participation in Christ and in the reign of God in a world where the future remains utterly uncertain. Moltmann observes that “Eschatology is not a doctrine about history’s happy end. . . . No one can assure us that the worst will not happen.”62 Human ability to choose is real. That is how we have been made, theologically in the image of God, and scientifically through the complex processes of emergence in evolutionary history.63 In Moltmann’s words:

We can only trust that even the end of the world hides a new beginning if we trust the God who calls into being the things that are not, and out of death creates new life . . . The memoria resurrectionis Christi lets us look beyond the horizon of our own death into the wide space of eternal life, and beyond the horizon of this world’s end into God’s new world. Life out of this hope then means already acting here and today in accordance with that world of justice, and righteousness and peace, contrary to appearances, and contrary to all historical chances of success.64

61 Tanner, "Eschatology and Ethics.” 55-56
63 Murphy and Brown, Did My Neurons Make Me Do It?
64 Moltmann, The Coming of God.234
The centuries of growing human reliance on fossil carbon have been marked by an extraordinary surge in human creativity. God is calling into being new things through human creativity, gifts for blessing but ever vulnerable to uses which make them a curse. Human creativity too easily becomes diverted from the creative task of the long-term flourishing of life, instead focusing on the short-term aspirations of privileged parts of the present human generation. The Anthropocene names the power and ambiguity of this creativity. For better or worse, we are a major force in determining the future evolution of life. How we see ourselves in relation to God and to all creation informs our ability to radically and critically assess how we live on earth. Our response to present reliance on fossil carbon is a determinative factor and a symbol of that new reality. In Christian faith, it is in Christ that all relationships are judged and hope of redemption is possible, even in the wicked complexity of global transformation.
Concluding Summary

I have presented a broad-ranging approach to living with and applying Christian faith at this time when humankind is profoundly affecting the future of life on Earth. Anthropogenic climate change and the human and ecological problems it is exacerbating are already the subject of extensive theological writing. I have chosen our dependence on fossil carbon as a focal theme because fossil carbon enables so much of everyday life for many of us, and it is the main driver of climate change. How we live with fossil carbon is inescapably linked to our relationships across humankind, with non-human life, with the terrestrial environment, and ultimately with God. In Christian thought all things, including these relationships, may be interpreted Christologically.

The thesis aims to make a distinctive contribution through its breadth of treatment, as well as by development of specific themes such as fossil carbon as blessing and curse. Contemporary science usually is assumed as part of the context for theological responses to climate change. Because, amongst church members and the wider public, science and theology are widely regarded as separate or even contradictory, I have taken a different approach. I have drawn on science-theology literature and my own scientific background to present a contemporary form of science-theology conversation. I have then used it as an overall hermeneutic for the thesis, so the distinctive and overlapping insights of each of science and theology are continually explored. Some themes which I have developed appear to be thin in, or absent from, existing theological literature. The main one is focus on fossil carbon dependence in its own right, rather than placing emphasis on its consequences. The depth of our dependence reflects the life-supporting and transformative consequences of fossil carbon use, and the theme of blessing is used to explore these consequences theologically. The theme of fossil carbon as blessing and curse opens up a science-theology conversation about why we have become so dependent on fossil carbon, and now find it so hard to de-carbonize the global economy.

As the thesis is a Christian theological response to our dependence on fossil carbon and the wider issues it represents, Christology is used to draw it together. The science-theology conversation brings each conversation partner to the overall story of creation and creativity. Humankind, and human creativity (and destructiveness) are part of the scientific story of the evolving and highly interconnected web of life and the Earth environment. Biblical traditions of the divine Logos and of the cosmic Christ with and
in God in the conception and creation of all things find contemporary interpretation using ‘deep’ Christology. Panentheism, which sees God present in and to all things while insisting that God is also transcendent beyond imagining, is then Christological. ‘Deep’ incarnation finds Christ present and active in every aspect of the evolving web of life and its sustaining and constraining environment. Christ’s crucifixion, interpreted in an evolutionary world,\textsuperscript{65} finds God present to all ecological and human pain and suffering, including that related to fossil carbon use.

