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Permaculture: Guiding a Prefigurative Practice for Richard Bauckham's Ecotheology

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I build on the ecotheological dominion discourse that emphasizes a human-nature relationship of non-exploitative, caring responsibility. I interpret Richard Bauckham's ecotheology as a quest for a religious symbol encapsulating this relationship. Bauckham identifies the images of Jesus with wild animals (Mark 1:13) and Francis of Assisi as emblematic symbols. I summarize his ecotheology under three main themes, suggesting that they serve as criteria for his proposed symbols: humans must view themselves as part of nature, exercise caring dominion, and value biodiversity. Bauckham acknowledges the importance of ethical response, however, he generally avoids reflecting on ethical implications for his proposed symbols. In response, I explore David Holmgren's permaculture as ethical guidance for practice. Permaculture offers a holistic ecological approach, which I consider through the perspective of ecotheology, in order to argue that it can guide a prefigurative practice of messianic redemption.

As symbol, Jesus with the wild animals in Mark 1:13 does not constitute an ethic of animal rights. But since it is precisely the modern demythologizing of nature that has turned it into a mere object of human use and exploitation, our need is very much for religious symbols of the human relationship to nature.

Mark's image of Jesus with the animals [1:13] provides a Christological warrant for and a biblical symbol of the human possibility of living fraternally with other living creatures, a possibility given by God and creation and given back in messianic redemption. Like all aspects of Jesus's inauguration of the kingdom of God, its fullness will be realized only in the eschatological future, but it can be significantly anticipated in the present.[1]

[1] Richard Bauckham, *Living with Other Creatures: Green Exegesis and Theology* (Waco: Baylor University Press, 2011), pp. 132, 110.

Introduction

Attention has been given in ecotheology the concept of stewardship as a non-exploitative perspective of dominion.[2] Emphasis has been given also to arguing that "stewardship" remains too anthropocentric for promoting a healthy human-nature relationship.[3] My intentions in this article are not to critically engage these discussions as such, but to build on the fruit of this discourse as a starting point for considering a lived practice of dominion as, at minimum, requiring some form of caring responsibility.

I use Richard Bauckham's ecotheology for a representative voice to build on for guiding ethical activity. As a biblical scholar contributing to ecotheology, he argues the need for an alternative "religious symbol" that best represents the human-nature relationship.[4] By symbol, he seems to mean something like a guiding image in the conscience, or a worldview perspective, that guides how we think about nature in relation to God and humans, and thus how we value and act within it. He acknowledges that the stewardship concept has provided a certain symbolic value for dominion that can be used to advocate for a non-exploitative relationship of responsibility that humans have toward the rest of nature. However, for Bauckham, as with others, "stewardship" still carries the anthropocentric baggage of viewing humans as over nature rather than having responsible power within it, and thus he seeks an alternative symbol.[5]

Bauckham mostly avoids the hazards of ethical implications for his ecotheological arguments,[6] while simultaneously affirming that his discourse is useless without resulting in ethical response for a world of environmental catastrophe.[7] While not every reader in ecotheology will find all of Bauckham's nuances agreeable in the details, his arguments for a symbol and what it requires are generally persuasive, and form a worthy starting point for this article.

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[2] For example, Loren Wilkinson, *Earthkeeping: Christian Stewardship of Natural Resources* (Grand Rapids: Eerdmans, 1991), pp. 307-325; Robin Attfield, 'Christianity', in *A Companion to Environmental Philosophy*, edited by Dale Jamieson (Malden, MA: Blackwell Publishing, 2003), pp. 96-110; Gary W. Fick, *Food, Farming, and Faith* (New York: SUNY, 2008), pp. 15-27; Willis Jenkins, *Ecologies of Grace: Environmental Ethics and Christian Theology* (New York: Oxford, 2008), pp. 77-92; Calvin B. DeWitt, 'Unsustainable Agriculture and Land Use: Restoring Stewardship for Biospheric Sustainability', in *Crisis in Creation: Christian Perspectives on Sustainability*, edited by Robert S. White (London: SPCK Publishers, 2008), pp. 137-156.

