

Biocentric theology: Christianity celebrating humans as an ephemeral part of life, not the centre of it

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Biocentric theology



Christianity celebrating humans as an ephemeral part of life, not the centre of it

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2 Abstract

When the Uniting Church formed in 1977, its *Basis of Union* envisaged a final reconciliation and renewal for all creation, not just humans. It did, nonetheless, reflect the anthropocentric assumptions of its day, as did other official documents released in the first decade of the Uniting Church's life. Anthropocentrism assumes that human beings alone are created in the image of God, charged with dominion over Earth¹, and responsible for the fallenness of creation, though not necessarily through the actions of a literal Adam and Eve. This basic framework did not shift in the first decade, even though Earth began to be talked about not as an inanimate resource for human consumption, but something good and valuable in and of itself.

In 1990 this anthropocentric paradigm began to be challenged, and during 2000-2002 two quite irreconcilable understandings of the relationship between God and Earth, and thus humans and other animals existed side by side in Uniting Church worship resources.

Having listened carefully to the story of life as told by ecological and evolutionary scientists, I conclude that the traditional anthropocentric paradigm is no longer tenable. Instead I propose that *all of life* is the image of God, in its evolutionary past, ecological present and unknown future. *All of life* is in direct relationship with God, and exercises dominion of Earth. Evidence traditionally used as evidence of the fallenness of creation is instead affirmed as an essential part of life, though life on Earth has experienced a number of significant "falls" in biodiversity.

Even the more biocentric thought in recent Uniting Church resources is inadequate, because its language implies that life is simple, static, benign, and to some extent designed by God. In order to be adequately consonant with the life sciences, theology must be able to accept that finitude (pain, suffering and death) is a good part of creation, for without it there could be no life. This is an emphasis of ecofeminism, which I extend to affirm not only individual death, but the extinction of whole species, including humans.

I argue that the purpose of creation was not the evolution of humans, but to make possible God's desire for richness of experience, primarily mediated through relationships. Whilst this idea is well established in process theology, it must be purged of its individualistic and consciousness-centric biases to be adequately consonant with the scientific story of life.

The resulting biocentric paradigm has several implications for our understanding of Jesus. I argue that he offers salvation from the overwhelming fear of finitude, rather than finitude itself. Against the trend in ecotheology, I propose that this saving work is directed in the first instance to humans only. I tentatively propose that it is directed to only *some* humans. This, paradoxically, is more affirming of God's relationship with the rest of creation than most ecotheology, which proclaims Jesus as a global or universal saviour. Salvation for some humans, and all non human creatures, happens only in a secondary sense, because this is the only sense in which they need saving. I then speculate on whether and how it might be possible for a Christian biocentric community to live out its salvation.

Finally, I revisit the *Basis of Union* and argue that although the biocentric theology I have proposed goes well beyond the *Basis*, it is not at odds with the *Basis*' directions and intentions. Biocentric theology is, rather, an extension of the trajectories already contained within the *Basis*, with its trust in the eventual reconciliation and renewal of all creation.

¹ In this thesis I use the convention of referring to our planet as Earth, rather than earth or the earth. Some authors do this to imply that Earth is a subject, or even being. I do it simply because it seems more correct, it is the proper noun for this planet, just as I say I live in Australia, not the Australia. When quoting other authors I have retained whatever convention they used, for it is far too clumsy to change every reference.

separation from the Wild Other. A symptom, and partial remedy, may be our increasing fascination with technological objects.

So on the one hand we are being encouraged to re-engage with the Wild Other for our well being. On the other hand, technology is allowing us to see that “Other” is a constructed meaning system. Although this construction is essential for the survival of biological organisms, it is superimposed over a fundamentally continuous, pulsing stream of life (or genes, body plans, emotions, language, morality, or any other quality we care to mention). The best overarching image of life is a three dimensional pulsing flow, spanning some seven billion years on Earth.

Christian theology claims that this pulsing flow of life is in some way a creation of God, who is a non biological person. God, then, may see life, relate to life, free of the meaning system we have had to impose upon it to survive. If God is creator of life, then life should tell us something about God. The image of life presented here, and the sort of relationship it implies between God and creation differs markedly from that presented in Genesis. Since Christian theology has traditionally grounded itself in Genesis, we might expect to conclude quite different things about God and ourselves in light of the above story, and the image of life it leaves us.

We will see that the scientific stories have an impact upon all three of the propositions in the anthropocentric theology found within the Uniting Church, as I intuitively expected. That is, the notion that humans alone are created in the image of God, charged with some form of dominion over the rest of life, and responsible for the fall of the whole of creation into something less than it was created as. Surprisingly, to me at least, was that the science stories also called into question the more biocentric elements found in the Uniting Church resources, and much of the wider ecotheology movement which they reflected. I will now survey how theologians have responded to these challenges, before moving on to propose a biocentric framework which is, I believe, more consonant with the information we have from the life sciences.

9 Theological evaluation

9.1 *H. sapiens* as the image of God

9.1.1 Summary of the scientific data

We have seen that there is no biological property of *H. sapiens* which is ontologically distinct from other animals. While the relatively massive and well developed human brain has enabled the emergence of intelligence, emotion and culture, even these things are possessed in other animals to different degrees.

We have also seen that the images which humans use to represent the gods have themselves evolved over millennia, with the representation of the gods as animals giving way to the image of the goddess, which itself was recently almost entirely replaced by the image of the male God in those religions rooted in Judaism.

9.1.2 Theological responses

What the author(s) of Genesis 1 meant by the image of God has been extensively debated by biblical scholars and theologians, as comprehensively reviewed by Claus Westermann⁷¹⁷. He makes the

⁷¹⁷ Claus Westermann, *Genesis 1-11: A Commentary* (Minneapolis: Augsburg Publishing House, 1984). See also Noreen L. Herzfeld, *In Our Image : Artificial Intelligence and the Human Spirit, Theology and the Sciences* (Minneapolis: Fortress Press, 2002), pp. 10-32. She describes three approaches common this century; ontological, functional and relational.

interesting point that although the literature on this topic is nearly limitless, it is not a major preoccupation of the biblical witnesses themselves, being mentioned again only in Psalm 8⁷¹⁸.

By far the most common interpretation is that the image of God consists in some sort of quality or capacity, for example, “personality, understanding, the will and its freedom, self-consciousness, intelligence, spiritual being, spiritual superiority, or the immortality of the soul.”⁷¹⁹

Pope John Paul II follows Aquinas in locating the image of God in human speculative intellect⁷²⁰, which is evidence of the unique nature of the human soul. Protestant theologians also looked to biological and intellectual properties of humans as evidence of the image of God. Karl Barth, who had a major influence within Protestantism⁷²¹, believed that culture was a, “particular human activity.”⁷²² This undergirded his claim that,

“Man [sic]... is elected... as the being specially endowed by God. This is manifest in his special bodily nature, in which he of course has ever so much in common with plant and animal, and also in the fact that he is a *rationaly thinking, willing and speaking being destined for responsible and spontaneous decision* (emphasis mine).”⁷²³

Mark Brett represents a different line of interpretation. He points out that the symbol, *image of God* was already in use when Genesis was compiled, and referred to the functional authority of kings to rule in the place of the gods. It was they alone who were bearers of the image of God. Genesis, he claims, uses the symbol as a democratising protest against the prevailing culture, subverting the use of the symbol to claim that *all people* are bearers of the image⁷²⁴.

Theodore Hiebert also focuses on the pre-existing use of the symbol, and also claims that the image of God was used to say something about the function, not ontology of humans⁷²⁵. Far from being used as a democratising influence, however, Hiebert sees the symbol being adopted by the priests responsible for this part of Genesis to legitimate their own position in Israelite society. All people were to the animals as the priests were to all people: the divinely appointed rulers⁷²⁶.

Westermann himself disputes both the functional and ‘spiritual quality’ interpretations. He agrees with those who say that the image of God is not about what humans are, or how they relate to the other animals⁷²⁷. The image of God, he believes, was intended to say something about the relationship between humans and God. According to the priestly redactors of Genesis, humans were created for relationship with God, they are enough like God to be able to respond to God⁷²⁸.

Despite all the differences in these interpretations and the many others Westermann lists, the unanimous assumption is that the image of God *is to be found solely in human beings, and constitutes*

⁷¹⁸ Westermann, *Genesis 1-11: A Commentary*, p. 148.

⁷¹⁹ Ibid, p. 149.

⁷²⁰ Pope John Paul II, *On Evolution*.

⁷²¹ (H. Paul Santmire, "Healing the Protestant Mind: Beyond the Theology of Human Dominion," in *After Nature's Revolt : Eco-Justice and Theology*, ed. Dieter T. Hessel (Minneapolis: Fortress Press, 1992), p. 66.

⁷²² Karl Barth, "The Humanity of God," in *The Humanity of God* (Richmond: John Knox Press, 1960), p. 54.

⁷²³ Ibid, p. 53.

⁷²⁴ Mark Brett, "Earthing the Human in Genesis 1-3," in *The Earth Story in Genesis*, ed. Norman C. Habel and Shirley Wurst (Sheffield: Sheffield Academic Press, 2000), p. 96.

⁷²⁵ Theodore Hiebert, "The Human Vocation: Origins and Transformations in Christian Traditions," in *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. 138.

⁷²⁶ Ibid.

⁷²⁷ The passage which refers to the image of God probably initially was an independent piece, only taking its place after the creation of animals much later (Westermann, *Genesis 1-11: A Commentary*, pp. 156-57.

⁷²⁸ Ibid, pp. 156-58.

*an ontological gap between humans and other animals*⁷²⁹. Whether it is a characteristic, a functional role, or the ability to relate to God, the assumption is that only humans have it or can do it.

Let us return to the majority interpretation, that the image relates to a human characteristic. How do theologians respond to the insights of evolutionary biology, which demonstrates that the human characteristics most commonly used as evidence that we alone possess the image of God, are not ontologically unique to humans?

The official Catholic response to scientific speculation about human nature is, as we have seen, to claim privilege for the magisterium, and the revelation from God that humans *are* ontologically different, irrespective of anything science may claim. The difference is due to the unique human soul, which originates external to biology, being somehow imparted directly from God⁷³⁰.

The position is well summarised by Michael Schmaus in his *Dogma 2: God in Creation*, "... there is between man [sic] and the rest of creation *a fundamental and irreducible distance* (emphasis mine).⁷³¹" He acknowledged that most Catholic theologians of his day (1969) accepted a *moderate* doctrine of evolution, but was adamant that for Catholics, "... although the human body and psyche arise out of the continuous process of evolution, the human spirit does not; the human spirit... originated as a new principle of being and activity."⁷³²

Catholic theologians, then, are bound to reject the implications of science on this point. Edwards, for example, simply states that although the cosmology of Genesis 1-3 is not binding on modern Christians, its theological insights are, including the insight that humans are created in the image of God⁷³³.

Edwards reveals that a number of Catholic theologians, including Karl Rahner, share his discomfort with the idea that God intervenes in history to implant the human soul either in the human species, or in individual people⁷³⁴. Nonetheless, he affirms the radical distinction between humans and other animals in a way which can only be considered ontological,

"It is this one divine act that enables what is radically new to emerge in creation. Above all it enables the emergence of self conscious and spiritual human beings. Each of them is created in radical uniqueness in the image of God... Each of them is destined for eternal life... Are there other such creatures in the universe? - Theology can't say yet."⁷³⁵

By remaining silent on the possibility of other creatures in the universe being like us, Edwards holds open the possibility that the image of God may be broader than we conceive it to be, but he clearly does not see any other signs of the image here on Earth. This is a position which he reiterated in a recent theology -science dialogue⁷³⁶, and in a more fully developed paper in the same year⁷³⁷.

⁷²⁹ Ibid, pp. 157-58.

⁷³⁰ Michael Schmaus, *Dogma 2: God and Creation* (London: Sheed & Ward, 1969), p. 129.

⁷³¹ Ibid, p. 111.

⁷³² Ibid, p. 125.

⁷³³ Edwards, *The God of Evolution: A Trinitarian Theology*, p. 11.

⁷³⁴ Ibid, p. 75.

⁷³⁵ Ibid.

⁷³⁶ Denis Edwards, "Response to Nancey Murphy," in *Interdisciplinary Perspectives on Cosmology and Evolutionary Biology*, ed. Mark Worthing (Adelaide: Adelaide Theological Forum, 2002), p. 95.

⁷³⁷ Edwards, "Evolution and the Christian God," p. 179.

The Roman Catholic dialogue with science on this point, then, is impossible⁷³⁸. The same is true of the Orthodox Churches whose theology, for similar reasons, "... starts and ends by placing human beings at the centre," claiming that we are the centre and height of God's creation⁷³⁹.

Similar sentiments dominate Protestantism, though for different reasons. Thomas Torrance, an influential Protestant thinker who has written on science and theology, is a contemporary example,

"From the perspective of theology man [sic] is clearly made *the focal point in the interrelations between God and the universe*. He is given a special place within the creation with *a ruling and priestly function* to perform toward the rest of created reality. All lines of rationality and order... *depend on his destiny* (emphasis mine).⁷⁴⁰"

"The fact that God has taken the way of becoming man [sic]... immensely reinforces *the unique place of man [sic] in the universe*.⁷⁴¹"

Although his conclusions are very similar to the Catholic position, Torrance does not elaborate an ontological defence. For him it is enough that God became a human being. Although Torrance values the dialogue between science and theology, it is probably not his primary focus. Of his many books, only a few, and those predominantly early in his career, deal primarily with science. These tackle cosmology more than evolutionary biology, so his views on humankind's ontological distinctiveness is not directly challenged by his dialogue. According to Polkinghorne, Torrance is one of those theologians who pay, "...*some attention to science in their writings* (emphasis mine),⁷⁴²" which may have something to do with his enthusiasm for Karl Barth⁷⁴³.

Barth determinedly avoided all scientific questions, claiming that they had nothing to do with the theological problem of creation⁷⁴⁴, although he did admit that science may yet make discoveries important for theology⁷⁴⁵. For Barth, it was important to engage with Genesis as a saga, in the light of Christ, not science, and so he avoided dealing with the natural sciences on principle⁷⁴⁶. For Barth, although theology is the, "science and doctrine of God,⁷⁴⁷" *Christian* theology is really, "The-anthropology," a doctrine of God and *man*⁷⁴⁸. The evangelical theology he championed was, "... the science and doctrine of *the commerce and communion between God and man [sic]*, informed by the gospel of Jesus Christ as heard in Holy Scripture (emphasis mine).⁷⁴⁹"

Barth's refusal to engage with science was a reaction against what he saw as an unhealthy preoccupation with that very engagement by his predecessors⁷⁵⁰. This is unfortunate, since Barth

⁷³⁸ Pope John Paul II acknowledges as much in his addresses on evolution. (Pope John Paul II, *On Evolution*, Pope John Paul II, "The Theory of Evolution and the 'Gospel of Life'," *Catholic International* 8, no. 1 (1997).)

⁷³⁹ Tsehail Berhane-Selassie, "Ecology and Ethiopian Orthodox Theology," in *Ecotheology: Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), pp. 155, 70.

⁷⁴⁰ Thomas Torrance, *Divine and Contingent Order* (1981), p. 129.

⁷⁴¹ *Ibid.*, p. 138.

⁷⁴² Polkinghorne, *Scientists as Theologians*, p. ix. In this list he includes Hefner, Moltmann, Murphey, Pannenberg and Peters.

⁷⁴³ Seen, for example, in the numerous texts he produced about, and even with, Barth (Karl Barth, Thomas F. Torrance, and Geoffrey William Bromiley, *Church Dogmatics. Index Volume with Aids for the Preacher* (Edinburgh: T. & T. Clark, 1977), Thomas Torrance, *Karl Barth: An Introduction to His Early Theology 1910-1931* (London: SCM Press, 1962), Thomas Torrance, *Karl Barth, Biblical and Evangelical Theologian* (Edinburgh: T & T Clark, 1990).) A second edition of Torrance's *Introduction to Barth* was published in 2000 (Thomas Torrance, *Karl Barth: An Introduction to His Early Theology 1910-1931* (Edinburgh: T&T Clark, 2000).)

⁷⁴⁴ John Dillenberger, *Protestant Thought and Natural Science* (Indiana: University of Notre Dame, 1960), p. 258.

⁷⁴⁵ *Ibid.*

⁷⁴⁶ *Ibid.*, p. 261.

⁷⁴⁷ Karl Barth, "Evangelical Theology in the 19th Century," in *The Humanity of God* (Richmond: John Knox Press, 1960), p. 11.

⁷⁴⁸ *Ibid.*

⁷⁴⁹ *Ibid.*

⁷⁵⁰ *Ibid.*

opposed those who, in his view, made humans the measure of all things. But by limiting theology to the discussion of God and humans, he missed one of the most powerful tools for relativising the position and importance of the human - i.e. evolutionary biology. Protestant theology should be open to this relativising because it generally rejects the body/soul dualism which the Catholic position rests on, having offered a sustained critique of it for decades⁷⁵¹. Indeed, Protestant theology has always tended to have a more generationist view of the soul, in which the soul is simply a, “dimension of the material world.”⁷⁵²

If the soul is entirely a dimension of the material world, then Protestant theology has no recourse to an ontologically different soul upon which to hang the image of God. We must continue the dialogue on this most crucial issue, to see whether theology can reconceive of the image of God in a way which is consonant with the scientists’ conclusions. One approach could be to simply to do away with the concept of the image of God.

9.1.2.1 There is no image of God

It has been assumed for most of Christian history that since God designed or created Earth and life on it, we could see something of God by looking at ‘nature’. Since the science story finds no evidence of external guidance shaping the development of life, we could conclude that life is no image of God at all. This could be consistent with the Orthodox tradition, for example, which emphasises the inscrutability of God⁷⁵³, and in the Protestant tradition, many theologians admit that the universe is at least partly independent of God⁷⁵⁴. To the extent to which the latter is true, we could say that the universe, or life, is not the image of God. This would also be true of us, to the extent that evolution, rather than God, is responsible for our biology and soul.

The “image of God” symbol could be retained for Christ, who is the image of what the divine/human nexus looks like. In other words, he is the image of God for *we humans*, but not the image of God *in toto*.

However, as we have seen, being in the likeness of God is only part of what it means to be in God’s image. The image of God is primarily a claim that its bearer is able to be in *relationship* with God, and secondarily is therefore enough like God to have a relationship. To declare that there is no image of God, then, is to declare that there is no relationship with God. If this were true, there would be nothing left to say, and no Christianity.

For now, then, I retain the idea that there *is* an image of God, a relationship with God, but reject the idea that this can be constrained to human beings alone, since there is no ontological distinction between them and other organisms. How might we go about broadening the image of God?

First we must ask whether Christians *can* broaden the image of God. Since it is such a central image in Christian theology, will theology still be Christian if it changes it substantially? This question was first addressed decades ago in the Christian feminism movement, and the reactions to it. I will consider it by briefly reviewing the impact of feminism on another central Christian claim about God, that God is Trinity. Feminism must be able to talk of God as Trinity if it is to claim a place within Christianity, as must biocentric theology. But it must be able to talk about Trinity in a way which is

⁷⁵¹ Andrew Dutney, *Ensoulment (Briefing Notes)* [email attachment] (2003 [accessed August 2004]). It is widely rejected by those theologians engaged with the sciences, e.g. Barbour, *Nature, Human Nature, and God*, pp. 6, 65, 71-82, Ian G Barbour, *Religion in an Age of Science* (London: SCM, 1990), pp. 177,208-09, Christian de Duve, "Lessons of Life," in *Many Worlds: The New Universe, Extraterrestrial Life and the Theological Implications*, ed. Stephen Dick (Pennsylvania: Templeton Foundation, 2000), p. 8, Arthur Peacocke, *God and the New Biology* (London, Melbourne: J. M. Dent & Sons, 1986), pp. 88-90, Polkinghorne, *Scientists as Theologians*, p. 29.

⁷⁵² Dutney, *Ensoulment*.

⁷⁵³ Platon Igumnov, "Creation from the Viewpoint of Dogmatic Theology," in *Justice, Peace and the Integrity of Creation : Insights from Orthodoxy*, ed. Gennadios Limouris (Geneva: World Council of Churches, 1990), p. 84.

⁷⁵⁴ Torrance, *Divine and Contingent Order*, pp. 71-72.

consonant with feminism. In other words, feminist Christians had to demonstrate that the traditional Christian formulation, Father, Son and Holy Spirit, is not *the only* possible formulation for the Trinity.

9.1.2.2 From an androcentric to anthropocentric image

I have already mentioned that the image of God used to be confined to men alone in Christian tradition. Gradually, it was acknowledged that women, too, were bearers of the image, though often in a different sense⁷⁵⁵. Yet the language used to describe God, in official theological texts and weekly worship, remained thoroughly androcentric, and God as Trinity meant exclusively God as Father, Son and Holy Spirit.

In reaction, some early feminists, especially ecofeminists, simply rejected the male God, and transferred their allegiance to the goddess. Rosemary Radford Ruether, however, argues that this is inadequate⁷⁵⁶ since it merely replaces one distortion with another. Rather, our images of God must embrace *both* male and female if they are to be theologically adequate,

“Because how we image God is precisely the revelation of God that we access, expanding our image to honour the equality of women in the image of God by imagining female metaphors of God is more than a matter of forced correctness. It is a symbol and symptom of a collective work of *metanoia*.⁷⁵⁷”

But is this *metanoia* possible in the Uniting Church? In its opening section of the *Basis*, the uniting denominations declare of their union that, “They pray that this act may be to the glory of God the *Father, the Son* and the Holy Spirit (emphasis mine).” This masculine Trinitarian formulation repeats throughout the *Basis*, and places it squarely within the majority tradition of the church since formalised at the first council of Constantinople in 381⁷⁵⁸.

Uniting Church members cover the spectrum from ecofeminists calling for inclusive language for the image of God⁷⁵⁹, to those who see the traditional masculine labels as the *only* labels. When working in a local congregation I surveyed the members’ attitude to calling God “She” in worship. The women’s responses ranged from enthusiastic acceptance to threats to leave the church if that happened⁷⁶⁰. Female language about God has been enthusiastically adopted in some congregations, including the Mustard Bush faith community⁷⁶¹, the explicitly pro-feminist Fitzroy Uniting congregation⁷⁶², and the Murray Bridge late morning service⁷⁶³, but they are a tiny minority in the Uniting Church.

⁷⁵⁵ Ruether has a useful survey of this history, from the original Genesis passage, through Catholicism to Barth (Rosemary Radford Ruether, *Imago Dei, Christian Tradition and Feminist Hermeneutics*, in *Image of God and Gender Models: Gender Models in Judaeo-Christian Tradition*, ed. Kari Borresen (Minneapolis: Fortress, 1995).)

⁷⁵⁶ Rosemary Radford Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing* (San Francisco: Harper, 1992).

⁷⁵⁷ Rosemary Radford Ruether, "Pneumatic Nudges: The Theology of Moltmann, Feminism, and the Future," in *The Future of Theology: Essays in Honour of Jürgen Moltmann*, ed. Miroslav Volf, Carmen Krieg, and Thomas Kucharz (Michigan: William B. Eerdmans, 1996), p. 149.

⁷⁵⁸ Although the phrase, “Father, Son and Holy Spirit” is found in Matthew 28:19, “Scripture is like a broad stream with many currents. Not every current leads to Nicea and Chalcedon...” (Chris Mostert, "The Place of the Bible in Preparing and Receiving Doctrinal Statements," *Trinity Occasional Papers* 1, no. 1 (1981): p. 23.) Although the Trinitarian formula was in frequent use by the beginning of the second century, for example by Clement and Ignatius, the coequal divine Trinity does not become binding orthodoxy until Constantinople. For a very brief summary see Edwards, *The God of Evolution: A Trinitarian Theology*, p. 78.

⁷⁵⁹ Dorothy Lee, "Naming the Self-Naming God: A Position Paper on Inclusive Language in Theology and Liturgy," (Parkville: Theology and Discipleship, The Uniting Church in Australia, 2002).

⁷⁶⁰ Survey I conducted at Indooroopilly Uniting Church Evening Congregation, January 6th, 2000.

⁷⁶¹ <http://www.musbush.ucaqld.com.au/>

⁷⁶² Coralie Ling, *Making Wide the Circle: Fitzroy Uniting Church* (January 2001) [internet] (Ecumenical Review, 2001 [accessed March 2003]), available from http://www.findarticles.com/p/articles/mi_m2065/is_1_53/ai_71190357.

⁷⁶³ I attended this congregation for about six months, and God was represented in female language in sermons, songs and prayers during that time.

Amongst ministers and scholars in the Uniting Church a similar disagreement exists. Drasko Dizdar, when a final year ministry candidate, spoke of the Trinity as God beyond-all, God-with-us, and God-within-all⁷⁶⁴, and avoided using the male pronoun for God. Stephen Reid argues that,

“The use of ‘Father’, ‘Son’ and ‘Spirit’ as language for talking about God is clearly a metaphorical use of these terms. Whether there is a primary literal use is a matter debated by some philosophers. But they are clearly not meant literally of God.⁷⁶⁵”

Using Lindbeck’s cultural-linguistic approach to the study of religion⁷⁶⁶, Reid argues that the theological rule laid down in the *Basis* is that God must be understood in Trinitarian terms. The labels for those terms are secondary and malleable⁷⁶⁷. In response to feminist concerns about the patriarchal and kyriocentric implications of “Father, Son and Holy Spirit,” the labels ought to be, or at least can be, changed to better represent Trinity to a modern community.

In contrast, Rosalie Hudson argues that feminist-inspired images of God are similes, whereas God as “Father, Son and Holy Spirit” is a revelation from God and is *the* way that the Trinity is to be described⁷⁶⁸. She quotes with approval *One God One Lord One Spirit*,

“Christian belief in the fatherhood of God was never intended to imply that God is male...As a human being, Jesus is male. But within the persons of the Trinity, there is no gender.⁷⁶⁹”

What Hudson does not address is that for Christians today, if not for Christians of all times, calling God Father and Son *does* imply that God is male. Whether it was meant to or not, calling God by exclusively male pronouns made Christians think of, and relate to, God as male. Whatever the validity of her rejection of new names for God on the grounds of inclusive language, Hudson ignores the far more important argument that our language about God must communicate as best it can who God is. Continuing to speak of God using exclusively male pronouns in the twenty-first century absolutely fails to do that, and miscommunicates the nature of God to most hearers.

The issue of Trinity Occasional Papers that Hudson’s article appears in contains a number of other papers presented to the *Commission on Doctrines and Liturgy* in 1989. One of them, by Arthur Jackson, focuses on the charismatic experience but, in passing, offers some reflections on names for God. He begins by acknowledging that, “Anyone who cannot see the point of trying to devise inclusive language must be very insensitive.⁷⁷⁰” He correctly rejects, “Creator, Son and Holy Spirit” as an alternative, pointing out that in the biblical witnesses the Son and Spirit are also involved in the process of creation. He also points out the inconsistency of retaining Father but calling the Spirit “She”, since although *ruach* is feminine, *pneuma* is neuter⁷⁷¹, and it is this on which Trinitarian theology is based in the New Testament⁷⁷². I would add that speaking of one member of the Trinity as male and another as female actually *increases* the gendered nature of the Trinity rather than decreasing it.

Jackson would be happy to call God Mother in some new prayers and Father in traditional ones, even though he finds it,

⁷⁶⁴ Drasko Dizdar, "Doing Theology Here and Now: Towards a Liberating Contextual Theology," *Trinity Theological College Special Studies* (1990): p. 5.

⁷⁶⁵ Stephen Reid, "On the Theological Authority of the Basis of Union," *Uniting Church Studies* 1, no. 2 (1995): p. 54.

⁷⁶⁶ Lindbeck, *The Nature of Doctrine*.

⁷⁶⁷ Reid, "On the Theological Authority of the Basis of Union," p. 59.

⁷⁶⁸ Rosalie Hudson, "Who Speaks for the Trinity?," *Trinity Occasional Papers* 9, no. 1 (1990).

⁷⁶⁹ Link (ed.) Hans-Georg, "One God One Lord One Spirit (Faith and Order Paper No. 139)," (Geneva: World Council of Churches, 1988), p. 25.

⁷⁷⁰ Arthur Jackson, "Charismatic Worship: Trinitarian Theology," *Trinity Occasional Papers* 9, no. 1 (1990): p. 32.

⁷⁷¹ See also Thayer and Smith, "Greek Lexicon Entry for *Pneuma*," in *New Testament Greek Lexicon* (2003).

⁷⁷² Jackson, "Charismatic Worship: Trinitarian Theology," pp. 32-33. Here Jackson has Moltmann especially in view.

“...hard to call God ‘Mother’- perhaps the result of being 70 years old. Teaching old dogs new tricks is easier than teaching old Christians new prayers”⁷⁷³.

What is most important for him is what Reid might see as another “rule” to lay alongside the rule of God as Trinity: There is an intimacy within the Trinity which must be preserved by language about God. So Jesus’ cry to God as *Abba* reveals an intimacy that must be preserved. For this reason Jackson believes that *Abba* language must be retained, but can be supplemented. We should not replace Father with Parent, as no child calls their parent, “parent”, and so the relational warmth implied by the metaphor is lost. Rather, God is best referred to as Father and Mother, though for a younger generation perhaps mum and dad is better at preserving the intimacy Jackson desires.

In the same issue of Trinity Occasional Papers is a one page summary of a paper by Pat Baker⁷⁷⁴. The editor explains that space precluded all the papers being included, but does not explain why the feminist article is therefore reduced to one page, whilst the conservative nine page article by Hudson is reproduced in full. The editor tells us that Baker describes herself as “... a feminist Christian with a case to put in what is probably a no-win situation,” who seemed to believe that the commissions were unlikely to agree with her attempts to reformulate the Trinity, since, “... arguing against the traditional Trinitarian formula in a group like this is like attacking motherhood and parliamentary democracy.” According to the summary, Baker believes that all images used in the names and descriptions of God are metaphors, and that church tradition is “fraught with examples of the failure to remember what metaphor is.”

The alternative formulations she suggests for the metaphor of Trinity are:

Creator, Redeemer, Sustainer
 Source of all being, Eternal Word, Holy Spirit
 Maker, Keeper, Lover
 Creator, Liberator, Comforter
 Creator, Christ, Holy Spirit
 God who made us, God who saves us, God who keeps us all

Lover, Beloved, Love
 Abba, Servant, Paraclete.

The first six identify the first person in the Trinity as the only creative agent, and I therefore reject them following the logic of Jackson, above. The seventh casts the ‘son’ in a passive role and looks odd alongside the traditional affirmation that “God is love,” not just the third person in the Trinity. The eighth is promising, as *Abba* probably has less explicitly male connotations for English speakers, even though it is masculine in Hebrew.

In the final stages of preparing this thesis I heard that the soon to be released *Uniting in Worship II*, a worship resource manual designed for Uniting Church congregations, will contain one service with female images of God, though this was highly controversial decision⁷⁷⁵ leading to the resignation of several committee members. It has, then, become official Uniting Church policy to affirm, though not to require, the use of female images of God alongside traditional males ones.

So we can move beyond andropocentrism and still be Christian. Can we go further and escape our anthropocentrism?

⁷⁷³ Ibid.

⁷⁷⁴ Pat Baker, "Inclusive Language and the Trinity- Extracts," *Trinity Occasional Papers* 9, no. 1 (1990): p. 38.

⁷⁷⁵ Assembly Standing Committee unconfirmed minutes of meeting held July 2004.

I believe that the formulation I first used in a sermon on June 18th, 2000 is a useful attempt. It drew on a lecture in 1992 by Arthur Jackson and a sermon in about 1995 by Andrew Dutney. They spoke of the doctrine of the Trinity as the early church's experience that the God they knew of as creator of all that is, they also met in Jesus of Nazareth, who lived amongst them. Not only that, they continued to experience Jesus of Nazareth amongst themselves after the resurrection. In order to acknowledge this insight, in the light of the discussion above, I have begun to formulate the Trinity as the God who "is beyond us, became one of us, and remains within and amongst us."⁷⁷⁶

This formulation is similar to Dizdar's, "God beyond-all, God-with-us, and God-within-all," except that his label God-with-us does not highlight a core Christian affirmation that in Christ God was not just with us, but actually became one of us⁷⁷⁷. Dizdar's formulation is valid, it simply doesn't go as far as it could. Dutney uses the phrase, "God beyond us, God against us, God within us,"⁷⁷⁸ but the middle part makes it clear that this is not directly a Trinitarian construction so much as an affirmation of three experiences of God.

My formulation, I believe, provides a valid Trinitarian foundation which is at least potentially consonant with the scientific story. In escaping not only androcentrism but anthropocentrism; it addresses the Shepard's criticism that expanding the image of God to include women only slightly widens humanity's narcissistic religious mirror⁷⁷⁹,

"All the humanized deities were insufficient substitutes for a zoological theriophany... the dead end of making gods in human form."⁷⁸⁰

How, then, do we include this zoological theriophany in the image of the Trinitarian God which Christians worship? Two approaches suggest themselves. A predominantly anthropocentric possibility simply expands the image outwards from humans to include at least some other species. A more biocentric alternative would recentre the image to life itself, with humans included in the image alongside of other species.

9.1.2.3 Broadening the anthropocentric image: humans at the pinnacle

I will start with the more anthropocentric approach, which admits that whatever the image of God is, at least some other animals reflect it, though to a lesser degree than humans. We would thus be the exemplar of the image of God, and the anthropocentric claims about God's image would need only slight modification. We would remain very much at the pinnacle, but we would need to expand the circle somewhat. We would admit that we are not the only creature which shows signs of rationality, morality, language, culture, freedom etc, but would emphasise that we do express each of these things far more fully than any other animal we know of.

If Westermann is correct that the image of God is a statement about the ability to relate to God, then Edwards should be arguing for an hierarchical image of God, since he claims that *all creatures* relate directly to God at some level, in that Christians are,

"...linked in relationships of kinship and community with all other creatures in a global *koinonia* of the Holy Spirit."⁷⁸¹

⁷⁷⁶ It remains for other things we say about God to highlight Jackson's point that our language about God must preserve the intimate, loving aspect. Of course, this is the case even in the classical formulation, since not everyone who hears "Father" or "Son" thinks of loving intimacy.

⁷⁷⁷ The Apostles' Creed carries this strong assumption, with Jesus' birth from the virgin Mary (Owen, ed., *Witness of Faith*, p. 42.) The Nicene Creed explicitly affirms that Jesus was, "made man [sic]" (Owen, ed., *Witness of Faith*, p. 52.)

⁷⁷⁸ Andrew Dutney, *Food, Sex and Death- a Personal Account of Christianity* (Melbourne: Uniting Church Press, 1993), p. 82.

⁷⁷⁹ Shepard, "On Animal Friends," p. 295.

⁷⁸⁰ *Ibid*, p. 293.

⁷⁸¹ Edwards, *The God of Evolution: A Trinitarian Theology*, p. 98.

To include other creatures in the image of God would, however, place him outside the realm of Catholic dogma. Amongst Protestant theologians there is more freedom to explore a hierarchy in the image of God, indeed the above section would seem to require it. Although an increasing number of theologians do accept that there is no ontological distinction between humans and other animals⁷⁸², they tend not to reflect on the implications of this for the conception of the image of God. Langdon Gilkey is one exception,

“God is only dimly known here, barely perceived and stumblingly described - as is the wonder and mystery of nature through which God is thus dimly known. *As we have seen, nature is an image of God*, a creaturely reality of immense creative power, order, and value, an image of the sacred, and hence a finite reality or value for itself... *Nature is for itself and us the medium through which God's power, life and order are communicated to us* (emphasis mine).⁷⁸³”

For Gilkey, ‘nature’ is *an* image of God, separate from the human image. He then goes on to profoundly diminish his claims for nature, and subordinate it under the human image,

“... what is known of God in nature represents by no means the centre of the knowledge of the divine for most religious traditions, and certainly not of God for the Christian... The consequence... is that *what I am trying to do here, while important, is not vital to the centre of Christian theology*.⁷⁸⁴”

So Gilkey actually suggests nothing more than the already widely accepted proposition that we see something of God in the processes of nature, though he is one of the very few to use the language, “Image of God” to describe this.

Sallie McFague also explicitly admits that we are not the only creatures made in the image of God⁷⁸⁵, and goes on to claim that human sin is our failure to stay in our place and accept our proper limits, to make room for other species⁷⁸⁶. Rather than speak of two images (nature and the human), she seems to envisage a hierarchy within the image of God, which relates directly to a hierarchy of value amongst species, with humans at the top⁷⁸⁷.

Process theologians mount a sustained defence of this hierarchy of value. Of all the modern theological systems, process theology is the one most open to affirming a continuity of being between

⁷⁸² Lois Daly, "Ecofeminism, Reverence for Life, and Feminist Theological Ethics," in *Liberating Life : Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), Celia Deanne-Drummond, *Biology and Theology Today* (London: SCM, 2001), p. 113, Langdon Gilkey, *Nature, Reality and the Sacred: The Nexus of Science and Religion*, ed. Kevin Sharpe, *Theology and the Sciences* (Minneapolis: Fortress, 1993), p. 188, Thomas Hosinski, "How Does God's Providential Care Extend to Animals?," in *Animals on the Agenda: Questions About Animals for Theology and Ethics*, ed. Andrew Linzey and Dorothy Yamamoto (London: SCM, 1998), p. 138, Howell, "A God Adequate for Primate Culture.," Johnson, *Women, Earth, and Creator Spirit*, p. 30, Catherine Keller, "The Face of the Deep: Reflections on the Ecology of Process Thought," *The Australasian Journal of Process Thought* 1 (1999), Michollet, "Evolution and Anthropology," p. 81, France Participants in the WCC Annecy Gathering, September 1988, "Liberating Life: A Report to the World Council of Churches," in *Liberating Life : Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), p. 277, James Rachels, *Created from Animals: The Moral Implications of Darwinism* (Oxford: Oxford University Press, 1990), p. 165, Ruether, *Gaia & God : An Ecofeminist Theology of Earth Healing*, p. 250.

⁷⁸³ Langdon Gilkey, "The God of Nature," in *Chaos and Complexity: Scientific Perspectives on Divine Action*, ed. Robert John Russell, Nancy Murphy, and Arthur Peacocke (Vatican City State: Vatican Observatory Publications, 1995), p. 220. This is a near verbatim repeat of the conclusion to his earlier book (Gilkey, *Nature, Reality and the Sacred*, p. 203.)

⁷⁸⁴ Gilkey, "The God of Nature," pp. 212-13.

⁷⁸⁵ Sallie McFague, *The Body of God : An Ecological Theology* (Minneapolis, London: Augsburg Fortress, SCM, 1993), p. 113.

⁷⁸⁶ Ibid.

⁷⁸⁷ Seen, for example, when she contrasts the needs of a hungry human child with that of ‘animals’, and automatically prioritises the former (Ibid, p. 117.)

humans and other organisms⁷⁸⁸. Humans are no longer seen to be of, "... infinitely more value than the whole Earth.⁷⁸⁹" As Nancy Howell, a process theologian puts it,

"Whitehead extends the term 'person' to include most animals. Humans, animals, and vegetables are societies of events or experiences, in Whitehead's view. Living bodies possess an internal organizer that coordinates the events and relationships that make up individuals. A "person" is one whose experiences are so organized that they form a coherent and recognizable being. Humans and vertebrates in particular are described by Whitehead's notion of person.⁷⁹⁰"

What defines a person, then, is not an ontological category, but an assessment of how coherent its comprehension of experience is. Birch calls this the person's *richness of experience*. The richer a life form's experience, the more a person it is, and the more intrinsic worth it has.

Since human beings are thought to possess the greatest capacity for richness of experience, they exist at the top of the hierarchy of intrinsic worth. For example, Barbour argues that because a mosquito has less richness of experience than a human, it is of less *intrinsic value*⁷⁹¹. Process theologians go on to contrast intrinsic worth with *instrumental value*, or the value of an organism *to others*,

"... a human being is more valuable than a mosquito to itself, to other beings, and to God⁷⁹²."

The first claim is surely true: most humans value their own lives more than they do the life of a mosquito. The second claim is surely *incorrect*. To a frog, for example, a mosquito is of much more instrumental value than a human being. Indeed, humans have a *negative* value to a frog, both as predators and habitat destroyers. They have a negative value to *many* species for the same reasons, as the many litanies of ecological destruction testify. I will assess the third claim, that each human has more value to God than other life forms do, later in the thesis⁷⁹³.

The hierarchical use of intrinsic worth in process theology leads to problems when it engages with other theological discourses, where intrinsic value implies equality. McDaniel illustrates the problems which arise when both senses are combined uncritically. He refers approvingly to the World Council of Churches, Church and Society Working Committee, which talks about intrinsic value as something *absolute*, a claim that something is loved by God⁷⁹⁴. This reflects a core Christian affirmation that God loves the world, declaring it good. Later in his paper, however, he uses intrinsic value in the hierarchical process sense,

"The greater a living organism's capacity for sentience, exemplified in part by the complexity of its nervous system, the greater its intrinsic value.⁷⁹⁵"

⁷⁸⁸ Indeed, process theology goes beyond life to affirm a basic continuity between all matter.

⁷⁸⁹ Wesley, *Collected Sermons of John Wesley from the 1872 Edition*. Previously cited on page 11.

⁷⁹⁰ Howell, "A God Adequate for Primate Culture," paragraph 33.

⁷⁹¹ Barbour, *Nature, Human Nature, and God*, p. 131. See also Birch, "The Liberation of Nature," p. 9. This is developed in Birch and Cobb, *The Liberation of Life: From the Cell to the Community*. Birch distinguishes his approach from that of Singer, whom he says focuses only on the capacity to suffer of an animal. Their positions are actually extremely similar, see Peter Singer, *Animal Liberation: A New Ethics for Our Treatment of Animals*, 2nd ed. (London: Thorsons, 1991), p. 8. Birch's explanation of intrinsic and instrumental worth remains unchanged through until 2000, where he explicitly uses the principle to suggest differences in intrinsic worth amongst humans based on their richness of experience, again much like Singer (Birch, "Environmental Ethics in Process Thought," pp. 3-5. In this recent article Birch acknowledges that both his and Singer's systems have very similar outcomes.)