When Christ is understood as present in and to all of creation and its suffering, fossil carbon use is of direct concern to Christian individuals and communities. Driving transition away from fossil carbon dependence is both a wickedly complex scientific, sociological and political problem and a profound theological one. Christ may be discerned as guiding, judging, redeeming and bringing hope within the complex matrix of human engagement with the causes and consequences of climate change. Climate change and how fossil carbon is used now and into the future are then urgent matters of concern to Christian discipleship and in public theology. Human efforts to steer away from climate disaster engage with a wide range of scientific, human and environmental concerns. A Christological perspective asks how Christ moves within this human activity, and encourages Christian people and communities to participate in it in ways which reflect Christopraxis, or participation in Christ. Christopraxis expresses participation in Christ and Christ’s resurrection, opening horizons of hope which rest in God, within and beyond the worst that climate change may bring. Christ may then be found all the way from the coalface of climate change action right out to hope which transcends the worst that climate change may bring.

\textsuperscript{65} ibid.
Appendices
Appendix A  (to Chapter 1)

Fossil Carbon and Climate Change: a Personal Statement

It is not the purpose of the thesis to argue the scientific case that use of fossil carbon is a major source of the carbon dioxide which is driving the climate change currently taking place. The scientific case is explained in detail in numerous scientific papers, reports\(^\text{1}\) and texts.\(^\text{2}\) Complex questions of human response and environmental impact are also widely discussed and analysed.\(^\text{3}\) The thesis therefore only has occasional reference to quantitative data on issues related to global warming and climate change. Scientific work is always work in progress, but I assume that the main conclusions drawn in major reports are correct to a high level of probability. I have three reasons to take this position:

Firstly, using my own scientific background\(^\text{4}\), I assess it as the only well-supported position to take. Climate science is grounded in observation, analysis, modelling and the fundamental laws of physics and it has matured over many decades. Climate science represents one of the largest international scientific endeavours ever and, like all credible science, it is subject to extensive review processes which test its integrity prior to publication in research journals. The published work of many research teams has been further assessed and integrated by the Intergovernmental Panel on Climate Change (IPCC) and presented in five reports over the period 1990 to 2015.\(^\text{5,6}\) The link between fossil carbon use and climate change also is analysed and documented by numerous national public and academic organizations\(^\text{7}\), including national bureaus of meteorology.\(^\text{8}\)

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1  e.g. Intergovernmental Panel on Climate Change, "Fifth Assessment Report."
2  e.g. Houghton, Global Warning. The Complete Briefing.
3  e.g. John S Dryzek, Richard Norgaard, and David Schlosberg, eds., The Oxford Handbook of Climate Change and Society (Oxford: Oxford University Press, 2011).
4  In physics and geophysics
5  Intergovernmental Panel on Climate Change, "Fifth Assessment Report."
6  Houghton and Tavner, In the Eye of the Storm. An Autobiography. Houghton gives an autobiographical account of the history of the IPCC. He played a leading role in its formation and work.
7  For a recent Australian example see: Australian Academy of Science, "The science of climate change: Questions and answers".
Secondly, I am unable to give the contrary views on climate science held by a small minority of otherwise credible scientists the weight which some ascribe to them. Throughout a career in applied physics, including geophysics, I have followed primary literature and in a minor way been involved in researching and assessing new science. As new science evolves, new measurements are checked and models are tested against observations. In some instances, there will be more than one current interpretation. As a new area matures, a decreasing minority of scientists continues to defend interpretations which have become less credible as new measurements and tests come in. Some do so with such tenacity that they become unable to give due weight to mounting evidence against their positions. I observed this happen as evidence mounted supporting the now generally accepted ‘plate tectonic’ model for the evolution of continents and oceans. The opposing positions taken have since become a footnote in the history of science. In the case of climate science, the relationship of geological evidence of past climate change to the present phase requires particular caution, as the drivers of the present phase of climate change are, for the first time, anthropogenic.