[3] For example, Celia Deane-Drummond, *The Ethics of Nature* (Malden: Blackwell Publishing, 2004), p. 44; David Paul Warners and Matthew Kuperus Heun (editors), *Beyond Stewardship: New Approaches to Creation Care* (Grand Rapids: Calvin College Press, 2019); Steven Bouma-Prediger, *Earthkeeping and Character: Exploring a Christian Ecological Virtue Ethic* (Grand Rapids: Baker, 2020); Richard Bauckham, *The Bible and Ecology: Rediscovering the Community of Creation* (Waco: Baylor University Press, 2010), pp. 1-36; Bauckham, *Living with Other Creatures*, pp. 14-62; Kiara A. Jorgenson and Alan G Padgett (editors), *Ecotheology: A Christian Perspective* (Grand Rapids: Eerdmans, 2020).

[4] Bauckham, *Living with Other Creatures.*

[5] Richard Bauckham, 'Modern Domination of Nature', chapter 2 in *Environmental Stewardship: Christian Perspectives—Past and Present,* edited by R.J. Berry (New York: T & T Clark, 2006), p. 46.

[6] See Bauckham, *Living with Other Creatures,* p. 132.

[7] Bauckham begins *Living with Other Creatures* by noting that the book will have "no value" apart from Christian worship, spirituality, and practice, and its goal is expressly to God's praise and ending humanity's "aggressive conquest" against God's other creatures (xiv), not to mention the book's title itself: *Living with Other Creatures*. Ethical activity is also implied in such phrases he uses as "caring responsibility" and "joining creation's praise of God" etc. See also *Living with Other Creatures,* pp. 110, 144, 145, 232 for statements expressing or implying ethical activity and response, and Richard Bauckham, 'The Story of the Earth According to Paul: Romans 8:18-23'. *Review and Expositor* 108 (2011), p. 96.

I begin by proposing Bauckham's ecotheology as a quest for religious symbol, and subsequently explore permaculture as an anticipatory practice for the symbol. Permaculture is an attempt to live a holistically ecological lifestyle. I argue for ecotheology to continue beyond identifying symbols (e.g., Bauckham's Francis and Mark 1:13) into their ethical and experiential possibilities. Specifically, I investigate David Holmgren's permaculture for this kind of ethical guidance. Bauckham notes that "We cannot achieve the eschatological liberation of creation but we can anticipate it", and this anticipation is what I wish to explore with permaculture.[8] I assume that any Christian attempt at environmental ethics must: 1) hold promise as a *holistic* attempt at environmentally-intentional living and 2) foster virtue in the context of making environmentally-conscious choices. I propose that permaculture can guide a prefigurative practice for the kind of dominion that Bauckham finds symbolized in Jesus with the wild animals in Mark 1:13.

To this end, I first summarize the main themes of Bauckham's contributions to ecotheology, which may be framed with an underlying motif of seeking a religious symbol for the human relationship to nature in an age of environmental catastrophe.[9] Second, I introduce Holmgren's permaculture and develop his perspectives in order to demonstrate how they can guide a prefigurative practice of hope for eschatological messianic redemption.

Bauckham's Ecotheological Themes (as a Quest for a Fitting Religious Symbol)

Implied, and at times explicit, throughout Bauckham's ecotheological arguments is the appeal for fitting "religious symbols of the human relationship to nature."[10] He sees this need arising from the insufficiency of concepts such as stewardship and misreading of biblical dominion. All of his arguments can be seen as contributions to this quest for a religious symbol. From this viewpoint, I consolidate Bauckham's ecotheology under these five themes: (1) the human place is within nature; (2) the necessary reinterpretation of dominion is caring responsibility; (3) God delights in biodiversity; (4) Jesus with the wild animals in Mark 1:13 is a symbol for the human-nature relationship; and (5) Saint Francis as an exemplary religious symbol following in Jesus's.