⁷⁹² Barbour, *Nature, Human Nature, and God*, p. 131.

⁷⁹³ Chapter 9.5

⁷⁹⁴ Jay B. McDaniel, "Revisioning God and the Self: Lessons from Buddhism," in *Liberating Life: Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), p. 230.

⁷⁹⁵ *Ibid*, p. 231.

Combining the two approaches we conclude that the more intelligent something is, the more intrinsic value it has, and therefore the more God loves it. We are led logically, though McDaniel does not appear to recognise this, to conclude that since not all beings are intellectually equal, they are not all equally loved by God. Tony Kelly, who uses process theology and Teilhard de Chardin as his basic framework, states this explicitly. He claims that God created the universe to be completely free of divine control because only something which is truly free is worthy of love,

“A *mere creature* is no fit subject of God's love. However a self-created [self-conscious] entity could be an appropriate subject of God's love, if it was otherwise similar to God.⁷⁹⁶”

Few ecotheologians, indeed few theologians, would be comfortable with such an explicit rejection of the fitness of creation to be loved, or even instituting a hierarchy of love. Many more would recoil from the obvious implication that, since not all *humans* have similar intellectual capacity, or richness of experience, not all humans are equally loved by God.

As Singer⁷⁹⁷ and Tom Regan⁷⁹⁸ point out, human babies have inferior capabilities on any scale to adults of some other species. Some humans with profound intellectual disabilities will be permanently inferior to some animals on any scale of intellectual or emotional maturity⁷⁹⁹. Since there is no ontological gap between humans and other animals to fall back on, a hierarchical image of God will necessarily create a hierarchy amongst humans, saying that some humans reflect the image of God less than others, and that some reflect the image of God less than animals of other species.

Carol Christ criticises hierarchies of intellect or consciousness at the level of whole cultures. She points out that theologies which elevate intellect and self-reflection can unwittingly imply that cultures which do not value such things are less valuable⁸⁰⁰, or less human. At the recent *Christianity after Darwin* conference in Adelaide Tony Kelly appeared to do just that. He claimed that Australian Aboriginal culture was pre-moral, as indeed was all human culture before 1000BC, because their intellect was less developed than western culture⁸⁰¹. Yet, he added, only humans who had developed truly moral culture expressed the kind of freedom God sought; a self-creating creature which was finally worthy of being loved. Only the people who represent this final emergent stage are free to relate properly to God, or as we would say to express the image of God fully.

So, at both the individual and cultural level, retaining the traditional evidences of the image of God, and thus creating a hierarchical image, leads towards affirmations which are anathema to contemporary theology. Whilst the church *has* argued in the past that all humans are not equal, and do not equally bear the image of God⁸⁰², the principle of human equality has been espoused by almost every Western theologian for the last three centuries⁸⁰³. This includes both Catholic and Protestant theologians, and both link equality to the possession of the image of God. Barth typifies the Protestant project,

⁷⁹⁶ Tony Kelly, "An Emergent Christology" (paper presented at the Christianity After Darwin: Doing Theology in an Evolutionary Context, Adelaide, Australia, September 2004).

⁷⁹⁷ Singer, *Animal Liberation*, pp. 16, 239-40.

⁷⁹⁸ Tom Regan, "Christianity and Animal Rights: The Challenge and Promise," in *Liberating Life : Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), p. 79.

⁷⁹⁹ Singer, *Animal Liberation*, pp. 16, 239.

⁸⁰⁰ Carol Christ, "Rethinking Theology and Nature," in *Weaving the Visions*, ed. Judith Plaskow and Carol Christ (San Francisco: Harper & Row, 1989), p. 322.

⁸⁰¹ Kelly, "An Emergent Christology". These comments were made by way of example and do not feature in the text. In response to sustained audience questioning he described morality as being the ability to do the right thing, even if the law proscribes it.

⁸⁰² Ruether, "*Imago Dei*, Christian Tradition and Feminist Hermeneutics," pp. 267-70.

⁸⁰³ Rachels, *Created from Animals*, p. 175.

“Man [sic] is not elected to intercourse with God because, by virtue of his humanity, *he deserved such preference*. He is elected through God’s grace alone⁸⁰⁴... It is a distinction of every being which bears the human countenance... The acknowledgment of this distinction has nothing to do with an optimistic judgment of man [sic]. It is due him [sic] because he [sic] is the being whom God willed to exalt as His covenant partner, not otherwise.⁸⁰⁵”

The equality of all people, as bearers of the image of God, has been unanimously affirmed by the councils of the Uniting Church⁸⁰⁶. To call this into question, which we must do if it is hierarchical, since there is no ontological gap between humans and other animals, is a last resort.

Gregory Peterson to a large extent moves us beyond this approach. He refers to Gilkey’s work, but has a more positive assessment of its importance than Gilkey himself, correctly identifying the fact that the reinterpretation of the image of God has enormous consequences for theology, being a core Christian concept⁸⁰⁷. He rejects Gilkey’s two images approach, instead locating humanity within the one image of God which we see in nature, in what he admits is a tentative reinterpretation. He points out that consciousness is a very difficult concept to define, regardless of the model of consciousness being used, and therefore does not believe that simply expanding the image of God to include conscious or self conscious creatures is sufficient⁸⁰⁸.

He initially appears to move away from McFague and the process theologians when he proposes that the locus be moved from human beings (and our consciousness) to nature itself. All of life is the image of God. Yet he still allows for human pre-eminence, based on our consciousness, which has allowed us to *become* more the image of God through our taking on the responsibility of being caretakers for the planet. So we are pre-eminently, perhaps especially, the image of God, based not on ontological difference, but stewardship⁸⁰⁹. Peterson then calls his own line of reasoning into question, asking,

“Isn’t it the height of human arrogance to assume that because we, in our mature adult stage, are a bit more intelligent than other creatures, we are more like God?⁸¹⁰”

He concludes that, “... the old strategy of emphasizing the difference between human beings and animals... is no longer viable.” Yet this, on my reading, is what he does when he allows that we are pre-eminently the image of God, for surely this implies that we are more like God. Peterson seems to acknowledge this tension without attempting to resolve it, his aim after all is to speculate so as to stimulate discussion rather than drawn firm conclusions. Having rejected the hierarchical notions he entertains, I will pursue his line of thinking in which the image of God is relocated to life itself (he says nature). What, in other words, are the possibilities of a *biocentric* conception of the image of God?

9.1.2.4 The biocentric image of God

Ivone Gebara calls us beyond the anthropomorphic God,

⁸⁰⁴ Barth, "The Humanity of God," p. 53.

⁸⁰⁵ Ibid, p. 52.

⁸⁰⁶ Gospel and Gender, *Made in the Image of God*, Uniting Aboriginal and Islander Christian Congress, *Manifesto* [internet] (May 2003 [accessed 5 October 2004]), available from <http://www.covenanting.uniting.org.au/index.cgi?tid=17>, UnitingJustice, Australian Catholic Social Justice Council, and Anglican Social Responsibilities Network, *Subverting Racism: Social Justice Sunday 2003* [internet] (2003 [accessed 5 October 2004]), available from <http://nat.uca.org.au/unitingjustice/resources/socialjusticesunday/2003/>.

⁸⁰⁷ Peterson, "The Evolution of Consciousness and the Theology of Nature," p. 299.

⁸⁰⁸ Ibid.

⁸⁰⁹ Ibid: p. 299-301.

⁸¹⁰ Ibid: p. 302.

“By analogy, God is a human person, the sap of human life, but also the sap of life in trees, in flowers, in animals, and in all that exists. By analogy too, God is man, woman, breeze, hurricane, tenderness, jealousy, compassion, mercy: Mystery.⁸¹¹”

This sounds non-hierarchical, and indeed she explicitly demolishes any central apex in life, “... there is no single pivotal reality on which we all depend; rather all depends on all. The centre is in all and in everything.⁸¹²”

This radical revisioning of the image of God stands in stark contrast to the traditional image, even as it slowly expanded to include women, and then other creatures in a subordinate place. Gebara dares to revision God so completely because she accepts that thoughts about God have never been static. She accepts the anthropologists’ claim that human images of God have evolved⁸¹³ over time; that the idea of a supreme Being is the result of a slow evolutionary process, one of many hypotheses⁸¹⁴. The supreme Being, she acknowledges, was, “... clearly fashioned in the image and likeness of the human personality.⁸¹⁵” Nonetheless, because this image has evolved, “... we can gradually prepare ourselves to consider other images of ourselves and of the mysterious reality we call God⁸¹⁶.”

Stephen Dick agrees that the idea of a supernatural God is,

“... of course, a historical artefact, a product of the evolution of human thought. It was the great innovation of the Judaic tradition, which began about four thousand years ago... Although it has proven a resilient and flexible concept, a supernatural God is no different from other powerful ideas developed throughout history, in the sense that it is useful, persistent, and subject to change.⁸¹⁷”

Kwok Pui-Lan points out that the image of God now so common and unquestioned amongst Christians strongly reflects the western culture it evolved in. The kind of image proposed by Gebara is no shock for many Asian theologians,

“Western anthropocentrism thinks of God in terms of the image of human beings: God is king, father, judge and warrior. God is the Lord of history, intervening in human events. *On the contrary*, Oriental people and Indigenous people who are tied to the soil imagine the divine, the Tao, as silent and non-intrusive... earth as mother who is sustaining and life-affirming (emphasis mine).⁸¹⁸”

I have not yet, however, seen Kwok Pui-Lan use any explicit metaphors, apart from Tao, to convey what she is proposing. To my western mind, there is a tension between the very passive, “silent and non-intrusive” God, and the actively, “sustaining and life affirming” one⁸¹⁹. How, if one is silent, can one affirm anything? And how can something be sustained unless there is some intrusion on the part of the sustainer?

What is clear is that, “A shift from anthropocentrism to bio-centrism necessitates a change in our way of thinking and speaking about God.⁸²⁰” More explicitly, “To develop a feminist ecological model for Christology, we have to... dare to use non-human metaphors...⁸²¹”

⁸¹¹ Ivone Gebara, *Longing for Running Water: Ecofeminism and Liberation* (Minneapolis: Fortress, 1999), p. 116.

⁸¹² *Ibid*, p. 115.

⁸¹³ That is, changed in response to the environment in which the human societies lived, not improved.

⁸¹⁴ Gebara, *Longing for Running Water*, pp. 141-42.

⁸¹⁵ *Ibid*, p. 113.

⁸¹⁶ *Ibid*, p. 107.

⁸¹⁷ Dick, "Cosmotheology," p. 203.

⁸¹⁸ Kwok Pui-Lan, "Ecology and the Recycling of Christianity," in *Ecotheology: Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 110.

⁸¹⁹ This tension also exists in process theology, which also fails to adequately resolve it, as I shall argue later.

⁸²⁰ Pui-Lan, "Ecology and the Recycling of Christianity," p. 110.

I have already mentioned that such metaphors were the dominant ones, if not the only ones, in pre-agricultural societies. Catherine Keller points out that they persisted, as very much a minority voice, even in cultures overrun with female and then male images of God. In her exploration of the book of Job, she notes that, after the voice from the whirlwind, Job says to God, “now my eyes see you.” What Job has *actually* “seen” in the whirlwind, however, is not some anthropomorphic God. Rather, Job saw, “... only the creatures. To ‘see’ God *is* to see the creation.”⁸²²

So for these thinkers the image of God is blown wide open. *Biological Life* is the image of the living, but non-biological God. It is the juxtaposition of the billions of year’s long stream with the current web - the venous cross section- to which we need to look for the image of God. Peterson is the only theologian I found who endorses this stream-like view of the image of God, and then only implicitly. I have already noted that he affirms nature as the image of God, and to this we can add his proposal for a theologically promising metaphor for the evolution of life as, “... living waters, flowing in many directions and curling around in unique and beautiful patterns.”⁸²³

In affirming the pulsing flow of life as the image of God, I am not advocating a return to animism. Biocentric theology transcends the reliance on individual animals as totems of the gods. Different individuals do not contain different parts of the image of God - *life* is the image of God⁸²⁴. Life as the image of God, rather than *lives*, is consonant with the suggestions from the science story that the boundaries around species and bodies are more fluid than we think. The first anthropocentric proposition is invalidated, not by negation, nor even really by expansion, but by explosion. We look to figure 14, rather than the mirror, to see the image of God.

The kinds of distinctions we make amongst objects and organisms are part of our biological survival tool-kit, which all creatures possess. I propose that God, who is not a biological entity, and thus would not have evolved the same need to discriminate as we have, is able to see and relate directly and primarily to, *life*, the venous cross section of all that has been and will be. That is, not only is life in the likeness of God rather than the human alone, life relates directly to God, rather than through the human.

This brings to mind the second anthropocentric assumption, that the God-life relationship on Earth is somehow mediated through the God-human relationship. Humans alone have been mandated, since the beginning of creation, to exercise some form of dominion over life on Earth. The link between the image of God and the mandate for dominion is an intimate one. Radford Ruether claims that modern Hebrew scholarship sees the image of God *as* the mandate for dominion⁸²⁵. Westermann, who rejects so close a link, still admits that in the text, as well as in later interpretations, “... dominion over the rest of creation is the *consequence* of the image and likeness of God (emphasis mine).”⁸²⁶

We might already begin to suspect theologically that if all life bears the image of God; all life would be that which exercises dominion on Earth. How does that fit with the scientific story?

⁸²¹ Kwok Pui-Lan, *Introducing Asian Feminist Theology*, ed. Mary Grey, et al., vol. 4, *Introductions in Feminist Theology* (Sheffield: Sheffield Academic, 2000), p. 91.

⁸²² Catherine Keller, *Face of the Deep: A Theology of Becoming* (London: Routledge, 2003), p. 139.

⁸²³ Gregory Peterson, "Being Conscious of Marc Bekoff: Thinking of Animal Self-Consciousness," *Zygon* 38, no. 2 (2003): pp. 254-55. He only mentions this metaphor in a concluding sentence and has not yet developed it in any published material.

⁸²⁴ Process theology rejects any ontological difference even between what we commonly call life and non-life, so that the image of God would then be matter itself. Whatever the strengths of that approach, it is sufficient to make my point to talk of life as the image of God, and will prove less clumsy in sections to come.

⁸²⁵ Ruether, "*Imago Dei*, Christian Tradition and Feminist Hermeneutics," p. 272.

⁸²⁶ Westermann, *Genesis 1-11: A Commentary*, pp. 153-55.

9.2 *H. sapiens* as divinely appointed stewards of creation

9.2.1 Summary of the scientific data

The idea that humans could ever exercise dominion over the entire *universe*⁸²⁷, with its seventy thousand million million million solar systems, is ridiculous. The more humble claim in Genesis and most ecotheology is that we are granted dominion over life on *Earth*. Even this is implausible in the science story.

We have seen that human beings have been present on Earth for only a minute fraction of its history, and will probably be here for only a minute fraction of its future. Life evolved and interacted for billions of years without us, and will continue to do so. The idea that we were appointed to exercise stewardship over creation from its beginning to its end is historically impossible⁸²⁸.

According to the science story, if anything has dominion over life on Earth, it is the microbes. Nothing else would survive long without them. They were the first organisms, and they will be the last. They make up far more of the biomass of life on Earth than humans, about half of the total biomass of Earth at present⁸²⁹. It is the microbes which created, and drive, the life systems of Earth⁸³⁰,
 “Bacteria, never having gone extinct, continue to protect us as their populations grow prodigiously. They maintain soils for us and purify waters⁸³¹.”

Life on Earth is dominated by unconscious organisms, selected for their ability to consume resources. Of secondary importance ecologically are species like ours, adapted to live off microbial and plant waste products like oxygen. Consciousness and rational thought play a miniscule role in shaping the development of life on Earth.

All organisms shape their environment, and the more complex their nervous system the more deliberately they do so. Many use technology to assist them, especially birds and mammals, and amongst the latter especially primates. Humans, with the most developed nervous system we are aware of, have produced technologies with astounding resource manipulation abilities compared to other primates, to the point where a large proportion of technology is used to manipulate the environment in ways which have no biological survival value. Likewise their ability to reflect on the consequences of each manipulation, and respond accordingly, is greatly developed, though rational reflection certainly does not guide all human decisions. Since not all humans have access to the same technologies, it is relatively few who have such an enormous impact on life on Earth compared to their requirement for biological survival.

9.2.2 Theological responses

The majority of theologians grappling with the relationship between humans and the rest of creation have failed to take the above data seriously. This is the only explanation for the continued ubiquity of the distinctly anthropocentric metaphors like humans as stewards and/or priests of creation⁸³², charged by God with responsibility for guiding the development of life on the planet.

⁸²⁷ As we saw for example in Uniting Church in Australia, "Minutes of the 1985 Assembly", p. 160 (appendix 1).

⁸²⁸ Some might argue that, from the beginning of creation, God foresaw and foreordained that *H. sapiens* would arise at a particular moment in world history to exercise stewardship. Whatever the merits or usefulness of such an idea, it is very different from the traditionally accepted view that *H. sapiens* has been around for the entire history of life on Earth. It also leaves Earth without our stewardship for 99.99...% of its history and future, thus making human stewardship a far more humble project than traditionally assumed.

⁸²⁹ Mayr, *What Evolution Is*, p. 48.

⁸³⁰ Margulis and Lovelock, "Gaia and Geognsy," p. 8. See also Margulis and Sagan, *What Is Life?*, p. 48-52.

⁸³¹ Margulis and Sagan, *What Is Life?*, p. 52.

⁸³² Hiebert, "The Human Vocation," p. 143.

9.2.2.1 Continued defense of *H. sapiens* as steward or priest

I have already shown that stewardship is the dominant model by which the Uniting Church resources describe the relationship between humans and the rest of creation, even if it started to lose its stranglehold recently. This is a microcosm of the wider theological landscape, where stewardship still holds sway⁸³³, largely because of the preoccupation with the current perceived ecological crisis. The main agenda appears to be to get Christians to do something, and stewardship supports that agenda admirably. It needs to be remembered, however, that even this apparently broad interest in ecotheology remains a minority tradition in Christian theology as a whole, and a small part of the life of worshipping communities. Most Christians, certainly in terms of what they *do*, and possibly even in what they confess, still operate more or less out of a domination model⁸³⁴.

The widespread attempt to move people away from domination is typified in Dieter Hessel's appeal,

“Our *primary vocation* is to care for creation with love that seeks justice. Love does not insist on its own way, *the normative human role* is that of *earth keeper or household manager* to be exercised with humility (emphasis mine).⁸³⁵”

It will come as no surprise that Orthodox and Roman Catholic theologians, because of their prior commitment to maintain the ontological distinctiveness of human beings, promote anthropocentric images of humans as stewards or priests of creation.

To take Orthodoxy as an example, we see the claims about humanity remaining unchanged from the 1990s to the present. Gennadios Limouris, introducing a collection of Orthodox contributions to the WCC JPIC project in 1990, claimed that, “The human being is both king and priest; he/she has been given by God the responsibility to rule, but that responsibility goes with the priestly role of prayer and meditation.⁸³⁶”

In his 2002 review of Orthodox teaching on the environment, Tamara Grdzeldidze recalls the unanimous teaching of the Orthodox fathers that the human being is the crown of creation, a bridge between heaven and Earth, put here to reign over Earth's creatures. Not only are we to act ecologically responsibly, but,

“The task of humankind is to go further than the mere preservation of creation; it is to purify creation, and elevate it to the level of its creator.⁸³⁷”

So the Orthodox expand humanity's role from a fairly technological sounding stewardship role, to a royal priestly role. Far from questioning anthropocentrism, they elevate it.

Despite all that the ecofeminists call into question about Roman Catholicism and the Orthodox church, the strong desire for practical outcomes prompts some to uncritically adopt very similar stewardship type models, because of their usefulness. Catharina Halkes, for example, claims that we are here to rule Earth for God, as his representatives, “All is transferred to us in order that we may protect it, may preserve and keep watch over the garden, may see to it that justice is done to everything and everyone⁸³⁸.”

⁸³³ Santmire, *Nature Reborn : The Ecological and Cosmic Promise of Christian Theology*, p. 7.

⁸³⁴ Dieter T. Hessel and Rosemary Radford Ruether, "Introduction: Current Thought on Christianity and Ecology," in *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. xxxviii.

⁸³⁵ Dieter T. Hessel, "Now That Animals Can Be Genetically Engineered: Biotechnology in Theological-Ethical Perspective," in *Ecotheology : Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 289.

⁸³⁶ Gennadios Limouris, ed., *Justice, Peace and the Integrity of Creation : Insights from Orthodoxy* (Geneva: World Council of Churches, 1990), p. x.

⁸³⁷ Grdzeldidze, "Creation and Ecology," p. 212.

⁸³⁸ Catharina J. M. Halkes, *New Creation : Christian Feminism and the Renewal of the Earth* (London: SPCK, 1991), p. 132.

Increasingly, however, theologians have grown uncomfortable with these metaphors, based partly on the inability to reconcile them with the massive sweep of the evolutionary story of life.

9.2.2.2 From steward to co-creator

Clare Palmer summarises well the critique of stewardship metaphors, so I quote her at some length,

“One particular danger of such a search [for new language about our relationship to the rest of creation] is the tendency to latch on to already existing, familiar concepts which seem at first glance to solve the problem. In fact, these terms may act as blinkers which block out deeper consideration of the question at issue. It is this which I am suggesting has happened with the widespread adoption of ‘stewardship’ to express the relation of humans with the rest of the natural world.⁸³⁹”

“In the light of evolution, the idea of human metaphysical ‘set-apartness’ becomes impossible to justify. However, the concept of stewardship continues to support this set-apartness.⁸⁴⁰”

“The contention that man [sic] is needed to look after the earth stems from a preevolutionary understanding of nature. It is perhaps influenced by the idea that nature is ‘fallen’ and imperfect, requiring human activity to perfect it. In the light of evolutionary science, the idea that earth ‘needs to be managed’ by humans is obviously a nonsense, although still maintained by some theologians... If humanity should become extinct, as all species ultimately seem to do, then life on earth will continue to flourish...⁸⁴¹”

Palmer, unfortunately, does not go on to offer an alternative language to describe how humans and the rest of creation are related. This tendency to identify conceptual problems without offering much of a solution is widespread in ecotheology. This need not be surprising, since the endeavour is still relatively new. For example, at around the same time Palmer wrote, David Hallman edited a major work on ecotheology, in which he claimed that,

"We are in the early stages of a profound conceptual shift in theology that will move us far beyond stewardship theology as a response to human exploitation of God's creation... our approach is still a management model in which we humans think we know best. By breaking open that conceptual prison, feminist theology and insights from the traditions of Indigenous peoples are both critically important groundings for the emerging ecotheology, as the articles in those chapters demonstrate.⁸⁴²"

A sign of the “early stages” is that some of the articles in Palmer’s collection still explicitly advocated the stewardship paradigm. As the following references will show, ten years on from Hallman we are still very much in the early stages of this profound shift, especially regarding our ability to offer new language which incorporates the understandings of evolutionary biology into a desire to see Christians adopt a more life affirming faith.

As recently as 2000 Santmire found it necessary to argue that we should retire the words dominion and stewardship, “... for the foreseeable future... These terms still carry too much baggage from the anthropocentric and indeed androcentric theology of the past...⁸⁴³” He believes that we need to escape

⁸³⁹ Clare Palmer, "Stewardship: A Case Study in Environmental Ethics," in *The Earth Beneath : A Critical Guide to Green Theology*, ed. Ian Ball, et al. (London: Spck, 1992), p. 67.

⁸⁴⁰ Ibid, pp. 78-79.

⁸⁴¹ Ibid, p. 79.

⁸⁴² David G. Hallman, "Beyond "North/South" Dialogue," in *Ecotheology : Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 6.

⁸⁴³ Santmire, *Nature Reborn : The Ecological and Cosmic Promise of Christian Theology*, p. 120.

“evolutionary anthropocentrism,⁸⁴⁴” proposing that we are called to *cooperate* with nature and *care* for nature.⁸⁴⁵ This sounds anthropocentric all over again, but the sorts of care and cooperation he describes are fairly limited in scope.

For example we are not to care for nature as a whole, as if we were its supervisors, but to minimise our ecological impact on other species. It is a little unclear, then, how central *H. sapiens* is to the scheme of things in Santmire’s thought. He clearly believes that humans are fundamentally different from other life forms. According to Santmire, we can only have I-Ens relationships with nature, not I-Thou ones⁸⁴⁶. I-Ens is Santmire’s term for relationships between humans and beings which are not persons, but not simply “Its” either. He believes that I-Ens overcomes Martin Buber’s idiosyncrasies, which arise from his reservations about using I-Thou to characterise the human-non human relationships⁸⁴⁷.

Yet Santmire overstates the problem. For example, Santmire claims that Buber admits to having, “... no unified answer to this question,” of the character of the nature of the reciprocity of things in nature to us. Buber actually said, however, that, “... no *sweeping* answer can be given to this question. (Walter Kaufman’s translation)” and then goes on to give a two part answer in terms of threshold and pre threshold I-Thou relationships⁸⁴⁸. Personally, I think Santmire’s addition is unnecessary, since as he admits the thou/it/ens categories are fluid anyway, as explained by Kaufman in his prologue to his translation of Buber⁸⁴⁹.

As part of his I-Ens framework, Santmire calls humans to cooperation with the rest of creation, which brings to mind the work of Philip Hefner. Hefner explicitly rejects stewardship as a model, proposing instead that humans are the created co-creator,

“Human beings are God’s created co-creators whose purpose is to be the agency, acting in freedom, *to birth the future* that is most wholesome for the nature that has birthed us - the nature that is not only our own genetic heritage, but also the entire human community and the evolutionary and ecological reality in which and to which we belong. Exercising this agency is said to be God’s will for humans⁸⁵⁰”

This book won the 1993 Templeton prize in the field of science and natural theology, and became widely influential, being used explicitly, to name a few examples, by Michele Grimbaldeston⁸⁵¹, Elizabeth Johnson⁸⁵², Limouris⁸⁵³, McFague⁸⁵⁴, Peacocke⁸⁵⁵, Peters⁸⁵⁶ and Dorothy Soelle⁸⁵⁷.

It is not at all clear, however, that being a co-creator is much different from being a steward. Hefner explicitly retains humans at the centre of the story of God and creation. Birthing the future sounds an even grander task than simply exercising stewardship. We have not, then, moved beyond deep anthropocentrism, and Palmer’s criticism of stewardship seems just as applicable to co-creation.

⁸⁴⁴ Ibid, p. 44.

⁸⁴⁵ Ibid, pp. 120-24.

⁸⁴⁶ Ibid, pp. 66-72.

⁸⁴⁷ Ibid, p. 68.

⁸⁴⁸ Martin Buber, *I and Thou*, trans. Walter Kaufman, 3rd ed. (Edinburgh: T. & T. Clarke, 1975), pp. 172-73.

⁸⁴⁹ Ibid, pp. 16-17.

⁸⁵⁰ Philip J. Hefner, *The Human Factor : Evolution, Culture, and Religion, Theology and the Sciences*. (Minneapolis, Minn.: Fortress Press, 1993), p. 264.

⁸⁵¹ Michele Grimbaldeston, "Sophia Renewing Earth: Speaking About God in Wisdom Categories," *Pacific Journal of Theology and Science* 2, no. 1 (2001): p. 21.

⁸⁵² Johnson, *Women, Earth, and Creator Spirit*, p. 63.

⁸⁵³ Limouris, ed., *Justice, Peace and the Integrity of Creation : Insights from Orthodoxy*, p. x.

⁸⁵⁴ Sallie McFague, *Models of God : Theology for an Ecological Nuclear Age* (London: SCM, 1987), p. 13.

⁸⁵⁵ Peacocke, *God and the New Biology*, p. 106.

⁸⁵⁶ Ted Peters, *Playing God? : Genetic Determinism and Human Freedom*, Second ed. (New York: Routledge, 2003), pp. 16-20. He also seems to refer to Hefner favourably in other works (Peters, *Science, Theology and Ethics*, p. 237, Peters, "Theology and Science: Where Are We?," p. 65.)

⁸⁵⁷ Cited in Gregory Brett, "A Timely Reminder: Humanity and Ecology in the Light of Christian Hope," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001).

9.2.2.3 From co-creator to humble servant

The same could be said of various efforts to recast humans as the humble servants of creation, rather than its lords. This is seen in the work of Habel⁸⁵⁸ and Hiebert⁸⁵⁹, who point out that the call to dominion in Genesis 1 is very different from the call to till and keep (which Habel translates, “serve and preserve”) the garden in Genesis 2. They are absolutely correct. Yet they overstate the non-manipulative nature of the second image, that of protective gardener. The image still assumes that agriculture is the good, divinely given order of things, rather than an evolved trait with significant ecological consequences, and as we have seen, theological ones also. The idea that humans are here to guard and protect the Earth is certainly nicer than that we are here to tread down and dominate, but it is not any truer for that.

Linzey, who engages with animal rights more than evolutionary biology, calls us to reject our humanocentric prejudices⁸⁶⁰ and become the servant species⁸⁶¹. Yet his own humanocentrism is seen in that he imagines that we alone could exercise this servanthood, or that we would know what is best for other creatures. This intuitively seems to be truer the more we consider the action of some humans which directly lead to habitat loss, or pain and suffering of animals, in experiments for example. As such, Linzey’s call to reconsider those actions, and even actively work against those who do not, is helpful. But to talk generally, in an evolutionary context, about humans as servants of the rest of life does not really move us beyond the deep anthropocentric assumptions more commonly expressed through the stewardship paradigm.

9.2.2.4 Radical reformulation of the role of the human

By far the most popular metaphor used in the attempt to push beyond anthropocentrism is the ecologists’ metaphor of life as a web of relationships⁸⁶². The metaphor has been equally powerful in secular environmentalism⁸⁶³. The model has greatest currency amongst those who reject unique human stewardship or co-creation⁸⁶⁴. Carol Christ is typical when she calls us to recognise our, “... profound connection with all beings in the web of life⁸⁶⁵,” not just ecologically, but ontologically. She goes so far as to claim that we need,

“... to know that we are no more valuable to the life of the universe than a field flowering in the colour purple, than rivers flowing, than a crab picking its way across the sand - and no less.⁸⁶⁶”

Yet even those who promote humans as stewards or servants or co-creators, whether divinely preordained or as something we have evolved into, occasionally use the web metaphor to describe the world over or in which we must exercise our unique role⁸⁶⁷. They call us, for example, to recognise

⁸⁵⁸ See Habel’s comments on Genesis 1 and 2 in Rainbow Spirit Elders, *Rainbow Spirit Theology : Towards an Australian Aboriginal Theology*, p. 79. See also Normal C Habel, *Resource Manual for a Season of Creation* (unpublished draft, 2004), liturgy cycle A, commitment. This is reiterated and expanded in the online Bible Studies which were created to supplement the Season of Creation worship materials (Normal C Habel, *Bible Studies on the Readings for a Season of Creation (Cycle A)* [.pdf file] (2004 [accessed 3 September 2004]), available from <http://victas.uca.org.au/creation>.)

⁸⁵⁹ Westermann, *Genesis 1-11: A Commentary*.

⁸⁶⁰ Linzey, "Introduction: Is Christianity Irredeemably Speciesist?," p. xvii.

⁸⁶¹ Andrew Linzey, *Animal Theology* (1995), p. 57.

⁸⁶² For example Zimmer, *Evolution*, p. 190.

⁸⁶³ Worster, *American Environmentalism; the Formative Period, 1860-1915*, p. 9.

⁸⁶⁴ For example Sallie McFague, "Imaging a Theology of Nature: The World as God's Body," in *Liberating Life : Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), p. 202, Pui-Lan, *Introducing Asian Feminist Theology*, p. 93, Ruether, *Gaia & God : An Ecofeminist Theology of Earth Healing*, p. 1.

⁸⁶⁵ Christ, "Rethinking Theology and Nature," p. 314.

⁸⁶⁶ *Ibid*, p. 321.

⁸⁶⁷ Barbour, *Nature, Human Nature, and God*, pp. 37-55, Christine Burke, "Globalization and Ecology," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001), p. 40, Robert G.

“our intrinsic communion with this web of life.⁸⁶⁸” Even Edwards, who proclaims the ontological distinctiveness of *H. sapiens*, uses the web of life concept to argue that humans have a relationship of kinship and community with all life in the, “global *koinonia* of the Holy Spirit.⁸⁶⁹”

The ease of the metaphor’s adoption by people from such different theological world views should give us pause. Its wide adoption is possible because the metaphor itself is a grossly impoverished picture of the complex relationships occurring between organisms and their genes at any moment in time⁸⁷⁰. It also fails to convey the dynamic nature of the evolution of life through history, and falsely implies the action of an external, conscious agent in its creation. Its simple, static, and designed allusions make it easily adoptable by traditional anthropocentric theology⁸⁷¹. Yet none of the more biocentric theologians who use the metaphor have reflected long enough on its implications to be driven to critique, let alone reject it. Repeatedly they pass over deeper theological analysis in their rush to expound the ethical implications of the web’s apparent unravelling at our hands.

Certainly, however, they are not completely constrained by the web metaphor either. Even though they do not develop alternative, more evolutionary compatible models, they do incorporate evolutionary history into their work. Radford Ruether argues that we could not have been put here as stewards,

“We were not created to dominate and rule the earth, for it governed itself well and better for millions of years when we did not exist or existed as nondominant mammals... Stewardship is not a primal command, but an *ex post facto* effort of dominant males to correct over abuse and become better managers of what they have assumed to be their patrimony, namely, ownership of the rest of the world.⁸⁷²”

She points out that even after we did evolve, we were not a dominant species until a few hundred years ago⁸⁷³. McFague has a similar position, based on the ecological insight that complex life forms like us are completely dependent for survival on simpler ones, but not vice-versa⁸⁷⁴. Microbes steward us. Celia Deanne-Drummond makes a similar point about prokaryotes⁸⁷⁵, but also emphasises that the power of life to regulate conditions on Earth is not absolute - many external factors come into play. Stewardship, then, even by all of life, is a limited affair⁸⁷⁶.

Gebara accepts that other organisms exercise not only dominion but also the creativity which dominion requires. She admits that the creativity of an orange seed, “is surely not the same as human creativity,” but claims that it, “... clearly participates in the ongoing and awesome creativity of the universe.⁸⁷⁷”

To this we could add countless examples of animal creativity and construction which undermine a

Crawford, *The God/Man/World Triangle : A Dialogue between Science and Religion*, 1st pbk. , with minor corr. ed. (Basingstoke: Macmillan, 2000), pp. 58, 64, 100, Johnson, *Women, Earth, and Creator Spirit*, p. 38, 63, Gordon D Kaufman, *Theology for a Nuclear Age* (Manchester: Manchester University Press, 1985), p. 35, Participants in the WCC Annecy Gathering, "Liberating Life," p. 276. Others use the concept of the web of life metaphor without naming it as such, eg Lucy Larkin, "The Relationship Quilt: Feminism and the Healing of Nature," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001).

⁸⁶⁸ Burke, "Globalization and Ecology," p. 40.

⁸⁶⁹ Edwards, *The God of Evolution: A Trinitarian Theology*, p. 98.

⁸⁷⁰ As discussed on page 97

⁸⁷¹ For example Rolston III, who claims that humans alone are in the image of God, placed *over* creation (Holmes Rolston III, "Wildlife and Wildlands: A Christian Perspective," in *After Nature's Revolt : Eco-Justice and Theology*, ed. Dieter T. Hessel (Minneapolis: Fortress Press, 1992), p. 123.) He also believes “pristine” forests to be, “a relic of the way the world was almost forever.” (Rolston III, "Wildlife and Wildlands," p. 129.)

⁸⁷² Rosemary Radford Ruether, "Ecofeminism: The Challenge to Theology," in *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. 103.

⁸⁷³ *Ibid*, p. 104.

⁸⁷⁴ McFague, *The Body of God : An Ecological Theology*, pp. 106, 08.

⁸⁷⁵ Deanne-Drummond, *Biology and Theology Today*, p. 151.

⁸⁷⁶ *Ibid*, pp. 154-59.

⁸⁷⁷ Gebara, *Longing for Running Water*, p. 141.

human-exclusive understanding of the created co-creator model popularised by Hefner. Chung Hyun Kyung explicitly expands Hefner's metaphor to include all of life, such that, "... human beings become co-creators with God *and nature* (emphasis mine).⁸⁷⁸" Process theology could be used to add weight to this argument, since it sees agency and creativity emerging from matter itself⁸⁷⁹.

So it seems that some theologians have accepted the ecological reality of life on Earth, and accepted that all of life exercises dominion. The traditional intimate link between the image of God and dominion is thus preserved, but both have been profoundly expanded.

McFague, however, appears to pull back from this conclusion. She argues that with our evolved power comes responsibility. Far from being plain members of the Earth community,

"We are decentred as the only subjects of the king and recentred as those *responsible* for both knowing the common creation story and *helping it to flourish...* we have become, like it or not, *the guardians and caretakers of our tiny planet*⁸⁸⁰... It is an awesome vocation, *a far higher status* than being a little lower than the angels, subjects of a divine king, or even the goal of evolutionary history (emphasis mine).⁸⁸¹"

But is this realistic? Does it have any connection to the evolutionary processes of Earth? It implies that the evolutionary processes which have worked for billions of years are now to be supplanted by *H. sapiens*. What does it mean to help life flourish? To care for it? McFague leaps from a mostly biocentric theology to an anthropocentric ethic, but she offers no convincing basis for doing so. She seems to be driven by the desire to call humans to action, to make them responsible for their deeds and thus the reparation.

Are humans responsible, and for what? It is time to consider the final leg of the anthropocentric stool, the idea that *H. sapiens* is, as a species, culpable for the Fall.

9.3 *H. sapiens* as the agent of the Fall

9.3.1 Summary of the scientific data

For billions of years before humans evolved, organisms passed into and out of existence. For at least hundreds of millions of years they were born, experienced joy, pain, suffering, and died. All the realities of creation which are cited as evidence of a fall from God's original designs for the world precede human existence, and so cannot literally be attributed to human disobedience of divine decree. They are instead inevitable consequences of the evolutionary process. There was never an Adam and Eve who brought ruin on the human race and creation, and in who's sin we share. The scientific story reverses the traditional theological story. In the Genesis story as usually interpreted, humans brought about death and pain. In the science story, pain and death "brought about" humans.

Pain and suffering and death (finitude) are an essential part of the evolutionary process. Finitude may be the result of the deliberate action of beings, but is mostly the result of random events, from base pair mutations to asteroid strikes. It also results from the pursuit by organisms for resources, including each other. The different success rates in obtaining these resources is a driving force in evolution. Even though cooperative alliances may evolve, they are alliances against other resource competitors, and only continue if they promote the survival of the collaborators over others. The evolving web does

⁸⁷⁸ Chung Hyun Kyung, "Ecology, Feminism and African and Asian Spirituality: Towards a Spirituality of Eco-Feminism," in *Ecotheology: Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 177.

⁸⁷⁹ For example Barbour, *Nature, Human Nature, and God*, p. 37, Charles Birch, "Chance, Purpose and the Order of Nature," in *Liberating Life: Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990).

⁸⁸⁰ McFague, *The Body of God: An Ecological Theology*, p. 108.

⁸⁸¹ *Ibid.*, p. 201.

not preclude love and joy and moral virtue, indeed they evolved out of it, but it does preclude a view in which life on Earth is envisaged solely as benign, loving, and nurturing.

Human beings have initiated an unprecedented era of extinction and individual death on Earth, but it is not the first. Earth has experienced a recurrent wave of falls in biodiversity. Such falls, including this one, only affect the lives of vertebrates and complex plants to any great extent. Nonetheless, because there were more vertebrate and plant species when humans evolved than ever before, the current extinction event is the biggest in global history⁸⁸².

We are the first single species to be the primary agents in such a fall, and the first agent to be able to consciously alter its impact. We are also the first species in which some members have interacted so differently with their environment than others. This is not so much a human initiated fall as a techno-human initiated fall, increasing in severity as technology advanced from fire to stone, metal, and now oil and silicone based tools.

During these mass extinction events the persistence of any one species, or even family or genera is fragile. The existence of all humans, rich and poor, is highly contingent upon the ongoing availability of certain resources, and our ability to defend ourselves against those organisms which constantly try to use us as a resource of their own. The more we spread and turn the world into a homogenised system with us as the dominant consumers, the faster microbes which can exploit us as a resource will evolve and spread amongst us. We have already seen around the world that the survival of humans with limited access to technology is precarious in the face of their growing population, and the technology mediated consumption of their basic resources by humans in other parts of the globe.

In the bigger life picture, we know that the repeated cataclysms, local and global, which have reduced biodiversity, have not completely choked the flow of life. New channels form, just as they do, less spectacularly, every second of the day. What happens after a cataclysm is that the channels flow in new directions, seen for example in the extinction of the dinosaurs and the subsequent colonisation of the planet by mammals. The mechanisms through which life evolves are, the scientists tell us, indifferent to the forms life takes. Unlike the persistence of any one species, the flow of life is not at all fragile, it is highly flexible, and adaptable.

Most ecotheology is a direct response to the perceived human mediated mass extinction event now unfolding. These responses vary widely, largely around the issue of the 'nature' of creation, and whether the finitude which is part of the ecological and evolutionary process is a good to be embraced, or an evil to be overcome.

9.3.2 Theological responses

The Genesis story and the science story are not exactly the same *kind* of stories. Theology and Christian faith are comfortable dealing with mythological stories, knowing that they may claim things which are beyond the ability of science to verify, such as the existence of God in the first place. But we cannot simply try to take the theology of the Genesis mythology and the history of the science story as coequal and independent. We have rejected the path of the "two spheres" approach, in the Uniting Church at least.

We have already seen that the Reformation Witnesses referred to in the *Basis of Union* take for granted the historical reality of a perfect Edenic state from which, through human sin, the world has fallen. Not all Christian theology makes this assumption, but it overwhelmingly *does* assume the *chronology*: first humans, then pain and death. The opposite appears to be true, and theology must engage with this reversal.