Thirdly, in some instances there are entirely rational reasons why people and organizations sometimes deny and attempt to undermine science which exposes results which undercut their beliefs and interests. However, the motivation for doing so appears to be related to particular world-views, and likely to be religious or commercial rather than scientific. Denial of science occurs amongst some Christians, where the weight of evidence for the great age of the universe and for the evolution of life on earth contradicts their commitment to biblical literalism. Climate science, including the work of the IPCC, directly links fossil carbon use to climate change. Unsurprisingly, the identification of carbon dioxide emissions from use of fossil carbon is a threat to people and institutions with vested interests in maintaining, or even expanding, use of fossil

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10 Ian Plimer uses geological arguments in his attempt to undermine the case that the present phase of climate change is anthropogenic. His work has been comprehensively refuted by climate sciences. See Plimer, Heaven and Earth and Karoly, "Book review of Ian Plimer's Heaven+Earth". (accessed 28/05/2013)
carbon as an energy source.\textsuperscript{11} It is not the first time that vested interests have attempted to undermine science which exposed the danger of their products. A notorious earlier example is the attempts by people linked to the tobacco industry to undermine public confidence in science linking smoking to lung cancer and other serious diseases.

We live in an age in which, for many, science has assumed almost god-like status as source of meaning and hope for the future. I regard it as a sad irony that the findings of science are undermined and rejected when they cut across the interests of individuals, corporations and even governments.

\textsuperscript{11} Houghton gives an account of some of the strategies which have been used to create public doubt about the link between fossil fuel and climate change. His account is one of many accessible on-line and in literature. Houghton and Tavner, \textit{In the Eye of the Storm. An Autobiography}. Chapters 14 and 15.
Appendix B (to Chapter 3)

A Response to Northcott’s Interpretation of Aspects of History and Practice in the Electric Power Supply Industry

B.1 Northcott’s case for localized power

De Gruchy’s third “thesis” for “good public theology praxis” states that it “requires an informed knowledge of public policy and issues, grasping the implications of what is at stake, and subjecting this to sharp analytical evaluation and theological critique.”¹ His thesis presents a particular challenge to public theology about climate change. The social, economic and scientific ramifications of the carbon economy are multiple, complex and globalized. It is inevitable that some readers will have a more in-depth knowledge of some contingent issues than the public theologian has. The following response to particular points in Northcott’s Moral Climate is made from that perspective. Perceived inaccuracies or inadequate understanding are identified, and an assessment is made of whether they materially affect Northcott’s main “analytic evaluation and theological critique”.

In A Moral Climate and other writings, Northcott focuses on the pervasive injustice and ecological destruction perpetuated as a result of global application of neo-liberal economics. He also makes the case that a consequence of neo-liberal economics is to distance the consumer from the supplier of goods and services, diminishing awareness of and sense of moral responsibility for how goods and services are provided.² He sees reversal of this trend in the electric power industry as possible if:

every individual and household (is) to engage in greenhouse gas reduction behaviours . . . a top down political response to the problem is entirely inadequate. Instead efforts need to be made to empower citizens and local communities to recover control over the production and use of power, and to deliberate over ways to conserve it and to produce it sustainably. A political move towards a local and renewable economy of power will assist in creating a new moral climate.³

Moving from centralized supply with long distance transportation, whether of energy, food or other goods and service, is widely recognized as an achievable way of reducing

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¹ De Gruchy, "Public theology as Christian Witness: Exploring the Genre." 39,40
³ ibid. 109.
greenhouse gas emissions. Devolved electric power generation is becoming technically achievable and economically attractive, and is being taken up on a large scale. The extent to which this will assist “in creating a new moral climate” is yet to be seen, but it is a sign of hope.