Theme #1: The Human Place Within Creation

One of *Bauckham's* aims is to help us find our place within nature and "recover a stronger sense of our own creatureliness as participants [within] the community of creation, constrained by it and dependent on it."[11] He views humans as having lost their connection with nature and needing to reconnect. His creational taxonomy requires first and foremost that humans praise God along "our fellow-creatures," letting creatures worship God in

[8] Bauckham, 'The Story of the Earth', p. 96.

[9] For Bauckham, the essence of this catastrophe lies in the numerous environmental issues that cannot be stopped. See Bauckham, *Living with Other Creatures,* pp. 133-146, and Bauckham, 'Ecological Hope in Crisis?' *Anvil 29* (2013), pp. 43-44.

[10] Bauckham, *Living with Other Creatures,* p. 132.

[11] Ibid., p. 134; Chs. 1, 7, 8; see also Bauckham, *The Bible and Ecology,* Chs. 2, 3, 5; Bauckham, 'Modern Domination of Nature', pp. 32-50.

their own way.[12] *Humans are partners in praise, "like the four living creatures,"*[13] implying that any religious symbol for the human-nature relationship must align our mutuality with other creatures in nature.

Bauckham sees human dominance mainly as distinctive image bearing as "God's representatives on earth" and not with easily identifiable characteristics separating us from other animals.[14] This view becomes theologically difficult in the details if it makes too much out of similarities between humans and higher animals, which could leave the rest of creation in a somewhat different category from humans and higher animals. Nonetheless, his arguments persuade in that whatever it means to be dominant as image bearers, it must begin with a position of being creatures within nature and using that power with caring responsibility like God.

In spite of generally avoiding ethical implications, Bauckham concludes chapter six of *Living with Other Creatures* with five approaches for humans to reenter nature. First, we must "re-enter God's creation" by recognizing "our place within it."[15] Second, Earth's resources must be experienced as God's gifts and with a sense of dependency on and connection to nature. Third, we must recognize nature's limits and exercise restraint from over-consumption and destruction. Fourth, objective and absolute recognition of limits is difficult, but where possible, we must choose thoughtful restraint. Fifth, Jesus commends freedom from anxiety about needs.

Bauckham's approaches imply that humans are both of and also at odds with nature. Although I'm not aware of Bauckham using the idea, his "reentering nature" seems analogous to post-incarceration citizens. They need to relearn how to be citizens, a kind of "reentry" to citizenship. Humans too need to relearn what it means to "citizens" of nature. This theme in Bauckham's ecotheology provides a viewpoint for the human-nature relationship before God. What approach(es) can holistically guide this "re-entry" into nature?

Theme #2: The Necessary Reinterpretation of Dominion as Caring Responsibility

If reentering nature provides a perspective for the human-nature relationship, the second theme characterizes the quality of that relationship as caring responsibility. Bauckham contends that the prevalent notion of dominion (i.e., exploitation) stems more from early Greek and Renaissance views, particularly Francis Bacon, than from scripture. He acknowledges that Bacon was biblically motivated in seeing dominion as a God-given duty, but critiques Bacon's interpretation as relying more on secular logic than biblical principles, [16] exploiting nature for human ends, and abandoning nature "to commercialization and consumerization" without clear ethical restraints.[17] Dominion is a biblical concept, but when freighted with Baconian ideals, it becomes a defective symbol

[12] Bauckham, *Living with Other Creatures,* p. 13; see also p. 184, and Bauckham, 'The New Testament Teaching on the Environment: A Response to Ernest Lucas'. *Transformation: An International Journal of Holistic Mission Studies* 16 (1999). p. 101.

[13] Ibid., p. 184.