⁸⁸² If we go by the actual number of species, and probably organisms affected, but not if we consider percentages, since past extinction events annihilated much greater percentages of species in existence at the time.

This false chronology is clearly assumed in the eco-engaged resources in the Uniting Church, which convey the impression that before humans arrived, Earth was Edenic. I repeat one quote as a reminder,

“We believe in God... who spun a web of shimmering life, where creatures grew and changed... *Each needing all the others, held in delicate kinship.* We believe in God... *who patiently provides* for each according to their need. *Who blankets the drowsy wintering spider* with warm earth so she may go about her business in the springtime... God calls us as the church to love the earth, to *live humbly* in the web of relationship, to announce the new wilderness (emphasis mine).⁸⁸³”

Similarly romantic visions continue to dominate resources produced by the Uniting Church. At the time of writing, the Victorian Synod of the Uniting Church is working on a major project which will transform September into a liturgical season of creation. The draft document describes Earth as a longsuffering, loving parent⁸⁸⁴. The booklet for the preplanning retreat, which I attended, uses the metaphors of Earth as Alive, Celebratory, Parent, Sufferer, Family Tree, and Sanctuary⁸⁸⁵. Discussions during the retreat envisaged Earth solely in positive terms, the only exception being my expressed misgivings about the lack of a “kick your arse” Earth.

This non-creationist Eden is not limited to Uniting Church resources. Mark Wallace’s enthusiasm for poetic theology skims heedlessly over ecological reality,

“... nature is the enfleshment of God’s *sustaining love*. As Trinity, God bodies forth divine compassion for all life forms *in the rhythms of the natural order*. The divine Trinity’s boundless passion for the integrity of all living things is revealed in God’s *preservation of the life-web*... the Father/Mother God’s *creation of the biosphere*, the Son’s *reconciliation of all beings* to himself, and the Spirit’s gift of life to every member of the created order *who relies on her beneficence for daily sustenance* (emphasis mine).⁸⁸⁶”

For Wallace, though I am not sure what he could possibly mean⁸⁸⁷, the ecology of organisms is “... best symbolized by Jesus’ reconciling work of the cross,” and the, “life-web,” is, “... a living testimony to the Divine’s compassion for all things.”⁸⁸⁸

Many ecotheologians base their Edenic visions on their understanding of Indigenous ways of looking at the world,

“This cosmic interwovenness [or African and Asian spiritualities] is a wholesome, harmonious and compassionate web of relationships... based on justice: no exploitation, manipulation or oppression, but mutuality, deep respect and delicate balance.”⁸⁸⁹

Whilst this is an understandable reaction to often Earth-negative western spiritualities and theologies, it is not at all clear that Indigenous or pre-industrial societies actually held the sort of romantic notions read into their spiritualities by westerners. Even if they do, they have not prevented Indigenous societies from having a massive ecological impact on their surroundings, as I documented when I

⁸⁸³ An affirmation of faith (Assembly Social Responsibility and Justice Committee, "Healing the Earth," p. 31.) Already cited on page 21.

⁸⁸⁴ Habel, *Resource Manual for a Season of Creation*, the resource has no page numbers.

⁸⁸⁵ Normal C Habel, *The Earth Files: Biblical Sources for Exploring Our Spiritual Connections with Earth (Draft)* (Adelaide: none, 2003). Earth as sufferer related to the human impact on ecology, not the pain which is intrinsic to life.

⁸⁸⁶ Mark Wallace, "The Wounded Spirit as the Basis for Hope in an Age of Radical Ecology," in *Christianity and Ecology: Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. 57.

⁸⁸⁷ Presumably something about life following death.

⁸⁸⁸ Wallace, "The Wounded Spirit," p. 57.

⁸⁸⁹ Kyung, "Ecology, Feminism and African and Asian Spirituality," p. 177.

considered Fejo's sermon⁸⁹⁰. Birch briefly summarises more evidence to show that Indigenous people's religions did not lead them to be superior conservationists⁸⁹¹. Based on extensive work with New Guinean tribes, Jared Diamond documents that whilst they were often affectionate to domestic animals, torture and maiming of wild animals was commonplace⁸⁹². He concludes,

"... prehistoric peoples throughout the world are human: neither animals, nor paragons, but human. Like other humans throughout the world, New Guineans kill those animals that their technology permits them to kill. The more susceptible species become depleted or exterminated."⁸⁹³

He also gives a broad analysis of the tendency of all human societies to collapse, because of ecological mismanagement⁸⁹⁴. This seems to be avoided only amongst those humans who live in areas with no easily domesticatable plants or animals, forcing them to maintain a more nomadic lifestyle⁸⁹⁵. One such place is Australia. Even if Australian Aboriginal spiritualities did dictate the way they interacted with the landscape, rather than vice-versa, Veronica Brady correctly warns modern westerners that trying to adopt Aboriginal spirituality is both "delusive and dangerous," a form of sentimentality, an adoption of words and feelings which are not really our own⁸⁹⁶.

Rather than seek recourse to apparently more ecologically ideal societies, some authors claim to find in western science *itself* evidence for a pre human Eden, though they provide no data,

"Neither theology nor ethics has truly fathomed what science presents us as bearers of meaning and power and as cosmic story-tellers in an infinitely magnificent evolution... [producing] the only *oikos* we know and the only one that is fine-tuned for our survival (emphasis mine)."⁸⁹⁷

"Perspectives from science show us that the earth was designed to be sustainable, how delicately balanced the natural systems are... "Both science and the Bible clearly show that God created a perfect earth."⁸⁹⁸

Both quotes are at odds with the weight of the scientific stories I outlined in chapter 8, in several respects. Firstly, they ignore the vast fluctuations in the flow of life through evolutionary time - the history of mass extinction events which preceded human evolution. They reflect the simplistic web of life I have already rejected. The only form of scientific support they could claim would be the recent interest in the anthropic principle, a fascination of cosmologists. Because it is mostly a cosmological argument I do not want to go into details. Suffice to say, the above quotes rely on the strong version of the anthropic principle, which is widely discredited. Even then, by claiming that the earth is perfect they are extrapolating well beyond what even the strong version of the anthropic principle states.

The scientific data reveal the exact opposite of a perfect Earth, fine tuned for our survival. Rather we are part of the vertebrate lineage, which is part of the eukaryotic lineage, which is

⁸⁹⁰ Page 33.

⁸⁹¹ Charles Birch, *Biology and the Riddle of Life* (Sydney: UNSW Press, 1999), p. 102-03.

⁸⁹² Diamond, "New Guineans and Their Natural World," pp. 263-64.

⁸⁹³ *Ibid*, p. 267.

⁸⁹⁴ Jared M Diamond, *Ecological Collapses of Pre-Industrial Societies* [internet] (2000 [accessed 1 October 2004]), available from http://www.tannerlectures.utah.edu/lectures/Diamond_01.pdf.

⁸⁹⁵ Jared M Diamond, *The Broadest Pattern of Human History* [internet] (1992 [accessed 1 October 2004]), available from <http://www.tannerlectures.utah.edu/lectures/Diamond93.pdf>.

⁸⁹⁶ Veronica Brady, "Called by the Land to Enter the Land," in *Creation Spirituality and the Dreamtime*, ed. Catherine Hammond (Newtown: Millennium Books, 1991), p. 38.

⁸⁹⁷ Larry Rasmussen, "Theology of Life and Ecumenical Ethics," in *Ecotheology : Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 121.

⁸⁹⁸ M. Adebisi Sowunmi, "Giver of Life- "Sustain Your Creation",," in *Ecotheology : Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), pp. 150-52.

part of the microbial lineage which was selected for its resistance to increasing oxygen levels billions of years ago. We are adapted to Earth, not the other way around.

The rejection of mainstream western thinking, and the desire to bend it into the service of proclaiming Earth as perfect and good is understandable. Certainly it is an advance on the long western Christian tradition of ignoring or vilifying Earth and its creatures, labelling the life community as fallen and marred by sin. It is not, however, a view that can be pursued by those seeking to integrate the findings of ecology and evolutionary biology into Christian theology. Birch offers a sustained critique of romantic approaches to “nature⁸⁹⁹.” This style of ecotheology is not actually “eco” theology at all, since it fails to engage with even the basic data from the ecological sciences. It is basically traditional anthropocentric theology, continuing the belief in a pre human Eden marred by human activity, even if it greatly extends the time period over which Eden existed, and holds out hope that the Edenic state can be recovered through responsible human action. It might be called Earth friendly theology, though it is difficult to know exactly what friendly means in this context. It seems to mean slightly different things to different authors, but most agree that it is, or was meant to be, friendly.

9.3.2.1 Finitude as evil

Sally McFague, for example, emphasises a web of life which exhibits, “the *solidarity* of each with all,” such that, “all life forms *share* the basic goods of the planet (emphasis mine).⁹⁰⁰” It may be arguable that all are in solidarity in that they live together on the same planet. In theological use, however, solidarity implies something much more positive and cooperative than what ecology tells us about the interrelationships amongst living organisms. It is absolutely not true that all life forms share resources if by that McFague implies any sort conscious or unconscious generosity. McFague goes on to explain that,

“A spirit theology focuses attention *not on how and why creation occurred* either in the beginning or over the evolutionary aeons of time, but on the rich variety of living forms that have been and are *now* present on our planet (emphasis mine).⁹⁰¹”

Yet in romanticising the interactions of these living forms it is debatable the extent to which her spirit theology really does focus attention on present ecology. Further, an understanding of present ecology, its actual nature, is not possible without an awareness of the evolutionary history which produced it. McFague, then, deliberately ignores evolutionary biology as a focus point, and fails to engage with the implications of its details, even though she does mention it at some length⁹⁰². She does, however, engage with the reality of death and pain and suffering, seeing them as natural evils, and tragedies. This attitude is nearly ubiquitous. Even such a staunch atheist and rationalist as Dawkins cannot refrain from making value judgments about the finitudes of life, referring to mass extinction events as “fearful global tragedies,” and the disappearance of species in such events as “bad.”⁹⁰³

As we have already seen, the Orthodox tradition is quite explicit that nature is not what it is meant to be. According to Zizioulas, the role of humanity is to transform nature, “to a fullness beyond its natural capacities,⁹⁰⁴” to transfigure and cleanse it, “from those elements which bring about corruption and death.”⁹⁰⁵

⁸⁹⁹ Birch, *Biology and the Riddle of Life*, pp. 91-103. See also Birch, "Environmental Ethics in Process Thought," pp. 2-3.

⁹⁰⁰ McFague, *The Body of God: An Ecological Theology*, p. 172.

⁹⁰¹ *Ibid*, p. 145.

⁹⁰² *Ibid*, pp. 103-12.

⁹⁰³ Dawkins, *Unweaving the Rainbow*, pp. 75-76.

⁹⁰⁴ Patricia Fox, "God's Shattering Otherness: The Trinity and Earth's Healing," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001), p. 100.

⁹⁰⁵ *Ibid*, p. 101.

Those theologians who explicitly engage with the story of evolution agree with the Orthodox, and even with Augustine, that there is such a thing as fallenness, and that corruption and death are a part of that. Torrance affirms the God who is absolutely against finitude,

“... all physical evil, not only pain, suffering, disease, corruption, death and of course cruelty and venom in animal as well as human behaviour, but also 'natural' calamities, devastations and monstrosities, are an outrage against the love of God and a contradiction of good order in His creation.⁹⁰⁶”

Michael Lloyd builds on Torrance to demand that God be against finitude, not only by overcoming it eschatologically, but by being against it from the very beginning⁹⁰⁷. Yet evolutionary biology forces those who engage with it to substantially revise Augustine's doctrine. Barbour is a typical example,

“...creation, the fall and redemption *were* understood as separate and successive events... *today* we can see them as three *ongoing features* of a single process of continuing creation, continuing fallenness, and continuing redemption (emphasis mine).⁹⁰⁸”

In trying to justify their ongoing reference to a state of fallenness, Barbour and his peers revisit the pre Darwinian explanations for suffering and death in the light of evolutionary biology⁹⁰⁹. The explanation most often adopted for revision is the idea that suffering occurs because God's gift of free will to humans necessarily enables us to choose to do evil⁹¹⁰. The evils of pain and death, then, are not an inevitable property of life, but the result of the decisions made by free agents to turn from the God of life.

In a post Darwinian world, however, free will cannot be attributed solely to humans, but to all life forms in proportion to their consciousness. This explains, it is thought, the presence of pain and death before the evolution of humans, since God allowed the *whole creation* freedom. Korsmeyer tries to tell the evolutionary story in terms of the freedom which God, through voluntarily limiting God's self, granted to creatures,

“It is as though Divinity laboured to persuade, to lure creatures forward, creatures who sometimes responded to the invitation, and sometimes did not. But God obviously did not tire of the game, even after being resisted for billions of years. The spectacle of evolution suggests God at work with stubborn individuals who had some power of self-determination⁹¹¹.”

“Consider over a hundred million years of dinosaurs, half of which savagely hunted and ate the others. To what end? Was God pleased in some way with this spectacle?⁹¹²”

“God's power is solely persuasive. God persuades creatures into being, *granting* them some power of creativity, but not just because God decides it would be nice to

⁹⁰⁶ Torrance, *Divine and Contingent Order*, p. 139.

⁹⁰⁷ Michael Lloyd, "Are Animals Fallen?," in *Animals on the Agenda: Questions About Animals for Theology and Ethics*, ed. Andrew Linzey and Dorothy Yamamoto (London: SCM, 1998), p. 155.

⁹⁰⁸ Barbour, *Nature, Human Nature, and God*, p. 50.

⁹⁰⁹ Rachels summarises these pre Darwinian explanations before examining the ways in which they have been reworked (Rachels, *Created from Animals*, p. 104.)

⁹¹⁰ Barbour, *Nature, Human Nature, and God*, p. 34, Edwards, *The God of Evolution: A Trinitarian Theology*, p. 35, Anthony Lowes, "Up Close and Personal: In the End, Matter Matters," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001), p. 139, McFague, *The Body of God: An Ecological Theology*, p. 145, Arthur Peacocke, *Intimations of Reality* (Indiana: Notre Dame, 1984), p. 77, Polkinghorne, *Scientists as Theologians*, p. 45, Rolston III, *Science and Religion*, pp. 64-70.

⁹¹¹ Korsmeyer, *Evolution and Eden*, p. 84.

⁹¹² *Ibid*, p. 85.

do so... Love must share, love requires others... God has all the power that a God could have who created a world with creatures who are really free.⁹¹³”

“... these created, evolving entities are finite and what is good for one often means a bad result for others, and because *these creatures resist the divine call* and seek selfish ends, natural evil is produced. Some beings survive, others do not (emphasis mine).⁹¹⁴”

Yet this explanation ignores the fact that much of the pain and death on Earth, and the most spectacular extinctions, have been dictated by *physical* events⁹¹⁵. They are caused by volcanic eruptions, solar flares and meteor strikes. Unless these things are also somehow resisting the divine lure (a proposition Korsmeyer specifically rejects⁹¹⁶), then much of the death and suffering on Earth is *not* the result of freedom, and remains unexplained.

If God is *self-limiting* then God is logically responsible for the pain and death which many theologians claim is evil, since God *chose* to allow freedom in the creation. God is guilty by omission. Yet Korsmeyer tries to elude this conclusion, claiming that,

“... it is the divine *nature* to love and create, and impossible for divinity to do otherwise. Therefore God is not morally responsible for the suffering that *occasionally* occurs... *God is physically responsible for evil, but not morally indictable for it* (emphasis mine).⁹¹⁷”

Firstly, suffering more than *occasionally* occurs. Secondly, this is trickery. If it is *impossible* for God to create a universe which is not free, then God is not self limiting at all, but limited by nature. Yet Korsmeyer does not want to reach this unorthodox conclusion. As he says elsewhere, only beings which are not conscious escape moral culpability when they do evil, whether by commission or omission. Since he claims that God is a conscious agent, God must be morally indictable for any evil for which God is responsible, even if just by refusing to intervene to prevent it. In remaining orthodox in terms of God’s omnipotence, we are driven to the unorthodox conclusion that God has sinned through moral omission, since finitude is evil.

An *ontologically* limited God, however, being powerless to stop evil, would not be morally responsible for it. Such a God may be totally benign, but powerless to enact his/her benign desires. So claim the process theologians,

“Process theologians hold that the limitation of God’s power should not be thought of as a voluntary self-limitation, as if retaining omnipotence was an option that God decided to give up.⁹¹⁸”

So the process God has not *chosen* to allow the world to be the way it is, and is therefore not morally culpable for evil. Like the free will theorists, however, they must still address how God *does* relate to, and shape, the world. Here the free will theorists and process theologians reach basically the same conclusions.

Barbour, a process theology devotee, proposes that God *persuades* rather than coerces⁹¹⁹. Korsmeyer agrees, adding the logical conclusion that if God can only persuade, God can be resisted. It is worth repeating a little of his line of thought,

⁹¹³ Ibid, p. 96.

⁹¹⁴ Ibid, p. 123.

⁹¹⁵ Rachels, *Created from Animals*, p. 105.

⁹¹⁶ Korsmeyer, *Evolution and Eden*, p. 106.

⁹¹⁷ Ibid.

⁹¹⁸ Barbour, *Nature, Human Nature, and God*, p. 101. Also McDaniel, *Of God and Pelicans*, p. 24.

⁹¹⁹ Barbour, *Nature, Human Nature, and God*, p. 34.

“It is as though Divinity laboured to persuade, *to lure creatures forward, creatures who sometimes responded* to the invitation, and sometimes did not. But God obviously did not tire of the game, even after being *resisted* for billions of years. The spectacle of evolution suggests God at work with *stubborn individuals* who had some power of self-determination, urging them to creatively advance (emphasis mine).⁹²⁰”

While it is logical, it is also bizarre. Korsmeyer does not elaborate on how microbes could resist the divine lure, let alone stubbornly. Edwards accepts that biologists see no evidence that evolution is guided by God,

“... comments such as those of Ernst Mayr need to be taken seriously by theology... What a biologist can say... is that the appearance of design in the eye or the brain can now be explained satisfactorily by the theory of natural selection, and there is no evidence from biology that an external divine designer is needed... I am inclined to accept his conclusion... it is possible to think of God’s purposes being achieved through what appears to empirical biology to be without purpose.⁹²¹”

But he cannot resist using the same vague language as the others to claim that evolution is, nonetheless, theologically purposeful,

“The power of self-transcendence comes from *within* creation itself, but it is a power that finally comes not from nature but from the ongoing creative activity of God. God *upholds and empowers* the process of evolution *from within*, as the power enabling creation itself to bring about something new. God, then, is not understood as intervening as one cause among others but as *the always present, dynamic Creator* enabling creatures not only to exist but also to *transcend themselves* and become what is new.⁹²²”

He does not, however, explain what any of this actually means or would look like. Polkinghorne correctly says of such attempts,

“Primary causality seems nothing more than the imposition of a mysterious theological gloss on natural process.⁹²³”

He therefore rejects both the necessarily limited, and self limited, models of God, since they give an inadequate account of divine action, “... which seems to be restricted to the role of a powerless pleading from the margins of occurrence.⁹²⁴”

Polkinghorne’s solution is the principle of emergence, of top down causality, and of the role of information in systems,

“... it seems coherent to believe that God’s action could be in the form of *pure active information*. This would afford a particular character to divine agency, consonant with theology’s insistence that God is *pure spirit*.⁹²⁵”

Edwards finds this idea limited but useful⁹²⁶, as does Barbour⁹²⁷. Yet there is no such thing as pure active information. *Something else* acts on information. It also seems to underestimate the extent to

⁹²⁰ Korsmeyer, *Evolution and Eden*, p. 84. Also cited on page 158 of this thesis.

⁹²¹ Edwards, "Evolution and the Christian God," p. 182.

⁹²² Edwards, "For Your Immortal Spirit Is in All Things," pp. 50-51.

⁹²³ Polkinghorne, *Scientists as Theologians*, p. 31.

⁹²⁴ *Ibid*, p. 33.

⁹²⁵ *Ibid*, p. 40.

⁹²⁶ Edwards, "Evolution and the Christian God," pp. 166-67.

⁹²⁷ Barbour, *Nature, Human Nature, and God*, p. 30.

which the body controls the mind's thoughts and moods, which would imply that creation controls God. Polkinghorne's work focuses particularly in physics, in quantum events, so he does not provide a convincing explanation of how this pure information would influence the shape of biological evolution as we see it unfolded.

In short, the various contributors provide convincing reasons why each other is wrong, or at least insufficient.

So there is a broad range of opinions on the relationship between God and life. Creationists posit enormous coercive intrusions. Intelligent design theorists propose more modest, ongoing coercive intrusions. Roman Catholicism requires at a bare minimum divine intrusion to ensure that each human carries a divine soul. The limited God theorists argue that there is no coercion, but persuasion, though they offer no examples of what that would mean, nor any evidence that contradicts the assertions of biologists mentioned by Edwards above.

What they do is show convincingly why their peers are wrong. Even though the question of divine action remains at the top of the science-theology debate⁹²⁸, James Rachels justifiably complains that no testable proposals are ever forthcoming, especially in biology, and that God has apparently acted in the processes of evolution in such a way that it is reasonable to conclude that God has not acted in the process at all⁹²⁹. Where is this persuasion meant to occur, or to whom is the pure information made available? If God is influencing the biological (including neural) forms that evolution has produced, then God must be acting persuasively at the level of genetic recombination events, or as an alternative to natural selection. If God has guided evolution towards the creation of *H. sapiens*, then God presumably also manipulated the path of comets and the eruption of volcanoes (since they were crucial events in our evolution), which returns us to the coercive, intrusive God of the creationists.

What the process and self-limiting camps have in common is the declaration that death and pain are necessary *evils*, and the hope that both will, eventually, be overcome. That is, although their integration of science and theology leads them to recast divine omnipotence in novel ways, they retain a very traditional view of death, and God's ability to overcome it in some final eschatological era.

This hope in life after death is immensely appealing, to me no less than many others. On the one hand, our individual biological death is essential if others are to follow us and have a chance at life, and so it is to be strongly affirmed, even celebrated. On the other hand, I freely admit that such celebration will be difficult when my time comes, certainly for me, and hopefully for my family and friends. I have for many years since becoming a Christian softened the stark reality of my own death by imagining that the afterlife involved being able to travel, somehow bodily and spontaneously, throughout the vast array of galaxies and planets in the universe, to finally be able to admire and explore God's amazing creation. It seemed obvious that this is what God would want. So I empathise with the desire to escape finitude and especially death. This hope is widespread, even amongst those theologians who grapple seriously with science. For Polkinghorne, for example,

"The ultimate futility of this present universe points us to looking beyond the physical world itself to the eternal faithfulness of the God who raised Jesus from the dead, if there is to be found a ground of true hope and everlasting fulfilment."⁹³⁰

McDaniel also hopes that death is less final than biologists suggest. He suggests that after death the souls of animals continue to travel towards a final union with the divine soul. It is at this point, when they merge with the divine soul who has integrated and made whole all their suffering as well as all

⁹²⁸ Polkinghorne, *Scientists as Theologians*, p. 41. Philip Clayton, "Natural Law and Divine Action: The Search for an Expanded Theory of Causation," *Zygon* 39, no. 3 (2004): p. 616.

⁹²⁹ Rachels, *Created from Animals*, pp. 122-25.

⁹³⁰ John Polkinghorne, "Physics and Metaphysics in a Trinitarian Perspective," *Theology and Science* 1, no. 1 (2003): p. 48.

their joy, that they die⁹³¹. I am not sure whether his delayed death really helps much at all. I empathise with Robert Russell in his desire for a grand eschatological vision, one which we participate in and consciously apprehend. And his inclusion of other animals is a logical necessity now that we have rejected ontological discontinuity. Yet it is precisely his vision which convinces me that eschatologies which imagine a place and time without suffering and death are untenable. Hoping to transcend the limitations of Barbour and Hefner, Russell promotes the idea of humans as “eschatological companions,” of the rest of creation, and spells out his vision of the eschatological event,

“Starting with the events at Easter, God will act *to transform the laws of nature* to produce the ‘new creation.’ In the coming reign of God, we will not leave behind the coral reefs... or the countless species now long extinct... If the Resurrection of Jesus... is an indication of what lies in store for the *universe*, then the future will be a *transformation of the laws of nature* as we now know them into something *so transcendently joyous that weeping and pain and disease and dying will be nevermore*, and *‘the lion will lie down with the lamb.’* Somehow, all nature... is destined to eternal life with God in community with each other, *a community of unending and bliss-filled experience* (emphasis mine).⁹³²”

But if we are to bring the coral reefs with us, then presumably we will also bring the stonefish which can kill us in a torturous moment. If the supposed laws of nature are changed so much that death and pain and reproduction cease⁹³³ to be, then will we really in any way be ourselves? Russell’s vision seems particularly odd in that he was, as already mentioned, so strong on the fact that ecotheology needs to take seriously the non-static nature of creation. If there is no death or reproduction in his eschaton, then it must necessarily be static. Even if heaven did only contain humans- it is hard to see how we could still be ourselves if transformed from the constantly changing biological organisms we are into eternally static ones. Would dead babies and the profoundly intellectually disabled live forever in their state at death? And if not, what possible connection could there be between their soul, which would presumably have a high level of relationality to other souls, and their actual bodily self? Finally, I have been around happy people. I wouldn’t want to spend eternity with them. This is not a flippant point. An eschaton with no pain or sorrow, or regret, or hurt, an eschaton of eternal static bliss- a kind of Prozac paradise, would be rather a Stepford hell.

With the romantic ecotheologians above, then, the evolution-engaged theologians so far surveyed continue to assume that the world ought to be benign; that this is the way God would have wanted it, if only it had been possible. This presumably stems from the Judeo-Christian declaration that Earth is very good. Theologians then seem to almost unanimously assume that a good world is a benign one. It is time to re-examine that assumption, and to reflect on the implications for theology if it is not.

Ecology and evolutionary biology say that death and pain are inevitable, as is suffering for conscious organisms. The evolution engaged theologians say that these things are the result of freedom and free will. They could have been avoided if life made the right choices, since they are the by product of the tendency of free life forms to resist the “divine lure.” The two world views are, then, fundamentally incommensurate. For theology to achieve consonance with the science story it will need to embrace death and pain as inevitably built into the nature of the living world. Ideally, it would even be able to celebrate their existence, since they are essential to the ongoing evolution and interactions of life. Is

⁹³¹ Jay B. McDaniel, "Can Animal Suffering Be Reconciled with Belief in an All-Loving God?," in *Animals on the Agenda: Questions About Animals for Theology and Ethics*, ed. Andrew Linzey and Dorothy Yamamoto (London: SCM, 1998), pp. 170-71, McDaniel, *Of God and Pelicans*, pp. 45-46.

⁹³² Robert John Russell, William R. Stoeger, and Francisco J. Ayala, eds., *Evolutionary and Molecular Biology: Scientific Perspectives on Divine Action* (Vatican City State: Vatican Observatory Publications, 1998), pp. 156-57.

⁹³³ Thankfully, sex could continue as long as one of the “laws of nature” which God changed is the link between reproduction and sex. S/he could, for example, render us all infertile. This would seem less difficult than changing the laws so that we no longer need to eat.

such a death affirming theology possible, not just in the evolutionary past or biological present, but even in the eschatological future?

Eddie Kneebone, a member of the Church of Jesus Christ of Latter Day Saints (Mormons), answers in the affirmative for the past and present,

“Aboriginal spirituality is the belief and the feeling within yourself that allows you to become a part of the whole environment around you...the natural environment... *birth, life and death are part of it and you welcome each...*⁹³⁴”

As for the eschatological future, that is of no interest in the kind of cyclical theology which Kneebone recognises in Aboriginal theology, with its ever present Dreaming rather than a hope for a heavenly eternal life⁹³⁵.

Ecofeminists have also engaged with, and generally affirmed death- both past, present and future.

9.3.2.2 Finitude as good

Catherine Keller argues that God is not, “... ‘prolife’ but *of life*: the life of the world, the spirit of a chaosmos *in which death circulates through every living process*. (second emphasis mine).⁹³⁶”

Rosemary Radford Ruether has, very influentially, argued for the acceptance of death from 1971⁹³⁷ to the present⁹³⁸,

“In nature death is not an enemy, but a friend of the life process⁹³⁹... Immortality lies not in the preservation of our individual consciousness as a separate substance but in the miracle and mystery of endlessly recycled matter-energy out of which we arose and into which we return.⁹⁴⁰”

In her later work Radford Ruether mentions the work of Ivone Gebara⁹⁴¹, who argues that we must get past the systems we have created which, “... have not allowed us to perceive the ephemeral nature of our individual lives and projects...⁹⁴²”

The affirmation of death is not limited to ecofeminism. For example, Wesley Granberg-Michaelson is inspired by agricultural reality to challenge his readers with the thought that,

“Organic gardeners know that biologically, life comes out of death. Should not this be understood as part of the goodness, or rightness, of the creation, declared in Genesis?⁹⁴³”

⁹³⁴ Eddie Kneebone, "An Aboriginal Response," in *Creation Spirituality and the Dreamtime*, ed. Catherine Hammond (Newtown: Millennium Books, 1991), p. 89. I could not find any details about his connections to the Mormon Church or wider Christianity, but the same article suggests that his connection is fairly nominal, suggesting for example that God is to be found in the environment, not churches built by people (page 93).

⁹³⁵ Ibid, pp. 89-90.

⁹³⁶ Keller, *Face of the Deep*, p. 222.

⁹³⁷ Rosemary Radford Ruether, "Mother Earth and the Megamachine," in *Womanspirit Rising: A Feminist Reader in Religion*, ed. Carol Christ and Judith Plaskow (New York: Harper & Row, 1979), p. 52. Cited, not seen in Andrew Dutney, "Bioethics, Ecology and Theology," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (Minnesota: Liturgical Press, 2001), page 9 of an early unpublished draft.

⁹³⁸ Ruether, "Ecofeminism: The Challenge to Theology," pp. 104-08.

⁹³⁹ Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing*, p. 53.

⁹⁴⁰ Ruether, "Ecofeminism: The Challenge to Theology," p. 103.

⁹⁴¹ Ibid, p. 105. Gebara writes out of the Latin American liberation theology movement, pursuing, as she puts it, an urban ecofeminism.

⁹⁴² Gebara, *Longing for Running Water*, p. 166.

⁹⁴³ Wesley Granberg-Michaelson, "Creation in Ecumenical Theology," in *Ecotheology: Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 104. Note that Granberg-Michaelson uses one theological affirmation

Andrew Dutney has accepted the challenge from ecofeminism and his own life experiences to take death seriously, both biologically and eschatologically,

“... the questions [about the nature of death] will not go away... Theology will not be able to leave the questions of personal death unexplored indefinitely. It may well fall to ecological theologies to replace theories of the immortality of the soul - now worn to the point of being dangerous - with a more creedal and, indeed, Christian account of the ‘resurrection of the body.’⁹⁴⁴”

His own account of the resurrection of the body does not refer to individual resurrection of somehow conscious persons, for he does not expect to consciously survive his death⁹⁴⁵. He explicitly affirms not only the necessity and value of biological death, but the reality of eschatological death. He recognises the trauma that such a total embrace of death causes traditional theology,

"There is no question that this emphasis causes much tension in the theological conversation with bioethics. Received Christianity has a heavy investment in a spirituality organized around the identification of the person with an immortal soul which survives the death of the body. The questioning of that piety draws strong reactions.⁹⁴⁶”

So strong, indeed, that in response to reactions from co-contributors to the book for which he wrote the article, the above reflections were omitted from the final version⁹⁴⁷. And so the final section, originally entitled “Bioethics, Ecology, Theology and ... Death” is, in the published book, simply “Bioethics, Theology and Ecology.⁹⁴⁸”

Yet ecofeminism explicitly questions “that piety.” It does not simply ask us to acknowledge our personal biological mortality; it opposes even the hope for eschatological immortality. The hope for heaven is a form of escapism which prevents us engaging with our finitude filled lives on Earth⁹⁴⁹. Habel labels the desire to escape Earth, Heavenism⁹⁵⁰, but does not believe that the hope for eternal life necessarily engenders this attitude. I tend to agree.

There are countless examples in Christian history of people who, convinced that they would have eternal life with God, risked and even embraced death in the cause of engaging fully with life around them. So whilst I agree that the desire for eternal life can express itself in Heavenism, I do not think it necessarily needs to. There is nothing intrinsic to biocentric theology which *requires* us to reject any possibility of an eternal, “spiritual” life in Heaven. Russel’s attempt⁹⁵¹, however, shows the difficulty of envisaging how our present biologically grounded life could relate to that a heavenly afterlife in any meaningful way. Process theology’s attempts to equate eternal life with somehow living on in the memory of God is touching, but being remembered is not the same as being alive. At this point, then, I side with the ecofeminists who call us to embrace our biological finitude, and accept that this represents the end of our life.

In an evolutionary context, this leads to the question of what we make, not only of our own personal death, but the death of our entire species. Not surprisingly, some reject this outright, assuming that the

in Genesis, the goodness of creation, to critique its other claims. I will explore what other theologians make of the claim that creation is “good” in the section on the benign web of life.

⁹⁴⁴ Andrew Dutney, "Bioethics, Ecology and Theology (Unpublished Draft)," in *Earth Revealing, Earth Healing: Ecology and Christian Theology*. (2001).

⁹⁴⁵ Dutney, *Food, Sex and Death*.

⁹⁴⁶ Dutney, "Bioethics, Ecology and Theology (Unpublished Draft)."

⁹⁴⁷ Andrew Dutney, 16 August 2004.

⁹⁴⁸ Dutney, "Bioethics, Ecology and Theology," p. 226.

⁹⁴⁹ Ruether, "Ecofeminism: The Challenge to Theology," p. 106.

⁹⁵⁰ Habel, *Resource Manual for a Season of Creation*.

⁹⁵¹ Page 162.

ongoing presence of humans on Earth is an obvious good. Others are more open to human extinction as a necessary evil on the way to the even more conscious species which might replace us. Others reject this manoeuvre, claiming that neither humans nor consciousness are an irreplaceable pinnacle of creation.

9.4 Can theology embrace the extinction of *Homo sapiens*?

It will come as no surprise that many of those who believe that death is an evil decry the possibility of human extinction. This appears to be based not so much in anthropocentrism, as anthropotelism.

9.4.1 No: Anthropotelism

Anthropotelism⁹⁵² is the assumption that *H. sapiens* is the *end point* of evolution, the consummation of the entire process. This is usually accompanied by an assumption that the dominant form of development of life on Earth has shifted from biological evolution to some sort of cultural evolution, which, for humans at least, superseded⁹⁵³ and can override our biological legacy⁹⁵⁴. Often, it sounds as if biological evolution has basically stopped⁹⁵⁵. So too, presumably, has the need for extinctions.

The many expressions of this view are reminiscent of the work of Teilhard de Chardin⁹⁵⁶, whether acknowledged or not. *H. sapiens* represent a new emergent stage in evolution, and Christ was the ultimate human, the Omega point towards which God has lured all life. The next phase is either the perfection of humanity, or the in breaking of God's eschatological consummation in which the Earth is transformed. Either way, humans represent the latest, greatest, and final phase of evolution,

“The history of the universe *reaches its climax* when the creative Ground of the whole cosmic process engages in self-giving love with *the universe* come to consciousness in free *human persons* (emphasis mine).⁹⁵⁷”

The ongoing influence of Chardin was evident at the recent *Christianity after Darwin* conference held in Adelaide. The first two papers explored emergent Christology and the concept that life was processing towards Omega⁹⁵⁸. Tony Kelly used Chardin to argue that the interplay of morality and culture amongst humans was the stage upon which the final emergent phase in the universe arises: where humanity freely creates itself into the existence of which Christ was a proleptic example⁹⁵⁹.

This theme is common amongst the most well known practitioners of the science-theology dialogue. For example Peacocke argues that Christ,

“... can properly be regarded as the *consummation* of the purposes of God already manifested incompletely in evolving humanity... Jesus the Christ is thereby seen... as the paradigm of what God intends for all human beings, now revealed as having the potentiality of responding to, of being open to, of becoming united with God....

⁹⁵² A word I believe I have coined. It is not found in the Oxford dictionary or Google. There is a much worse new word to come, unfortunately.

⁹⁵³ Birch, *Biology and the Riddle of Life*, p. 78, McFague, *The Body of God : An Ecological Theology*, p. 148, Michollet, "Evolution and Anthropology," p. 86. The mistake is present even in scientific texts. Southwood, for example, says that biological evolution of *Homo sapiens* stopped 50,000 years ago, when cultural evolution took over (Southwood, *The Story of Life*, p. 229.) Gould claims that this mistaken view is widespread in science (Gould, *The Structure of Evolutionary Theory*, p. 78.)

⁹⁵⁴ Barbour, *Nature, Human Nature, and God*, p. 42.

⁹⁵⁵ Gilkey, *Nature, Reality and the Sacred*, p. 153.

⁹⁵⁶ A useful collection of his speculations about the implications of evolutionary science for theology is Teilhard de Chardin, *Christianity and Evolution*, trans. René Hague (London: Collins, 1971).

⁹⁵⁷ Edwards, *Creation, Humanity, Community*, pp. 58.

⁹⁵⁸ Cameron Freeman, "Heading Towards Omega?" (paper presented at the Christianity After Darwin: Doing Theology in an Evolutionary Context, Adelaide, Australia, September 2004), Kelly, "An Emergent Christology".

⁹⁵⁹ Kelly, "An Emergent Christology".

He represents the *consummation of the evolutionary creative process* that God has been effecting in and through the world.⁹⁶⁰

“... on *Earth* the epic of evolution is *consummated* in the Incarnation in a *human person* of the cosmic self-expression of God... (emphasis mine).⁹⁶¹”

So the anthropotelic assumptions of some evolutionary theologians are intimately related to the Christotelic tradition of Christian theology. If Christ is an endpoint, a consummation, then so must be his species. First a Catholic quote, then a Protestant one,

“For, the fact that God himself [sic] is man [sic] is both the unique summit and the ultimate basis of God’s relationship to his [sic] creation... The positive nature of creation... reaches its qualitatively unique climax, therefore, in Christ. For, according to the testimony of the faith, this created human nature is the *indispensable* and *permanent* gateway through which everything created must pass if it is to find the perfection of its eternal validity before God⁹⁶²”

“If man [sic] is thus the self-transcendence of living matter, then the history of nature and spirit forms *an inner, graded unity* in which natural history develops towards man [sic], continues in him [sic] as *his* [sic] history, is conserved and surpassed in him [sic] and hence reaches its proper *goal with and in the history of the human spirit*.⁹⁶³”

Gordon Kaufman is thoroughly anthropotelic, even though he admits that this brings him into conflict with the insights of biology, which he rejects in favour of his received theological tradition,

“As a strictly biological event, [human extinction] would probably be no calamity; many species have appeared on earth, thrived for a time, and then become extinct. *But more must be said than that...we humans... are ‘the point farthest out’ of the cosmic-historical process...with the power to take some measure of direct responsibility for the further unfolding of that very creativity.* Thus the *central Christian claim* that God has irrevocably bound God’s self to humanity by becoming incarnate in contingent human history receives momentous new meaning. *Our fate on earth has become God’s* (emphasis mine).⁹⁶⁴”

“[the disaster we may bring through nuclear war]... will not be one of merely human consequence, the obliteration of our species... [but] a disaster for *all of life*, for the long, slow, painful evolution through which life has proceeded here on earth, *finally reaching new dimensions of meaning and value with the appearance of love and truth and self-consciousness and freedom as human history has unfolded.* It will be, in short, *a disaster for God*, an enormous setback for which we humans in this generation will have been responsible (emphasis mine).⁹⁶⁵”

Christotelic faith was easy to maintain in the early days, perhaps even years after Christ died. A few decades later, when the New Testament witnesses were being written, we see the beginnings of the struggle to maintain faith that Christ was somehow the endpoint of history, given that life seemed to be continuing in his absence. For nearly two thousand years

⁹⁶⁰ Arthur Peacocke, "The Challenge and Stimulus of the Epic of Evolution to Theology," in *Many Worlds: The New Universe, Extraterrestrial Life and the Theological Implications*, ed. Stephen Dick (Pennsylvania: Templeton Foundation, 2000), p. 114.

⁹⁶¹ *Ibid.*, p. 115.

⁹⁶² Karl Rahner, *Theological Investigations*, trans. Joseph Denceel and Hugh M. Riley, 23 vols., vol. 3 (London: Darton Longman & Todd, 1961), p. 43.

⁹⁶³ Peacocke, *God and the New Biology*, p. 80.

⁹⁶⁴ Kaufman, *Theology for a Nuclear Age*, p. 44.

⁹⁶⁵ *Ibid.*

Christians continued to struggle with the increasing length of the delay, but prior to geological discoveries of the age of the Earth it was still relatively easy to come up with convincing answers. It was still assumed that the Earth was only thousands of years old, that humans had always been here and always would be until the final eschatological moment when Christ returned. It was also widely assumed that when Earth was finally consumed, that would be the end of the universe.

In the evolutionary context in which we find ourselves, it strains credibility to believe that the Christ event is an end point of universal history, or even Earth history. For one thing, humans are not the end point of history; we are a mid point of Earth history and very near the beginning of the history of this universe. To think that the most significant event in the universe's life, or even Earth's life, has come and gone is, I believe, anthropocentrism gone mad.

9.4.2 Yes: Consciousness-telism⁹⁶⁶

When we look closer at Kaufman's logic we can discern a more fundamental claim in his thinking than the idea that *humans* are the purpose or endpoint of evolution. It is because *Homo sapiens* manifests *self-consciousness* and *freedom* that it is such a valuable species. Peacocke⁹⁶⁷, Edwards⁹⁶⁸ and others⁹⁶⁹ admit that there may have been incarnations on other planets, since it is *sentience* and *self-consciousness* which are the fundamental properties to which God relates. It should follow, then, that if it was necessary for *Homo sapiens* to go extinct in order for the evolution of a new Earth creature with even higher levels of sentience, self consciousness and freedom, our passing would have to be affirmed as necessary for the greater good.