Northcott develops his critique of the electric power industry on two fronts. He refers to the early history of electric power supply in the USA as an example where centralization of power generation displaced local generation which he believes was more efficient and empowering of the consumer. He is also critical of the whole trajectory of engineers’ approach to energy and conservation. These critiques are questioned in this appendix. Particular attention is given to the nature and relevance of the laws of thermodynamics to the industrial revolution. His criticism of engineers is particularly pointed and, in my view, depends on a misunderstanding of the laws of thermodynamics.

B.2 A.C., D.C. and the centralization of electric power generation

In the early days (1880s) of commercial electric power supply in the USA, Thomas Edison developed direct current (d.c.) systems. The relatively low voltages at which current was generated and supplied resulted in significant transmission line losses, so lines were kept short. Northcott states that Edison “thought, quite rightly, (that local generation) would be more efficient, as well as putting control over this important new resource closer to end users.”

Northcott makes a virtue of the necessities which limited Edison. Initially, Edison believed that alternating current (a.c.) systems would be too difficult to develop. When the Westinghouse Company developed alternating current systems, using the skills and insights of Nicolas Tesla (who had been with Edison, but his employment was terminated), high voltage-low current transmission and reduced line losses became possible. As demand increased, power stations became larger and centralized generation with transmission for as far as required became the dominant industry norm, taking advantage of efficiencies of scale.

It would be difficult to argue, as Northcott seems to imply, that local generation and d.c. was at that time a better option as the electric power supply industry developed, but that it was over-run by corporate interests which favoured centralized supply and
control. The story of Edison and his a.c. competitors is a late 19th and early 20th century story dominated by technological development and commercial rivalry as different players sought to capture market share of the rapidly expanding demand for electric power.\textsuperscript{5} As a prominent inventor and business man working within North American 19th century capitalism, there is no obvious reason to suppose Edison had any ideological or moral commitment to local energy generation. In a coal economy, over time other factors such as transport of fuel and health effects of emissions have determined location of power stations.\textsuperscript{6} Northcott’s historical excursion is a distraction from his important argument coupling local generation to moral responsibility for the environmental impact of today’s energy use. Changing environmental knowledge and developing technology has made energy efficiency, in which location of energy source and generators is one part, an important contemporary issue with clear moral content. In particular, photovoltaic solar is making local generation at the household level economically competitive and greenhouse gas free. The present practice of ensuring a continuous and reliable domestic supply by integrating to the grid may even be unnecessary within a decade or two as battery technology improves. Local generation at an industrial scale using reticulated gas with exhaust heat used for heating and air-conditioning (sometimes called tri-generation) is also economically competitive. It has overall energy efficiency more than twice that of reticulated power from a coal-fired power station, making it an attractive option during the transition period in which fossil carbon use is phased down.

As more efficient distributed generation options are developed, demand for centrally generated electric power falls. There are strong environmental arguments for policy adjustments to accelerate this trend. However, centralized generation using hydro-electric, nuclear, and less common tidal and geothermal sources are all greenhouse-gas free, and all have environmentally positive and negative aspects. Wind and solar may be multiple small-scale local units or large scale ones more remote from the users, depending on the environment and desired output power.

\textsuperscript{5} An interpretation of the history of electric power supply may be found in Tom McNichol, \textit{AC/DC: The Savage Tale of the First Standards War} (Jossey-Bass (Wiley), 2013).