[14] Richard Bauckham, 'First Steps to a Theology of Nature'. *The Evangelical Quarterly: An International Review of Bible and Theology* 58.3 (1986), p. 233.

[15] Bauckham, *Living with Other Creatures*, pp. 144-145.

[16] Convincingly or not, critiquing "mechanical" views of nature is not unique to Bauckham. See Lisa H. Sideris in 'Religion, Environmentalism, and the Meaning of Ecology' in *The Oxford Handbook of Religion and Ecology*, edited by Roger S. Gottlieb (New York: Oxford University Press, 2006), p. 449.

[17] Bauckham, *Living with Other Creatures*, p. 57.

for the [God]-human-nature relationship—even more so in the age of destructive human activity.

Bauckham's concern is not to deny any human eminence, power, or a specific role within nature.[18] Rather, his concern is to keep Genesis 1:26 and 28 in the larger context of "scriptural treatment of the human relationship to other creatures."[19] He also argues compellingly from scripture and early writings that the relationship between humans and animals (both wild and domestic) in early Christianity was characterized by interdependence and care as fellow members of God's creation.[20] As such, any biblically sound symbol for the human-nature relationship must account for a dominion of caring responsibility, an element of human exceptionalism notwithstanding. While discourse on biblical dominion requires further nuance and development, his arguments persuade a concern for humans to use their power as members within nature in order to "avoid and repair damage" to it.[21]

Bauckham is not alone in seeing dominion as referring to a kind of caring responsibility[22] and he acknowledges the positive role that the stewardship motif has played in addressing misinterpretations of Genesis 1:26-28. However, he maintains that "stewardship" truncates the argument to that text at the expense of the origin accounts themselves and the rest of scripture. Beyond the origin accounts his arguments include the psalms, Job, the Gospels, and Revelation. I address one of his key biblical arguments from Mark 1:13 below. As for the origin accounts, he argues they convey that the "earthiness of humans signifies a kinship with the earth itself and with other earthly creatures, plants and animals."[23] *Adam* means "dust/ground" and God creates Adam from the dirt like he creates the other animals. Humans "do not get a day to themselves," but are created on the same day as other land creatures.[24] Human dominion, "like God's, is a matter not of use but of care"[25] and includes a moral sense of feeling and responsibility to participate in God's governance.[26] Thus, the origin accounts convey human exceptionalism, but qualified by caring responsibility among other creatures.[27]

He draws similar arguments from other portions of scripture, which provide a background for his arguments on Mark 1:13, addressed below. He may go too far in some of his critiques of the "humans as priests" or "viceregents" of creation metaphors,[28] although he acknowledges that indeed there is a "royal vocation."[29] His concern is the

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[18] See Bauckham, *The Bible and Ecology*, pp. 89-91.

[19] Ibid., p. 7. See also Pat Bennett and Richard Bauckham, 'Rediscovering the Community of Creation'. *Theology in Scotland* 28.2 (2021). p. 7.

[20] Ibid., pp. 226-229.

[21] Bauckham, 'The Story of the Earth', p. 96.

[22] Among others, see Ellen Davis, *Scripture, Culture, and Agriculture: An Agrarian Reading of the Bible* (New York: Cambridge, 2014), pp. 55-63; Christopher J. H. Wright, *Old Testament Ethics for the People of God* (Leicester: Inter-Varsity Press, 2004), p. 122. Wright more fully develops the kingship ideal.

[23] Bauckham, *The Bible and Ecology*, p. 4.

[24] Bauckham, *Living with Other Creatures,* p. 4.

[25] Bauckham, *The Bible and Ecology,* pp. 19, 29.

[26] Ibid., p. 30.

[27] Bauckham, *The Bible and Ecology,* p. 89.

[28] Jorgenson and Padgett, *Ecotheology,* pp. 15-47. Psalm 104 is a favorite reference for his argument against humans having a priestly role in creation since it clearly reflects the capacity for independent praise by all creatures. However, it does not preclude elements of a priestly role for humans since Psalm 104 is itself a call for praise by humans to all of creation.