Along with Polkinghorne⁹⁷⁰, Cameron Freeman claims that evolution on Earth is directed towards the evolution of self-conscious beings, not *H. sapiens* in particular. He further acknowledges the inevitable extinction of humans, and even celebrates it as a necessary part of the ongoing evolution of life into forms with even higher levels of self-consciousness⁹⁷¹.

Given that anthropotelism is biologically untenable, even on Earth, is consciousness-telism a more viable alternative? Does it make better use of the data from evolutionary biology? Ironically, even though Freeman relies predominantly on Gould for his evolutionary lens⁹⁷², he dismisses one of Gould's main emphases; that the evolution of life is completely contingent, and the emergence of consciousness is a chance event, unlikely to ever be repeated⁹⁷³. We have already seen that Gould is not alone when he rejects any sort of 'telism', whether towards humans or consciousness. This includes those scientists who are open enough to theology to engage in sustained dialogue.

Stephen Dick, for example, is an historian of science. He rejects the idea that humanity is central to the story of the universe, accepting that we are not likely to be the special object of attention of any deity, purely as a result of the enormous time scales involved,

“... humanity is most likely *somewhere near the bottom, or at best midway, in the great chain of intelligent beings in the universe*. This follows from the age of the

⁹⁶⁶ I must agree with my wife that this word, which I also coined, is a real shocker, but it is less of a mouthful than repeatedly expressing the idea it conveys, that the evolution of life is directed towards the production, not of humans, but of self-conscious beings. I promise to use it as sparingly as possible. At least I did not call it self-consciousness-telism!

⁹⁶⁷ Peacocke, "The Challenge and Stimulus of the Epic of Evolution to Theology," p. 114.

⁹⁶⁸ Edwards, "Extraterrestrial Life and Jesus Christ."

⁹⁶⁹ The possibility of God being in relationship with extraterrestrial self-conscious beings has been accepted since Medieval times, though its popularity has waxed and waned (Peters, *Science, Theology and Ethics*, pp. 123-32.)

⁹⁷⁰ Polkinghorne, *Scientists as Theologians*, p. 47).

⁹⁷¹ Cameron Freeman, July 2004. Freeman presented two papers at *Christianity after Darwin*, which restricted themselves to anthropotelic musings.

⁹⁷² Freeman, "Heading Towards Omega?". Chapter 8.2.2 shows the perils of limiting one's self to Gould.

⁹⁷³ Gould, "Introduction," pp. xii-xiii, Gould, *The Structure of Evolutionary Theory*, pp. 1332ff.

universe and the youth of our species. The universe is in excess of ten billion years old. The genus *Homo* evolved only two million years ago...⁹⁷⁴”

Although Dick’s reference to a chain of intelligent beings sound consciousness-telic, he is really only using this as an argument for contingency and against anthropotelism. He does not produce any data in support of consciousness-telism, nor does he try to argue that it actually exists. Christian de Duvre is another scientist writing in the same collection of papers as Dick. He, too, acknowledges the central role of contingency,

“... the variations offered to natural selection are induced by causes that are unrelated, except in a strictly fortuitous manner, to the evolutionary advantages their effects may entail. *It rules out any form of directionality* imposed on the evolutionary process by some hidden guiding principle and is consistent with *the rejection of vitalism and finalism...It is supported by all we know of evolution* as it takes place today and by all the findings of molecular biology.⁹⁷⁵”

The emergence not only of *H. sapiens*, but of intellect, is highly contingent, and due not to some sort of vitalistic pursuit of rationality, but for much more mundane survival advantages through our evolutionary ancestry,

“It must be remembered that the senses whereby the human brain apprehends the surrounding world were *refined by natural selection as tools of survival, not of knowledge* (emphasis mine).⁹⁷⁶”

Nonetheless, he believes that ongoing “vertical evolution” will probably occur, and may lead to,

“... beings endowed with considerably sharper means of apprehending reality than we possess. *Such beings could arise by further extension of the human twig, but they do not have to.* There is plenty of time for a humanlike adventure to start all over again from another twig and perhaps go further than did the human adventure.⁹⁷⁷”

Humans are merely,

“... a transient link *or perhaps even a side branch* in a long evolutionary process very likely to give rise some day to beings *much more advanced* that we are.⁹⁷⁸”

Although de Duvre describes intellect as a cosmic watershed, he also deliberately undermines its cosmic significance or value. He reminds us that our intellectual abilities are, actually, extraordinarily feeble. He reminds us that we can only hope to apprehend the creator of the entire universe in the most profoundly limited way. Even if there was such a thing as the peak of human intellectual endeavour, it still amounts to very little.

The final nail in the coffin of consciousness-telism is driven home if Ward and Brownlee’s summary of the scientific story of the future of Earth is correct⁹⁷⁹. de Duvre may be correct that more “advanced” beings will follow us in the near future, but the mid to far future belongs to the brainless, small and simple; on an Earth in which consciousness, because of the oxygen needed to maintain it, is a fatal disadvantage.

So if those who engage at depth with the scientific data are correct, the evolutionary unfolding of the universe, even Earth, is not only not anthropotelic, but not even consciousness-telic. Nonetheless,

⁹⁷⁴ Dick, "Cosmotheology," p. 201.

⁹⁷⁵ de Duvre, "Lessons of Life," p. 7.

⁹⁷⁶ Ibid, p. 10.

⁹⁷⁷ Ibid, p. 11.

⁹⁷⁸ Ibid, p. 12.

⁹⁷⁹ Refer back to page 127 of this thesis.

because of the massive time scales involved, it is possible that there will be “more conscious” organisms on Earth, and the rest of the universe.

I conclude that consciousness-telism is no more scientifically viable than anthropotelism. Both humanity and self consciousness are contingent, and ephemeral parts of life, and a tiny part of life at that. This fits well with the image of life as a pulsing flow, rather than a hierarchical pyramid. Every aspect of life, for the time it exists, contributes to God’s experience of an other; helping liberate God from a static eternity. Let us further explore the possibilities of a universe where life’s only *telos* is to live, and where we affirm the extinction of *Homo sapiens* without needing to believe that we will give way to something “better.” There seem to be two ways of affirming human extinction in this context.

9.4.3 Yes: For *everything* there is a season.

One view accepts that, were other creatures granted consciousness, the vast majority would declare *H. sapiens* to be an evil presence on Earth. We as a species have a negative instrumental worth to almost all life. The salvation of most complex plants and vertebrates, as individuals, would be best served by the immediate extinction of humans and our domesticated animals. To maximise the diversity of life, humans must be wiped out to make room for other species to recover and contribute their unique experiences to the richness of God. As McDaniel says, as far as most organisms are concerned, humans are brutal neighbours⁹⁸⁰. From this view, the quicker the oppressor is removed the better.

The Judeo Christian tradition, from Exodus to the Revelation to John, provides countless examples of the faithful believing that God destroys oppressors. We even read that God, far from putting humans on a pedestal, lamented our existence,

“The LORD saw that the wickedness of humankind was great in the earth, and that every inclination of the thoughts of their hearts was only evil continually. *And the LORD was sorry that he had made humankind on the earth, and it grieved him to his heart.* So the LORD said, “I will blot out from the earth the human beings I have created - people together with animals and creeping things and birds of the air, for *I am sorry that I have made them.*”⁹⁸¹

An alternative view highlights that the *overall* diversity of life experience, thus God’s experience, has been *enhanced* by occasional mass extinction events. It may be that humans, having provided God with a raft of new experiences, have become the latest in a series of these very useful cataclysms. *H. sapiens* is acting in the same way as the asteroid which removed the dinosaurs, and paving the way for the next manifestation of the flow of life and experience. Humanity’s ecological impact would then be a *good* part of the process of evolution, enriching the image of God in the long term. Referring back to the John Muir quote with which I opened my introduction⁹⁸², we might see that we *were* the burning and extraordinary commotion, which prepared the soil for the next blossoming of life.

In order for life to flourish after a mass extinction event, however, the dominant resource users must go extinct. The dinosaurs had to disappear to free up niches for the mammals. Humans and their livestock use about half of the total plant productivity of the planet⁹⁸³. Future generations of species, then, rely on our passage to oblivion.

In the first view humans imperil the very survival of life itself. In the second we simply need to get out of the way, now that we have played our part. Either way, creation is perhaps waiting with eager longing not for our revealing, but for our extinction. This conclusion seems inevitable if we are but plain members of the Earth community, not a product of God’s goal orientated manipulation of

⁹⁸⁰ McDaniel, "Revisioning God and the Self," p. 230.

⁹⁸¹ Genesis 6:5-7

⁹⁸² Page 9.

⁹⁸³ Birch, "Environmental Ethics in Process Thought," p. 1. Birch actual figure is 40%, back in 1985, I am guessing that twenty years later, given the massive increase in human population and use of technology, this figure would be at least 50%

evolutionary processes. There is plenty of historical precedent for a non anthropotelic, non hierarchical way of looking at life. Even Calvin reminded us, long before we knew how big the universe really is, that humans are much more like worms than we are like God⁹⁸⁴.

North American First People apparently had a relatively flat notion of personhood, which persists even amongst those who now identify as Christian,

“In one layer of meaning, these four directions hold together in the same equal balance the four nations of two-leggeds, four-leggeds, wingeds and living-moving things- encompassing all that is created, the trees and rocks, mountains and rivers, as well as animals. Human beings lose their status of primacy and ‘dominion’. In other words, American Indians are driven implicitly and explicitly by their culture and spirituality to recognise the personhood of all ‘things’ in creation.⁹⁸⁵”

This echoes the sort of Australian Aboriginal Christian theology encountered outside of the Uniting Church. Kneebone, for example, claims that,

“Aboriginal spirituality is the belief and the feeling within yourself that allows you to *become a part of* the whole environment around you... all objects are living and *share the same soul/spirit* as the Aboriginal... The soul/spirit is common- only the shape is different... [we] will return through rebirth as a human or animal or even trees and rocks. The shape is not important because everything is equal and shares the same soul or Spirit from the Dreamtime.⁹⁸⁶”

I opened with the words of John Muir, one of the earlier North American “nature writers.” Henry Beston is a slightly later example of the Western Tradition,

“We need another and a wiser and perhaps a more mystical concept of animals. Remote from universal nature and living by complicated artifice, man [sic] in civilization surveys the creature through the glass of his knowledge and sees thereby a feather magnified and the whole image in distortion. We patronize them for their incompleteness, for their tragic fate of having taken form so far below ourselves. And therein we err, and greatly err. For the animal shall not be measured by man [sic]. In a world older and more complete than ours they move finished and complete, gifted with extensions of the senses we have lost or never attained, living by voices we shall never hear. They are not brethren. They are not underlings. They are other nations - caught with ourselves in the net of life and time, fellow prisoners of the splendour and travail of the earth.⁹⁸⁷”

Mary Midgley reminds us that, theologically, intelligence is not everything, even *within* the human species,

“...being clever is not obviously so much more important than being kind, brave, friendly, patient and generous.⁹⁸⁸”

⁹⁸⁴ For example, “The majesty of God is too high to be scaled up to by mortals, who creep like worms on the earth.” (John Calvin, *Institutes of the Christian Religion*, book 2, chapter 6 section 4.)

⁹⁸⁵ George Tinker, “The Full Circle of Liberation: An American Indian Theology of Place,” in *Ecotheology: Voices from South and North*, ed. David G. Hallman (Maryknoll, NY: Orbis, 1994), p. 223.

⁹⁸⁶ Kneebone, “An Aboriginal Response,” p. 89.

⁹⁸⁷ Henry Beston, *The Outermost House: A Year of Life on the Great Beach of Cape Cod* [internet] (Viking 1962. Republished Owl 2003, 1962 [accessed 22 October 2004]), available from <http://fortheLoveofanimals.bravepages.com/rings.html>.

⁹⁸⁸ Mary Midgley, *Beast and Man: The Roots of Human Nature* (New York: Cornell University, 1978), pp. 255-56. Cited in McFague, *The Body of God: An Ecological Theology*, p. 120. I came across similar sentiments repeatedly in my research work on prenatal screening and selective abortion, movingly summarised in the widely quoted poem, *Welcome to Holland* (Emily Kingsley, *Welcome to Holland* [internet] (c1987 [accessed 6 October 2004]), available from <http://www.nas.com/downsyn/holland.html>.)

McFague accepts that God does not guide evolution, and therefore argues that God desires not rationality, but fecundity and diversity⁹⁸⁹. Carol Christ explicitly rejects the priority of intellect across species, engaging directly with Kaufman. She calls us to see ourselves as different from, but not superior to, other organisms. For example, we may have a relatively developed intellect, but will never fly as gracefully as a swallow, or live as long as a redwood tree⁹⁹⁰. Rather than believing ourselves to be the pinnacle or end point of evolution (or seeing the consciousness we represent as being that), she claims that the,

“Knowledge that we are but a small part of life and death and transformation *is the essential religious insight* (emphasis mine).⁹⁹¹”

The “we” in the preceding quotation refers to individual human beings. Yet since Christ believes that *H. sapiens* is not superior to other species, I think it is justified to expand her affirmation by replacing “we” with the entire species, *H. sapiens*. Two pages later Christ acknowledges the possibility of human extinction, though she does not develop its implications for theology,

“The human species, like other species, might in time become extinct, dying so that others might flourish...⁹⁹²”

With a little extension, then, Christ leaves us with a vision of the extinction of *H. sapiens* to make way for future species as a positive event, and its acceptance as *an*, if not *the*, essential religious insight.

Gilkey accepts that human extinction is an essential part of evolutionary life,

“All in the natural order... even dinosaurs, *even humans* - comes and then goes; *none is necessary*, and then all die. This apparently is as true of species as it is of individuals, of phenotypes... for decades we have failed to see its implications for us as a species... Only through the processes of death and of dying - through selection - does life, especially new life, arise (emphasis mine).⁹⁹³”

As with Christ, we can combine this affirmation with his claims about individual death, of which he says, “We cannot live truly and with integrity unless we are willing to die.” Indeed, the enjoyment of life within the courageous acceptance of death, “... represents a spiritual achievement of impressive magnitude,” which is divinely gifted, a sign of the presence of God⁹⁹⁴. Combining his beliefs about extinction and individual death together, we are challenged to see that the acceptance of the extinction of humans is not *Homo-phobic*, but a spiritual achievement which is evidence of the presence of God. The authors in this section, then, offer us a world view in which we can celebrate human extinction, not as a stepping stone to greater consciousness, but simply as a part of the multi channel pulse of life.

Whilst we are called to celebrate God’s richness of experience, this richness is not equated with rationality. Celebrating richness of experience, freed from the –telism of process theology, provides a better framework for understanding God’s purpose (or mission) in creating life, and thus the missional calling of the church. Or so I hope to demonstrate now.

⁹⁸⁹ McFague, *The Body of God: An Ecological Theology*, p. 148.

⁹⁹⁰ Christ, “Rethinking Theology and Nature.”

⁹⁹¹ Ibid.

⁹⁹² Ibid, p. 323.

⁹⁹³ Gilkey, *Nature, Reality and the Sacred*, p. 162.

⁹⁹⁴ Ibid, pp. 191-92.

9.5 Biocentric process theology

According to process theology, and many other ecotheologians, God created the world to enable God to experience the world, to have relationships with life, to have something other to love⁹⁹⁵. This is obviously a claim beyond science, but is a non controversial claim within Christianity. Also unanimously agreed is that God is in some sense at least a living person. Process theologians point out that we, as persons, are both unchanging (in that we are the same individual from birth to death), and changing in response to the many relationships and experiences we have. Very reasonably, it seems to me, they apply this dual aspect of personhood to God,

"Whereas it is true to say that in God's primordial nature God creates the world, it is also true to say that in God's consequent nature the world created God... Our immediate actions eventually perish but yet they live for evermore in the divine memory. This idea that our existence from moment to moment enriches the divine life is part of a stream of thought which stretches at least as far back as Plato and parts of the Judeo-Christian scriptures, through Schelling... Tillich and Whitehead... everything we do makes a difference to God. This is true of the *lesser* creatures also. *God will never be the same again because we have lived and because they also have lived* (emphasis mine).⁹⁹⁶"

Apart from the explicit hierarchy of worth, this conclusion still fits perfectly well with a biocentric approach to theology.

I believe that process theology, though very useful, limits itself by slipping from this God focussed perspective to the perspective of individual creatures, mostly in pursuit of a workable ethical framework. This is certainly the case for Charles Birch, easily the most influential process theologian in the Uniting Church.

The ethical preoccupation becomes the balancing of intrinsic and instrumental worth⁹⁹⁷. The intrinsic worth of an organism is said to be directly proportional to its richness of experience, which is proportional to its self consciousness. Its instrumental worth is said to be its value to others. I have already rejected Barbour's claims that humans are of more value than a mosquito to other animals. What of the claim that God values us more than mosquitos? This is presumably because we have greater richness of experience. But that is meant to be our intrinsic worth, not our instrumental worth.

The easiest way forward seems to be to collapse instrumental and intrinsic worth, which we can do if we maintain a God's eye perspective. If it is true that God created life in order to have rich experiences, to grow and change, then everything has instrumental value to God. There is no such thing as a valueless organism, or even an object. Since the richness of experience of an individual will enhance God's experience of life through that individual, then intrinsic value becomes simply an aspect of the individual's instrumental value to God. To this point process and biocentric theology could, I believe, agree⁹⁹⁸.

We must go further, however. Process theologians focus on the *conscious experience of individuals*⁹⁹⁹. Their instrumental value to God is that God vicariously experiences the world through their experience. So the more sentient an organism, it is assumed, the richer their experience, and thus the

⁹⁹⁵ For example Barbour, *Nature, Human Nature, and God*, p. 31, Edwards, *The God of Evolution: A Trinitarian Theology*, pp. 14-16, Kaufman, *Theology for a Nuclear Age*, p. 38, Korsmeyer, *Evolution and Eden*, p. 106, Sallie McFague, "God as Mother," in *Weaving the Visions*, ed. Judith Plaskow and Carol Christ (San Francisco: Harper & Row, 1989), p. 144.

⁹⁹⁶ Birch, *Biology and the Riddle of Life*, p. 136.

⁹⁹⁷ Birch, "The Liberation of Nature," p. 8.

⁹⁹⁸ Could any organism then be of no value? Only if God did not exist, and the organism was of no benefit to others. As Christians we can simply reject the possibility on theological grounds, and ecologically declare that it is inordinately unlikely anyway.

⁹⁹⁹ Birch, "The Liberation of Nature," p. 9.

richer God's experience through them. There is, then, a hierarchy of value of life to God, and a hierarchy of their possession of the image (ability to relate to) God. But this must be challenged at two levels.

Firstly, process theology is too preoccupied with what *individuals* experience. Since God transcends the material world to some extent, God must also have God's own experience *of* individuals, not just an experience of life through them. God has an experience *of* a mosquito quite independent of that mosquito's experience of itself. God even has experiences *of* mountains, and sunsets. Process theology cannot value a rock¹⁰⁰⁰, but God can, and so can biocentric theology.

Secondly, process theology's preoccupation with *conscious* experience is far too limited. If God's experience *through* an individual is limited only to the amount of consciousness the organism possesses, then a mosquito may well be of little value. But if we consider the vast array of different sorts of experiences open to God through life, we see that rationality is only one. God, who experiences life through *all* life, experiences life and relationships in ways totally alien to ours. God experiences what it is to fly like a swallow, and grow like a redwood tree. It is the *diversity* of experiences of life¹⁰⁰¹, not the *intellect* of the individual, which matters. What God values is the existence of life, and God's experience of and through that life of something other than God. We cannot even begin to imagine what this is like. As Nagel reminds us, even for us to imagine what it would be like to experience life as another mammal, say a bat with its sonar dominated perception of the world, is impossible¹⁰⁰². It is hard enough to imagine life as another human.

We can imagine, though, that God might value the life of the last remaining individual of a species over the life of a common, but more sentient being. Process theology seems unable to do this, since more sentient beings have more intrinsic value by definition. Consider the death of the last elephant. From the process view, since the elephant itself has less richness of experience than most humans, this is less tragic than the death of a human. From God's biocentric perspective, when the last elephant dies, God's experience of elephants, and ability to experience life through elephants, ceases. By contrast, the death of one of the billions of humans on Earth leads to far less diminishment of experience. Just how many versions of human experience does God really desire?

Taking God's perspective also turns a common attitude to people with disabilities on its head. A human with trisomy 21¹⁰⁰³ is often less intellectually able and less self-reflective than other humans. In process thinking and Singer's ethics they are thus ranked lower on the scale of intrinsic worth than other humans. Yet their experience of the world will contain unique elements not shared by other humans, and thus their birth stands to enrich God's experience of the world in ways which the birth of another human without that characteristic cannot¹⁰⁰⁴.

Finally, process theologians like Birch are preoccupied with individuals in isolation. This perhaps reflects their Western context, and preoccupation with practical ethics which have positive outcomes for individual creatures. But it is *God's* experience of biological life overall that we want to maximise. This is almost entirely an experience of relationships. *Through* life forms God experiences their relationships with other life and non-life vicariously. God also experiences each life form vicariously through every other life form with which they have contact. Given all that was said in the science story about the pulsing flow of life, that individual bodies and species are to some extent constructs, it

¹⁰⁰⁰ Ibid.

¹⁰⁰¹ According to process philosophy, there is no sharp discontinuity between life and non-life, and all entities "experience." For the purpose of this thesis I will stay with the experience of life, since this is the preoccupation of the biological sciences, and since, I believe, extending experience to "non-life" adds nothing to my thesis, except another possible point of contention.

¹⁰⁰² Nagel, *What Is It Like to Be a Bat?*

¹⁰⁰³ Commonly referred to as Down's Syndrome, and Up's Syndrome by a number of people who have it.

¹⁰⁰⁴ This is a highly problematic argument if we have not already rejected the controlling, interventionist God who would manipulate people's genotypes so as to have a larger variety of experiences.

is probably more consonant to focus on God's experience of life communities. Or indeed of the life *community*. Long before the last elephant dies, God's experience of elephants in community ceases, their care for each other, their birthing, fighting, love making. Process theology cannot value ecosystems or communities in and of themselves¹⁰⁰⁵, but God can, and so can biocentric theology.

The experience of life which God has accumulated is overwhelmingly *non human*. This is a staggering insight to try to assimilate into our thinking about our place in the world. Yet God's experience *does* include experience of and through humans, perhaps especially in the life of Jesus of Nazareth. God is enough like us that we can relate to God. We need to accept, however, that we will never understand God or what God wants for the whole of life. All we can know in principle is what God wants from us humans, though we will never fully understand *why*. So we can see Jesus as the revelation of God to us, to tell us what humans should be on about, without pretending to know anything of what God wants for the rest of the world. This humbles our ethical projects enormously. We are compelled to recognise with Albert Schweitzer that,

“We cannot understand what happens in the universe... It creates while it destroys and destroys while it creates, and therefore it remains to us a riddle.”¹⁰⁰⁶

Schweitzer concludes that any ethical decisions about which life to sacrifice and which to save are purely arbitrary, often simply revealing our own bias that the things most like us are the most valuable¹⁰⁰⁷. Birch makes just that assumption, and specifically rejects Schweitzer's "reverence for life" ethic because the ethical outcomes are too difficult to apply¹⁰⁰⁸. Despite Birch's criticism, there appears to be considerable overlap. Birch argues that Christians are called to have a reverence for life¹⁰⁰⁹, and Schweitzer, despite his rejection of the *objectivity* of a scheme like Birch's, nonetheless admits that circumstances will force people to decide which life to sacrifice and which to save on a case by case basis¹⁰¹⁰. In earlier work, in apparent contradiction to a rigorous application of his ethic, Schweitzer explicitly states that human life *is* a special case. Though we might put animals out of their misery, the spiritual nature of the human means that we must always preserve their life, even if it causes them suffering¹⁰¹¹. This seems at odds with his later work, but I found no specific retraction. So he appears to grant an exception to his own biocentric sounding framework. What might a *consistently* biocentric theological framework look like, one which draws on process theology but freed from its consciousness-telism. Does it have anything practical to say to those who desire to live ethically, or is Birch's criticism of Schweitzer equally applicable?

¹⁰⁰⁵ Birch, "The Liberation of Nature," p. 9. McDaniel does call us to a *love of* communities and systems, but follows Birch in not attributing rights to them, but rather to the entities which comprise them (McDaniel, *Of God and Pelicans*, pp. 89-92.)

¹⁰⁰⁶ Albert Schweitzer, "Religion and Modern Civilization," *The Christian Century* 51 (1934): p. 1520. Cited in Daly, "Ecofeminism, Reverence for Life," p. 97.

¹⁰⁰⁷ Albert Schweitzer, *My Life and Thought: An Autobiography*, trans. C. T. Campion (London: George Allen & Unwin, 1933), pp. 271-2, Albert Schweitzer, *The Teaching of Reverence for Life*, trans. Richard Winston and Clara Winston (London: Peter Owen, 1966), p. 47.

¹⁰⁰⁸ Birch, "The Liberation of Nature," p. 9.

¹⁰⁰⁹ Charles Birch, "Preface," in *The Earth Story in Genesis*, ed. Norman C. Habel and Shirley Wurst, *The Earth Bible* (Sheffield: Sheffield Academic Press, 2000), p. 14.

¹⁰¹⁰ Schweitzer, *The Teaching of Reverence for Life*, p. 47.; Schweitzer, *My Life and Thought*, p. 271.

¹⁰¹¹ Albert Schweitzer, *A Place for Revelation: Sermons on Reverence for Life* (New York: Macmillan, 1988), pp. 37-39. This is a collection of sermons preached in 1919. The absolute value attached to human life may reflect the recent horrors of World War I and the desire to leave no excuse for a repetition.

10 A biocentric framework

“Theology may need a transformation as remarkable as the decentring of humans as the focus of the God-world relationship.¹⁰¹²”

Here Nancy Howell suggested as a possibility that which I am arguing to be essential. The suggestion came at the end of Howell’s sustained consideration of current knowledge about chimpanzees, and the ever closing gap between them and our species. It represents a true effort to listen to evolutionary biology. Unfortunately, rather than explore the theological implications, Howell focussed on the ethical. She presents a laudable history of the way women have been equated with animals to stress their inferiority in patriarchal cultures, and the pseudo science used to do it. As with Birch and the bulk of ecotheologians, her concern is with the practicalities of applied ethics. Even though she briefly returned to her original theme in her closing remarks, her concern is still with the implications for humans,

“... we can learn to de-centre humans long enough to focus on the animals’ perspective... in learning to take a chimpanzee perspective, *we stand to learn more about human evolution and culture* (emphasis mine).¹⁰¹³”

And then, alas, the endnotes. My claim is that Howell’s call to decentre humans as the focus of the God-world relationship is an essential step for theology to take. I therefore present another image, and explain why Christians ought to embrace it. I then describe the kind of mission the biocentric images in this thesis calls us to engage in, and what to make of Jesus in this context. Because so many of his followers contrast Jesus’ teachings with the legacy of supposedly selfish evolution in which we developed, I look briefly at how a biocentric ethic might embrace both Christ’s teachings and our evolutionary legacy. This is largely achieved by combining Jesus’ focus on riches and poverty with the biocentric affirmation of the essential continuity of all species. Finally, ecology and evolutionary biology give us some clues as to where and how biocentric Christian communities might flourish, as well as a foundation for their ethics.

10.1 A biocentric vision

A biocentric theology treasures the richness of relationships experienced by *God* of and through life, a richness enhanced primarily by diversity not consciousness, and by community as much as individuality. It allows us, with God, to celebrate our inevitable extinction, without at all being *Homo-*phobic. Christian funerals have long been both an acknowledgment that we miss the one who is dead and a celebration of a life well lived. God’s funeral for *Homo sapiens* may have much the same air, as it did for *H. neanderthalensis*, *erectus*, *ergaster*, *rudolfensis*, *habilis*, *floresiensis* and so on.

We have seen that we are a tiny tributary in the massive flow of life. We are a significant, but not central, collection of strands in an inconceivably massive and complex flow of relationships. I proposed that the pulsing flow of life is a better image of God than *H. sapiens* ever will be. I would now like to describe another metaphor which is grounded in water¹⁰¹⁴.

Biocentric theology conceives this point in Earth history as a wave on the shore where God and creation meet. A wave of relationships¹⁰¹⁵. Ours was the biggest wave yet seen¹⁰¹⁶, a boiling, foaming mass which raced up the shore after the dinosaurs went extinct. Now it is in retreat. How long until the next wave comes crashing in? How much of this wave will build the next, and how big will the

¹⁰¹² Nancy Howell, "The Importance of Being Chimpanzees," *Theology and Science* 1, no. 2 (2003): p. 188.

¹⁰¹³ Ibid: p. 189-90.

¹⁰¹⁴ Pun intended. Anybody who has read this far deserves at least a little dry humour. Pun intended.

¹⁰¹⁵ Conscious-telic devotees could see the wave as a wave of consciousness.

¹⁰¹⁶ There were more species alive before humans developed agriculture than at any other point in history, though they add up to less than 1% of all species which ever lived.

next wave be? We do not know, and most likely we never will, as humans are not likely to be in the next wave. You and I certainly will not be. What we do know is that even if there is another large wave or two, the tide is definitely on the way out, and it will never come in again, on Earth at least.

Can we accept that we are but a tiny part of a wave of relationships on the shore where God and creation meet? Does this lead us inevitably into a kind of fatalistic world view in which, as mere parts of a wave beyond our control, we passively accept the rapid destruction of habitats and species around us? This God's eye view, this acceptance of evolutionary processes, including all its finitude and contingency, might raise the spectre of academics sitting in ivory towers, remote from the injustices of the world.

I believe that a workable ethic can be constructed which reflects the biocentric theology I have been promoting in this thesis. I begin by showing that, whatever our ignorance of the ultimate purposes of God, our own purposes drive us to be concerned about what happens to the rest of creation, based largely on the biophilia hypothesis I outlined in chapter 8.2.6¹⁰¹⁷. I then return to the God's eye view, expanding on the question of what it is that God values from the world. This allows us to begin to sketch an ethic which is rooted in biocentrism but still able to address the ethical concerns of those who care deeply for the Earth community, perhaps, I hope, in a somewhat more consistent and even more hopeful way.

10.2 Biocentrism: What's in it for humans?

The central commandment which Jesus left his followers, according to the synoptic gospels, was to love God¹⁰¹⁸. We are called to love God, not because God is some insecure despot who needs it, but because it is in this that we have life in abundance - eternal life¹⁰¹⁹.

To *love* someone, we must *know* them, at least partially. The writers of the New Testament epistles urged people to know God, having found that this knowledge brought freedom¹⁰²⁰, wisdom, revelation and hope¹⁰²¹, an end to exploitation¹⁰²², and the ability to love¹⁰²³. Not to mention the escape from the vengeance of God's wrath¹⁰²⁴. To talk about God, to do theo-logy, we must believe that it is possible to know God, or at least something of God.

To know somebody, we need to know what they are like; we need an 'image' of them, a likeness. Even in our relationships with other humans, we do not have direct access to all they are. All we have is our image of them, the synthesis of who they really are and who we, from our past experiences and limited interchanges with them, imag(in)e them to be. The more time we spend with them, we hope, the better our image of them corresponds to reality. The better our image of them corresponds to reality, the more we know them. The more we know them, the more we can truly love them.

To know God, then, to love God, we need an image of God. This thesis has argued that the image of God we need to grasp is not *H. sapiens*, but life, past and future, on Earth and elsewhere. The richer

¹⁰¹⁷ Although my discussion will sound somewhat cold and rational, my own starting point, and doubtless of anyone trying to do ethics, is a passionate, emotional connection to life around me. Ultimately, I refrain from needlessly stepping on ants because something deep within me is horrified when life is callously discarded, not because of any logically thought out ethical position. Nevertheless, the complexities of such little decisions add up to the point where it is worth taking time to think through the ways in which the many competing claims upon someone who loves life might be balanced.

¹⁰¹⁸ Matthew 22:37; Mark 12:30; Luke 10:27.

¹⁰¹⁹ John 17:3. It is beyond the scope of this thesis to explore the extent to which this payoff was seen to be a present reality, or a future, post death reward.

¹⁰²⁰ Galatians 4:8.

¹⁰²¹ Ephesians 1:17-18.

¹⁰²² 1 Thessalonians 4:6.

¹⁰²³ 1 John 4:8.

¹⁰²⁴ 2 Thessalonians 1:8.

this image of God, the richer our knowledge of God and ability to love God. It is clearly an image we will only ever see a little of, but we must do what we can to see it. To paraphrase 1 John 4:20,

“How can we say we love God, whom we cannot see, if we do not love the image of God, which we can see?”

Here Christian theology grounds itself in and expands the biophilia hypothesis we encountered in chapter 8.2.6. This was the idea that maintaining ecosystems similar to those of the Pleistocene, in which most of our brain evolution occurred, enhances our mental and emotional well being. For example, McDaniel, coming from the process tradition, argues that since we are indivisible from nature, we must cooperate with nature to nurture our selves¹⁰²⁵. Thomas Berry claims that,

“Our soul life is developed only in contact with these surrounding experiences... if this outer world is damaged, then the inner life of our souls is diminished proportionately.¹⁰²⁶”

Rosemary Radford Ruether explicitly embraces the concept of biophilia. She argues that the degradation of the environment leads to a loss of “aesthetic imagination” which robs us of the moral urge to value life¹⁰²⁷. It is not surprising to find such sentiment in those from the eco-engaged part of the Roman Catholic tradition, which has a long standing theology of creation as sacrament. This assumes that we can, through contemplating life around us, connect with the Creator of Life.

Edwards, for example, believes that, “... *Earth* reveals. It is the place of encounter with the Holy Spirit (emphasis mine).¹⁰²⁸” In this encounter we engage God the uncontrollable Other, the Spirit who blows where it will¹⁰²⁹. Yet this revelation is limited. Because he sees finitude as evil¹⁰³⁰, it follows that it cannot be part of the image of God¹⁰³¹. Elizabeth Johnson also limits the revelatory power of creation. For example, she explicitly denounces extinction as an evil which detracts from the sacramental potential of Earth,

“... all diverse strands in the web of life are expressions of the creative power of the cosmos which is ultimately empowered by the Creator Spirit. The enormous diversity of species itself points to the inexhaustible richness of the Creator; whose imaginative goodness these species represent... when a species goes extinct we have lost a manifestation of the goodness of God.¹⁰³²”

Zizioulas was another of the death denying theologians in chapter 9.3.2.1. For him, much of what we see in creation needs transforming; it is the *not-God* we must overcome. Zizioulas does not embrace the otherness of the rest of creation, but imagines that it will be changed to suit us, a paradise by human standards,

“The Kingdom of God is not something that will displace material creation, but will *transfigure* it, *cleansing* it from those elements which bring about *corruption* and *death*.¹⁰³³”

¹⁰²⁵ McDaniel, "Revisioning God and the Self," p. 236.

¹⁰²⁶ Thomas Berry, "Christianity's Role in the Earth Project," in *Christianity and Ecology: Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), pp. 127-28.

¹⁰²⁷ Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing*, p. 102.

¹⁰²⁸ Edwards, "For Your Immortal Spirit Is in All Things," pp. 65-66.

¹⁰²⁹ *Ibid*, p. 65.

¹⁰³⁰ Edwards, "Evolution and the Christian God," p. 188.

¹⁰³¹ His thought shows some nuances on this matter, however, since, against Moltmann, he doubts that past species are really victims of evolution, nor that the death of a creature necessarily makes it a victim of its predator in a justice sense (Edwards, *The God of Evolution: A Trinitarian Theology*, p. 111-13).

¹⁰³² Johnson, *Women, Earth, and Creator Spirit*, pp. 38-39.

¹⁰³³ Zizioulas, *Eucharist and kingdom of God, part III*, trans. Elizabeth A. Theokritoff, Sourozh, 60 (1995), 43-44. Cited, not seen, in Fox, "God's Shattering Otherness," p. 101.

Even the death affirming theologians like Radford Ruether, when they talk about the sacramental possibilities of creation, emphasise its positive aspects. God brings forth all things in *life-giving* interrelations, so that,

“The whole creation must be seen as the bodying forth of the Word and Wisdom of God and as sacramentally present in all things.¹⁰³⁴”

When we combine Radford Ruether’s sacramental affirmation with other passages where she embraces finitude, we can adequately engage with Wilson. As cited on page 105, he reminds us that biophilia is not a romantic love of the pleasant parts of life, but an attachment to, immersion in, and participation in all of life, including the bits that make us fearful and anxious¹⁰³⁵. The wild Other he reminds us about reveals to us God’s shattering otherness¹⁰³⁶.

Keller’s view of creation, for example, sacramentalises not Gilkey’s God of order¹⁰³⁷, but the God of chaotic deep (Genesis 1:2),

“For it is this complexity that is all too quickly perceived as chaotic and therefore as threatening, as mere disorder, as ugly, or as nothing. Therefore my project works from the bottom up -or rather, from the bottomless *tehom* up: to counteract the entire tradition of the demonization and erasure of chaos.¹⁰³⁸”

Like Keller, David Tacey calls us to live with uncertainty, chaos and confusion, rather than rushing to neaten things up¹⁰³⁹. He laments that,

“... in our secular world the Other has lost its capital ‘O’ dimension and has become an ‘other’ human being, a lover, a friend, a husband or wife...¹⁰⁴⁰”

Brady warns us that, “Shrinking from the otherness of land is the other side of shrinking from the otherness of God.¹⁰⁴¹” By denying that those parts of life we fear are sacramental, we have diminished the image of God. God has become like us, liking what we like. This is manifest in the extreme when we make the image of God *actually human*. By removing ourselves from everything fearful in life, everything wild, we have diminished our experience of the Otherness of God¹⁰⁴², and thus limited our ability to love God.

Patricia Fox criticises our tendency to reduce both the God and non-humans to our image¹⁰⁴³. As she points out, there are,

“... profound implications of speech about God both for the future of life on this planet *and for the human person’s capacity to know and relate to God* (emphasis mine).¹⁰⁴⁴”

Seeing *life* as the image of God gives us a far richer, more beautiful, awesome, wonder filled, humble, yet robust faith foundation. The ultimate glimpse of this image incorporates the entire evolutionary

¹⁰³⁴ Rosemary Radford Ruether, "Christian Anthropology and Gender: A Tribute to Jürgen Moltmann," in *The Future of Theology: Essays in Honour of Jürgen Moltmann*, ed. Miroslav Volf, Carmen Krieg, and Thomas Kucharz (Michigan: William B. Eerdmans, 1996), p. 251.

¹⁰³⁵ Wilson, "Biophilia and the Conservation Ethic," p. 31.

¹⁰³⁶ Fox, "God's Shattering Otherness." It is intriguing that Fox reaches this conclusion, since she is so affirming of Zizioulas’ work.

¹⁰³⁷ Gilkey, *Nature, Reality and the Sacred*, p. 151.

¹⁰³⁸ Keller, "The Face of the Deep."

¹⁰³⁹ David J. Tacey, *Edge of the Sacred : Transformation in Australia* (Blackburn North, Vic.: HarperCollins, 1995), p. 195.

¹⁰⁴⁰ *Ibid.*, p. 179.

¹⁰⁴¹ Brady, "Called by the Land to Enter the Land," p. 40.

¹⁰⁴² Shepard, "On Animal Friends," p. 292-93.

¹⁰⁴³ Fox, "God's Shattering Otherness," p. 99.

¹⁰⁴⁴ *Ibid.*, p. 94.

history of life on Earth, and probably throughout the universe. It accepts even mass extinctions as, paradoxically, events by which the image is enhanced and enriched.

Yet few humans are able to engage with such an image, and even those of us who *can* struggle to hold it before us constantly. The image of God which is available to us is primarily the tiny part which we encounter every day, not the three billion to three trillion year old one we may intellectually believe in.

If we could immerse ourselves in even this tiny encounter with God in the day to day reality in which we live, our faith would be greatly enriched. Most rich humans now engage with wild animals through television. Yet is the lion, not the documentary about it, which reminds us that "It is a fearful thing to fall into the hands of the living God¹⁰⁴⁵". The second most common sphere of interaction for the rich is the supermarket fridge, the stocking of which is a major cause of local extinctions.

Most humans, whether urban or rural, live in areas where non domestic animals are locally extinct, or confined to specific parks. In such parks, if they are dangerous they are caged, or the humans are forced to stay in their cars. Non dangerous animals are usually tamed, like the kangaroos that can be hand-fed, or the koalas that are prostituted out on a cash for cuddle (and photo) basis. Most humans, if we interact regularly with *any* other forms of life, do so only with pets. This was already becoming the case when the Hebrew Scriptures were being compiled. Although they refer to the occasional dangers from wild animals, the dominant paradigm for human interaction with other animals is agricultural. Christian theology has usually continued this paradigm unquestioningly,

"The idea of responsibility for the animal kingdom as a whole is clearly neobiblical, especially "caretaking" and all its benevolent expressions. These are three: The Noah syndrome, which puts us in charge (as God's stewards) of *all* the animals; the hagiographic model of Saintly Hermit before whom the beasts, recognizing human holiness, gladly enter into cringing servitude; and the Peaceable Kingdom, the prototype of our perception and regulation of nature as if it were a nursery school playground.¹⁰⁴⁶"

Belief in human stewardship is, according to Shepherd, a symptom of a biophobic culture. It reflects the desire for the world to be the way humans like it - safe, controlled and productive. The same could be said of the desire for a paradise of peaceable existence amongst animals, by which we really mean their control and domestication. According to Shepherd, humans as stewards or saints, and our peaceable eschatology, all reflect the projection of the domestic world onto nature. They,

"... take wild animals one step closer to becoming slaves along with their domestic cousins. Wild animals are not our friends.¹⁰⁴⁷"

I have participated in a number of Christian worship services where the value of the pet is extolled - they bring comfort to the elderly and sick, and they teach us something of God through their loving devotion to us. God loves us as faithfully as a puppy. Nice doG-God. Or their lack of intellect is used to show how hard it is for us to understand God's commands and plans for our life. We are to pets as God is to us. We, after all, are the image of God. Pets as both metaphor for divine love, and for divine control, work only because pets are little more than "flaccid slaves¹⁰⁴⁸" compared to their nondomesticated ancestors. In heaven there is no room for the Wild Other¹⁰⁴⁹ who steals our babies from our tents, and who reminds us of the wild and untameable God who created us, the God of love and loyalty and pain and death.