\textsuperscript{6} The history of electric power generation is exemplified by Sydney, where the first station (d.c.at The Rocks) had a short life. It was replaced by Ultimo (1902), generating d.c. for trams and a.c. for other uses. As demand increased White Bay (1912) and Balmain (1913) came on line. By 1983, these city power stations were closed, replaced by power stations on coal fields in rural areas.
B.3 Northcott’s critique of the way in which engineers use energy

Probably more jarring to people with background in engineering and physics is Northcott’s section on Energy and Conservation\(^7\), and moral implications drawn from it. In this section he describes engineering education and thermodynamics in ways which those familiar with both would have grounds to dispute. Northcott asserts that:

> the thermodynamic description of energy…seems to render human activity in mobilizing sunlight in the earth’s crust in the form of coal, oil and natural gas insignificant in the great cosmic scheme of things… (and that)…The law of energy conservation trains engineers to design devices and systems that are intrinsically wasteful, since it indicates that energy is always conserved by nature…..people do not normally think of heat in the way the laws of thermodynamics describe it. Instead they think of heat as a substance which moves from one body to another – like the heat of the sun moving through space to warm the Earth.

Northcott then contrasts engineers’ ways of using heat with the ways in which biological systems exchange energy in relational and cyclical ways, and so (he claims) truly conserve it.\(^8\)

> The thermodynamic description of energy flows, as applied to devices which take energy from heat sources in order to produce ‘work’\(^9\) to drive machines, consists of two laws. Northcott appears to confuse them. The first law of thermodynamics is conservation of energy. The second is more subtle, and is based on the fundamental irreversibility of many processes in nature. Examples of irreversible processes are direct heat flow from a high temperature environment to a low temperature one, or dissipation of mechanical energy due to friction, generating heat. The second law places limits on the amount of ‘work’ which may be extracted from a source of heat. The efficiency of conversion of heat to work depends on the temperatures of the heat source (typically combustion gases or super-heated steam) and the heat sink (typically cooling water or air). Heat energy not converted to work is emitted as exhaust heat at a lowered temperature, as required by conservation of energy. Maximum heat-work conversion efficiency\(^10\) occurs if there are no irreversible processes, and on Earth is always well below 100%. This is because the Earth environment is, in cosmic terms,

\(^7\) Northcott, *A Moral Climate: The Ethics of Global Warming*. 194-196
\(^8\) ibid. 195.
\(^9\) ‘Work’ is used in the technical sense of energy in a form which may be used directly to drive machines such as electric generators, transport vehicles and much else.
\(^10\) Efficiency is the ratio of work output to heat input.
relatively warm and once the temperature of the exhaust heat reaches the ambient environmental temperature, no further work can be extracted.

A person with physics and engineering background would read Northcott as incorrect on at least three counts. Firstly, his statement that it is “the law of energy conservation (which) trains engineers to design devices and systems that are intrinsically wasteful” is incorrect. The wastefulness he refers to arises not from energy conservation, but is an inevitable consequence of the second law of thermodynamics. Secondly, the second law of thermodynamics is directly concerned with irreversible energy flows in nature, such as the immense and irreversible flow of energy from the Sun, a little of which arrives on Earth. Contra Northcott, people such as engineers who are aware of the second law are likely to think of heat flow much as people commonly do, but they will also be aware of the possibilities offered and limitations placed by nature on extraction of work useful for human purposes. Thirdly, energy is neither more nor less ‘really’ conserved in engineered devices than in natural processes. What is not being conserved is the potential to extract work from a heat source. As long as the heat source is effectively unlimited, like the sun, or renewable like biofuels, heat at a usefully high temperature continues to be available and any lost opportunity to produce work does not have permanent environmental consequences. Indeed, the use of heat engines is better thought of as a realized opportunity to extract some work from heat flows in which that does not naturally occur. If the heat source is fossil carbon, then the heat source itself is not being conserved, and its use modifies the global heat balance primarily due to the greenhouse gas effect of carbon dioxide emissions. Engineers know as well as anyone else that once a fuel such as coal is burned, the potential to extract useful work is gone forever. Current global warming is not due to design of “wasteful” machines as Northcott asserts, but to the use of fossil carbon as their energy source.