[29] Bennett and Bauckham, 'Rediscovering the Community of Creation', p. 8.

distinction between ruling *on behalf of* God in his absence on earth versus *sharing in* God's rule on earth, the former in his view being exploitative and theologically misrepresentative (perhaps even blasphemous) of God's sovereignty and providence.[30] In my view, Bauckham does not consistently clarify what it means for humans to have a "royal" calling on earth as image bearers on the one hand, and on the other hand as nearly rejecting the idea of vice-regency altogether.[31] However, this becomes largely a matter of nuance and his main argument stands that human power as image bearers must be characterized by non-exploitation.

Theme #3: God's Delight in Biodiversity

What I present here as the third key aspect of Bauckham's ecotheology highlights the appropriate human attitude in the human-nature relationship: participating in God's delight in biodiversity. While Bauckham's interest in biodiversity is evident throughout his writings, the final chapter of *Living With Other Creatures* contributes a dedicated theological argument to the question of why species ought to be saved.[32] He begins by demonstrating from environmental studies that we live in an age of mass extinction and concludes that we need to preserve ecosystems as "delicately balanced communities of life" in order to preserve biodiversity.[33] He then argues a biblical case that the Old Testament recognizes the value of diversity; God delights in biodiversity; diverse creatures glorify God "simply by being themselves"[34]; various creatures have various habitats, rocks for badgers, forests for lions[35]; humans are *distinct* but also bear *kinship* with[36] and therefore, have "no right to evict other members of the community from the home God has given us all to share"[37]; Adam is invited to participate in God's delight by naming diverse species[38]; Solomon's natural wisdom for "flora as well as fauna" demonstrates that such diversity has "a positive and important place" in biblical wisdom[39]; Jesus's incarnation means that he is not merely human but "a member of the whole community of creation,"[40] which demonstrates God's delight in his own work of biodiversity.[41]

Bauckham next critiques current monetary valuations for preserving ecosystem services. He acknowledges the benefits of playing "economists at their own game" but maintains that such arguments ultimately cannot account for the financial value of such creatures as the "Yangtse river dolphin, the giant panda or the tiger."[42] Financial

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[30] Jorgenson and Padgett, *Ecotheology,* pp. 42-43. See also Bauckham, *The Bible and Ecology,* pl 30. See also Bauckham, 'The New Testament Teaching on the Environment', p. 101.

[31] Jorgenson and Padgett, *Ecotheology: A Christian Perspective,* pp. 42-43. See also Bauckham, *The Bible and Ecology,* p. 30.

[32] See Holmes Rolston III, 'Biodiversity', in *A Companion to Environmental Philosophy,* edited by Dale Jamieson (Malden: Blackwell Publishing, 2003), pp. 402-415.

[33] Bauckham, *Living with Other Creatures,* p. 217.

[34] Ibid., p. 221.

[35] Ibid., pp. 219, 221, 222.

[36] Ibid., p. 223 (emphasis original).

[37] Ibid., p. 224. This point is perhaps too strong, since humans will always in some sense evict other "members" in order to have their own spaces. But if evicting species is in view, that is more convincing.

[38] Ibid., p. 225.

[39] Ibid., p. 226.

[40] Bauckham, *The Bible and Ecology,* pp. 163-164.

[41] Bauckham, *Living with Other Creatures,* p. 228.

[42] Ibid., p. 230.

arguments are anthropocentric—it's "good for us that such creatures exist."[43] In contrast, the believer's advantage is in seeing "a God-centered world in which everything created has value for God."[44] The community of creation requires more than just humans to thrive.[45] Thus, species ought to be saved for their inherent value and God's delight in them, implying that preserving them fosters participation in God's delight in biodiversity. Therefore, in the context of Bauckham's ecotheology, a symbol for the human-nature relationship must exhibit delight in biodiversity.