¹⁰⁴⁵ Hebrews 10:31.

¹⁰⁴⁶ Shepard, "On Animal Friends," p. 288.

¹⁰⁴⁷ Ibid.

¹⁰⁴⁸ Ibid, pp. 282,87.

¹⁰⁴⁹ Ibid.

Domestic livestock, the other source of Vicar of Dibley-esque “animal services” are similarly pale reflections of wild animals. They are the Other bent into our image. Our experience of God is therefore deficient; because we interact with a McDonalds-ised God, a mutated and tamed God, a God who relies on us for its survival. As a result of such an impoverished, easily digestible diet, the “body of God” has become an obese couch potato.

So it is not enough to call people to love their pets, or be kind to their chickens¹⁰⁵⁰. Such love is inherently patronising. It is not enough even to “love” wild animals or “nature”. Biophilia was not, it must be remembered, only the *love* of life, it was the *engagement with* life,

“... the paradox [is] that primal peoples kept their distance from animals- except for their in-takings as food and prototypes- and could therefore love them as sacred beings and respect them as other “peoples” while we, with the animals in our laps and our mechanised slaughterhouses, are less sure who they are and therefore who we are.¹⁰⁵¹”

Gebara points out that our religious symbols, like the lilies of the field and the breaking of bread, are no longer grounded in the daily reality we experience. This creates a deeply religious problem for those who continue to use these symbols to express their faith¹⁰⁵². We are out of touch with our symbols and the God they point us to, because we are out of touch with life in all its awesome abundance. We forget that it is indifferent to us, our desires, even our survival. We lack awe. A rich Christian spirituality needs, I believe, not patronising affection, but awe. As Paul Collins puts it,

“... modern ecology is absolutely central to the future of religion... Christianity specifically will gradually cease to exist if the natural world continues to be devastated at the present rate. There is a deep and dependent inter-relationship between the development of religious attitudes and the sustainment of the natural world... human beings, living in a feed-lot world where all wilderness has been destroyed... will slowly lose touch with the possibility of the development of culture, art, religion, and spirituality... we human beings will simply shrivel up spiritually and lose our ability to perceive and experience the deeper issues that give meaning to our lives and the transcendent reality that stands behind the natural world and all that is...¹⁰⁵³”

I have engaged in a fairly sustained consideration of the biophilia hypothesis, and its theological extension which affirms Earth as sacrament. If used to truly affirm the Wild Other, it further grounds us in the need to engage with life as a whole as the image of God, and reminds us of those parts of the Christian tradition that point us to the wild God beyond us. Yet this sacramentalist view does not feature in the Uniting Church resources I considered in chapter 6¹⁰⁵⁴.

As we saw in chapter 6.2.4, Uniting Church engagement with creation focuses on seeking justice for creation, based on the declaration that the rest of creation is good in itself, *apart* for its usefulness to humans. The appeal to preserve biodiversity, then, is not couched in biophilic or sacramental terms,

¹⁰⁵⁰ Though having chickens in the first place would be a big advance on buying their eggs from the shop. And battery farming should be abolished immediately, in my opinion, but for the chicken’s sake - it wont bring us closer to the Wild Other.

¹⁰⁵¹ Shepard, "On Animal Friends," p. 289.

¹⁰⁵² Gebara, *Longing for Running Water*, p. 197.

¹⁰⁵³ Paul Collins, *God's Earth : Religion as If Matter Really Mattered* (North Blackburn, Vic.: Dove, 1995), pp. 3-4.

¹⁰⁵⁴ The one exception proves the rule, since it comes from an Anglican employed to lecture in a Uniting Church college in Adelaide. It appears in a chapter on the nuclear energy cycle produced for the Assembly in 2000, “Thus the creation is *sacramental*, being a visible and tangible sign of the invisible and intangible reality of God. Any diminishment of creation, such as the accelerated loss of species, is a diminishment in our perception of the Creator.” (Balabanski, "Theological Foundations for Considering the Uranium Mining/Nuclear Fuel Cycle.")

“Why does it matter if an insect, a plant, or a bird disappears forever? It matters because each one is a creature who belongs to God. It matters because whenever the diversity of life is reduced the world becomes a poorer place.¹⁰⁵⁵”

The problem of the world becoming a “poorer place” has nothing to do with its sacramental usefulness to humans, or our biophilic needs. It matters because it matters to *God*. Even when creation is said to be eucharistic, as we saw in chapter 6.2.5, the emphasis was on God’s blessing *to creation* through the eucharist, not the human ability to encounter God through it.

This emphasis on the value of creation for itself and for God is a corrective to the anthropocentric, utilitarian tendencies in sacramental theology identified by McFague¹⁰⁵⁶. Biophilic sacramental theology focuses on what creation can do for Christians, and how we can thus best preserve our own interests. The Uniting Church dares call its members to a more presumptuous task.

10.3 Biocentric mission

As we saw in chapter 7.2, the *Basis of Union* commits members of the Uniting Church to the formidable task of discerning the will of God. It assures us that, through an informed faith, we can know something of God’s ways. We will, it assures us, learn more of the will and purpose of God through contact with contemporary thought, including the sciences. Through relating to those outside the church we can better understand our nature and mission¹⁰⁵⁷.

What is our mission? Why are we here? Why is there something rather than nothing¹⁰⁵⁸? In the section on biocentric process theology¹⁰⁵⁹ I argued that life is here to live, to give God an other to relate to, in order to allow God to change. I want to briefly develop that idea further. If God’s desire is for richness of experience, primarily mediated through relationships, if that was God’s “mission” in creating or relating to the universe, then Christian mission should be to enhance the richness of experience of God¹⁰⁶⁰.

Here we go beyond what the science story can tell us, claiming that that the good is that which maximises God’s experience. Yet experiences can be ambiguous, for us at least. We do not ourselves value *all* experiences. Sex, for example, may be experienced as a moment of love and intimacy, or brutality and violation. The dying process can be a peaceful, welcomed one, or a terrifying assault to be desperately resisted.

Informed by ecofeminism we might imagine that God affirms in general the experiences of death and pain, tragedy and suffering, but not all of them specifically. Even a specific instance of joy might not be automatically affirmed if it comes at great cost to others, and therefore at great cost to God¹⁰⁶¹. So we will need to make judgments about what sort of experiences God values. Whilst admitting the folly

¹⁰⁵⁵ Assembly Social Responsibility and Justice Committee, "Healing the Earth," p. 15.

¹⁰⁵⁶ McFague, *The Body of God : An Ecological Theology*, pp. 183ff.

¹⁰⁵⁷ Uniting Church in Australia, *Basis of Union*, section 11.

¹⁰⁵⁸ Most Christian theology, in the west at least, subscribes to the doctrine of creation *ex nihilo*, that without God’s action there would have been no creation. Catherine Keller (Keller, *Face of the Deep*.) argues persuasively that this is not the biblical world view, and should not be our world view, recalling Genesis 1:2, where the Spirit of God broods over the *pre-existing* deep. She still assumes that God *did something* through which the deep brought forth life as we know, so we can still ask the question, why?

¹⁰⁵⁹ Chapter 9.5, page 172.

¹⁰⁶⁰ Lucy Larkin promotes this idea, from a slightly different perspective (Larkin, "The Relationship Quilt," p. 157.)

¹⁰⁶¹ A number of theologians emphasise the obvious flip side of God experiencing life through life - that when life suffers, so must God. Eg Edwards, "For Your Immortal Spirit Is in All Things," p. 64, Korsmeyer, *Evolution and Eden*, p. 94, McFague, *The Body of God : An Ecological Theology*, p. 176, Rainbow Spirit Elders, *Rainbow Spirit Theology : Towards an Australian Aboriginal Theology*, p. 67. Others limit God’s suffering to the experience of the cross, eg (Peters, *Science, Theology and Ethics*, p. 242.)

of trying to read the mind of the God of the universe, we don't seem to have any alternative if we wish to do something rather than nothing.

And here the Christian claim that in Jesus of Nazareth we see something of God's communication to humans gives us a little more confidence in our endeavour. Here then is another assumption which we cannot claim to justify from the science story; that the story of Jesus in some way reveals something of the divine will, for *H. sapiens* at least. At a bare *minimum* the Christian claim is that in Jesus we see a special divine communication to humans about how we should be in the world. Alongside the Genesis tradition of humans being created in the image of God lays the New Testament claim that amongst humans, Jesus is in some way a unique image of God, indeed *the* image of the invisible God¹⁰⁶². This includes both the sense of Jesus having a unique relationship to God as the firstborn (most important) of all creation¹⁰⁶³, and also being the likeness of God, the latter especially in the gospels¹⁰⁶⁴.

So Christians have two images of God: the billions of years old pulse of life, and the historical man Jesus of Nazareth, who lived for approximately thirty years, two thousand years ago. What might the first image contribute to our understanding of the second image? What does it mean to say that Jesus is the unique human image of God, and is that actually tenable anymore?

10.4 Jesus the image of God

To claim that Jesus was the unique human image of God says little in some respects. Arianism, Adoptionism and a number of other famous heresies would happily make that affirmation. Classical liberalism, exemplified most publicly by Samuel Angus¹⁰⁶⁵ and Ted Noffs¹⁰⁶⁶ in the pre-uniting churches, accepted that Jesus appeared to be the unique human image of God, but claimed that in principle anybody who opened themselves to God could also be that image, since we were all of the same substance as Christ.

The majority Christian tradition, however, emphasises that Jesus of Nazareth not only *was* a unique image of God, but necessarily *is* unique. No human can win the possession of that image through their own efforts. We cannot become a child of God directly, but only through Jesus, the unique child of God. This coheres well with my rejection of consciousness-teleism, which is implicit in liberal theology for example. If it is through our own conscious efforts to transcend ourselves that we may also become the image of God, then many humans, and most animals, are excluded.

Biology opens up a fantastic alternative¹⁰⁶⁷. Perhaps Jesus had a genetic mutation, which gave him the ability to perceive God's constant communication with the world more fully than the rest of us. Some animals can see the infra-red, ultra-violet, and even ultra-sonic worlds, and Jesus could literally 'see' God. Since Jesus did not breed¹⁰⁶⁸, the ability perished. He was then, the unique image of God in a way we cannot hope by our own efforts to replicate. Of course, we would expect the mutation to repeat from time to time. In the right environment, this mutation may again lead to a manifestation of this unique relationship with God. This line of thinking holds potential for those who want to affirm the autonomy of other faiths, though I expect the idea that Jesus, Buddha and others shared a common genetic mutation is too bizarre to ever be pursued.

The majority Christian tradition affirms not only that Jesus was unique, but that he was unique *because of the action of God*. Jesus was not just a man who lived uniquely well or a genetic freak; but the

¹⁰⁶² Colossians 1:15, 2 Corinthians 4:4.

¹⁰⁶³ Colossians 1:15.

¹⁰⁶⁴ For a brief summary of some of the key texts see <http://www.bible.ca/ef/expository-colossians-1-15.htm>

¹⁰⁶⁵ Ian Breward, "Christianity Must Be Reinterpreted; Samuel Angus' Response to a Secular Society and a Traditional Church," *Trinity Occasional Papers* 4, no. 1 (1985): p. 27.

¹⁰⁶⁶ Ted Noffs, *By What Authority?* (Methuen, 1979), pp. 28-31.

¹⁰⁶⁷ Literally fantastic, not necessarily good.

¹⁰⁶⁸ A tiny minority believe that he did. However, his life suggests that enhanced communication with God is strongly linked to increased mortality, so we would not expect the mutation to persist for long.

fusion of the fullness of God and fullness of humanity in a single individual. This image can only be repeated if God wills it to be¹⁰⁶⁹. Jesus was the image of God, then, because God intervened in the biological world to make it so.

The interesting question in this thesis is *to whom does Jesus image God?*

Eco-engaged theology, in its desire to value all creation, often claims that Jesus came to bring salvation or redemption not just to humans, but to everything¹⁰⁷⁰. A key strategy in affirming all creation is to link it to the incarnation. Jesus is not just human, but flesh. This is a major emphasis of McFague's body of God metaphor¹⁰⁷¹, and in chapter 6.2.13 I showed that Bos and James took this approach. John Davis, when a candidate for ministry in the United Church engaged in a sustained argument for this way of thinking. For Davis, "humanity is merely incidental to the incarnation," and the fact that,

"...the grace of God was imminent in creation before human existence, and will continue beyond human existence, necessitates an attitude towards the cosmos which cannot be anthropocentric."¹⁰⁷²

Not only that, but the incarnation, the centre of Christian faith,

"...can not be construed as anthropocentric or androcentric. God gave God's self to *creation* (emphasis mine)."¹⁰⁷³

Gebara agrees that all creation is caught up in the saving work of Christ, begun in the incarnation and testified by the resurrection,

"... it is *the earth* that is both the subject and the object of salvation. We need to abandon a merely anthropocentric Christianity and open ourselves up to *a more biocentric understanding of salvation*. To Jesus' humanistic perspective, we need to add an ecological perspective. This new way of doing things seems to me perfectly justified, because it maintains not only the most fundamental aspects of Jesus' perspective, but also the understanding that we are a living body in constant evolution (emphasis mine)."¹⁰⁷⁴

Though Davis and Gebara explicitly reject anthropocentrism, the attempt to include Earth in salvation actually works best when grounded in the anthropocentric tradition, which sees Jesus the Christ, the

¹⁰⁶⁹ This to, of course, opens the door to religious pluralism.

¹⁰⁷⁰ This is not a novel invention of modern ecotheology. Celtic Christianity explicitly included all creation in redemption (Santmyre, *Nature Reborn: The Ecological and Cosmic Promise of Christian Theology*, pp. 112-13.) Wesley expected the general deliverance of all creatures, based on God's love for them, a sensitivity to their undeserved suffering in this life. This reasoning dated back to Paul's reflections on creation in Romans 8 (Wesley, *Collected Sermons of John Wesley from the 1872 Edition*.) This sermon was not included in the collection of 44 sermons, according to the list provided at <http://wesley.nnu.edu/sermons/standards.htm>. A few modern examples, apart from those about to be cited specifically in the text, include Grimbaldeston, "Sophia Renewing Earth," p. 21, Habel, *Resource Manual for a Season of Creation*, John Habgood, "A Sacramental Approach to Environmental Issues," in *Liberating Life: Contemporary Approaches to Ecological Theology*, ed. Charles Birch, William R. Eakin, and Jay B. McDaniel (Maryknoll, NY: Orbis Books, 1990), p. 52, Hosinski, "How Does God's Providential Care Extend to Animals?," p. 143, Elizabeth Johnson, "Losing and Finding Creation in the Christian Tradition," in *Christianity and Ecology: Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. 15, George Kehm, "The New Story: Redemption as Fulfillment of Creation," in *After Nature's Revolt: Eco-Justice and Theology*, ed. Dieter T. Hessel (Minneapolis: Fortress Press, 1992), p. 89.

¹⁰⁷¹ McFague, *The Body of God: An Ecological Theology*.

¹⁰⁷² John Davis, "Christology and Ecology: A New Perspective," *Colloquium* 27 (1995): p. 47.

¹⁰⁷³ Ibid: p. 45.

¹⁰⁷⁴ Gebara, *Longing for Running Water*, p. 183.

God-human, as the second Adam, the one sent to save us from the consequences of the Fall¹⁰⁷⁵. This is a tradition which grounds itself squarely in the Pauline reflections on the relationship between Adam and Christ,

“For since death came through a human being, the resurrection of the dead has also come through a human being; for as all die in Adam, so all will be made alive in Christ.¹⁰⁷⁶”

“Therefore, just as sin came into the world through one man, and death came through sin, and so death spread to all because all have sinned...¹⁰⁷⁷”

Yet creation is not spiritually fallen, and finitude is not a consequence of a Fall. Finitude is good. What sense can we make of the idea that Jesus saves creation? From what does he save it, if not pain and death? I believe that Jesus’ role in creation must be thought of as a secondary one, resulting from his role amongst human beings. Having stressed that God’s relationship with creation is a direct one, not mediated by God’s relationship with humans, I will now argue that the event which Jesus of Nazareth represents *is* in the first instance a God-human story. Jesus as God-human, ironically, preserves a biocentric worldview better than the idea that Jesus is God-flesh. Jesus is only directly the Christ for humans.

Edwards, though hardly a biocentric theologian overall, provides a way of conceiving the link between Jesus and humans in the context of the relationship between God and creation,

“..if Jesus Christ can be thought of as the human face of God in our midst, the Spirit can be thought of as God present in countless ways that are far beyond the limits of the human.... God is given to us in a personal presence that exceeds all human limits.¹⁰⁷⁸”

So Jesus came for humans, to save us. Does this offer of salvation call us into, or out of the evolutionary story? To participate in or overcome it?¹⁰⁷⁹ What do we need to be saved from in the first place, or what do we need to have revealed to us? Are the consequences of this salvation or revelation limited to humans, or do they flow on to the rest of creation in a secondary sense? What does it mean to be saved amidst the affirmation of our individual death and communal extinction? And is there any hope that our attempts to live out our salvation, or the revelation we have received, might succeed?

The emphasis in ecotheology that Jesus did not come to save us *out* of the world could still be true even if it no longer makes sense to say that he came to save us *with* the world. But if he has not come to save us from the Fall, or even from the finitude which we traditionally took as evidence for it, then what has he come to save us from, and why?

One possible answer is that he came to save us from the *fear* of finitude, or at least being controlled by that fear to the extent that we no participate in life. If we do not participate fully in life, we have impoverished relationships, and so God’s relationship with life is diminished. Jesus may be different

¹⁰⁷⁵ The documentation of the development of the doctrines of Original Sin and the Fall is undertaken extensively by Wiley (Wiley, *Original Sin- Origins, Developments and Contemporary Meanings.*) and Korsmeyer (Korsmeyer, *Evolution and Eden.*)

¹⁰⁷⁶ 1 Corinthians 15:21-22, NRSV translation.

¹⁰⁷⁷ Romans 5:12, NRSV translation. Crucially, the italicized text was long mistranslated as “in whom,” which had a major impact on the development of the doctrine of original sin. See Wiley for more on the mistranslation (Wiley, *Original Sin- Origins, Developments and Contemporary Meanings*, pp. 51-52.) She examines the uses of this verse in Christian history throughout her book.

¹⁰⁷⁸ Edwards, "For Your Immortal Spirit Is in All Things," p. 65. His reflections on the possibility of multiple incarnations if there are multiple intelligences throughout the universe supports the limitation of Jesus of Nazareth’s person and work to humans.

¹⁰⁷⁹ We hear the echoes of Richard Niebuhr’s classic (H. Richard Niebuhr, *Christ and Culture*, [1st] ed. (New York,: Harper, 1951).)

not in being “perfect” (a notion with little ecological or evolutionary meaning), but in accepting death, even violent death, so as to enter into life. Certainly his challenge to those who would follow him, as we have it recorded in the gospels, frequently refers to the need to accept finitude in order to participate in eternal life, especially finitude deliberately inflicted by others¹⁰⁸⁰. Yet his was not a morbid life. He did not pursue finitude but he did not hide from it either. This enabled him to embrace life in all its fullness, and that is what he offered to those who came to know God through him.

Jesus’ mission would then be to call humans to embrace our finitude in order to participate in life, to have full relationships which God can vicariously enjoy, and to have a full, direct relationship with God. In other words, Jesus came to call us back into the evolutionary story of life.

Of course, fear of finitude is not always a bad thing. It is perfectly reasonable and highly adaptive to be afraid when harm is an immediate possibility. It would never have evolved otherwise. The fear which requires salvation is the chronic, overwhelming, fear of finitude which prevents us engaging fully with life, and causes us to inflict harm on others in order to hide from it. This level of chronic fear is only possible for those who are conscious, probably even self conscious; so we would expect the potential for it to have slowly grown over the last few million years, amongst primates and possibly cetaceans.

If the potential for this chronic fear has existed for millions of years, why did God leave the incarnation so long? Just because the biological potential existed does not mean that it actually occurred. Human brains have changed little in over 100,000 years, yet what we think about has changed enormously. This chronic fear of finitude may be a relatively recent event. It is not even clear that this fear is a problem for all humans today, a point I will elaborate on in chapter 10.6. For now, though, I want to consider why God intervened in human history at all- why did God become one with our human flesh?

For one thing, Jesus came for humanity’s sake. Jesus’ central message as recorded and expounded by his earliest followers was that God loves humans. This is what gives us the confidence to embrace our finitude. How it gives us this confidence might be along the lines proposed by Clark. She argued that what we primarily fear is the lack of either bonding or autonomy. Since they pull us emotionally in different directions, we need to be able to make sense, or meaning, of our inability to have both. If this is missing, or if we simply lack one or the other outright, then our finitude overwhelms us. Belief in God and the great biocentric story of the universe might answer the need for meaning, as we balance our sense of bonding and autonomy not only from each other, but from the other creatures around us, indeed from God. Perhaps the fear of finitude is greatest when we think it will make us overly dependent on others, or abandoned by them.

Equally, for the sake of other creatures. If we see current human action as mostly evil, then Jesus came for the sake of those creatures whose habitats are being destroyed as we seek immortality, or at least distraction, through consumption and control. He becomes the Jonah sent to warn humans of the consequences of our godless ways, or the Lorax who speaks for the trees¹⁰⁸¹. Here we reconnect again with the vast body of ecotheology which, for whatever reasons, calls on us to limit our consumption of resources in order to make more available to the rest of life on Earth. God acts to save creation, not by changing its nature but by limiting the ecological impact of humans within nature. God does not need to save other creatures from the fear of finitude, it usually only concerns them when it needs to¹⁰⁸². Animals are saved in a secondary sense, from the unnecessarily prolonged fear of finitude imposed on them by fearful human systems. For example, the domestic livestock who are crammed into slaughter

¹⁰⁸⁰ Of the numerous examples in each gospel, see for example Matthew 5:10-12; Mark 10:29-31; Luke 14:25ff; John 12:24-25.

¹⁰⁸¹ “My name is the Lorax, I speak for the Trees. I speak for the trees since the trees have no tongues...” Theodor Seuss Geisel (Dr Seuss), *The Lorax* (not stated: Random House Books for Young Readers, 1971).

¹⁰⁸² Peacocke, "The Challenge and Stimulus of the Epic of Evolution to Theology," p. 101.

yards, trembling fearfully amidst the sounds and smells of death which they know intuitively spell danger for them¹⁰⁸³.

If we see the human mediated extinction as good, then we might imagine that God intervenes for the sake of those who will profit when we embrace our eventual extinction, and we hear especially Jesus' calls to renounce our lives in order to participate in eternal life. To lay down our (species') life for those friends yet to come.

Finally, perhaps pre-eminently, God did it for God, whose experience of life includes the vicarious experience of life through creatures, and who would thus experience less fear and more joy if we escape or at least minimise our fears.

This line of thinking obviously implies that the incarnation of God in Jesus of Nazareth may not have happened, something which Christians have disagreed on through the ages. Had humans not fallen into chronic fear, there would be nothing to save them from, thus the incarnation depends on human action, not God's completely free initiative. One response is that there is nothing to stop the incarnation happening for a different reason, just because God felt like it. In the wider context, though, I have already argued that the evolution of humans in the first place was highly contingent. Had a few things gone differently the most self-conscious species on the planet may not even be mammalian. There may not even *be* a self-conscious species. Since human evolution is contingent, so must be the birth of Jesus of Nazareth, and thus the *specific* incarnation which launched Christianity.

It did not need to occur, but Christians claim it did. I suggested above that it represented God calling humans back into the evolutionary story of finitude and contingency. Yet this is not a common view even in ecotheology. Christianity is often seen to be a fight against our "selfish" evolutionary history, a counter-evolutionary force. As examples of this thinking I will consider the ethical visions of Sallie McFague and Rosemary Radford Ruether. I focus on them because of their undeniable influence in the field of ecotheology and ethics¹⁰⁸⁴. McFague has quite an ambiguous view of death. Radford Ruether, like a number of other ecofeminists, is unreservedly affirming. But both seem to envisage the ethical project as something counter to the evolutionary history of Earth. I will try to show that their fundamental concerns for justice can be addressed *within* an evolutionary framework, and then speculate as to where we might expect these ethical systems to actually *work*.

10.5 Jesus against evolution?

In chapter 8.2.5 I decided in favour of the Darwin/de Waal understanding of the evolution of ethics over against the Huxley/Dawkins one, where evolution is seen to be a selfish process, creating instinctively selfish creatures. It is the latter framework which dominates popular thinking, and not surprisingly theological responses to the theory of evolution tend to respond to this view of evolution and morality. So, within the Uniting Church we have Professor Rod Rogers, a biologist, who argues that,

¹⁰⁸³ I believe that slaughter houses are not only economically efficient, but they are popular because they shelter most of us from the reality of death. We cannot even kill our dogs, but have them "put to sleep." Professionals in hospitals, hospices, funeral homes and crematoriums take care of death for most westerners.

¹⁰⁸⁴ McFague's Earth as body of God model, for example, is widely used in eco-engaged theology up to the present, e.g. Birch, "The Liberation of Nature," p. 6, Halkes, *New Creation : Christian Feminism and the Renewal of the Earth*, p. 154, Lorna Hallahan, "Embracing Unloveliness: Exploring Theology from the Dungheap," ed. Denis Edwards (Minnesota: Liturgical Press, 2001), p. 113, McDaniel, "Revisioning God and the Self," pp. 247-48. Through the participation of people like McFague and Birch in the Annecy gathering, this model was incorporated into the very influential *Liberating Life* report to the World Council of Churches (Participants in the WCC Annecy Gathering, "Liberating Life," p. 279.). Radford Ruether coedited a recent major work on ecotheology (Dieter T. Hessel and Rosemary Radford Ruether, eds., *Christianity and Ecology : Seeking the Well-Being of Earth and Humans* (Cambridge, Mass: Harvard Univ Pr, 2000).). She is widely cited in eco-engaged literature, and perhaps best known for her book *Gaia and God* (Ruether, *Gaia & God : An Ecofeminist Theology of Earth Healing*.)

“... we are born selfish, selfishness has shaped us to the point where we have the intellectual facility to recognise selfishness and escape from it.¹⁰⁸⁵”

Charles Birch initially sounds like he has escaped this trap when he recognises that,

“Neither our nature nor culture is bad... It is too easy for us to say we are victims of our genes or victims of our environment.¹⁰⁸⁶”

Yet his main thrust, relying on Huxley, is that our nature is indeed selfish, and we need to, “... *outfox what evolution has led us to* (emphasis mine).¹⁰⁸⁷” Theologically, Birch criticises the version of Original Sin which he traces from Augustine through Luther and Calvin. He shows how it parallels the notion of genetically embedded selfishness. He also correctly contrasts Augustine with Pelagius, whom he seems to favour. It would seem logical, then, for him to rely on Darwin and Frans de Waal, rather than Huxley and Dawkins for his scientific explanation of the links between genes and temperament. Since de Waal is not mentioned by Birch it appears that he was, unfortunately, unaware of his work, and thus a more satisfying and scientifically correct vision for ethics. When McFague and Radford Ruether claim that Jesus’ ethic is counter-evolutionary, then, they stand within the theological majority.

McFague’s misunderstanding of the nature of the evolutionary process is revealed when she claims that we can *counter* natural selection with the principle of solidarity¹⁰⁸⁸. As a result, “... the physically challenged are not necessarily *cast aside* as they would be if only genetic selection were operative.¹⁰⁸⁹” She believes that we have replaced biological with cultural evolution, where we can prioritise a desire for all life forms to share the basic good of the planet. This, “solidarity of each with all” is, she believes, counter to the workings of natural selection or the survival of the fittest¹⁰⁹⁰. Because she is ambivalent about death, she wrestles with the possibilities for justice in a world of natural selection¹⁰⁹¹, which leads as she sees it to the *natural evil* of death and suffering.

We need to correct the idea that anything can *counter* natural selection. It will always occur.

Solidarity is a practice which natural selection “judges” according to its biological consequences, it is not something which can operate “against” natural selection. Clark has explained how individuals who practiced reciprocal solidarity with others in their small group were selected for during the ice ages in our recent history¹⁰⁹².

The contrasting of solidarity with survival of the fittest also reflects a common misunderstanding of that unfortunate term¹⁰⁹³. The “fittest” are not to be contrasted with the “weakest”, like the physically challenged McFague mentions. The “fittest” are those who best fit their environment, measured by the extent to which they survive to breed, and/or care for offspring who share their genes. The unit of selection is not even so much the individual as their genes. Genetic selection does not “cast aside” the physically challenged, but if there is a genetic basis for their condition, and if it is severe enough to prevent any carriers of the gene from breeding, and from caring for others who are otherwise closely

¹⁰⁸⁵ Rogers, "Evolution," p. 63.

¹⁰⁸⁶ Birch, *Biology and the Riddle of Life*, p. 87. This concludes a lengthy section on the issue, which started on page 78.

¹⁰⁸⁷ Ibid, p. 80.

¹⁰⁸⁸ McFague, *The Body of God: An Ecological Theology*, p. 171.

¹⁰⁸⁹ Ibid.

¹⁰⁹⁰ Ibid, p. 172.

¹⁰⁹¹ Ibid, pp. 170ff.

¹⁰⁹² Clark, *In Search of Human Nature*, pp. 107-25.

¹⁰⁹³ Frans Roes, *I Had the Future Exactly Wrong. Interview with Robert Trivers* [internet] (1995 [accessed 1 July 2004]), available from <http://www.froes.dds.nl/TRIVERS.htm>. Segundo is another Christian theologian who, in an extended discussion of natural selection and evolution, gets the concepts and its implications almost completely wrong, concluding, “... what relation could the human search for meaning and the Kingdom of God preached by Jesus have with a universe which, in the struggle to the death, selects ‘the fittest’ to survive?” (Juan Luis Segundo and John Drury, *An Evolutionary Approach to Jesus of Nazareth*, ed. Juan Luis Segundo, *Jesus of Nazareth, Yesterday and Today*; V. 5 (Maryknoll, N.Y.: Orbis Books, 1988), pp. 50-61.)

genetically related, then selection will tend not to favour the ongoing survival of the genes that code for it.

In claiming that Christianity is counter cultural when it promotes the inclusion of the excluded and weak, we need to remember that McFague is writing primarily against western industrial cultures. Such cultures do indeed marginalise and cast aside, *and* they could afford not to. It has been shown, however, that in other less technological cultures, with smaller numbers, where people know each other, there is a strong tendency to care for the injured to a point. This predates *H. sapiens* - it is known that Neanderthals took care of their sick and injured¹⁰⁹⁴, as do other primates. Indeed, many social vertebrates tend to do so, within their means. Elephants, for example, have strong social bonds and display high levels of altruism¹⁰⁹⁵. There are limits, even in human societies, and the limit generally appears to be about survival. Infanticide, for example, was necessary for survival in Australian nomadic communities in times of scarcity¹⁰⁹⁶, as mothers adjust their maternal effort to their circumstances¹⁰⁹⁷.

Is that, we might ask, really an evil? Are individuals in such circumstances really called to lay down their life in the place of the frail elderly, or the infant? Is it really unfair that some are left to die, if all have an equal chance of being that somebody? The more death affirming ecofeminists like Radford Ruether might say no.

Ruether embraces death and pain and suffering; but rejects their unequal and therefore unjust distribution. It is not that people die that is evil, but that some people, in trying to deny their finitude, construct systems of domination and distortion¹⁰⁹⁸ which make others suffer and die more quickly than they ought,

“Sexism and *all forms of exploitative domination* are thus not parts of the image of God, but forms of sin.¹⁰⁹⁹”

This is a compelling vision of human communities. If the image of God is confined to *H. sapiens*, this statement may provide a practical ethical starting point. It calls people to share resources so that all have an equal chance at a fulfilled life, even though that life will involve pain, and one day come to an end. But if the image of God is *life*, and humans are part of the evolutionary process, we seem to face a major dilemma.

For a central claim, if not *the* central claim, of evolutionary biology is that it is the *unequal* distribution of resources, the *shortage* of resources, and the differential successes of organisms in exploiting them, that makes some individuals more likely to survive, and thus fuels natural selection. Only by claiming that human biological evolution has stopped can we claim that the unequal sharing of resources is fundamentally evil, and then only for humans. Only an ecology divorced from evolution can imagine that a good world is one in which all creatures have enough. Yet even then we would need to acknowledge that exploitation is an essential part of ecology, and a major component of many ecological relationships. Life forms use life forms. Parasitism is a major life strategy. Every organism relies on, and often precipitates, the pain, death and even suffering of others in order to survive.

¹⁰⁹⁴ Zimmer, *Evolution*, p. 300.; Sarah Hrdy, *The Past, the Present, and Future of the Human Family* [internet] (2001 [accessed 6 October 2004]), available from http://www.tannerlectures.utah.edu/lectures/Hrdy_02.pdf.

¹⁰⁹⁵ Caroline Moseley, *Numbers: Not the Whole Story* (1999), available from <http://www.princeton.edu/pr/pwb/99/0329/elephants.htm>.

¹⁰⁹⁶ Anonymous, *Aboriginal Culture for Health Workers. Episode 33*. [internet] (c2004 [accessed 6 October 2004]), available from <http://www.medicineau.net.au/AbHealth/33.HTM>.

¹⁰⁹⁷ Hrdy, *The Past, the Present, and Future of the Human Family*. Hrdy points out that the more support the mother has from others in her group, the less likely abandonment will be.

¹⁰⁹⁸ Ruether, "Ecofeminism: The Challenge to Theology," pp. 105-06.

¹⁰⁹⁹ Ruether, "The Future of Theology," p. 251.

What we might affirm is that evolution proceeds, and thus ultimately God's richness of experience is enriched, when *all* organisms are subject to exploitation (use by others). Many organisms use technology to attempt to maximize their resource exploitation and minimize their chances of being exploited¹¹⁰⁰, but most of these technologies have very limited effectiveness. Some humans, however, have managed through technology to greatly increase their exploitative potential, whilst insulating themselves from being exploited, including delaying their deaths through various technologies. Even when they do die, some hide deep in the ground in coffins, thus denying the soil microbes, and thus the trees and animals, access to their bodily resources for decades, or even permanently. Cremation is even worse - destroying many useful organic materials and consuming vast amounts of energy¹¹⁰¹. An expression of sin, then, might be the removing of the self from the cycle of exploitation on which life, and thus God, depends.

As for domination, ecologists often talk of dominant species, those whose activity in a particular ecosystem has a major impact on other species, larger than their numbers would lead us to predict. On ecological time scales, such species sometimes sow the seeds of their own destruction, by manipulating their environment to the extent that they are no longer suited to it. On evolutionary time scales, the demise of dominators is often due to external factors. So again, a rich image of God, over a long enough time scale, requires domination, but also requires the dominance of any one species to be ephemeral. Sin, then, may be use of technology to block this ephemerality.

So Radford Ruether says that individuals must embrace their finitude, and justice is achieved when we share equally in that experience. Since finitude often results from the actions of others, I am proposing that justice is an *equal sharing* in the experience of being exploited and dominated, rather than escaping the experience altogether. This does not mean that we expect people to have an exploitative and dominating *attitude*. Rather, natural selection will "choose" between individuals and communities based on the extent to which their attitudes lead them to effectively exploit and dominate the resources around them. Some communities will choose to care for their sick and old, others will not. Some will be highly individualistic, others very communal. None of these strategies oppose natural selection, all will be "evaluated" by natural selection, according to which aid the survival of the community in their environment, and ability to respond to changes in that environment as they occur.

Yet we know that evolution proceeds in a somewhat punctuated way. It is during times of massive environmental flux, especially when populations are isolated from each other, that the most rapid evolution occurs. Here technology creates a paradox. On the one hand, the use of human technologies produced massive changes in ecological conditions. On the other hand human technology allows those who possess it to survive these same changes, at least for several generations. Technology buffers actions from consequences. Secondly, while technology allows humans to travel the globe and thus reduces cultural and biological isolation, there is an increasing gap between those who have and do not have access to technology, which effectively produces class based, rather than geography based isolation¹¹⁰².

Of the many things I could attempt to engage with at this point, I want to highlight the heterogeneity within the species *Homo sapiens*, based not on genetics, but access to technology. This leads to a biocentric ethic which fits within, rather than standing against, our evolutionary heritage, and which avoids the widespread slide from biocentric theology to anthropocentric ethics.

¹¹⁰⁰ For example apes use sticks to remove termites from mounds, thus increasing their ability to exploit the termites. Many creatures construct nests and even stone shelters to reduce their chances of being exploited by others for food.

¹¹⁰¹ When I did my postgraduate diploma in environmental studies one of the masters students was measuring the relative environmental impact of different methods of human body disposal. She told me that cremation was easily the worst, and shallow burial, naked or in cotton clothes easily the best. If you choose the latter, it is worth including a non-biodegradable note with which to allay the concerns of police.

¹¹⁰² Reproductive isolation is a major catalyst for speciation. Overlaid on this is the relative freedom of cultural ideas and behaviours from genetics, and the rapid evolution of these elements (popularly referred to as memes) across biologically stable human populations.

10.6 Jesus' ethic: "human versus creation" to "rich versus poor"

In order to ground ecotheology in a central message of Christ, McFague attempts to reimagine nature as the new poor¹¹⁰³. She also points out that the human species contains within it both rich and poor people¹¹⁰⁴. Despite this, she maintains a clear distinction between the human and non-human poor, so her ethic remains determinedly anthropocentric¹¹⁰⁵ despite her claims to the contrary. She criticises deep ecologists for claiming that humans are but one species amongst many, and is emphatic that, "... *our own species* must be first in consideration and importance (emphasis mine).¹¹⁰⁶" She goes on to contrast the plight of a starving human child with starving animals, and argues that unless we uphold the needs of the child we are widening the gulf between social and environmental activism¹¹⁰⁷.

Ecologically, it is not simply membership of *Homo sapiens* which dictates one's impact on the systems of Earth. It is not differences amongst humans in their genetic makeup which determines their ecological relationships, but differences in their access to and use of technology. It is technology which allows some humans to be such effective dominators and exploiters, and escape the consequences in the short term. History suggests that few human civilisations persist for more than a few hundred years once they develop technology¹¹⁰⁸, and that their neighbours which are put in range by that technology persist for even less time¹¹⁰⁹.

It is not the extinction of *H. sapiens*, then, which is actually the most ecologically significant event in the future, it is the removal of the technology which enables some to be so resource rich. At this point in our evolutionary story, this category includes *only* humans but it does not include *all* humans.

Not all humans are technologically or ecologically equal. The agencies of the Uniting Church which deal with humans have repeatedly called attention to, and sought to redress, the widening gap between rich and poor, oppressive and oppressed, in Australia and the world¹¹¹⁰. Uniting Church ecotheology, however, speaks of humans as an all inclusive "we," and thus loses much of its prophetic potential. To lump an oppressed Indigenous population in with its oppressors, or landless peasants in the Philippines with Bill Gates, has no defensible basis now that we have rejected the ontological distinction between humans and other animals. When we combine the critique of wealth with the critique of anthropocentrism we are better placed to approach ethics biocentrically. Even if McFague is right, and Jesus had little direct concern for the plight of non humans¹¹¹¹, his teaching still has much to say to his followers today, given his preoccupation with critiquing wealth and power, and those who possess it. Rather than a simplistic call to all humans to better exercise their divinely appointed stewardship, the

¹¹⁰³ McFague, *The Body of God: An Ecological Theology*, chapter 6.

¹¹⁰⁴ Ibid, p. 4. Throughout the rest of the book she often fails to uphold this, however, often speaking of all humans as "we." (eg pp. 105, 108-110).

¹¹⁰⁵ Kwok Pui-Lan also criticises McFague on this point, and McFague's claim that Jesus has little to say directly about other creatures (Kwok Pui-Lan, "Response to Sallie McFague," in *Christianity and Ecology: Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000).).

¹¹⁰⁶ McFague, *The Body of God: An Ecological Theology*, pp. 116-17.

¹¹⁰⁷ Ibid, p. 117.

¹¹⁰⁸ Diamond provides a very useful, short summary of the ecological collapse of human societies (Diamond, *Ecological Collapses of Pre-Industrial Societies*.) The low technology Aboriginal nations in Australia survived in some form or other for tens of thousands of years.

¹¹⁰⁹ Ruether summarises the collapse of empires and those they conquered around the Mediterranean (Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing*, p. 173-87.). The rapid collapse of the Aboriginal nations in Australia is recent example.

¹¹¹⁰ This flows from the commitments of the first *Statement to the Nation* in 1977. A summary of many of the significant documents was collated by the then director of Assembly Social Responsibility and Justice, Robert Stringer, *Uniting Faith and Justice: A Bibliographic Essay* (1999 [accessed 30 November 2004]), available from <http://assembly.uca.org.au/unitingjustice/resources/other/UnitingFaithandJustice21years.doc> (relocated).

¹¹¹¹ Sallie McFague, "An Ecological Christology: Does Christianity Have It?," in *Christianity and Ecology: Seeking the Well-Being of Earth and Humans*, ed. Dieter T. Hessel and Rosemary Radford Ruether (Cambridge, Mass: Harvard Univ Pr, 2000), p. 35. This is a claim Kwok Pui-Lan, with some justification, rejects (Pui-Lan, "Response to Sallie McFague.")

rich among us are confronted with the challenge of Christ, who placed himself in solidarity with (as opposed to patronising benevolence towards) the poor.

Life as the image of God allows us to see the basic connection between landless peasants and the animals around them, suffering at the hands of the rich and powerful humans who exploit them. The false distinction between social justice and ecological justice disappears. We see that the main ecological dynamic on Earth at the moment is that between the resource rich and poor, the latter including most humans and most other animals¹¹¹².