What, then, are the issues at stake when thermal sources are used to drive machines? In what sense is the inevitable exhaust heat wasted? What moral dimensions arise, and what theological interpretation could be offered? As Northcott observes, heat engines – the devices which convert heat energy to work – were the primary interface between coal and the industrial revolution. They continue to play a central role in the energy flows which drive the innumerable technologies upon which much of
humankind world-wide has come to depend. Although considerable contemporary research is directed to develop fuel cells which could, in principle, convert chemical energy to work with 100% efficiency, in practice efficiencies are comparable to heat engines and costs very much greater. This leaves heat engines as the only practical way of converting the chemical energy of fossil fuels (or energy from any thermal source) to useful work on an industrial scale, and the second law of thermodynamics makes the emission of exhaust heat inevitable. Consequently engineers, from the 18th century to the present, have had no choice but to design “intrinsically wasteful” heat engines in order to meet the demands of industrial society. The radical departure from “the relational and cyclical ways…..in which biological systems exchange energy” is not a matter of engineering blindness, but of the societal decision to use fossil carbon as an energy source because it made large-scale industrial development possible. Critique of the engineers whose work helped to shape the Industrial Revolution and which supports contemporary industry cannot be separated from critique of the whole process of industrialisation. Much might be learned from doing so, but the present crisis calls us to understand current dilemmas and resources, and act responsibly to minimize human induced climate change and future catastrophes which it may lead to.

In the light of 21st century knowledge of the environmental consequences of ongoing use of fossil carbon, the fundamental issue at stake is how radically to reduce use of fossil carbon. This is central to Northcott’s thesis, and he makes a strong case that there are underlying attitudes, expectations, political and economic structures and interests, all of which need changing. Rather than cast a moral pall over scientists and engineers for supposed wastefulness and neglect of nature’s cyclical ways, we may celebrate the inventiveness and understanding of nature which underpinned the technological side of the industrial revolution, and which offers humankind technological tools, new and old, to support a more sustainable future. The discovery of the second law of thermodynamics is one of the great intellectual achievements of the

11 Northcott, A Moral Climate:The Ethics of Global Warming, 90-93
12 In principle, it is possible to derive electrical energy directly from oxidation of fuels, without using a heat engine. Theoretically the energy conversion efficiency could then be 100%. However, the ‘fuel cell’ technology required to derive electricity directly from oxidation of fuels is proving difficult and expensive. It is an area of considerable active research. For a lead to fuel cell types and research, see FuelCellToday, "Fuel Cell Technologies," www.fuelcelltoday.com/technologies.(accessed 03/07/2015)
13 Heat engines using heat from nuclear, solar, geothermal and biomass sources all contribute to decarbonisation of energy. As heat engines, they will still be “intrinsically wasteful” and have exhaust heat emitted at reduced temperature. Once up and running, these particular sources do not cause a net increase in greenhouse gases.
19th century, and was motivation by the desire to determine the theoretical limit of efficiency for heat-work conversion.

19th century foresight and inventiveness represents part of the extraordinary creativity in science and technology which continues to shape how we live on Earth today. This creativity is found in models for decarbonized industrialized society, such as “Zero Carbon Britain”\textsuperscript{14} and “Zero Carbon Australia”\textsuperscript{15}, and the emerging technologies which are making these visions at least in part achievable. These models attempt to see how the energy base of high energy dependent countries could be smoothly and radically transformed so that the overall emission of carbon dioxide becomes zero. Any such transformation will require technical resourcefulness and economic drivers, as well as top-down and bottom-up political pressure and will. As a public theologian, Northcott makes the case that “technological fixes” will not be able to solve the world’s problems, but that a radical change in moral climate is necessary. Even if that change takes place, to address these problems humankind will still depend on the best available scientific understanding of the planet and its ecology, on developing scientific insight, and on ongoing technological creativity. The second law of thermodynamics will continue to place limits on what is possible whenever thermal energy sources are used.

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