If Bauckham's ecotheology represents a quest for a religious symbol of the human-nature relationship, the three themes discussed above serve as criteria for the next two. While the following two may suggest additional criteria, I interpret them within the context of Bauckham's ecotheology as fulfilling the previous criteria and in some sense representing the apex of his search for a symbol.

Theme #4: Jesus With the Wild Animals in Mark 1:13: Symbol for the Human-Nature Relationship

Bauckham considers various interpretations of Jesus *with* wild animals in Mark 1:13, whether it should be understood as a) merely incidental, b) a reference to the demonic realm associated with temptations in the wilderness, or c) a portrayal of Jesus "at peace with the wild animals as the paradisal state of humans and animals was supposed to be in Jewish thought."[46] He argues convincingly that Jesus *with* the wild animals holds significant symbolism for the messianic restoration of creation.

Bauckham demonstrates from various historical sources that compassionate treatment of animals was established well "in Jewish tradition by Jesus's time,"[47] and that Jesus followed the tradition of wise teachers drawing lessons from nature.[48] Jesus's use of nature in his teaching implies that the kingdom of God is "intrinsically like the process of nature."[49] The kingdom theme in Jesus's teaching represents the renewal of creation and the anticipation of a peaceable kingdom.[50]

Some, such as Lisa Sideris, view the "peaceable kingdom" motif in ecotheology as problematic because it conflicts with scientific understandings of nature, constituting a "lack of piety" by failing to respect and thank the deity who created and sustains the natural order of suffering and selection.[51] However, from an ecotheological standpoint, I would argue that this critique must demonstrate whether humans themselves will experience eschatological redemption or must remain within a valued process of suffering in the eschaton. Additionally, Bauckham notes that such views butt up against the need to reconcile nature's "gratuitous cruelty," like a cat playing a mouse to death, with the idea that nature "is as good as it could be."[52] Therefore, taking the biblical narrative to project eschatological redemption for nature, Bauckham argues that

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[43] Ibid., p. 231.
[44] Ibid., p. 231.
[45] Bauckham, *The Bible and Ecology,* p. 88.
[46] Bauckham, *Living with Other Creatures,* p. 115.
[47] Ibid., p. 80.
[48] Ibid., p. 88.
[49] Ibid., p. 68.
[50] Ibid., pp. 73, 75. See also Bauckham, 'The New Testament Teaching', p. 101.
[51] See Sideris, 'Religion, Environmentalism, and the Meaning of Ecology', p. 461.
[52] Bauckham, 'First Steps to a Theology of Nature', p. 241.

> Mark's image of Jesus with the wild animals can be retrieved as the Christological warrant for and symbol of [the possibility of fraternal companionship with animals], given in creation, given back in messianic redemption. It is symbol, and our need is very much for religious symbols of the human relationship to nature.[53]

I take this statement not merely as fulfilling Bauckham's quest for a fitting biblical symbol for the human-nature relationship, but in some way as constitutive of his ecotheology.[54] Jesus, as the consummate human who redeems humans to proper relationships, is with the wild animals in messianic inauguration. Mark 1:13 signifies not only Jesus's messianic work of reconciliation with wild animals, but also the inauguration of redemption for creation as a whole. Taken together with Jesus's life and teaching, Jesus with the wild animals fulfills the criteria for a symbol of the human place within nature, of dominion as caring responsibility, and of delighting in biodiversity. In this sense, Jesus validates the vantage point, embodies the relationship, and expresses the attitude of delight in biodiversity. As such, this symbol anticipates the eschatological restoration of the human-nature relationship in Christ.