A theology which seeks to enrich God's experience of life, then, is called to embrace the radical *humbling* of humanity, not its extinction. The eventual extinction of humans will not remove pain, suffering and death from the planet, any more than our appearance precipitated it. There is no pre-human Eden for the rest of life to return to after our passing. Biocentric theology hears the echo of the one who called his followers to humble themselves in order to participate in Life, who, according to the records we have, spoke more about the perils of hoarding resources than anything else.

But can it ever work? Let us suppose that despite all the unknowns about the ultimate impact of human mediated extinction, we decide, in the interests of furthering our own spiritual quest, to love God. We decide that to follow Jesus' ethic of wealth, interpreted for our day, is a good thing. Could whole societies ever actually follow the teaching of Jesus? I must confess to being sceptical that high technology societies could achieve this; based on the historical evidence of the relationship between technology and humans. Jesus' near obsession with the dangers of wealth gives Christians further cause to be sceptical. Is there, then, any context in which his ethics, or his vision *might* prevail?

10.7 Bioregional ethics- where might ethics “work”

Dutney points out that Jesus never said his ethic *would* prevail. Christians are not called to do what works, but to do what they do because of what God is like, because the reign of God has come near¹¹¹³. Luke tells us that Jesus called us to be merciful because that is what God is like¹¹¹⁴, not because we will be better off if we do. The call of Jesus was not to love our neighbour, but to love our enemy. This includes those who consciously and unnecessarily seek to harm, even kill us. It surely then extends to those who consciously seek our demise out of necessity, such as the lion. And even more so those who unconsciously assault us, from annoying mosquitos to deadly parasites and microbes. What does turning the other cheek mean in this context?

Jesus' ethics may have been impractical, but Walter Wink believes he also taught a practical way of resisting being treated unethically, a way of resisting exploitation. In turning the other cheek and going the extra mile Jesus was teaching us to confront and upstage those who exploit us¹¹¹⁵ with a minimum of violence and danger to ourselves. This could, very playfully, condone our swatting of mosquitos, using an open hand rather than a backhanded slap.

Is there any hope that communities which act graciously towards all life, whilst resisting the ungracious actions of others, could survive? Can Christian communities really exist?

It seems reasonable to think that Jesus' ethic might be most possible for those to whom it was addressed; small communities of technology poor, relatively communal humans surviving in a

¹¹¹² Well treated stock, for example, are relatively resource rich, as are most species whom humans consider vermin, such as rats and cockroaches, whose population levels have exploded commensurate with human populations.

¹¹¹³ Dutney, *Love Your Enemies*.

¹¹¹⁴ Luke 6:36, “Be merciful, just as your Father is merciful.”

¹¹¹⁵ Ched Myers, *Who Will Roll Away the Stone? Discipleship Questions for First World Christians* (Maryknoll, New York: Orbis, 1995).; Walter Wink, *Naming the Powers : The Language of Power in the New Testament*, ed. Walter Wink, *The Powers ; V. 1* (Philadelphia: Fortress Press, 1984). His *Powers* trilogy is slightly reworked and summarised in Walter Wink, *Jesus and Nonviolence: A Third Way, Facets* (Minneapolis: Fortress, 2003).

challenging environment. That environment could be an exploitative high technology society, or “wilderness.” Jesus’ ethic is in a sense a call to those small communities to return in some way to the practices of the pre-technological communities from which we evolved. A call to attempt to re-enact those small Pleistocene-like communities in which all shared equally in the likelihood of joy and pain, birth and death. In other words, Jesus might be calling his followers back to embrace the pattern and ethic which comes directly out of, rather than opposing, human evolution. Might this be the best, even the only, context in which his ethics “work”? They certainly seem to have had little effect in large high technology societies¹¹¹⁶.

This may be because it is impossible to actually *have* an ethical system where one’s actions are divorced from the consequences, and this is exactly what technology achieves, at least over the time scale of human generations. The smaller and lower technology a group, the less divorced the individuals are from the consequences of their actions, both socially and ecologically. Dutney’s claims that Jesus calls us to imitate God, rather than do what is practical, must be tempered by Jesus’ repeated assurance that there were consequences for our actions. How hard it is for the rich to enter the kingdom of heaven! We are to renounce earthly wealth to gain heavenly wealth¹¹¹⁷.

The biological material through which our ethical systems emerged (primarily our brains), evolved within small groups of socially organised animals. Our ethical systems gained complexity as our brains did. Reciprocal altruism appears to be the genetic basis by which ethical and proto-ethical organisms survived. We might expect, then, that social constructions in which reciprocal altruism, consciously pursued or not, is possible, are likely to enhance the pursuit of ethics. In other words, we need small, relatively stable communities whose technology does not allow them to exploit the resources of others without having to engage socially with them. It may be possible to set up such communities within existing, high tech societies, though it would come at considerable cost. The early Christian communities discovered this¹¹¹⁸, as have the many Christian intentional communities which have come and gone since. It would appear, however, to be a minimal requirement for any ethic if it wants to escape the need to constantly cut across the very valuable moral mores we have evolved over the millennia. The choice appears to be between being immoral (even if only because we are caught up in an immoral system), or being poor.

So an ethic which minimises its discord with our evolutionary past requires a movement towards localised living, where cause and effect are joined, learning to live in such a way whilst knowing that most people will not. Such groups will not simply be left alone by the more technological system in which they are immersed. There will inevitably be a constant systematic tendency for the surrounding society to remove resources from the smaller group. What, then, to do?

One possibility is to accept the situation, to embrace social poverty and even biological death as the precondition for eternal life (either now or post-mortem). Such communities would, by definition, be short lived unless they could evangelise others to their cause. But evangelism requires contact with others...

¹¹¹⁶ I write this in the last days before the 2004 American election, where high profile Christian leaders like Jerry Falwell saying, “I’m for the president to chase [terrorists] all over the world. If it takes 10 years, blow them all away in the name of the Lord.” (<http://www.sojo.net>)

¹¹¹⁷ There is an enormous literature about whether this reward was seen by Jesus to be a post-mortem reward, or participation in a present reality, renouncing a wealthy life to find real life. All we need accept is that there were consequences of the decision to imitate God or not. There is also the doctrine of grace, which contends the opposite, that God treats us not as we deserve, not as consequences would predict, but as God freely decides to. The tension between grace and justice/consequences fills Christian literature. In a biocentric theology with no hope for a post mortem life, eternal life must be something available now. Grace sounds somewhat like contingency, though the latter can have negative as well as positive surprises.

¹¹¹⁸ Schweitzer points out that the Jerusalem church, whose rich members apparently sold what they had to share with their poor members, soon went broke and had to beg money from the churches which Paul, with his economic pragmatism, founded (Schweitzer, *A Place for Revelation*, p. 61.)

Some therefore seek to share resources with other like minded groups, to build a power base with which to resist exploitation whilst proclaiming their message. But as such power is acquired, and the groups become resource rich, they become both more desirable targets for exploitation, and more like the societies they are trying to resist.

One could attempt to render the surrounding system's technology impotent, forcing its members to be accountable. Thus the various projects for revolution which at their best seek to impose democracy on technologically hierarchical societies. Again, such actions usually require significant technology to be effective, and thus rarely if ever achieve their ideals.

Accepting that there is little hope of prevailing in any way in direct confrontation against technological systems, others attempt to create geographic barriers that minimise the system's ability to exploit the group. Various movements in Australia have attempted this since the founding of the colonies. Increasingly, however, this is only possible for those who have profited enough from the system to be able to purchase land at its current inflated prices. Australia has a lot of very remote land, but all of it is claimed by somebody, and the inland areas only ever supported small, nomadic populations. Most eco-communities desire to be settled on arable land, which requires reasonable proximity to the coast. Sprawling suburbs eventually force up land prices and rates to the point where small communities of cash poor subsistence dwellers are forced out¹¹¹⁹.

Escape, defence, parasitism. Ecology has a lot to teach us about the wheres and hows of communal living, from how to grow food to where to locate ourselves when we try to do so. Is there any hope that these small ecological communities will again become typical of human existence, rather than rare exceptions? That their somewhat apocalyptic lifestyles will become mainstream? That the rich will escape or renounce the dis-ease of wealth and the technology they use to get it?

Many seem to think so. Ecotheology is replete with calls to humanity to use our technology for good, to help us walk lightly on the Earth and share, rather than hoard, resources. I must confess to being more sceptical, and I believe this to be an area where the scientific stories of life and Jesus' teaching are fully consonant. I want to emphasise that it is the *possession* of technology, not something inherent in the people who possess it, which is the problem. There are no "bad" and "good" people. Humans with technology can be thought of as being infected with some sort of virus, and those without it are largely those not yet exposed to it, while a minority are those who have successfully developed immunity.

Technology's closest biological parallel is a parasite: it needs a host to reproduce and function¹¹²⁰. It manipulates its host's behaviour to enhance its prospects of reproduction. It mutates rapidly and therefore keeps its host constantly vulnerable to new infections (witness the rapid uptake of flat screen televisions and DVDs, and the endless purchase of new mobile phones to replace perfectly adequate ones). It is partly symbiotic, in that it confers some advantages to its host: high technology humans live longer than low technology humans, and their offspring are likely to survive longer too. Yet, since its method of reproduction differs from its host, in other ways it reduces its host's reproductive potential¹¹²¹. High income, high technology families have less children. Resources which might have been put into successful reproduction by the host are diverted into reproduction of the parasite. Dawkins also points out that the earlier the parasite enters the host, the more effectively it can manipulate its developmental behaviour¹¹²². It brings to mind a past Adbusters campaign, in which we

¹¹¹⁹ In Australia, Grassroots magazine often contains stories of those struggling to make ends meet after moving to their "self sufficient" block of land. This problem has been long acknowledged, both in Australia (Mary Moody, *The Good Life* (Sydney: Lansdowne, 1983), pp. 12-14.) and abroad (John Seymour, *The Self-Sufficient Life and How to Live It*, 2nd ed. (New York: DK, 2003), pp. 290-93.).

¹¹²⁰ There is much speculation, of course, that technology will eventually become self replicating and therefore more like a bacteria, independent of any human host.

¹¹²¹ Dawkins, *The Extended Phenotype*, p. 224.

¹¹²² Ibid.

gaze over the shoulder of a young child, who sits mesmerized in front of a television set. On the back of his neck we see a barcode, and beneath the photo is the by-line, "The product is you."

Bar codes were consistently linked to the number of the beast, which preoccupied those in the Pentecostal church I attended as a new convert, and the many guest speakers who came to warn us of the coming apocalypse. Instead of humans possessing technology, perhaps we should think instead of certain humans being possessed *by* technology. The rich, then, are not evil, but victims. They are possessed by the Enemy. Christian tradition has long and often spoken of Jesus as the one who came to save those who were possessed. Dare we imagine that it is the rich, not all humans, who need to be saved in the primary, or direct sense?¹¹²³ Jesus came to set them free from their possession, a possession he successfully resisted in the wilderness. When our finitude presses in on us, technology comes as the Tempter, promising us that we will be able to provide for all our needs, that we will be capable of great feats without paying the consequences, that we can rule the world, if only we give ourselves over to it. Most if not all of us who have faced the temptation have failed.

So, Jesus comes in the first instance to liberate these captives, the possessed. Only in a secondary sense do the poor need to be saved - saved from the unnecessary harm inflicted on them by the possessed, who are able to break every chain used to bind them. Yet both rich and poor participate in their salvation. The rich must renounce their possession and fill their lives with relationships, so as to leave no room for repossession. The poor participate in their salvation through resistance. Through asserting their equality by turning the other cheek.

For technology is not immortal or unassailable. It too is subject to "natural" selection. Some hosts seem to develop a level of immunity and resist reinfection. If they group together this enhances their level of immunity. Pieces of technology also require resources for survival which their host does not: oil, silicone, plastics and metals. Like most organisms, as technologies multiply they diminish the resources on which they depend for survival, especially since their hosts practice little recycling and thus the "dead" cannot be broken down and reused. Some resources are by definition unrecyclable, like oil. It is far from clear that there is an alternative energy source sufficient to allow technology to spread over the whole globe, or even persist at current levels in existing populations. The wars amongst its hosts which are beginning to occur to secure the survival of technology (think oil rich Kuwait and Iraq, and even East Timor) may paradoxically, by greatly diminishing the number of hosts, and by engaging technology in competition with itself, significantly reduce the amount of technology in the future. Through war and the undermining of their resources, large technological societies repeatedly sow the seeds of their own destruction, creating a breathing space for those who have retained the memory needed to survive off the land in low tech ways, and managed to remain isolated from the conflict.

This is one apocalyptic vision we have often been presented with - a post World War III Earth in which small groups of humans eke out a living with a greatly diminished technological capacity. Whether the post apocalyptic generation would be any better at using technology differently is doubtful, and the whole cycle may repeat itself a few hundred or thousand years hence until Earth witnesses another externally driven extinction event, such as an asteroid strike.

Or perhaps, now that we are so populous and travel so quickly, we will encounter a microbial pathogen which causes a massive population crash because we are unable to find a cure. Unlike wars and asteroids, this would greatly reduce human numbers without the associated devastation of the ecosystems around us, and would surely be the preferred option for any other species able to reflect on it, not to mention the God who values all of these species.

¹¹²³ Although we cannot know how ironic he was being, Jesus is often quoted as saying that his ministry had a limited scope, to the lost (Luke 19:10), and to those who are sick (Matthew 9:12; Mark 2:17; Luke 5:31-32).

One thing is certain, human population growth will not continue at the present rate for long, and it will almost certainly be curtailed spectacularly. There is little short term hope that we will avoid this fate. In the long term, of course, our passing is inevitable. Biocentric theology has no hope for humanity, and does not *need* one, at least not a hope of prevailing. Although fears of a present apocalypse obsess us at times¹¹²⁴ and we fill books in the attempt to avoid it, the whole Earth will experience a final, inevitable apocalypse four billion years from now. We will not prevail.

Fortunately, Jesus does not *call* us to prevail. The motivation for forming small communities of technology resistant humans should not be to prevail. Hope of prevailing is the desire to create a system which works, which is victorious, but Jesus has called us to do what is right, not what works. He calls us to embrace death in order to enjoy life while we have it. True hope exists in the fact that our evolutionary origins bequeath us the desire for intimacy and autonomy, a quest for meaning in which we can continue to love and be loved, to apprehend God and life even as it crumbles around us. A hope that the image of God, both as likeness and as relationship, continues around us, and after us, and will be resurrected after we are gone, whether our exit is induced by rich humans or external factors. A hope that, in the meantime, our actions might preserve some of this image, both for the future and for ourselves now, and most especially for the God who called the whole glorious mess into being in the first place.

Here, then, is a brief recapitulation of a sketch of an ethic which Christian biocentric communities might use to live out their hope.

10.8 A Biocentric ethic – a brief sketch

- It would not be a conservation ethic, since we know that life is not static. What has been, and what is now, is not what should be.
- It would be an evolutionary ethic, but *not* an ‘improvement’ ethic. There is no anthropotelism or consciousness-telism. What will exist is not better than what has existed.
- Though consciousness is not the end point or goal of life, it is nonetheless significant. When decisions about the treatment of persons need to be made, their level of consciousness will be a factor, though not always the controlling one. Likewise for judgments about a person’s moral responsibilities, which depends not on their species, but their capacity.
- Rather than seeing their ethical vision as a battle against their evolutionary past, it would look to clues from this past in understanding where, why and how their vision might be enhanced.
- It would seek to promote God’s richness of experience, primarily through promoting rich relationships amongst its members and all life. The good life is the life which enriches the experience of God, both experience *through* life forms and experience *of* them and their relationships. Though no life form is sacred and irreplaceable, all are valuable.
- It would appreciate that these relationships come and go, as all of life is in a state of flux. It would need to rethink how the relationships of community members, including sexual relationships and marriages, fit into that.
- Since all of life is the image of God, and a lens through which we encounter God, then Schweitzer’s reverence for life will provide a fruitful source of reflection, though his horror at the process of natural selection¹¹²⁵ and death would need to be addressed.
- It would accept that the world in which it lives is neither benign nor malevolent, and that its survival relies on the exploitation of life around it, and resisting being exploited to some extent.
- It would see human “disability” as diversity of experience, making the people with disabilities at least potentially more valuable to God than the multitudes of able bodied and minded people with their relatively more homogenous experience.

¹¹²⁴ Catherine Keller, *New Forward to Apocalypse Now and Then* (unpublished manuscript: 2004), p. 1. Keller’s forward, partly in response to email discussion we had, makes the point that although there is an inevitable apocalypse in the very far future, most of us are concerned to address the more immediate threat of a human initiated one.

¹¹²⁵ Schweitzer, *A Place for Revelation*, pp. 15-18.

10.9 Summary

My thesis is that there is no ontological discontinuity between human beings and the rest of life on Earth. Further, the goal of evolution is not the production of *Homo sapiens*, or even of conscious life. Indeed, there is no scientifically discernable goal in evolution; it is a process without meaningful trends even though, necessarily, there is an overall increase in complexity¹¹²⁶.

Christian theology, then, must speculate on why God created the world in the context of this negative conclusion from science about evolution's teleology. The traditional belief, that God desired something to love, is consonant with, though not derivable from, the scientific data. Process theology says that God created the universe to have rich experiences, but this must be separated from its very consciousness-telic understanding of life. Every part of the diverse expressions of life on Earth, past present and future, add to God's richness of experience, primarily though enhancing the richness of relationships amongst organisms, and between organisms and God, since God relates directly *to* and *through* all life, and has experiences *of* all life¹¹²⁷.

God's mission, then, was simply creation. It is to relate to and through creation. Biocentric theology affirms God as creator, but rejects those paradigms which claim that God somehow directed the course of biological evolution, or even the development of the universe. God wanted life, not any particular form of life. God has no particular career goals for the kids.

On Earth, the image of life cannot be limited to *Homo sapiens*. Neither can it be sorted into some kind of hierarchy, mostly because of the theological objection to the divisions this would create within *Homo sapiens*. Outright rejection of any concept of the image of God has some merit, since God has not manipulated life on Earth. Yet that would imply that life has no relationship with God. So biocentric theology affirms that life is the image of God. Life as a pulsing, flowing whole. This is consonant with the elements of the science story which point us beyond boundaries: whether of species or even individuals.

The Christian claim that God is Trinity cannot be limited to the androcentric description of God as Father, Son and Holy Spirit. Even the anthropocentric addition of Mother is insufficient. Rather, biocentric theology affirms the underlying claims which Trinitarian theology makes about God; that God is beyond us, became one with us, and remains among and within us. The God who transcends us and exists apart from us is nonetheless in relationship with us - having become one of us and remaining amongst and even within us. Surprisingly, in biocentrism God becoming one of us means God becoming *human*, though God amongst us refers to all life.

From the theological claim that all life is the image of God flows the theological expectation that all life will exercise dominion on Earth. This makes good sense of the ecological data. This dominion is expressed, so science tells us, predominantly in competition for resources, either by individuals or by temporary cooperatives. This dominion includes the evolutionary past and the ecological present, it involves creating life and taking it. Scientifically, Earth is neither benign nor malevolent, and theologically we declare it all to be good. Also theologically, we conclude that all life participates in the mission of God: the enhancement of God's richness of experience, whether consciously or not.

If life is the image of God, exercising dominion for God, and participating in the mission of God, then it makes sense to speak of all life as part of the family of God. At a minimum, following Whitehead,

¹¹²⁶ Life must necessarily have been extraordinarily simple when it began, and therefore could only get more complex. The various reasons for this increase in complexity, such as the survival advantages of multicellularity and sexual reproduction, have already been discussed.

¹¹²⁷ I accept the point common to process theology and other philosophical systems which reject an ontological discontinuity between life and non-life, but have decided not to pursue this in this thesis. It is a sufficient challenge to argue that humans are in continuity with all life.

this family of persons includes all creatures with some consciousness. Given the image of God I am proposing, personhood cannot be limited to individual consciousness. A person is someone that has relationships, and all life has a relationship with God and with other life. There is no more need to rank people than there was to rank the image of God. Indeed, it would have the same theological peril.

Jesus of Nazareth comes to us through the Christian tradition as another image of God, often seen to be a unique image of God amongst humans. Or perhaps a unique image of the God-human. Paradoxically, the more ecotheologians try to affirm the rest of life on Earth by giving the incarnation in Jesus cosmic or Earthly significance, the less biocentric they become, often implying that there is something fundamentally wrong with life on Earth that needs to be redeemed or rescued.

The biocentric theology I am proposing, instead affirms death and pain and suffering as good parts of creation, not evidence of its fallenness. Jesus therefore has no direct role in life beyond humanity - there is nothing there to save¹¹²⁸. Jesus' mission was to enhance God's richness of experience of Earth. To promote life. We hear strong echoes of this in the gospels, the Christ who came that we might have life, and have it in abundance. Yet we do not hear Jesus telling us to escape death, rather he calls us to embrace it in order to live. It may be that his mission is to save those who have succumbed to an overwhelming fear of death, who through trying to save their lives are actually already dead. He especially seems to have targeted those who try to buffer themselves from finitude through their wealth, arguing that nobody can follow him unless they give away all they have. Free from wealth, from technology, they are then reengaged with life, and thus the image of God and indeed God. The biophilia hypothesis suggests that this depth of relationship and the psychological health it brings is only available to those who engage with the Wild Other. Jesus, then, came to save humans back *into* creation, not *out of* it or even *with* it. We are not called to save Earth through being good stewards, but, if anything, by returning to being plain members of the Earth community.

Having helped us embrace our biological death, has the incarnation also somehow won us a non biological life afterwards? Is there a heaven? While there is nothing in biocentric theology which definitely excludes this, I have not come across any vision of this heaven which makes sense. It is hard to see how, should we enter into a non-biological existence, we could remain in any way recognisably ourselves. Perhaps there is an afterlife where we somehow exist in the memory of God, but this is a very different image from the personal resurrection traditionally envisaged in Christianity, and especially from the bodily resurrection apparently expected in the biblical witnesses. It would also be a completely deterministic afterlife, where our every action was determined by God's imagination. Finally, it is difficult to see how we could remain ourselves divorced from the finitude which so shapes who we are and what we do.

If there was no bodily resurrection, no life after death, then what do we make of The Resurrection - that central Christian symbol? If it is not meant literally¹¹²⁹, as many theologians have claimed¹¹³⁰, what does it mean biocentrically? To me it carries strong parallels to the evolutionary process, if we take a God's eye perspective. Following the death of species comes the resurrection of new ones. These species are somewhat continuous with the old (for they are genetically related) but are nevertheless something altogether new. Not all evolution has this resurrection quality, but at the level of punctuations, and especially mass extinctions, we see life "dying" only to be raised again in new forms. Hope for a species, even the human species, is not for the sort of eternal life won through invincibility but through resurrection.

Here we begin to come full circle. I pointed out previously that the *Basis of Union* also talks about the Kingdom of God, the final eschatological event, as something which belongs to this world, rather than

¹¹²⁸ Unless, of course, they have come to fear death to the extent that it is preventing them participating in life. But then we would expect that they would experience an incarnation of God appropriate to them, which certainly would not be Jesus.

¹¹²⁹ It *could* be literal in biocentric thinking, but the challenge is to work out what it would mean if it isn't.

¹¹³⁰ Reviewed, for example, in Peter Carnley, *The Structure of Resurrection Belief* (Oxford, [Oxfordshire]: Clarendon Press, 1993).

some new heavenly existence. Resurrection is mentioned only once, and that is *Jesus*' resurrection. For everything else the *Basis* anticipated consummation. How much consonance is there between the *Basis* and the biocentric theology I am proposing? Of course the *Basis* is not actually biocentric, but we notice some interesting trajectories when we re-read it through a biocentric lens. I have argued that biocentric Christianity is consonant with science without being derivable from it. Has it remained consonant with the *Basis*, without claiming to be derived from it? Is the pursuit of a biocentric faith a valid preoccupation for a minister of the Uniting Church, or are they at such cross purposes that one or the other must be abandoned?

10.10 Reading the *Basis of Union* biocentrically

In the first section, the *Basis* talks of God's desire for salvation for all people. I have argued that this salvation is primarily salvation from the chronic fear of finitude which prevents us entering into the abundant life which God desires for all people. I have speculated that this life denying fear is confined to *Homo sapiens*, and not even to all of us. This fear leads some humans to inflict harm on others, who are then saved in a secondary sense, by being relieved of this harm through the transformation of those who are overwhelmed by fear. At the end of section one the *Basis* declares that the church

“... awaits with hope the day of the Lord Jesus Christ on which it will be clear that the kingdom of this world *has become* the kingdom of our Lord and of the Christ, who shall reign for ever and ever.”

This reiterates the very this-worldly emphasis of the *Basis* which I highlighted in chapter 6.2, and of the biocentric theology I am proposing. This-worldly salvation is primarily directed at the rich, possessed by technology, and only secondarily to the poor persons who suffer as a result. It is a salvation which returns all persons to the finitude filled cycles of exploitation and domination.

In section two the Uniting Church is located within the unity of the whole Church, and it commits itself to recognising unity amidst great diversity. Hear the ecological echoes. We know ecologically that unity is not found in uniformity, but enormous diversity, connected by a common (genetic) inheritance. So, when the Uniting Church commits itself to transcending cultural, economic, national and racial boundaries, biocentric thought sees a trajectory which eventually transcends the species boundary itself, locating Uniting Church members not just within the unified diversity of the Church, but of life itself. While the *Basis* strives for union, biocentric thought acknowledges that it already exists.

In section three the *Basis* reflects on the person and work of Christ, claiming that he was given by God to take away the world's sin. Since we have rejected the traditional views of the Fall, what do we make of the “world's sin,” and it being taken away? Firstly, God loving and Jesus taking away the sin of the “world” is a synonym for humanity in the relevant biblical witnesses, rather than literally meaning all creation¹¹³¹, and this is probably the sense in which the *Basis* intends it. This would reflect the reforming and evangelical traditions, which emphasise the more existential experience of sin: the sense of incompleteness, discord and broken relationships which are seen to demonstrate the separation of humans from God and thus each other.

Adding our biocentric reflections, Jesus may be thought of as coming to take away the sense of discord amongst humans, which results from being overwhelmed by the fear of finitude and death. Jesus, then, offers atonement for those humans who need it. Through the exorcism of technology/fear of death comes at-one-ment with life and the God of life. The barrier to atonement is not God's rejection of a relationship with the human because of their sinfulness, but the human's fearful rejection of God's life. This is quite different from traditional ideas of, for example, propitiatory or substitutionary atonement.

¹¹³¹ Predominantly in the gospel and epistles attributed to John.

Nevertheless, since the *Basis* deliberately withholds from speculating on the way in which atonement works¹¹³², this biocentric atonement is not at odds with the *Basis*.

The *Basis* goes on to say that salvation results from the trust in God as Father which comes through the work of the Spirit, given to all people. The salvation Jesus brings is, we are told, the work of God alone. How humbling. We have no role in salvation. Compared to this, the realisation that we have not been entrusted to control the ecosystems of the planet as stewards or servants is a minor disappointment.

When the *Basis* says that the Spirit was given to all people, biocentric thinking assumes that this encompasses much more than human beings. Here again we extend something hinted at in the *Basis* itself, for it goes on to call Jesus both Lord of the Church and head over *all things* - the beginning of a new creation and a new humanity. By mentioning both *separately* it displays its anthropocentric paradigm¹¹³³, but by mentioning *both*, it nonetheless links the two.

So what is the Church? A Church, *Ecclesia* in Greek, is literally a gathering, often with a sense of being called. The *Basis* says that Church is the “[community] of the Holy Spirit.” Christian tradition, even anthropocentric versions, also acknowledges that the Holy Spirit has a relationship with all creation. God is in communion with all of life, so life is the community of the Holy Spirit. The Church is the community of the Holy Spirit. Life is the community of the Holy Spirit. Life is the Church, the Earth Church, the gathering called by God to relationship with God. Within the Earth Church *Homo sapiens* makes up a recent denomination, admittedly with many sub denominations within it. Humans are the Baptists of the Earth Church¹¹³⁴.

We are now well beyond the boundaries imagined by the authors of the *Basis*, but still I believe on a tangent which can legitimately be read in their text. Let us continue to read the *Basis* for a moment as members of the Earth Church.

Section three goes on to tell us of the, “...coming reconciliation and renewal which is the end in view for the whole creation.” By end it means not just purpose, but end-point, since the paragraph goes on to talk about a *final consummation*. But in a world not fallen into sin or corruption, what does reconciliation mean, or renewal? It cannot mean renewal to a pre-human Eden where there is no pain or death. Here again the idea that Jesus came to save humans back *into* creation, back into their acceptance of finitude and especially death, sheds some light.

To the extent that humans accept their finitude and escape the control of fear, they are reconciled to their place in creation. We would imagine that should this occur, the short term result would be a dramatic reduction in resource consumption, land clearance and the like, which would allow for a renewal of the ecosystems around us, and the diversity of life they contain.

Thus the human Church, which is,

“... a fellowship of reconciliation [returning humans to their proper place in life], a body within which the diverse gifts of its members are used for the building up of the whole, an instrument through which Christ may work and bear witness to himself...”

¹¹³² Even the chair of EMU in Victoria admits that the *Basis* does not enter into detail on this point, though he clearly wishes it did (Walter Abetz and Katherine Abetz, "Substitutionary Atonement," in *Swimming between the Flags*, ed. Walter Abetz and Katherine Abetz (Bendigo: Middle Earth Press, 2002), p. 47.)

¹¹³³ It also reveals its ecclesiocentrism when it states that only people in the *Church* have been given the Holy Spirit.

¹¹³⁴ The same connection can be made by linking the human church as the body of Christ (sections three and seven) to the Earth as the Body of God, a line pursued so influentially by Sallie McFague, though I have not emphasised it particularly in this thesis. A hint of this is found in the Commission on Faith and Order, which in 1985 described the church as, “... an opening into the vast ‘living body’ of God’s creation as a whole, altogether destined for liberation and rebirth.” (cited in Dutney, "Creation and the Church," p. 54.)

is but a component of the Earth Church, which was created,

“To be a community¹¹³⁵ of reconciliation [open ecological relationships], a body within which the diverse [evolved] characteristics of its members result in the building up of the whole [pulse of life] which bears witness as the image of God.”

The description of the human Church as a community comprised of diverse members in relationship with each other is thoroughly ecological¹¹³⁶. This ecological metaphor is echoed in the description of the relationships between diverse gifts and ministries in section thirteen.

This ecological model is followed by a decided evolutionary one when the *Basis* calls the Church a *pilgrim people*, always on the way [evolving] toward a promised goal. There is no suggestion in the *Basis* that the human church of 1977 is any better than that of 1000, or even 30. There is no suggestion of the liberal doctrine of gradual improvement; so we can imagine an echo of the evolution of life, which has no teleology but to exist in relationship to God and enrich God's experience as it does so. When Christians claim to be on a pilgrimage, then, this does not alienate us from the rest of life, or relegate it to a backdrop on which our adventure occurs. Rather, it reminds us how much we are a part of life on Earth, as we saw suggested earlier in World Environment Day 2001¹¹³⁷

The second allusion to pilgrimage, which comes at the end of the *Basis*, sounds similarly evolutionary. It is the practical application of section 11, which acknowledged the need for theology to be free to mutate into fresh confessions of the Lord in response to new environments. Section seventeen therefore commits to mutating its laws in response to new environments, and section eighteen accepts the need for constant correction (evolution) as it continues toward the promised end. What is this end? We could consider it to be the time at which humans are reconciled to their finitude filled place in the world. Yet this is not guaranteed. Even if it did happen, life and evolution would not then stand still. Since the *Basis* believes that the end is *promised*, we might equate it with the end promised by the sciences, the consummation of life in the final, total death of the planet in approximately four billion years time.

The *Basis* reminds us of the serious duty of reading the scriptures, with the help of scholarly interpretation as outlined in section eleven. In this context, biocentric theology recognises not only the androcentrism and classism which scholars have identified in the biblical witnesses and their interpreters, but also anthropocentrism. Like feminism, it finds it possible to retrieve minority voices which critique the dominant ideology. It also accepts the need to add theological construction to this retrieval. The minority voices do not say all that needs to be said. The same approach must be taken to the creeds, which will need, as the *Basis* itself admits, to be reinterpreted in this new biocentric age. Likewise the Reformation Witnesses, who will need to be understood to have been addressing only the humans, with our need to be again and again reminded of grace, the centrality of Christ, and the need for constant appeal to the scriptures.

Finally, the sacraments. Baptism, which initiates us into the Christian pilgrimage, and the eucharist, which sustains us on the journey. As discussed in chapter 6.2.5, *Healing the Earth* proposed some novel ways of imagining the eucharistic nature of Earth, which would have far reaching implications for our theology and worship life if adopted. *Healing* claims that the elements of the eucharist are actually gifts of God for *all creation*, not just humans and far less the Christians gathered to drink and eat them. This has considerable consonance with the idea that humans are not the only persons. Biocentric theology, however, initially reverses the direction of gift giving in the eucharist. If all Earth

¹¹³⁵ “Community” has a less blokey feel than “fellowship.”

¹¹³⁶ Dutney recognised the appropriateness of the ecological metaphor for the church in the mid eighties (Dutney, *Manifesto for Renewal*, p. 140- footnote 7.) A decade later Granberg-Michaelson used ecology as a paradigm for ecumenical theology (Granberg-Michaelson, "Creation in Ecumenical Theology," p. 104.)

¹¹³⁷ Chapter 6.2.12.

is eucharist, then the eucharist is first a gift *to Christ*. Without Earth there would be no Jesus of Nazareth. The Earth eucharist enabled Jesus to come and share his eucharist with all people.

Since life is the Church, then we might see the human Church, when it celebrates the eucharist, as remembering the Great Eucharist in which it is constantly called to participate. The good gift - the death that brings life. We might see the broken body and poured out blood not only as reminding us of the death of Christ, but the life giving death which surrounds us every day, all the broken and bleeding bodies which make up our world, and which we will become¹¹³⁸.

Healing was correct in identifying the eucharist as a gift to all creation, or all persons, but this was bound up in the assumption that all creation is fallen. Yet salvation is pictured not as an afterlife for all beings, but the reconciliation of humans and “nature.” It is open to the interpretation that the eucharist is primarily a gift for those humans who need to be reminded that only by engaging in finitude, in brokenness, can they engage in life, in wholeness. Those already so engaged receive ongoing encouragement, and secondarily a greater chance to participate in the fullness of life, now that those saved from fear have made more room for them. So the eucharist is both a converting ordinance for those too afraid of finitude to enter life, and a sustaining ordinance for those people already on the journey. This implies, of course, that the restriction of the eucharist to humans is an artificial discrimination.

Death brings to mind funerals, which would become part of our eucharistic celebrations as we celebrate the end of a life to make way for new life.

New life. Baptism. The *Basis* talks specifically about baptism into *Christ's body*. This is a specifically human baptism, since Christ came primarily for humans (or some of us). It is the means by which fearful humans accept the call to participate in “Christ's life and mission in the world.” The result is that they will be, “... united in one community of love, service, suffering and joy, in one family of the [God] of all in heaven and earth, and in the power of the one Spirit.”

So baptism is for humans, but it is baptism into the *one family* of God, the Earth Church. The baptised are those who have, through being saved from the fear of death, returned to the Earth Church from which they became estranged. In what can be read biocentrically as a rejection of consciousness-telism, baptism is made available not only to those able to actively confess their faith, but even to infants who have no idea what is happening. Nurtured in the finitude affirming community around them, the church prays that they may grow up without experiencing the estrangement from which some adult converts are drawn to repent¹¹³⁹.

Baptism into Christ's body, then, initiates people into the human Church, but this is not an end in itself. It is for their salvation, to save them from the fear of death and awaken them to their place in the finitude filled pulse of life, so that they might have this life abundantly. So that they might delight in, and contribute to the image of God in which they are immersed.

¹¹³⁸ Many of us, of course, already have broken bodies in various ways. Here I am thinking of the *really* broken, i.e. decomposing.

¹¹³⁹ I mean repent literally, as in the decision to turn around, rather than speculating on the morality of the convert.

11 Appendices

11.1 Appendix 1, Basis of Union, 1992

HEADINGS have been added to each section of this printing of the Basis of Union for ease of reference but do not form part of the Basis of Union approved by the Churches.

1. THE WAY INTO UNION

The Congregational Union of Australia, the Methodist Church of Australasia and the Presbyterian Church of Australia, in fellowship with the whole Church Catholic, and seeking to bear witness to that unity which is both Christ's gift and will for the Church, hereby enter into union under the name of the Uniting Church in Australia. They pray that this act may be to the glory of God the Father, the Son and the Holy Spirit. They give praise for God's gifts of grace to each of them in years past; they acknowledge that none of them has responded to God's love with a full obedience; they look for a continuing renewal in which God will use their common worship, witness and service to set forth the word of salvation for all people. To this end they declare their readiness to go forward together in sole loyalty to Christ the living Head of the Church; they remain open to constant reform under his Word; and they seek a wider unity in the power of the Holy Spirit. In this union these Churches commit their members to acknowledge one another in love and joy as believers in our Lord Jesus Christ, to hear anew the commission of the Risen Lord to make disciples of all nations, and daily to seek to obey his will. In entering into this union the Churches concerned are mindful that the Church of God is committed to serve the world for which Christ died, and that it awaits with hope the day of the Lord Jesus Christ on which it will be clear that the kingdom of this world has become the kingdom of our Lord and of the Christ, who shall reign for ever and ever.

2. OF THE WHOLE CHURCH

The Uniting Church in Australia lives and works within the faith and unity of the One Holy Catholic and Apostolic Church. The Uniting Church recognises that it is related to other Churches in

ways which give expression, however partially, to that unity in faith and mission. Recalling the Ecumenical Councils of the early centuries, the Uniting Church looks forward to a time when the faith will be further elucidated, and the Church's unity expressed, in similar Councils. It thankfully acknowledges that the uniting Churches were members of the World Council of Churches and other ecumenical bodies, and will seek to maintain such membership. It remembers the special relationship which obtained between the several uniting Churches and other Churches of similar traditions, and will continue to learn from their witness and be strengthened by their fellowship. It is encouraged by the existence of United Churches in which these and other traditions have been incorporated, and wishes to learn from their experience. It believes that Christians in Australia are called to bear witness to a unity of faith and life in Christ which transcends cultural and economic, national and racial boundaries, and to this end the Uniting Church commits itself to seek special relationships with Churches in Asia and the Pacific. The Uniting Church declares its desire to enter more deeply into the faith and mission of the Church in Australia, by working together and seeking union with other Churches.

3. BUILT UPON THE ONE LORD JESUS CHRIST

The Uniting Church acknowledges that the faith and unity of the Holy Catholic and Apostolic Church are built upon the one Lord Jesus Christ. The Church preaches Christ the risen crucified One and confesses him as Lord to the glory of God the Father. In Jesus Christ "God was reconciling the world to himself" (2 Corinthians 5:19 RSV). In love for the world, God gave the Son to take away the world's sin.

Jesus of Nazareth announced the sovereign grace of God whereby the poor in spirit could receive God's love. Jesus himself, in his life and death, made the response of humility, obedience and trust which God had long sought in vain. In raising him to live and reign, God confirmed and completed the witness which Jesus bore to God on earth, reasserted claim over the whole of creation, pardoned sinners, and made in Jesus a representative beginning of a new order of righteousness and love. To God in Christ all people are called to respond in faith. To this end God has

sent forth the Spirit that people may trust God as their Father, and acknowledge Jesus as Lord. The whole work of salvation is effected by the sovereign grace of God alone.

The Church as the fellowship of the Holy Spirit confesses Jesus as Lord over its own life; it also confesses that Jesus is Head over all things, the beginning of a new creation, of a new humanity. God in Christ has given to all people in the Church the Holy Spirit as a pledge and foretaste of that coming reconciliation and renewal which is the end in view for the whole creation. The Church's call is to serve that end: to be a fellowship of reconciliation, a body within which the diverse gifts of its members are used for the building up of the whole, an instrument through which Christ may work and bear witness to himself. The Church lives between the time of Christ's death and resurrection and the final consummation of all things which Christ will bring; the Church is a pilgrim people, always on the way towards a promised goal; here the Church does not have a continuing city but seeks one to come. On the way Christ feeds the Church with Word and Sacraments, and it has the gift of the Spirit in order that it may not lose the way.

4. CHRIST RULES AND RENEWS THE CHURCH

The Uniting Church acknowledges that the Church is able to live and endure through the changes of history only because its Lord comes, addresses, and deals with people in and through the news of his completed work. Christ who is present when he is preached among people is the Word of God who acquits the guilty, who gives life to the dead and who brings into being what otherwise could not exist. Through human witness in word and action, and in the power of the Holy Spirit, Christ reaches out to command attention and awaken faith; he calls people into the fellowship of his sufferings, to be the disciples of a crucified Lord; in his own strange way Christ constitutes, rules and renews them as his Church.

5. THE BIBLICAL WITNESSES

The Uniting Church acknowledges that the Church has received the books of the Old and New Testaments as unique prophetic and apostolic testimony, in which it hears the Word of God and

by which its faith and obedience are nourished and regulated. When the Church preaches Jesus Christ, its message is controlled by the Biblical witnesses. The Word of God on whom salvation depends is to be heard and known from Scripture appropriated in the worshipping and witnessing life of the Church. The Uniting Church lays upon its members the serious duty of reading the Scriptures, commits its ministers to preach from these and to administer the sacraments of Baptism and the Lord's Supper as effective signs of the Gospel set forth in the Scriptures.

6. SACRAMENTS

The Uniting Church acknowledges that Christ has commanded his Church to proclaim the Gospel both in words and in the two visible acts of Baptism and the Lord's Supper. Christ himself acts in and through everything that the Church does in obedience to his commandment: it is Christ who by the gift of the Spirit confers the forgiveness, the fellowship, the new life and the freedom which the proclamation and actions promise; and it is Christ who awakens, purifies and advances in people the faith and hope in which alone such benefits can be accepted.

7. BAPTISM

The Uniting Church acknowledges that Christ incorporates people into his body by Baptism. In this way Christ enables them to participate in his own baptism, which was accomplished once on behalf of all in his death and burial, and which was made available to all when, risen and ascended, he poured out the Holy Spirit at Pentecost. Baptism into Christ's body initiates people into Christ's life and mission in the world, so that they are united in one fellowship of love, service, suffering and joy, in one family of the Father of all in heaven and earth, and in the power of the one Spirit. The Uniting Church will baptise those who confess the Christian faith, and children who are presented for baptism and for whose instruction and nourishment in the faith the Church takes responsibility.

8. HOLY COMMUNION

The Uniting Church acknowledges that the continuing presence of Christ with his people is signified and sealed by Christ in the Lord's Supper or the Holy Communion, constantly repeated in the life of the Church. In this sacrament of his broken

body and outpoured blood the risen Lord feeds his baptised people on their way to the final inheritance of the Kingdom. Thus the people of God, through faith and the gift and power of the Holy Spirit, have communion with their Saviour, make their sacrifice of praise and thanksgiving, proclaim the Lord's death, grow together into Christ, are strengthened for their participation in the mission of Christ in the world, and rejoice in the foretaste of the Kingdom which Christ will bring to consummation.

9. CREEDS

The Uniting Church enters into unity with the Church throughout the ages by its use of the confessions known as the Apostles' Creed and the Nicene Creed. The Uniting Church receives these as authoritative statements of the Catholic Faith, framed in the language of their day and used by Christians in many days, to declare and to guard the right understanding of that faith. The Uniting Church commits its ministers and instructors to careful study of these creeds and to the discipline of interpreting their teaching in a later age. It commends to ministers and congregations their use for instruction in the faith, and their use in worship as acts of allegiance to the Holy Trinity.

10. REFORMATION WITNESSES

The Uniting Church continues to learn of the teaching of the Holy Scriptures in the obedience and freedom of faith, and in the power of the promised gift of the Holy Spirit, from the witness of the Reformers as expressed in various ways in the Scots Confession of Faith (1560), the Heidelberg Catechism (1563), the Westminster Confession of Faith (1647), and the Savoy Declaration (1658). In like manner the Uniting Church will listen to the preaching of John Wesley in his Forty-Four Sermons (1793). It will commit its ministers and instructors to study these statements, so that the congregation of Christ's people may again and again be reminded of the grace which justifies them through faith, of the centrality of the person and work of Christ the justifier, and of the need for a constant appeal to Holy Scripture.

11. SCHOLARLY INTERPRETERS

The Uniting Church acknowledges that God has never left the Church without faithful and scholarly interpreters of Scripture, or without those who have reflected deeply upon, and acted trustingly in obedience to, God's living Word. In particular the Uniting Church enters into the inheritance of literary, historical and scientific enquiry which has characterised recent centuries, and gives thanks for the knowledge of God's ways with humanity which are open to an informed faith. The Uniting Church lives within a world-wide fellowship of Churches in which it will learn to sharpen its understanding of the will and purpose of God by contact with contemporary thought. Within that fellowship the Uniting Church also stands in relation to contemporary societies in ways which will help it to understand its own nature and mission. The Uniting Church thanks God for the continuing witness and service of evangelist, of scholar, of prophet and of martyr. It prays that it may be ready when occasion demands to confess the Lord in fresh words and deeds.

12. MEMBERS

The Uniting Church recognises and accepts as members all who are recognised as members of the uniting Churches at the time of union. Thereafter membership is open to all who are baptised into the Holy Catholic Church in the name of the Father and of the Son and of the Holy Spirit. The Uniting Church will seek ways in which the baptised may have confirmed to them the promises of God, and be led to deeper commitment to the faith and service into which they have been baptised. To this end the Uniting Church commits itself to undertake, with other Christians, to explore and develop the relation of baptism to confirmation and to participation in the Holy Communion.

13. GIFTS AND MINISTRIES

The Uniting Church affirms that every member of the Church is engaged to confess the faith of Christ crucified and to be his faithful servant. It acknowledges with thanksgiving that the one Spirit has endowed the members of Christ's Church with a diversity of gifts, and that there is no gift without its corresponding service: all ministries have a part in the ministry of Christ. The Uniting Church, at the time of union, will recognise and accept the ministries of those who have been called to any task or responsibility in the uniting Churches. The Uniting Church will thereafter provide for the

exercise by men and women of the gifts God bestows upon them, and will order its life in response to God's call to enter more fully into mission.

14. MINISTERS, ELDERS, DEACONESSES AND LAY PREACHERS

The Uniting Church, from inception, will seek the guidance of the Holy Spirit to recognise among its members women and men called of God to preach the Gospel, to lead the people in worship, to care for the flock, to share in government and to serve those in need in the world.

To this end:

(a) The Uniting Church recognises and accepts as ministers of the Word all who have held such office in any of the uniting Churches, and who, being in good standing in one of those Churches at the time of union, adhere to the Basis of Union. This adherence and acceptance may take place at the time of union or at a later date. Since the Church lives by the power of the Word, it is assured that God, who has never failed to provide witness to that Word, will, through Christ and in the power of the Holy Spirit, call and set apart members of the Church to be ministers of the Word. These will preach the Gospel, administer the sacraments and exercise pastoral care so that all may be equipped for their particular ministries, thus maintaining the apostolic witness to Christ in the Church. Such members will be called Ministers and their setting apart will be known as Ordination.

The Presbytery will ordain by prayer and the laying on of hands in the presence of a worshipping congregation. In this act of ordination the Church praises the ascended Christ for conferring gifts upon men and women. It recognises Christ's call of the individual to be his minister; it prays for the enabling power of the Holy Spirit to equip the minister for that service. By the participation in the act of ordination of those already ordained, the Church bears witness to God's faithfulness and declares the hope by which it lives. In company with other Christians the Uniting Church will seek for a renewed understanding of the way in which the congregation participates in ordination and of the significance of ordination in the life of the Church.

(b) The Uniting Church recognises and accepts as elders or leaders those who at the time of union hold the office of elder, deacon or leader appointed to exercise spiritual oversight, and who, being in good standing in any of the uniting Churches at the time of union, adhere to the Basis of Union. It will seek to recognise in the congregation those endowed by the Spirit with gifts fitting them for rule and oversight. Such members will be called Elders or Leaders.

(c) The Uniting Church recognises and accepts as deaconesses those who at the time of union are deaconesses in good standing in any of the uniting Churches and who adhere to the Basis of Union. It believes that the Holy Spirit will continue to call women to share in this way in the varied services and witness of the Church, and it will make provision for this. Such members will be called Deaconesses.

The Uniting Church recognises that at the time of union many seek a renewal of the diaconate in which women and men offer their time and talents, representatively and on behalf of God's people, in the service of humanity in the face of changing needs. The Uniting Church will so order its life that it remains open to the possibility that God may call men and women into such a renewed diaconate: in these circumstances it may decide to call them Deacons and Deaconesses, whether the service is within or beyond the life of the congregation.

(d) The Uniting Church recognises and accepts as lay preachers those who at the time of union are accredited lay preachers (local preachers) in any of the uniting Churches and who adhere to the Basis of Union. It will seek to recognise those endowed with the gift of the Spirit for this task, will provide for their training, and 'will gladly wait upon that fuller understanding of the obedience of Christians which should flow from their ministry. Such members will be called Lay Preachers.

In the above sub-paragraphs the phrase "adhere to the Basis of Union" is understood as willingness to live and work within the faith and unity of the One Holy Catholic and Apostolic Church as that way is described in this Basis. Such adherence allows for difference of opinion in matters which do not enter into the substance of the faith.

The Uniting Church recognises that the type and duration of ministries to which women and men are

called vary from time to time and place to place, and that in particular it comes into being in a period of reconsideration of traditional forms of the ministry, and of renewed participation of all the people of God in the preaching of the Word, the administration of the sacraments, the building up of the fellowship in mutual love, in commitment to Christ's mission, and in service of the world for which he died.

15. GOVERNMENT IN THE CHURCH

The Uniting Church recognises that responsibility for government in the Church belongs to the people of God by virtue of the gifts and tasks which God has laid upon them. The Uniting Church therefore so organises its life that locally, regionally and nationally government will be entrusted to representatives, men and women, bearing the gifts and graces with which God has endowed them for the building up of the Church. The Uniting Church is governed by a series of inter-related councils, each of which has its tasks and responsibilities in relation both to the Church and the world.

The Uniting Church acknowledges that Christ alone is supreme in his Church, and that he may speak to it through any of its councils. It is the task of every council to wait upon God's Word, and to obey God's will in the matters allocated to its oversight. Each council will recognise the limits of its own authority and give heed to other councils of the Church, so that the whole body of believers may be united by mutual submission in the service of the Gospel.

To this end the Uniting Church makes provision in its constitution for the following:

(a) The Congregation is the embodiment in one place of the One Holy Catholic and Apostolic Church, worshipping, witnessing and serving as a fellowship of the Spirit in Christ. Its members meet regularly to hear God's Word, to celebrate the sacraments, to build one another up in love, to share in the wider responsibilities of the Church, and to serve the world. The congregation will recognise the need for a diversity of agencies for the better ordering of its life in such matters as education, administration and finance.

(b) The Elders' or Leaders' Meeting (the council within a congregation or group of congregations) consists of the minister and those who are called to share with the minister in oversight. It is responsible for building up the congregation in faith and love, sustaining its members in hope, and leading them into a fuller participation in Christ's mission in the world.

(c) The Presbytery (the district council) consists of such ministers, elders/leaders and other Church members as are appointed thereto, the majority of elders/leaders and

Church members being appointed by Elders'/Leaders' Meetings and/or congregations, on a basis determined by the Synod. Its function is to perform all the acts of oversight necessary to the life and mission of the Church in the area for which it is responsible, except for those agencies which are directly responsible to the Synod or Assembly. It will in particular exercise oversight over the congregations within its bounds, encouraging them to strengthen one another's faith, to bear one another's burdens, and exhorting them to fulfil their high calling in Christ Jesus. It will promote those wider aspects of the work of the Church committed to it by the Synod or Assembly.

(d) The Synod (the regional council) consists of such ministers, elders/leaders and other Church members as are appointed thereto, the majority being appointed by Presbyteries, Elders'/Leaders' Meetings or congregations, on a basis determined by the Assembly. It has responsibility for the general oversight, direction and administration of the Church's worship, witness and service in the region allotted to it, with such powers and authorities as may from time to time be determined by the Assembly.

(e) The Assembly (the national council) consists of such ministers, elders/leaders and other Church members as are appointed thereto, the majority being appointed by the Presbyteries and Synods. It has determining responsibility for matters of doctrine, worship, government and discipline, including the promotion of the Church's mission, the establishment of standards of theological training and reception of ministers from other communions, and the taking of further measures towards the wider union of the Church. It makes the guiding decisions on the tasks and authority to be exercised by other councils. It is obligatory for it to seek the concurrence of the councils, and on occasion of the congregations of the Church, on matters of vital importance to the life of the Church.

The first Assembly, however, will consist of members of the uniting Churches, appointed in equal numbers by them in such manner as they may determine, and is vested with such powers as may be necessary to establish the Uniting Church according to the provisions of the Basis of Union.

Until such time as councils other than the Assembly can be established, the Uniting Church recognises and accepts the various agencies for the discharge of responsibility which are in existence in the uniting Churches. It invites any such continuing bodies immediately to enter a period of self-examination in which members are asked to consider afresh their common commitment to the Church's mission and their demonstration of its unity. The Uniting Church prays that God will enable them to order their lives for these purposes.

16. PARTICULAR FUNCTIONS

The Uniting Church recognises the responsibility and freedom which belong to councils to acknowledge gifts among members for the fulfilment of particular functions. The Uniting Church sees in pastoral care exercised personally on behalf of the Church an expression of the fact that God always deals personally with people, would have God's loving care known among people, and would have individual members take upon themselves the form of a servant.

17. LAW IN THE CHURCH

The Uniting Church acknowledges that the demand of the Gospel, the response of the Church to the Gospel, and the discipline which it requires are partly expressed in the formulation by the Church of its law. The aim of such law is to confess God's will for the life of the Church; but since law is received by human beings and framed by them, it is always subject to revision in order that it may better serve the Gospel. The Uniting Church will keep its law under constant review so that its life may increasingly be directed to the service of God and humanity, and its worship to a true and faithful setting forth of, and response to, the Gospel of Christ. The law of the Church will speak of the free obedience of the children of God, and will look to the final reconciliation of humanity under God's sovereign grace.

18. THE PEOPLE OF GOD ON THE WAY

The Uniting Church affirms that it belongs to the people of God on the way to the promised end. The Uniting Church prays that, through the gift of the Spirit, God will constantly correct that which is erroneous in its life, will bring it into deeper unity with other Churches, and will use its worship, witness and service to God's eternal glory through Jesus Christ the Lord. Amen.

11.2 Appendix 2, *Statement to the Nation, inaugural Assembly, June, 1977*

People of the Congregational, Methodist and Presbyterian Churches have united. A new church has been born.

We, who are members of the first Assembly of the Uniting Church in Australia address the people of Australia in this historic moment. The path to unity has been long and at times difficult, but we believe this unity is a sign of the reconciliation we seek for the whole human race.

We acknowledge with gratitude that the churches from which we have come have contributed in various ways to the life and development of this nation. A Christian responsibility to society has always been regarded as fundamental to the mission of the Church. In the Uniting Church our response to the Christian gospel will continue to involve us in social and national affairs.

We are conscious of our responsibilities within and beyond this country. We particularly acknowledge our responsibilities as one branch of the Christian church within the region of South-East Asia and the Pacific. In these contexts we make certain affirmations at the time of our inauguration.

We affirm our eagerness to uphold basic Christian values and principles, such as the importance of every human being, the need for integrity in public life, the proclamation of truth and justice, the rights for each citizen to participate in decision-making in the community, religious liberty and personal dignity, and a concern for the welfare of the whole human race.

We pledge ourselves to seek the correction of injustices wherever they occur. We will work for the eradication of poverty and racism within our society and beyond. We affirm the rights of all people to equal educational opportunities, adequate health care, freedom of speech, employment or dignity in unemployment if work is not available. We will oppose all forms of discrimination which infringe basic rights and freedoms.

We will challenge values which emphasise acquisitiveness and greed in disregard of the needs of others and which encourage a higher standard of living for the privileged in the face of the daily widening gap between the rich and poor.

We are concerned with the basic human rights of future generations and will urge the wise use of energy, the protection of the environment and the replenishment of the earth's resources for their use and enjoyment.

Finally we affirm that the first allegiance of Christians is God, under whose judgment the policies and actions of all nations must pass. We realise that sometimes this allegiance may bring us into conflict with the rulers of

our day. But our Uniting Church, as an institution within the nation, must constantly stress the universal values which must find expression in national policies if humanity is to survive.

We pledge ourselves to hope and work for a nation whose goals are not guided by self-interest alone, but by concern for the welfare of all persons everywhere — the family of the One God — the God made known in Jesus of Nazareth the One who gave His life for others.

In the spirit of His self-giving love we seek to go forward.

11.3 Appendix 3, *Statement to the Nation, Australian Bicentennial Year, 1988*

In this country which has been inhabited for 40,000 years, the Australian nation is celebrating the Bicentennial of the first European settlement. The Uniting Church, now in its second decade, greets our fellow Australian citizens on this occasion.

We give thanks for those times when the Australian society has established justice, equality, and mutual respect among people; has placed care for the people who have least above sectional interests; has welcomed new migrants and refugees; has exercised solidarity and friendship in times of crisis in Australia across divisions of race and culture; and has engaged constructively with the peoples of Asia, the Pacific and the rest of the world as peacemaker.

In the last two centuries the movements of history have brought together here in one nation, people of diverse cultures. As a church which is itself composed of people of many cultures and races, both Aboriginal and migrant, we rejoice in the vision of a multicultural society where these peoples may live together in unity and diversity, maintaining different cultural traditions, yet forging a common destiny based on commitment to the ideals of equality of opportunity, tolerance, justice and compassion.

At the same time, those of us who have migrated to Australia in the last two centuries or are the descendants of migrants, confess that all of us are beneficiaries of the injustices that have been inflicted on those of us who were Aboriginal people. In varying degrees, we all contribute to, and perpetuate those injustices. We recognise the violence which has been done to the Aboriginal people in the colonisation of this continent and the injustice by which Aborigines have been deprived of the land. We recognise the continuing Aboriginal experience of violence and injustice.

The integrity of our nation requires truth; the history of Australia, as it is taught in educational institutions or popularised in the media, must cease to conceal the reality and nature of Aboriginal society before invasion, what was done to them in colonisation, and what has been the fate and status of Aborigines within the Australian nation.

The integrity of our nation will be measured by action; by legislative action which honours the Aboriginal plea for justice, and by popular action by which the Australian people express their willingness to support Aboriginal Australians in the quest for justice and their struggle to reconstruct their society.

As for the Uniting Church in Australia, in obedience to God, in concern for the integrity of our nation, and in co-operation with all citizens of goodwill, we Aboriginal and newer Australians have determined to stand together.

In co-operation with all fellow Australians of goodwill, we are committed to work for justice and peace, calling for honesty and integrity, encouraging tolerance and compassion, challenging acquisitiveness and greed, opposing discrimination and prejudice, condemning violence and oppression and creating a loving and caring community.

We are conscious of conflicts and tensions within the nation and the world. We deplore the divisions of humanity along racial, cultural, political, economic, sexual and religious lines. In obedience to God, we struggle against all systems and attitudes which set person against person, group against group, or nation against nation.

We recognise a widening gap between the rich and the poor, not only within Australia, but within the whole human community. We will strive to uphold the rightful claims of the poor on the resources of this nation and the world. We will seek to identify and challenge all social and political structures and all human attitudes which perpetuate and compound poverty.

We affirm our belief that the natural world is God's creation; good in God's eyes, good in itself, and good in sustaining human life. Recognising the vulnerability of the life and resources of creation, we will work to promote the responsible management, use and occupation of the earth by human societies. We will seek to identify and challenge all structures and attitudes which perpetuate and compound the destruction of creation.

As a Christian church, born out of the struggles of Australian Christians to live in obedience to God in Australia, we find hope in Jesus Christ. We recognise that we Australian people are of diverse

faiths and cultures and our desire is that we live together here in one community in justice, peace and mutual respect.

May the peace of God be with us all.

Sir Ronald Wilson, President

Rev. David Gill, General Secretary

11.4 Appendix 4, Assembly resolutions on the Rights of Future Generations and Rights of Nature, 1991

91.14.18 The Assembly resolved to adopt the resolution on the rights of nature and the rights of future generations:

We believe that God, the Creator, upholds human dignity. God has created the human in the divine image. No human authority can take away or contest the dignity thus bestowed upon the human.

We believe that God has blessed humanity and that God's faithfulness endures from generation to generation.

We believe that God loves the divine creation and wills the development of its life. No creature is indifferent in the eyes of God. Each has its dignity and thereby also its right to existence.

The Holy Scriptures attest to God's covenant with the creation. "Behold, I establish my covenant with you and your descendants after you and with every living creature" (Genesis 9:9-10).

In view of the fact that this promise is today being undermined by human lack of moderation,

- we affirm the inalienable dignity of all humans and call for the recognition and guarantee of human rights throughout the world,
- we express the conviction that those who live today share responsibility for the ability of future generations to live in dignity,
- we support the attribution of rights not only to humans but also to nature, God's creation, and
- we reject the view that animate and inanimate nature are mere objects which stand at the arbitrary disposal of the human.

We call upon the churches to make room for God's covenant with creation within the realm of law by committing themselves at all levels to recognition of the following "Rights of Future Generations" and "Rights of Nature".

11.4.1 A. Rights of Future Generations

Future generations have a right to life.

Future generations have a right to an unmanipulated human genetic inheritance, that is, a genetic inheritance not artificially altered by humans.

Future generations have a right to a rich plant and animal world, and thereby a right to a life within an abundant nature and to the preservation of multifarious genetic resources.

Future generations have a right to healthy air, to an intact ozone layer, and to the sufficient thermal exchange between the earth and space.

Future generations have a right to clean and sufficient waters, and, in particular, healthy and sufficient drinking water.

Future generations have a right to healthy and fertile soil and to healthy woodland.

Future generations have right to substantial reserves of non-(or only very slowly) renewable raw materials and energy sources.

Future generations have the right not to be confronted with products and wastes of earlier generations that threaten their health or require excessive expense for protection and control.

Future generations have a right to "cultural inheritance", that is, to an encounter with the culture created by earlier generations.

Future generations have in general a right to physical living conditions that allow them a humanly dignified existence. In particular, they have a right not to be forced to accept physical alterations deliberately produced by their predecessors that inordinately restrict their individual and collective self-determination in cultural, economic, political, or social respects.

11.4.2 B. Rights of Nature

Nature — animate or inanimate — has a right to existence, that is, to preservation and development.

Nature has a right to the protection of its eco-systems, species, and populations in their interconnectedness.

Animate nature has a right to the preservation and development of its genetic inheritance.

Organisms have a right to a life fit for their species, including procreation within their appropriate ecosystems.

Disturbances of nature require a justification. They are only permissible

- when the presuppositions of the disturbance are determined in a democratically legitimate process and with respect of the rights of nature,
- when the interests of the disturbance outweigh the interests of a complete protection of the rights of nature, and

- when the disturbance is not inordinate. Damaged nature is to be restored whenever and wherever possible.

Rare ecosystems, and above all those with an abundance of species, are to be placed under absolute protection. The driving of species to extinction is forbidden.

We appeal to the United Nations to develop a new Declaration which explicitly protects the rights mentioned above. Simultaneously, we appeal to the individual nations to incorporate these rights into their constitutions and legislation

12 References

- Abetz, Walter, and Katherine Abetz. "Substitutionary Atonement." In *Swimming between the Flags*, edited by Walter Abetz and Katherine Abetz, 47-50. Bendigo: Middle Earth Press, 2002.
- Adams, Douglas, and Mark Carwadine. *Last Chance to See*: Ballantine, 1992.
- Anonymous. c2004. Aboriginal Culture for Health Workers. Episode 33., <http://www.medicineau.net.au/AbHealth/33.HTM> (accessed 6 October, 2004).
- . 2000. Chronology of the UCA Sexuality Debate, <http://members.ozemail.com.au/~unitingnetwork/history1.html> (accessed June, 2003).
- . *Come Holy Spirit: Renew the Whole Creation*. Melbourne: Joint Board of Christian Education, 1989.
- . 2004. Star, Microsoft Encarta Online Encyclopedia, http://uk.encarta.msn.com/encyclopedia_761557483/Star.html (accessed 4 October, 2004).
- . *Stargaze: Hubble's View of the Universe DVD*: Alpha DVD, 2000. DVD.
- . 2004. Ultimate Fate of the Universe, http://www.brainencyclopedia.com/encyclopedia/u/ul/ultimate_fate_of_the_universe.html (accessed 4 October, 2004).
- Anonymous, and Jason John. "Tributaries." 2003.
- Assembly Social Responsibility and Justice Committee. "Healing the Earth: An Australian Christian Reflection on the Renewal of Creation." 42. Sydney: The Uniting Church in Australia, 1990.
- Assembly Standing Committee. "Bishops in the Uniting Church- the Church's Response. Report to 1991 Assembly." 1991.
- Assembly Task Group on Sexuality. "Uniting Sexuality and Faith." Melbourne: Uniting Church in Australia, 1997.
- Assembly Working Group on Doctrine. 2003. Living and Believing within the Unity and Faith of the One Holy Catholic and Apostolic Church, <http://nat.uca.org.au/TD/doctrine/resources.htm> (accessed April, 2003).
- Augustine, Saint. c 354-430. The Literal Meaning of Genesis (*De Genesi Ad Litteram Libri Duodecim*), <http://www.pibburns.com/augustin.htm> (extract) http://www.augustinus.it/latino/genesi_incompiuto/genesi_incompiuto.htm (full, in latin) (accessed 27 October, 2003).
- Australia, Uniting Church in. "Statement to the Nation." 1977.
- . "Statement to the Nation." 1988.
- Baker, Pat. "Inclusive Language and the Trinity- Extracts." *Trinity Occasional Papers* 9, no. 1 (1990): 38.
- Balabanski, Vicky. "Theological Foundations for Considering the Uranium Mining/Nuclear Fuel Cycle." In *A Responsible Inheritance*, edited by National Social Responsibility and Justice, 21-22, 2000.
- Baldauf, S. L. "The Deeps Roots of Eukaryotes." *Science* 300 (2003): 1703-06.
- Barbour, Ian G. *Nature, Human Nature, and God, Theology and the Sciences*. Minneapolis: Fortress Press, 2002.
- . *Religion in an Age of Science*. London: SCM, 1990.
- Baring, Anne, and Jules Cashford. *The Myth of the Goddess: Evolution of an Image*. London: Penguin, 1993.
- Barth, Karl. "Evangelical Theology in the 19th Century." In *The Humanity of God*, 11-36. Richmond: John Knox Press, 1960.
- . "The Humanity of God." In *The Humanity of God*, 37-68. Richmond: John Knox Press, 1960.
- Barth, Karl, Thomas F. Torrance, and Geoffrey William Bromiley. *Church Dogmatics. Index Volume with Aids for the Preacher*. Edinburgh: T. & T. Clark, 1977.
- Beale, Bob. 2003. Number of Visible Stars Put at 70 Sextillion, <http://www.abc.net.au/science/news/stories/s910295.htm> (accessed 6 November, 2003).
- Behe, Michael. *Darwin's Black Box*. New York: Free Press, 1996.
- Bekoff, Marc. "Consciousness and Self in Animals: Some Reflections." *Zygon* 38, no. 2 (2003): 229-45.
- Bentley, Peter, and Philip J. Hughes. *The Uniting Church in Australia*. Edited by Philip J. Hughes, *Religious Community Profiles*. Canberra: Australian Government Publishing Service, 1996.
- Berger, Lee. 2001. Viewpoint: Is It Time to Revise the System of Scientific Naming?, http://news.nationalgeographic.com/news/2001/12/1204_hominin_id.html (accessed 5 October, 2004).
- Berhane-Selassie, Tsehai. "Ecology and Ethiopian Orthodox Theology." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 155-72. Maryknoll, NY: Orbis, 1994.
- Berry, Thomas. "Christianity's Role in the Earth Project." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 127-34. Cambridge, Mass: Harvard Univ Pr, 2000.
- Beston, Henry. 1962. *The Outermost House: A Year of Life on the Great Beach of Cape Cod*, Viking 1962. Republished Owl 2003, <http://fortheLoveofAnimals.bravepages.com/rings.html> (accessed 22 October, 2004).
- Birch, Charles. *Biology and the Riddle of Life*. Sydney: UNSW Press, 1999.
- . "Chance, Purpose and the Order of Nature." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 182-200. Maryknoll, NY: Orbis Books, 1990.

- . "Environmental Ethics in Process Thought." *The Australasian Journal of Process Thought* 2 (2001): online format.
- . "The Liberation of Nature." *Colloquium* 22 (1989): 2-11.
- . "A New Dialogue between Science and Religion." *Trinity Occasional Papers* 11 (1992): 25-33.
- . *On Purpose*. Kensington, N.S.W.: New South Wales University Press, 1990.
- . "Preface." In *The Earth Story in Genesis*, edited by Norman C. Habel and Shirley Wurst, 11-14. Sheffield: Sheffield Academic Press, 2000.
- . *The Scientific-Environmental Crisis: Where Do the Churches Stand?*, 1988.
- Birch, Charles, and John B. Cobb. *The Liberation of Life : From the Cell to the Community*. Cambridge [Cambridgeshire] ; New York: Cambridge University Press, 1981.
- Blackburn, Peter J. 1997. Reclaiming the Bible for the Uniting Church, <http://www.ucaqld.com.au/uc/nffr/reclaim.htm> (accessed 11 July, 2003).
- Bos, Robert. 2003.
- Bowman, D. M., and W. J. Panton. "Decline of *Callitrus Intratropica* R T Baker and H G Smith in the Northern Territory: Implications for Pre- and Post-European Colonization Fire Regimes." *Journal of biogeography* 20, no. 4 (1993): 373-81.
- Boysen, S., and G. Himes. "Current Issues and Emerging Theories in Animal Cognition." *Annual Review of Psychology* 50 (1999): 683-705.
- Brady, Veronica. "Called by the Land to Enter the Land." In *Creation Spirituality and the Dreamtime*, edited by Catherine Hammond, 37-49. Newtown: Millennium Books, 1991.
- Brett, Gregory. "A Timely Reminder: Humanity and Ecology in the Light of Christian Hope." In *Earth Revealing, Earth Healing: Ecology and Christian Theology.*, 159-76. Minnesota: Liturgical Press, 2001.
- Brett, Mark. "Earthing the Human in Genesis 1-3." In *The Earth Story in Genesis*, edited by Norman C. Habel and Shirley Wurst, 73-86. Sheffield: Sheffield Academic Press, 2000.
- Breward, Ian. "Christianity Must Be Reinterpreted; Samuel Angus' Response to a Secular Society and a Traditional Church." *Trinity Occasional Papers* 4, no. 1 (1985): 24-34.
- Brockman, John. 2003. That Damn Bird, <http://www.edge.org/documents/archive/edge126.html> (accessed 2004, July).
- Buber, Martin. *I and Thou*. Translated by Walter Kaufman. 3rd ed. Edinburgh: T. & T. Clarke, 1975.
- Burke, Christine. "Globalization and Ecology." In *Earth Revealing, Earth Healing: Ecology and Christian Theology.*, 21-42. Minnesota: Liturgical Press, 2001.
- Busch, David. 2001. The Future of Our Past: Presbyterians in Australia, <http://www.abc.net.au/rn/relig/enc/stories/s325600.htm> (accessed 4 October, 2004).
- Busch, R. A. "President's Address to the 1982 Assembly." 1982.
- Bush, Joseph. "New Cosmology and Old Questions: Reflections on Fifty Years of Thinking About Christianity and Ecology." *Colloquium* 31, no. 1 (2000): 51-70.
- Calvin, John. *Institutes of the Christian Religion*.
- Campbell, Nick. email, 17 Feb 2004.
- . "What It Takes to Be a (Hu)Man." *Nature Reviews Genetics* 5, no. 3 (2004): doi:10.1038/nrg276.
- Carnley, Peter. *The Structure of Resurrection Belief*. Oxford, [Oxfordshire]: Clarendon Press, 1993.
- Chalson, Paul. Personal Communication, 18 Feb 2003.
- Christ, Carol. "Rethinking Theology and Nature." In *Weaving the Visions*, edited by Judith Plaskow and Carol Christ, 314-25. San Francisco: Harper & Row, 1989.
- Clark, AG, S Glanowski, R Nielsen, PD Thomas, A Kejarawal, MA Todd, DM Tanenbaum, D Civallo, F Lu, B Murphy, S Ferreira, G Wang, X Zheng, TJ White, JJ Sninsky, MD Adams, and M Cargill. "Inferring Nonneutral Evolution from Human-Chimp-Mouse Orthologous Gene Trios." *Science* 302, no. 5652 (2003): 1876-77.
- Clark, Mary E. *In Search of Human Nature*. London ; New York: Routledge, 2002.
- Clark, Sherman. 2000. Homonid Evolution, <http://www.unc.edu/courses/2000fall/geol018-001/Lecture40.html> (accessed November, 2004).
- Clayton, Philip. "Natural Law and Divine Action: The Search for an Expanded Theory of Causation." *Zygon* 39, no. 3 (2004): 615-36.
- Collins, Paul. *God's Earth : Religion as If Matter Really Mattered*. North Blackburn, Vic.: Dove, 1995.
- Commission for Mission. "Report to the 1991 Assembly." 1991.
- Commission on Ecumenical Affairs. "Report to the 1988 Assembly." 1988.
- Corkin, Terence. 2003. Membership, Ministry and Sexuality (Proposal 84), <http://nat.uca.org.au/ASC/presidentsletterascdecisions.htm#ascdecisions> (accessed 29 April, 2004).
- Crawford, Robert G. *The God/Man/World Triangle : A Dialogue between Science and Religion*. 1st pbk. , with minor corr. ed. Basingstoke: Macmillan, 2000.
- Daly, Lois. "Ecofeminism, Reverence for Life, and Feminist Theological Ethics." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 88-108. Maryknoll, NY: Orbis Books, 1990.
- Daniels, Chris. email, 17 December 2003.
- Darwin, Charles. 1871. The Descent of Man, and Selection in Relation to Sex, (accessed 4 March, 2004).
- Davis, John. "Christology and Ecology : A New Perspective." *Colloquium* 27 (1995): 40-50.

- Dawkins, Richard. *Climbing Mount Improbable*. not stated: Softback Preview, 1996.
- . 1998. The Emptiness of Theology, Reproduced from *Free Inquiry*, **18**(2), Spring 1998, p. 6, http://www.world-of-dawkins.com/Dawkins/Work/Articles/emptiness_of_theology.htm (accessed 16 December, 2003).
- . *The Extended Phenotype: The Gene as the Unit of Selection*. Oxford: W. H. Freeman and Company, 1982.
- . 1995. Reply to Michael Poole, Reproduced from *Science and Christian Belief*, **7** (1), April 1995, pp. 45-50, <http://www.cis.org.uk/scb/articles/dawkinspoole2.htm> (accessed).
- . 1997. Response to Andrew Brown's "Feud for Thought" (the Guardian), Reproduced from *The Guardian*, 16 June p. 14, <http://www.world-of-dawkins.com/Dawkins/Work/Articles/feud.htm> (accessed 16 December, 2003).
- . 1990. Review of Wonderful Life by Stephen J. Gould, Reproduced from the *Sunday Telegraph*, 25th Feb 1990,(accessed 16 December, 2003).
- . *River out of Eden: A Darwinian View of Life, Science Masters Series*. London: Weidenfeld & Nicholson, 1995.
- . *The Selfish Gene*. second ed. Oxford: Oxford University Press, 1989.
- . 1989. Universal Parasitism and the Co-Evolution of Extended Phenotypes, reproduced from *Whole Earth Review*, Spring 1989, pp. 90-100, <http://www.world-of-dawkins.com/Dawkins/Work/Articles/1989univpara.htm> (accessed 16 December, 2003).
- . *Unweaving the Rainbow: Science, Delusion and the Appetite for Wonder*. London: Allen Lane (Penguin), 1998.
- de Chardin, Teilhard. *Christianity and Evolution*. Translated by René Hague. London: Collins, 1971.
- de Duve, Christian. "Lessons of Life." In *Many Worlds: The New Universe, Extraterrestrial Life and the Theological Implications*, edited by Stephen Dick, 3-14. Pennsylvania: Templeton Foundation, 2000.
- de Waal, Frans. email, 9 Feb 2004.
- . email, 11 Feb 2004.
- . email, 10 February 2004.
- . *Good Natured : The Origins of Right and Wrong in Humans and Other Animals*. Cambridge, Mass.: Harvard University Press, 1996.
- de Waal, Frans, and Frans Lanting. *Bonobo: The Forgotten Ape*: University of California Press, 1997.
- Deanne-Drummond, Celia. *Biology and Theology Today*. London: SCM, 2001.
- Diamond, Jared M. 1992. The Broadest Pattern of Human History, *The Tanner Lectures on Human Values*, <http://www.tannerlectures.utah.edu/lectures/Diamond93.pdf> (accessed 1 October, 2004).
- . 2000. Ecological Collapses of Pre-Industrial Societies, *The Tanner Lectures on Human Values*, http://www.tannerlectures.utah.edu/lectures/Diamond_01.pdf (accessed 1 October, 2004).
- . "Foreword to *What Evolution Is*." In *What Evolution Is*. London: Phoenix, 2002.
- . "New Guineans and Their Natural World." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 251-71. Washington, D.C.: Island Press, 1993.
- . *Why Is Sex Fun?: The Evolution of Human Sexuality, Science Masters*. not stated: Basic Books, 1998.
- Dick, Stephen. "Cosmotheology: Theological Implications of the New Universe." In *Many Worlds: The New Universe, Extraterrestrial Life and the Theological Implications*, edited by Stephen Dick, 191-210. Pennsylvania: Templeton Foundation, 2000.
- Dillenberger, John. *Protestant Thought and Natural Science*. Indiana: University of Notre Dame, 1960.
- Dizdar, Drasko. "Doing Theology Here and Now: Towards a Liberating Contextual Theology." *Trinity Theological College Special Studies* (1990): 1-48.
- Drayton, Dean. 2004. Presidential Ruling #23, <http://nat.uca.org.au/ASC/presruling23.htm> (accessed 29 April, 2004).
- Driver, Simon. Personal Communication (email), 12 November 2003.
- Duffy, Katherine. "The Texture of the Evolutionary Cosmos." In *Teilhard in the 21st Century : The Emerging Spirit of Earth*, edited by Arthur Fabel and Donald St. John, 138-53. Maryknoll: Orbis, 2003.
- Dutney, Andrew. "Bioethics, Ecology and Theology." In *Earth Revealing, Earth Healing: Ecology and Christian Theology*, 213-30. Minnesota: Liturgical Press, 2001.
- . "Bioethics, Ecology and Theology (Unpublished Draft)." In *Earth Revealing, Earth Healing: Ecology and Christian Theology*, na, 2001.
- . 18 November 2004.
- . "Creation and the Church: Proposals and Prospects for an Ecological Ecclesiology." *Trinity Occasional Papers* 6, no. 2 (1987): 50-61.
- . 2003. Ensoulment (Briefing Notes), (accessed August, 2004).
- . *Food, Sex and Death- a Personal Account of Christianity*. Melbourne: Uniting Church Press, 1993.
- . "Is There a Uniting Church Theology?" *Uniting Church Studies* 2, no. 1 (1996): 17-35.
- . 2003. Love Your Enemies: Sermon for the Induction of Rev Dr Lee Levett-Olson as Principal of Coolamon College, <http://skinnypreacher.com/oasis> (accessed July, 2003).
- . *Manifesto for Renewal*. Melbourne: Uniting Church Press, 1986.
- . "A Question of Identity: One Perspective on the Understanding on Authority in the Uniting Church in Australia." *St Mark's Review* March 1987 (1987): 33-42.

- . 16 August 2004.
- . "We Are a Pilgrim People, Aren't We?" Adelaide, 2002?
- . "We Are a Pilgrim People, Aren't We? (Notes from an Annual Lecture)." Adelaide, c2003.
- . "Where Did the Joy Come from (Talk)." Brisbane, 2001.
- . *Where Did the Joy Come From? Revisiting the Basis of Union*. Melbourne: Uniting Church Press, 2001.
- Edwards, Denis. *Creation, Humanity, Community: Building a New Theology*. Dublin: Gill and Macmillan, 1992.
- . "Evolution and the Christian God." In *Interdisciplinary Perspectives on Cosmology and Evolutionary Biology*, edited by Mark Worthing, 172-94. Adelaide: Adelaide Theological Forum, 2002.
- . "Extraterrestrial Life and Jesus Christ." *Pacific Journal of Theology and Science* 1, no. 1 (2000): 12-20.
- . "For Your Immortal Spirit Is in All Things." In *Earth Revealing, Earth Healing: Ecology and Christian Theology*, edited by Denis Edwards, 45-66. Collegeville, Minnesota: Liturgical Press, 2001.
- . *The God of Evolution: A Trinitarian Theology*. New Jersey: Paulist Press, 1999.
- . "Response to Nancey Murphy." In *Interdisciplinary Perspectives on Cosmology and Evolutionary Biology*, edited by Mark Worthing. Adelaide: Adelaide Theological Forum, 2002.
- Ellis, R. C. "Long-Term Effects on Vegetation and Soil of Burning or Not Burning." *Australian Forest Grower* 17, no. 2 (1994).
- Evangelical Members of the Uniting Church. 2000. Doctrinal Statement, <http://www.emu.asn.au/whoarewe/who2.html> (accessed July, 2002).
- . 1996. Response to the "Interim Report on Sexuality" of the Uniting Church in Australia, <http://www.emu.asn.au/resources/sex01.html> (accessed June, 2003).
- Flack, Jessica, and Frans de Waal. "'Any Animal Whatever': Darwinian Building Blocks of Morality in Monkeys and Apes." *Journal of Consciousness Studies* 7, no. 1-2 (2000): 1-29.
- Foley, Jim. c2004. Fossil Hominids: Cro-Magnon Man, (accessed November, 2004).
- Fox, Patricia. "God's Shattering Otherness: The Trinity and Earth's Healing." In *Earth Revealing, Earth Healing: Ecology and Christian Theology.*, 85-104. Minnesota: Liturgical Press, 2001.
- Fox, Warwick. 1990. The Meanings of Deep Ecology, <http://trumpeter.athabascau.ca/content/v7.1/fox.html> (accessed 25 October, 2004).
- Freeman, Cameron. "Heading Towards Omega?" Paper presented at the Christianity After Darwin: Doing Theology in an Evolutionary Context, Adelaide, Australia, September 2004. <http://ehlt.flinders.edu.au/theology/evolution>
- . July 2004.
- Fulsome, Clair. "Microbes." In *The Biosphere Catalogue*, edited by Tango Parish Snyder, 51-56. Oracle: Synergetic Press, 1985.
- Gadgil, Madhav. "Of Life and Artifacts." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 365-80. Washington, D.C.: Island Press, 1993.
- Gebara, Ivone. *Longing for Running Water: Ecofeminism and Liberation*. Minneapolis: Fortress, 1999.
- Geisel (Dr Seuss), Theodor Seuss. *The Lorax*. not stated: Random House Books for Young Readers, 1971.
- Gibbons, Ann. "New Species of Small Human Found in Indonesia." *Science* 306 (2004): 789.
- Gilkey, Langdon. "The God of Nature." In *Chaos and Complexity: Scientific Perspectives on Divine Action*, edited by Robert John Russell, Nancey Murphy and Arthur Peacocke, 211-20. Vatican City State: Vatican Observatory Publications, 1995.
- . *Nature, Reality and the Sacred: The Nexus of Science and Religion*. Edited by Kevin Sharpe, *Theology and the Sciences*. Minneapolis: Fortress, 1993.
- Goslee, David. "Evolution, Ethics and Equivocation: T. H. Huxley's Conflicted Legacy." *Zygon* 39, no. 1 (2004): 137-60.
- Gosling, David. "Towards a Credible Ecumenical Theology of Nature." *Ecumenical Review* 38 (1986): 322 --.
- Gospel and Gender. 1999. Made in the Image of God, *Occasional Paper 9*, The Uniting Church in Australia, (accessed 17 July, 2003).
- Gould, Stephen. "Introduction." In *Evolution : The Triumph of an Idea*. New York: HarperCollins, 2001.
- . "Is a New and General Theory of Evolution Emerging?" *Paleobiology* 6 (1980): 119-30.
- . *Life's Grandeur: The Spread of Excellence from Plato to Darwin*. London: J. Cape, 1996.
- . "Nonoverlapping Magisteria." *Natural history* 106, no. 3 (1997): 16-22,60-62.
- . 1997. Self-Help for a Hedgehog Stuck on a Molehill: Struggle to Inform the Public About Darwinian Evolution, Reproduced from *Evolution*, 51(3), June 1997, http://www.world-of-dawkins.com/Media/cmi_gould.htm (accessed 16 December, 2003).
- . *The Structure of Evolutionary Theory*. Cambridge and London: The Belknap Press of Harvard University Press, 2002. Reprint, fifth.
- Granberg-Michaelson, Wesley. "Creation in Ecumenical Theology." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 96-106. Maryknoll, NY: Orbis, 1994.
- Grzelidze, Tamara. "Creation and Ecology: How Does the Orthodox Church Respond to Ecological Problems?" *Ecumenical Review* 54, no. 3 (2002): 211-18.
- Grigg, Richard. "Evolution with Extinction Events." 2003.
- Grimbaldeston, Michele. "Sophia Renewing Earth: Speaking About God in Wisdom Categories." *Pacific Journal of Theology and Science* 2, no. 1 (2001): 16-22.