Theme #5: Saint Francis as an Exemplary Religious Symbol Following in the Tradition of Jesus with the Wild Animals

Jesus with the wild animals is the foremost symbol for the human-nature relationship from a messianic redemption perspective, and to which others are measured. Following in Jesus's tradition, Saint Francis lived "the biblical understanding of creation …more profoundly and intensely perhaps than any other Christian has done."[55] Francis exemplified what Jesus inaugurated, and as such, he too can function as an exemplary symbol for the human-nature relationship in today's environmental catastrophe. However, since I have already argued that the apex of Bauckham's quest for symbol is fulfilled in Mark 1:13, Bauckham's arguments about the life of Francis are interesting in their own right, but here they function as demonstrating an expression Jesus's accomplishment that enables "the possibility of living fraternally with other creatures," and Francis functions as a symbol by following faithfully in that tradition.

In light of the above themes, if the human place is within nature, if Bacon's dominion is flawed as symbol, if dominion must refer to caring responsibility within nature, and if God has made nature biodiverse and delights in it as such, then a religious symbol must meet these biblical criteria. I see Bauckham as finding these in Jesus with the wild animals in Mark 1:13, and Francis following in Jesus's tradition.

However, we cannot merely identify qualifying symbols; we must also seek to *embody* those symbols as "lived Christian environmentalisms."[56] As Bauckham notes, Francis's life demonstrates that there are human possibilities for "living fraternally with other living creatures."[57] The demonstration of Francis's life, however, comes mainly through his dispositions and theological affections for nature as a mystic, his laudable love and care for God's creatures but in not practices as such. On that level, the symbolic can scarcely assist us in a world of environmental disaster. Yet, ecotheology must confront the ethical dilemmas of envisioning possibilities beyond symbols and consider practical

[53] Bauckham, *Living with Other Creatures*, p. 132.
[54] Not to imply that Bauckham has nothing more to offer for ecotheology.
[55] Ibid., p. 212.
[56] Jenkins, *Ecologies of Grace*, p. 21.
[57] Bauckham, *Living with Other Creatures*, p. 110.

actions that align with Bauckham's criteria. While Bauckham's arguments provide a strong symbol and foundation, they lack direction for informing action. Therefore, I introduce Holmgren's permaculture as a practice that promotes the ethical possibility of fraternal living with other creatures.

Holmgren's Permaculture as a Response to Environmental Catastrophe

What is Permaculture? And Why Permaculture as Application of Bauckham's Ecotheology?

Permaculture's relationship to religion has had mixed results with some permaculturists wanting total disassociation[58] and others arguing for the benefits of incorporating it directly in trainings and practice.[59] I attempt to bring religion and permaculture together here as well, but not with intentions of frothing up these divergent perspectives. Rather, I wish to bring what permaculture deems as ecological practice to ecotheological discourses on the human-nature relationship. The hope being, that permaculture, although secular in outlook, has much to share in terms of guiding practices for practicing Bauckham's symbol.

While other permaculturists could have been chosen, I focus on Holmgren's permaculture for its holistic lifestyle approach and its clear ethics and principles that support ecological living. A co-originator of permaculture alongside Bill Mollison, Holmgren, along with partner Su Dennett, remains a highly influential writer and voice more than 50 years into the project.[60] Not to say that all of Holmgren's views are uncontroversial within the permaculture community; some believe he incorporates too broad a scope, including elements of tradition and religion. However, my primary focus is on his ethical and ecological design principles and their relevance to ecotheology.[61] *Holistic* attempts at environmentally-intentional living such as Holmgren's are essential because insofar as an approach is not holistic, it leaves open the constant of solving one environmental problem while unwittingly exacerbating others. Furthermore, any approach to environmental living must foster virtue as opposed to merely following moral mandates.[62]

"Permaculture" was coined by Mollison and Holmgren as a term for designing human habitats with ecological ideas. After decades of teaching and practice, Holmgren

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[58] See Skeptico, *Does the spiritual have a place in permaculture?* (2012). Online at https://skepteco.wordpress.com/2012/01/09/does-the-spiritual-have-a-place-in-permaculture (accessed 2025-01-18).