- Habel, Normal C. 2004. Bible Studies on the Readings for a Season of Creation (Cycle A), <http://victas.uca.org.au/creation> (accessed 3 September, 2004).
- . *The Earth Files: Biblical Sources for Exploring Our Spiritual Connections with Earth (Draft)*. Adelaide: none, 2003.
- . *Resource Manual for a Season of Creation*: unpublished draft, 2004.
- Habgood, John. "A Sacramental Approach to Environmental Issues." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 46-53. Maryknoll, NY: Orbis Books, 1990.
- Halkes, Catharina J. M. *New Creation : Christian Feminism and the Renewal of the Earth*. London: SPCK, 1991.
- Hallahan, Lorna. "Embracing Unloveliness: Exploring Theology from the Dungheap." edited by Denis Edwards, 105-24. Minnesota: Liturgical Press, 2001.
- Hallman, David G. "Beyond "North/South" Dialogue." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 3-9. Maryknoll, NY: Orbis, 1994.
- Hans-Georg, Link (ed.). "One God One Lord One Spirit (Faith and Order Paper No. 139)." Geneva: World Council of Churches, 1988.
- Häring, Hermann. "The Theory of Evolution as a Megatheory of Western Thought." In *Evolution and Faith*, edited by Bas van Iersel, Christoph Theobald and Hermann Häring, 23-34. London: SCM, 2000.
- Harrison, John. *Baptism of Fire: The First Ten Years of the Uniting Church in Australia*. Melbourne: Uniting Church Press, 1986.
- Harrison, Peter. "Subduing the Earth : Genesis 1, Early Modern Science, and the Exploitation of Nature." *Journal of Religion* 79 (1999): 86-109.
- Haught, John. "Religious and Cosmic Homelessness: Some Environmental Implications." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 159-81. Maryknoll, NY: Orbis Books, 1990.
- Hefner, Philip J. *The Human Factor : Evolution, Culture, and Religion, Theology and the Sciences*. Minneapolis, Minn.: Fortress Press, 1993.
- Herzfeld, Noreen L. *In Our Image : Artificial Intelligence and the Human Spirit, Theology and the Sciences*. Minneapolis: Fortress Press, 2002.
- Hessel, Dieter T. "Now That Animals Can Be Genetically Engineered: Biotechnology in Theological-Ethical Perspective." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 284-99. Maryknoll, NY: Orbis, 1994.
- Hessel, Dieter T., and Rosemary Radford Ruether. "Introduction: Current Thought on Christianity and Ecology." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, xxxiii-xxlvii. Cambridge, Mass: Harvard Univ Pr, 2000.
- , eds. *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*. Cambridge, Mass: Harvard Univ Pr, 2000.
- Hiebert, Theodore. "The Human Vocation: Origins and Transformations in Christian Traditions." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 135-54. Cambridge, Mass: Harvard Univ Pr, 2000.
- Hope, G. S. "Rainforest in Southeastern Australia: The Establishment of the Modern Boundaries." Paper presented at the Victoria's rainforests: perspectives on definition, classification and management: Victorian Rainforest Symposium, State Museum of Victoria, 17 Nov 1991 1992.
- Hosinski, Thomas. "How Does God's Providential Care Extend to Animals?" In *Animals on the Agenda: Questions About Animals for Theology and Ethics*, edited by Andrew Linzey and Dorothy Yamamoto, 137-43. London: SCM, 1998.
- Howe, Margaret. 1965. Woman and Dolphin: Margaret Howe and Peter, Pam, & Sissy Dolphins (Diary Entries), <http://www.tomigaya.shibuya.tokyo.jp/lilly/womandolph01x.html> (accessed 10 August, 2004).
- Howell, Nancy. "A God Adequate for Primate Culture." *Journal of Religion and Society* 3 (2001): 1-11.
- . "The Importance of Being Chimpanzees." *Theology and Science* 1, no. 2 (2003): 179-91.
- Hrdy, Sarah. 2001. The Past, the Present, and Future of the Human Family, *The Tanner Lectures on Human Values*, http://www.tannerlectures.utah.edu/lectures/Hrdy_02.pdf (accessed 6 October, 2004).
- Hudson, Rosalie. "Who Speaks for the Trinity?" *Trinity Occasional Papers* 9, no. 1 (1990): 39-47.
- Huxley, Thomas. 1893. Evolution and Ethics and Other Essays, <http://etext.library.adelaide.edu.au/pg/etext01/thx2010.txt> (accessed 4 March, 2004).
- Igumnov, Platon. "Creation from the Viewpoint of Dogmatic Theology." In *Justice, Peace and the Integrity of Creation : Insights from Orthodoxy*, edited by Gennadios Limouris, 83-93. Geneva: World Council of Churches, 1990.
- Innis, G. J. "Fire Management: In the Wake of Two Centuries of Mismanagement: In Conservation Reserves of Tropical Australia." Paper presented at the Fire Management on Conservation Reserves in Tropical Australia Workshop, 26-30 July 1993, Malanda QLD 1994.
- Interdicasterial Commission (Cardinal Ratzinger presiding). 1997 (final english version). Catechism of the Catholic Church - English Translation, <http://www.seborromeo.org/ccc.htm> (accessed 27 October, 2003).
- Jackson, Arthur. "Charismatic Worship: Trinitarian Theology." *Trinity Occasional Papers* 9, no. 1 (1990): 28-33.

- John, Jason. "Biocentric Theology and the Image of God." Paper presented at the Christianity After Darwin: Doing Theology in an Evolutionary Context, Adelaide, Australia, September 2004.
<http://ehlt.flinders.edu.au/theology/evolution>
- . "Pilgrims Cannot Stay between the Flags." *Uniting Church Studies* 9, no. 2 (2003): 62-68.
- Johnson, Elizabeth. "Losing and Finding Creation in the Christian Tradition." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 3-21. Cambridge, Mass: Harvard Univ Pr, 2000.
- Johnson, Elizabeth A. *Women, Earth, and Creator Spirit, Madeleva Lecture in Spirituality ; 1993*. New York: Paulist Press, 1993.
- Joint Commission on Church Union. *The Basis of Union (1971 Revision)*. Melbourne: The Aldersgate Press, 1971.
- . *The Faith of the Church*. Melbourne: Joint Board of Christian Education, 1959. Reprint, 5.
- Justice Freedom & Hope Committee of the SA Region of Congress. *The Land Our Mother: Liturgy for Social Justice Sunday*. St James: Assembly Social Responsibility and Justice Committee, 1993.
- Kaldor, Peter, and R Powell. *Views from the Pews: Australian Church Attenders Speak Out*: Open Book, 1995.
- Kaufman, Gordon D. *Theology for a Nuclear Age*. Manchester: Manchester University Press, 1985.
- Keenan, Julian Paul, and Mark Wheeler. "Elucidation of the Brain Correlates of Cognitive Empathy and Self-Awareness." *Behavioural and Brain Sciences* 25 (2002): 40-41.
- Kehm, George. "The New Story: Redemption as Fulfillment of Creation." In *After Nature's Revolt : Eco-Justice and Theology*, edited by Dieter T. Hessel, 89-108. Minneapolis: Fortress Press, 1992.
- Keller, Catherine. *Face of the Deep: A Theology of Becoming*. London: Routledge, 2003.
- . "The Face of the Deep: Reflections on the Ecology of Process Thought." *The Australasian Journal of Process Thought* 1 (1999).
- . *New Forward to Apocalypse Now and Then*. unpublished manuscript, 2004.
- Kelly, Tony. "An Emergent Christology." Paper presented at the Christianity After Darwin: Doing Theology in an Evolutionary Context, Adelaide, Australia, September 2004.
<http://ehlt.flinders.edu.au/theology/evolution>
- Keysers, Christian , Christian Wicker, Valeria Gazzola, Jean-Luc Anton, Leonardo Fogassi, and Vittorio Gallese. "A Touching Sight: Sii/Pv Activation During the Observation and Experience of Touch." *Neuron* 42, no. 2 (2004): 335-46.
- Kingsley, Emily. c1987. Welcome to Holland, <http://www.nas.com/downsyn/holland.html> (accessed 6 October, 2004).
- Kneebone, Eddie. "An Aboriginal Response." In *Creation Spirituality and the Dreamtime*, edited by Catherine Hammond, 89-94. Newtown: Millennium Books, 1991.
- Kohen, J. L. "Aboriginal Use of Fire in Southeastern Australia." *Proceedings of the Linnean Society of New South Wales* 116 (1996): 19-26.
- Korsmeyer, Jerry D. *Evolution and Eden : Balancing Original Sin and Contemporary Science*. New York: Paulist Press, 1998.
- Kyung, Chung Hyun. "Ecology, Feminism and African and Asian Spirituality: Towards a Spirituality of Eco-Feminism." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 175-85. Maryknoll, NY: Orbis, 1994.
- Laland, Kevin, and William Hoppitt. "Do Animals Have Culture?" *Evolutionary Anthropology* 12 (2003): 150-59.
- Larkin, Lucy. "The Relationship Quilt: Feminism and the Healing of Nature." In *Earth Revealing, Earth Healing: Ecology and Christian Theology.*, 145-57. Minnesota: Liturgical Press, 2001.
- Larson, Gary. *There's a Hair in My Dirt: A Worm's Story*. New York: Harper Collins, 1998.
- Lawson-John, Finn Jerome. Personal Communication, November 2003.
- Lawton, Geoff. c2003. Permaculture Defined, Permaculture Research Institute,
<http://www.permaculture.org.au/article.php?articleid=18> (accessed 13 February, 2004).
- Lee, Dorothy. "Naming the Self-Naming God: A Position Paper on Inclusive Language in Theology and Liturgy." Parkville: Theology and Discipleship, The Uniting Church in Australia, 2002.
- Leipzig, Martin. 1999. From Earth to Moon, <http://www.skeptictank.org/hs/lomarty.htm> (accessed 30 May, 2003).
- Leopold, Aldo. *A Sand County Almanac*. New York: Oxford University Press, 1949.
- Leopold, Aldo, and Charles Walsh Schwartz. *A Sand County Almanac : With Essays on Conservation from Round River*. New York: Ballantine Books, 1970.
- Levy, David H. *The Ultimate Universe- the Most up-to-Date Guide to the Cosmos*. New York: Byron Pries Multimedia Books, 1998.
- Lewis, C. S. *Mere Christianity*. Glasgow: Collins, 1977.
- Limouris, Gennadios, ed. *Justice, Peace and the Integrity of Creation : Insights from Orthodoxy*. Geneva: World Council of Churches, 1990.
- Lindbeck, George A. *The Nature of Doctrine*. London: SPCK, 1984.
- Ling, Coralie. 2001. Making Wide the Circle: Fitzroy Uniting Church, January 2001, Ecumenical Review,
http://www.findarticles.com/p/articles/mi_m2065/is_1_53/ai_71190357 (accessed March, 2003).
- Linzey, Andrew. *Animal Theology*, 1995.

- . "Introduction: Is Christianity Irredeemably Speciesist?" In *Animals on the Agenda: Questions About Animals for Theology and Ethics*, edited by Andrew Linzey and Dorothy Yamamoto, xi-xx. London: SCM, 1998.
- Liske, J, D Lemon, Simon Driver, N Cross, and W Couch. "The Millennium Galaxy Catalogue: $16 \leq B_{\text{mgc}} < 24$ Galaxy Counts and the Calibration of the Local Galaxy Luminosity Function." *Mon. Not. R. Astron. Soc.* 000 (2003): 1-20.
- Lloyd, Michael. "Are Animals Fallen?" In *Animals on the Agenda: Questions About Animals for Theology and Ethics*, edited by Andrew Linzey and Dorothy Yamamoto, 147-60. London: SCM, 1998.
- Lovelock, J. E. *The Ages of Gaia : A Biography of Our Living Earth, The Commonwealth Fund Book Program*. Oxford: Oxford University Press, 1988.
- . *Gaia: A New Look at Life on Earth*. first ed. Oxford: Oxford University Press, 1979.
- . *Gaia: A New Look at Life on Earth*. Oxford: Oxford University Press, 1995.
- Lowes, Anthony. "Up Close and Personal: In the End, Matter Matters." In *Earth Revealing, Earth Healing: Ecology and Christian Theology.*, 125-43. Minnesota: Liturgical Press, 2001.
- Maddox, Randy L. c1994. Reading Wesley as a Theologian, eds. George Lyons and Michael Mattei. Wesley Centre for Applied Theology,(accessed 24 June, 2002).
- Margulis, Lynn. "Another Four-Letter Word: Gaia." *Whole Earth* (1998).
- . *Origin of Eukaryotic Cells: Evidence and Research Implications for a Theory of the Origin and Evolution of Microbial, Plants and Animals Cells on the Precambrian Earth*. New Haven: Yale University Press, 1970.
- Margulis, Lynn, and James E Lovelock. "Gaia and Geognsy." In *Global Ecology: Towards a Science of the Biosphere*, edited by Mitchell Rambler, Lynn Margulis and Rene' Fester. Boston: Academic Press Inc, 1989.
- Margulis, Lynn, and Dorion Sagan. *Acquiring Genomes: A Theory of the Origins of Species*. New York: Basic Books, 2002.
- . *What Is Life?* New York: Simon & Schuster, 1995.
- Mavor, John, Gregor Henderson, Jill Tabart, and James Haire. "Affirmation of Faith." Uniting Church in Australia, 1998.
- Mayr, Ernst. *Animal Species and Evolution*. Cambridge: Harvard University Press, 1963.
- . "Foreword." In *Acquiring Genomes: A Theory of the Origins of Species*. New York: Basic Books, 2002.
- . *Toward a New Philosophy of Biology: Observations of an Evolutionist*. Cambridge: Belknap Press, 1988.
- . *What Evolution Is*. paperback edition. First edition published in 2001 in the USA by BasicBooks ed. London: Phoenix, 2002.
- McCaughey, Davis (J. D.). *Address to the Assembly*, 1979.
- . "The Authority of Doctrinal Statements." *Trinity Occasional Papers* 1, no. 1 (1981): 6-16.
- . "Church Union in Australia." *The Ecumenical Review* 17 (1965).
- . *Commentary on the Basis of Union*. Melbourne: Uniting Church Press, 1980.
- . "Confession of Faith in Union Negotiations." *Mid-Stream* 6, no. 3 (1967): 23-46.
- . "Language About the Church." *The Reformed Theological Review* 15, no. 1 (1956): 1-17.
- McDaniel, Jay B. "Can Animal Suffering Be Reconciled with Belief in an All-Loving God?" In *Animals on the Agenda: Questions About Animals for Theology and Ethics*, edited by Andrew Linzey and Dorothy Yamamoto, 161-70. London: SCM, 1998.
- . *Of God and Pelicans: A Theology of Reverence for Life*. Louisville: Westminster, 1989.
- . "Revisioning God and the Self: Lessons from Buddhism." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 228-72. Maryknoll, NY: Orbis Books, 1990.
- McFague, Sallie. *The Body of God : An Ecological Theology*. Minneapolis, London: Augsburg Fortress, SCM, 1993.
- . "An Ecological Christology: Does Christianity Have It?" In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 29-43. Cambridge, Mass: Harvard Univ Pr, 2000.
- . "God as Mother." In *Weaving the Visions*, edited by Judith Plaskow and Carol Christ, 139-50. San Francisco: Harper & Row, 1989.
- . "Imaging a Theology of Nature: The World as God's Body." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 201-27. Maryknoll, NY: Orbis Books, 1990.
- . *Models of God : Theology for an Ecological Nuclear Age*. London: SCM, 1987.
- McGinlay, Hugh, ed. *Uniting in Worship: Leader's Book*. Melbourne: The Joint Board of Christian Education, 1988.
- Michollet, Bernard. "Evolution and Anthropology: Human Beings as the 'Image of God'." In *Evolution and Faith*, edited by Bas van Iersel, Christoph Theobald and Hermann Häring, 79-91. London: SCM, 2000.
- Midgley, Mary. *Beast and Man: The Roots of Human Nature*. New York: Cornell University, 1978.
- Mollison, Bill, and Andrew Jeeves. *Permaculture : A Designers' Manual*. Tyalgum, N.S.W.: Tagari Publications, 1988.

- Moody, Mary. *The Good Life*. Sydney: Lansdowne, 1983.
- Moseley, Caroline. 1999. Numbers: Not the Whole Story, <http://www.princeton.edu/pr/pwb/99/0329/elephants.htm> (accessed).
- Mostert, Chris. "The Place of the Bible in Preparing and Receiving Doctrinal Statements." *Trinity Occasional Papers* 1, no. 1 (1981): 17-26.
- Muir, John. 1916. Man's Place in the Universe, http://www.sierraclub.org/john_muir_exhibit/frameindex.html?http://www.sierraclub.org/john_muir_exhibit/index_noframes.html (accessed).
- . 1916. A Thousand Mile Walk to the Gulf, http://www.sierraclub.org/john_muir_exhibit/frameindex.html?http://www.sierraclub.org/john_muir_exhibit/index_noframes.html (accessed 10 April, 2002).
- Myers, Ched. *Who Will Roll Away the Stone? Discipleship Questions for First World Christians*. Maryknoll, New York: Orbis, 1995.
- Nabhan, Gary P, and Sara St. Antoine. "The Loss of Floral and Faunal Story: The Extinction of Experience." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 229-50. Washington, D.C.: Island Press, 1993.
- Nagel, Thomas. 1974. What Is It Like to Be a Bat?, http://members.aol.com/NeoNoetics/Nagel_Bat.html (accessed 7 October, 2004).
- National Social Responsibility and Justice. "International Year of the Ocean: Social Justice Sunday 1998." Sydney South: Uniting Church in Australia, 1998.
- . *The Nuclear Fuel Cycle*. Sydney South: National Social Responsibility and Justice Agency, Uniting Church in Australia, 2000.
- . 2000. Nuclear Fuel Cycle Policy, http://nat.uca.org.au/nsrj/issues/environment/nfc_policy.html (accessed 2 December, 2002).
- . 2000. A Responsible Inheritance, <http://nat.uca.org.au/nsrj/issues/environment/nuclear.htm> (accessed 2 December, 2002).
- . 2002. Social Justice Resolutions of the Uniting Church in Australia, <http://nat.uca.org.au/nsrj/resources/SJResolution/EnvironmentEnergyResources.html> (accessed 2 December 2002, 2002).
- . 2002. Social Justice Resolutions of the Uniting Church in Australia, <http://nat.uca.org.au/nsrj/resources/SJResolution/EnvironmentEnergyResources.html> These resources were removed by UnitingJustice in 2003 for updating. When ready they should be located at <http://nat.uca.org.au/unitingjustice/resources/justiceresolutions/index.html#env>. I have temporarily stored an archived version at http://users.tpg.com.au/rjohn21/uc_resolutions.zip for the benefit of thesis examiners. To unzip the file you will need the password **thesis** (accessed 2 December, 2002).
- . "World Environment Day Liturgy: Give Earth a Chance." Sydney South: The Uniting Church in Australia, 2002.
- . "World Environment Day Liturgy: Weaving Together the Web of Life." Sydney South: The Uniting Church in Australia, 2001.
- National Working Group on Worship. Vows for the Ordination of a Minister of the Word and a Deacon, http://nat.uca.org.au/TD/worship/Orders_of_Service/vows_mow_d.htm (accessed June, 2003).
- Newbigin, Lesslie. *The Household of God: Lectures on the Nature of the Church*. London: SCM Press, 1953.
- Niebuhr, H. Richard. *Christ and Culture*. [1st] ed. New York,: Harper, 1951.
- Noad, Michael J, Douglas H Cato, M M Bryden, Micheline -N Jenner, and K Curt S Jenner. "Cultural Revolution in Whale Songs." *Nature* 408, no. 6812 (2000): 537.
- Noffs, Ted. *By What Authority?:* Methuen, 1979.
- Olshansky, S. Jay, Bruce Carnes, and Robert Butler. "If Humans Were Built to Last." *Scientific American* 13, no. 2 (2003): 94-100.
- Orr, H. Allen. 1997. Darwin V. Intelligent Design (Again), Boston Review, <http://bostonreview.net/BR21.6/orr.html#6> (accessed 27 January, 2004).
- Owen, Michael, ed. *Witness of Faith*. Melbourne: Uniting Church Press, 1984.
- Oxford Online Dictionary. 2004. Ontology, <http://voyager.flinders.edu.au:2066/> Only available to staff and students of Flinders University, for a limited trial period (accessed 28 October, 2004).
- Palmer, Clare. "Stewardship: A Case Study in Environmental Ethics." In *The Earth Beneath : A Critical Guide to Green Theology*, edited by Ian Ball, John Reader, Margaret Goodall and Clare Palmer, 67-86. London: Spck, 1992.
- Participants in the WCC Annecy Gathering, France, September 1988. "Liberating Life: A Report to the World Council of Churches." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 273-90. Maryknoll, NY: Orbis Books, 1990.
- Passmore, John. *Man's Responsibility for Nature*. 2nd ed. London: Duckworth, 1980.
- Peacocke, Arthur. "The Challenge and Stimulus of the Epic of Evolution to Theology." In *Many Worlds: The New Universe, Extraterrestrial Life and the Theological Implications*, edited by Stephen Dick, 89-117. Pennsylvania: Templeton Foundation, 2000.
- . *God and the New Biology*. London, Melbourne: J. M. Dent & Sons, 1986.
- . *Intimations of Reality*. Indiana: Notre Dame, 1984.

- . *Theology for a Scientific Age*. enlarged ed. Minneapolis: Fortress, 1993.
- Pearson, Clive. "Towards an Australian Ecotheology." *Uniting Church Studies* 4 (1998): 12-27.
- Peters, Ted. *Playing God? : Genetic Determinism and Human Freedom*. Second ed. New York: Routledge, 2003.
- . *Science, Theology and Ethics*. Edited by Roger Trigg and J. Wentzel van Huyssteen, *Ashgate Science and Religion Series*. Hants: Ashgate Publishing, 2003.
- . "Theology and Science: Where Are We?" *Uniting Church Studies* 6, no. 1 (2000): 67.
- Peterson, Gregory. "Being Conscious of Marc Bekoff: Thinking of Animal Self-Consciousness." *Zygon* 38, no. 2 (2003): 247-56.
- . "The Evolution of Consciousness and the Theology of Nature." *Zygon* 34, no. 2 (1999): 283-306.
- . "The Intelligent-Design Movement: Science or Ideology?" *Zygon* 37, no. 1 (2002): 7-23.
- Polkinghorne, John. "Physics and Metaphysics in a Trinitarian Perspective." *Theology and Science* 1, no. 1 (2003): 33-49.
- . *Scientists as Theologians: A Comparison of the Writings of Ian Barbour, Arthur Peacocke and John Polkinghorne*. London: SPCK, 1996.
- Pope John Paul II. 1996. Message to the Pontifical Academy of Sciences: On Evolution, <http://www.ewtn.com/library/PAPALDOC/JP961022.HTM> (accessed May, 2001).
- . "The Theory of Evolution and the 'Gospel of Life'." *Catholic International* 8, no. 1 (1997): 14-16.
- Potts, Malcolm, and Roger Short. *Ever since Adam and Eve: The Evolution of Human Sexuality*. Cambridge: Cambridge University Press, 1999.
- Presbyterian Church of Australia. *Minutes of Proceedings of the General Assembly of the Presbyterian Church of Australia*. Sydney: Samuel E. Lees, 1902.
- Price, O, and D. M Bowman. "Fire-Stick Forestry: A Matrix Model in Support of Skilful Fire Management of *Callitris Intratropica* R.T. Baker by North Australian Aborigines." *Journal of biogeography* 21, no. 6 (1994): 573-80.
- Pui-Lan, Kwok. "Ecology and the Recycling of Christianity." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 107-11. Maryknoll, NY: Orbis, 1994.
- . *Introducing Asian Feminist Theology*. Edited by Mary Grey, Lisa Isherwood, Catherine Norris and Janet Wootton. Vol. 4, *Introductions in Feminist Theology*. Sheffield: Sheffield Academic, 2000.
- . "Response to Sallie McFague." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 47-50. Cambridge, Mass: Harvard Univ Pr, 2000.
- Rachels, James. *Created from Animals: The Moral Implications of Darwinism*. Oxford: Oxford University Press, 1990.
- Rahner (ed.), Karl. *Encyclopedia of Theology: A Concise Sacramentum Mundi*. London: Burns and Oates, 1975.
- Rahner, Karl. *Theological Investigations*. Translated by Joseph Denceel and Hugh M. Riley. 23 vols. Vol. 3. London: Darton Longman & Todd, 1961.
- Rainbow Spirit Elders. *Rainbow Spirit Theology : Towards an Australian Aboriginal Theology*. Melbourne: HarperCollins, 1997.
- Rasmussen, Larry. "Theology of Life and Ecumenical Ethics." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 112-29. Maryknoll, NY: Orbis, 1994.
- Regan, Tom. "Christianity and Animal Rights: The Challenge and Promise." In *Liberating Life : Contemporary Approaches to Ecological Theology*, edited by Charles Birch, William R. Eakin and Jay B. McDaniel, 73-87. Maryknoll, NY: Orbis Books, 1990.
- Reid, Stephen. "On the Theological Authority of the Basis of Union." *Uniting Church Studies* 1, no. 2 (1995): 47-62.
- Ridley, Mark. 1996. Evolution, 2nd, Reproduced from *Evolution*, Chapter 12, "The Units of Selection," Blackwell Science Inc, <http://www.world-of-dawkins.com/Catalano/gfiles.htm> (accessed 16 December, 2003).
- Roes, Frans. 1995. I Had the Future Exactly Wrong. Interview with Robert Trivers, <http://www.froes.dds.nl/TRIVERS.htm> (accessed 1 July, 2004).
- . 1996. You Can Survive without Understanding. Interview with Richard Dawkins, <http://www.froes.dds.nl/DAWKINS.htm> (accessed 1 July, 2004).
- Rogers, Roderick. "Evolution- Moving on from the Areopagus." *Trinity Occasional Papers* 8, no. 2 (1989): 59-66.
- Rolston III, Holmes. *Science and Religion: A Critical Survey*, 1987.
- . "Wildlife and Wildlands: A Christian Perspective." In *After Nature's Revolt : Eco-Justice and Theology*, edited by Dieter T. Hessel, 122-43. Minneapolis: Fortress Press, 1992.
- Rosenberg, Karen, and Wenda Trevathan. "The Evolution of Human Birth." *Scientific American* 13, no. 2 (2003): 81-85.
- Ruether, Rosemary Radford. "Christian Anthropology and Gender: A Tribute to Jürgen Moltmann." In *The Future of Theology: Essays in Honour of Jürgen Moltmann*, edited by Miroslav Volf, Carmen Krieg and Thomas Kucharz, 241-52. Michigan: William B. Eerdmans, 1996.
- . "Ecofeminism: The Challenge to Theology." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 97-112. Cambridge, Mass: Harvard Univ Pr, 2000.

- . *Gaia & God : An Ecofeminist Theology of Earth Healing*. San Francisco: Harper, 1992.
- . "Imago Dei, Christian Tradition and Feminist Hermeneutics." In *Image of God and Gender Models: Gender Models in Judaeo-Christian Tradition*, edited by Kari Borresen, 267-91. Minneapolis: Fortress, 1995.
- . "Mother Earth and the Megamachine." In *Womanspirit Rising: A Feminist Reader in Religion*, edited by Carol Christ and Judith Plaskow, 43-52. New York: Harper & Row, 1979.
- . "Pneumatic Nudges: The Theology of Moltmann, Feminism, and the Future." In *The Future of Theology: Essays in Honour of Jürgen Moltmann*, edited by Miroslav Volf, Carmen Krieg and Thomas Kucharz, 142-51. Michigan: William B. Eerdmans, 1996.
- Russell, Robert John. "Five Attitudes toward Nature and Technology from a Christian Perspective." *Theology and Science* 1, no. 2 (2003): 149-59.
- Russell, Robert John, William R Stoeger, and Francisco J Ayala, eds. *Evolutionary and Molecular Biology: Scientific Perspectives on Divine Action*. Vatican City State: Vatican Observatory Publications, 1998.
- Sagan, Dorion, and Lynn Margulis. "God, Gaia and Biophilia." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 345-64. Washington, D.C.: Island Press, 1993.
- Santmire, H. Paul. "Healing the Protestant Mind: Beyond the Theology of Human Dominion." In *After Nature's Revolt : Eco-Justice and Theology*, edited by Dieter T. Hessel, 57-78. Minneapolis: Fortress Press, 1992.
- . *Nature Reborn : The Ecological and Cosmic Promise of Christian Theology, Theology and the Sciences*. Minneapolis, MN: Fortress Press, 2000.
- . *Nature Reborn- the Ecological and Cosmic Promise of Christian Theology, Theology and the Sciences*. Minneapolis: Fortress, 2000.
- . *The Travail of Nature : The Ambiguous Ecological Promise of Christian Theology*. Repr ed. Minneapolis: Augsburg Fortress, 1992.
- Sapolsky, Robert M., and Lisa J. Share. "A Pacific Culture among Wild Baboons: Its Emergence and Transmission." *PLoS Biology (Public Library of Science Biology)* 2, no. 4 (2004): e106.
- Schmaus, Michael. *Dogma 2: God and Creation*. London: Sheed & Ward, 1969.
- Schweitzer, Albert. *My Life and Thought: An Autobiography*. Translated by C. T. Champion. London: George Allen & Unwin, 1933.
- . *A Place for Revelation: Sermons on Reverence for Life*. New York: Macmillan, 1988.
- . "Religion and Modern Civilization." *The Christian Century* 51 (1934).
- . *The Teaching of Reverence for Life*. Translated by Richard Winston and Clara Winston. London: Peter Owen, 1966.
- Seed, John. 2003. Anthropocentrism, <http://www.pantheist.net/society/anthropocentrism.html> (accessed 17 March, 2003).
- Segundo, Juan Luis, and John Drury. *An Evolutionary Approach to Jesus of Nazareth*. Edited by Juan Luis Segundo, *Jesus of Nazareth, Yesterday and Today ; V. 5*. Maryknoll, N.Y.: Orbis Books, 1988.
- Serre, David, Andre Langaney, Mario Chech, Maria Teschler-Nicola, Maja Paunovic, Philippe Menecier, Michael Hofreiter, Goran Possnert, and Svante Paabo. "No Evidence of Neandertal mtDNA Contribution to Early Modern Humans." *PLoS Biology (Public Library of Science Biology)* 2, no. 3 (2004): e57.
- Seymour, John. *The Self-Sufficient Life and How to Live It*. 2nd ed. New York: DK, 2003.
- Shepard, Paul. "On Animal Friends." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 275-300. Washington, D.C.: Island Press, 1993.
- Sigurdsson, Steinn, Harvey B. Richer, Brad M. Hansen, Ingrid H. Stairs, and Stephen E. Thorsett. "A Young White Dwarf Companion to Pulsar B1620-26: Evidence for Early Planet Formation." *Science* 301, no. 5630 (2003): 193-96.
- Singer, Peter. *Animal Liberation: A New Ethics for Our Treatment of Animals*. 2nd ed. London: Thorsons, 1991.
- . *A Darwinian Left: Politics, Evolution and Cooperation*. Edited by Helen Cronin and Oliver Curry, *Darwinism Today*. London: Weidenfeld & Nicholson, 1999.
- . *The Expanding Circle*. Oxford: Clarendon Press, 1981.
- Smith, Rodney. "The Assembly." In *The Uniting Church in Australia: The First 25 Years*, edited by Susan Emilsen and William Emilsen, 7-33. Melbourne: Circa, 2003.
- Social Justice Sunday 2002 Team. *Sustaining Creation: Social Justice Sunday 2002*. Marrickville: Social Justice Sunday 2002 team, 2002.
- Social Responsibility and Justice Committee (Assembly Commission for Mission). "Why Does the Uniting Church in Australia Ordain Women to the Ministry of the Word?" Sydney: The Uniting Church in Australia, 1990.
- Southwood, Richard. *The Story of Life*: Oxford University Press, 2003.
- Sowunmi, M. Adebisi. "Giver of Life- "Sustain Your Creation"." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 149-54. Maryknoll, NY: Orbis, 1994.
- Stassen, Chris. 1997. The Age of the Earth, <http://www.talkorigins.org/faqs/faq-age-of-earth.html> (accessed 6 November, 2003).
- Steen, Francis. "Gould on Adaptationism and Evolutionary Psychology: A Review of Stephen J. Gould, "Evolution: The Pleasures of Pluralism"." *New York Review of Books* 1997.

- Stringer, Robert. 1999. *Uniting Faith and Justice: A Bibliographic Essay*, <http://assembly.uca.org.au/unitingjustice/resources/other/UnitingFaithandJustice21years.doc> (relocated) (accessed 30 November, 2004).
- Tabart, Jill. "What I Know Now." In *Marking Twenty Years: The Uniting Church in Australia 1977-1997*, edited by William Emilsen and Susan Emilsen, 15-25. North Parramatta: United Theological College Publications, 1997.
- Tacey, David J. *Edge of the Sacred : Transformation in Australia*. Blackburn North, Vic.: HarperCollins, 1995.
- Tanner, Ian. "President's Report to the 1988 Assembly." 1985.
- Task Group on the Understanding and Use of the Bible. "Report to the 2000 Assembly of the Uniting Church in Australia." Uniting Church in Australia, 2000.
- Tattersall, Ian. "Once We Were Not Alone." *Scientific American* 13, no. 2 (2003): 20-28.
- Thaller, Michelle. 2002. The End of the Universe in Two Poems, <http://www.csmonitor.com/2002/0829/p25s02-stss.html> (accessed 23 November, 2004).
- Thayer and Smith. "Greek Lexicon Entry for *Pneuma*." In *New Testament Greek Lexicon*, 2003.
- Tinker, George. "The Full Circle of Liberation: An American Indian Theology of Place." In *Ecotheology : Voices from South and North*, edited by David G. Hallman, 218-24. Maryknoll, NY: Orbis, 1994.
- Torrance, Thomas. *Divine and Contingent Order*, 1981.
- . *Karl Barth : An Introduction to His Early Theology 1910-1931*. London: SCM Press, 1962.
- . *Karl Barth : An Introduction to His Early Theology 1910-1931*. Edinburgh: T&T Clark, 2000.
- . *Karl Barth, Biblical and Evangelical Theologian*. Edinburgh: T & T Clark, 1990.
- Tracy, David. "Some Concluding Reflections on the Conference: Unity Amidst Diversity and Conflict?" In *Paradigm Change in Theology : A Symposium for the Future*, edited by Hans Kung and David Tracy, 461-71. Edinburgh: T & T Clark, 1989.
- Trivers, Robert. "The Evolution of Reciprocal Altruism." *Quarterly Review of Biology* 46 (1971): 35-57.
- Union of Concerned Scientists. 1997. World Scientists' Call for Action, <http://www.ucsusa.org/about/callforaction.html> (accessed 14 June, 2002).
- . 1992. World Scientists' Warning to Humanity, <http://www.ucsusa.org/about/warning.html> (accessed 14 June, 2002).
- Uniting Aboriginal and Islander Christian Congress. Manifesto, <http://www.covenanting.unitinged.org.au/index.cgi?tid=17> (accessed 5 October, 2004).
- Uniting Aboriginal and Islander Christian Congress, and Uniting Church in Australia. 1994. The Covenant, <http://www.covenanting.unitinged.org.au/index.cgi?tid=3> (accessed 5 October, 2004).
- Uniting Church in Australia. *Basis of Union : As Approved by the Congregational Union of Australia (1973), the Methodist Church of Australasia (1974) and the Presbyterian Church of Australia (1974), for the Formation of the Uniting Church in Australia*. Melbourne: Uniting Church Press, 1992.
- . "Minutes of the 1985 Assembly." 1985.
- . 1991. Rights of Nature and Rights of Future Generations, <http://nat.uca.org.au/resources/statements/statement1991.htm> (accessed September, 2004).
- . *The Uniting Church Is Australia Constitution*. 1999 ed, 1999.
- UnitingJustice. 2003. World Environment Day Liturgy: Water- Two Billion People Are Dying for It, Uniting Church in Australia, http://nat.uca.org.au/unitingjustice/resources/environment_day/index.htm (accessed June, 2003).
- UnitingJustice, Australian Catholic Social Justice Council, and Anglican Social Responsibilities Network. 2003. Subverting Racism: Social Justice Sunday 2003, <http://nat.uca.org.au/unitingjustice/resources/socialjusticesunday/2003/> (accessed 5 October, 2004).
- van Huyssteen, J. Wentzel. "Fallen Angels or Rising Beasts? Theological Perspectives on Human Uniqueness." *Theology and Science* 1, no. 2 (2003): 161-78.
- Wallace, Mark. "The Wounded Spirit as the Basis for Hope in an Age of Radical Ecology." In *Christianity and Ecology : Seeking the Well-Being of Earth and Humans*, edited by Dieter T. Hessel and Rosemary Radford Ruether, 51-72. Cambridge, Mass: Harvard Univ Pr, 2000.
- Ward, Marcus. *The Pilgrim Church: An Account of the First Five Years in the Life of the Church of South India*. London: Epworth Press, 1953.
- Ward, Peter Douglas, and Donald Brownlee. *The Life and Death of Planet Earth : How the New Science of Astrobiology Charts the Ultimate Fate of Our World*. New York: Times Books, 2003.
- Weightman, Colin. "Christian Theology in Dialogue with Science: A Critique of the Statement "Science, Technology and the Christian Faith" by the National Heads of Churches, 1989." *Colloquium* 23, no. 1 (1990): 27-36.
- Wesley, John. 1872. Collected Sermons of John Wesley from the 1872 Edition, http://wesley.nnu.edu/john_wesley/sermons/alph.htm (accessed 23 November, 2004).
- Westermann, Claus. *Genesis 1-11: A Commentary*. Minneapolis: Augsburg Publishing House, 1984.
- Whelan, Ellen. "Working Together for a Peaceful Ocean- Towards a Nuclear Free and Independent Pacific." Melbourne: Division of Social Justice, Uniting Church in Australia, 1986.
- White, Lynn, Jr. "The Historical Roots of Our Ecologic Crisis." *Science* 155 (1967): 1203-07.
- Wiley, Tatha. *Original Sin- Origins, Developments and Contemporary Meanings*: Fortress Press, 2002.

- Wilford, John Noble. 2003. Hubble Telescope Detects Planet Formed 13 Billion Years Ago, <http://www.nytimes.com/2003/07/10/science/space/10CND-PLAN.html> (accessed 24 November, 2004).
- Wilson, Edward O. "Biophilia and the Conservation Ethic." In *The Biophilia Hypothesis*, edited by Stephen R Kellert and Edward O Wilson, 31-41. Washington, D.C.: Island Press, 1993.
- . "Foreword." In *There's a Hair in My Dirt: A Worm's Story*, edited by Gary Larson. New York: Harper Collins, 1998.
- Wink, Walter. *Jesus and Nonviolence: A Third Way, Facets*. Minneapolis: Fortress, 2003.
- . *Naming the Powers : The Language of Power in the New Testament*. Edited by Walter Wink, *The Powers ; V. 1*. Philadelphia: Fortress Press, 1984.
- Wolfire, Mark. Age of the Sun, <http://www.challenger.org/tr/drjeff1.html> (accessed 6 November, 2003).
- . Size of the Universe, <http://www.challenger.org/tr/drjeff14.html> (accessed 6 November, 2003).
- Wong, Kate. "Who Were the Neanderthals?" *Scientific American* 13, no. 2 (2003): 29-37.
- World Council of Churches. *The Christian Hope and the Task of the Church: Six Ecumenical Surveys and the Report of the Assembly Prepared by the Advisory Commission on the Main Theme, 1954*. New York: Harper & Brothers, 1954.
- Worster, Donald. *American Environmentalism; the Formative Period, 1860-1915, Wiley Sourcebooks in American Social Thought*. New York: Wiley, 1973.
- Worthing, Mark. "Science and Theology- an Historical Overview." *Pacific Journal of Theology and Science* 1, no. 1 (2000): 5-11.
- Wright, Edward L. 2003. Frequently Asked Questions in Cosmology, http://www.astro.ucla.edu/~wright/cosmology_faq.html#DN (accessed 6 November, 2003).
- Young, Norman. *Introducing the Basis of Union*. Melbourne: Joint Commission on Church Union, 1971.
- Zimmer, Carl. *Evolution : The Triumph of an Idea*. New York: Harper Collins, 2001.