[59] Eston Dickson Pembamoyo, 'Renewal of Non-Western Methods for Sustainable Living' in *Religion and Sustainable Agriculture: World Spiritual Traditions and Food Ethics,* edited by Todd Le Vasseur, Pramod Prajuli, and Norman Wirzba (University Press of Kentucky, 2016), chapter 3. He argues for the usefulness of metaphysical grounding in Christian teachings for the effectiveness of permaculture in Mozambique.

[60] As of 2024, Holmgren has been active for five decades in permaculture since he and Mollison began. His book *RetroSuburbia* has sold more than 20,000 copies, and he was the keynote speaker for the 15th International Permaculture Convergence in Taiwan in 2024. IPC15, p. 13; along with his partner Su, and an assistive cadre of helpers, he continues to interview, write, train, network, and publish videos.

[61] Holmgren views their formation as being influenced by but not confined to religion; rather he values religions for their contribution to their formation as universal ideals.

[62] Agreeing with Celia Deane-Drummond and other proponents of virtue perspectives. See Celia Deane-Drummond, 'Plumbing the Depths: A Recovery of Natural Law and Natural Wisdom in the Context of Debates About Evolutionary Purpose'. *Zygon* 42:4, p. 987.

summarizes it as "a design system for resilient living and land use based on universal ethics and ecological design principles."[63] In short, it attempts applied ecology as a lifestyle.[64] Ecology studies the relationships and interactions among organisms and energy flows in ecosystems, while permaculture designs human systems that integrate insights from ecology, agriculture, and architecture, iterating from the experiences of one's own community.[65] Holmgren assumes a reality of "progressively reducing [available fossil] energy" which leaves humans with "a choice between fearful acquisitiveness, cavalier disregard or creative adaptation."[66]

Holmgren's belief that we have entered an "energy descent" future is crucial to his permaculture philosophy of "creative adaptation" and low-tech methods. But he also views permaculture as a better, more enjoyable way to live. The ethics of permaculture are summarized as 1) care for the Earth, which all else depends on; 2) care for people, focusing on self and community responsibility; and 3) fair share, which involves limiting consumption and redistributing surplus locally and beyond. Holmgren sees these ethical principles not as original to him or Mollison but as "distilled from research" in community ethics, religious cultures, cooperative groups, and enduring cultures of place.[67]

While Holmgren and other innovative permaculturists focus on retrofitting existing communities or incorporating higher technological sophistication,[68] permaculture may have limitations for those without land ownership or those with physical constraints. Mollison, Hemenway, and others have proposed intriguing ideas for urban settings and apartment complexes, but these are unlikely to gain wide adoption since urban vitality often lies elsewhere. Despite these or other limitations, Holmgren's design principles[69] grounded in ecological science offer fruitful possibilities for practicing Bauckham's symbols and for ecotheological reflection.

Holmgren's Permaculture as an Anticipatory Practice of Messianic Symbol

I now argue for Holmgren's permaculture for guiding a prefigurative practice of Bauckham's themes and qualifying criteria for a fitting symbol of the human nature relationship. By "prefigurative" I mean anticipatory and participatory practice. This is a nuanced view from how Centemeri and Asara use it with reference to permaculture in "Prefiguration and Ecology":

> It follows that from an ontological politics perspective, the stake of ecological prefiguration is not so much the anticipation and implementation of an alternative

[63] David Holmgren, *RetroSuburbia: The Downshifter's Guide to a Resilient Future* (Hepburn: Melliodora Publishing, 2018), p. 562. He also refers to the movement of permaculture, which is beyond the scope here. *Resilience* is the ecological concept referring to an ecosystem's ability to recover quickly after disturbances such as fire, flood, or human activities like clear-cutting sections of forest.
[64] Toby Hemenway, *The Permaculture City: Regenerative Design for Urban, Suburban, and Town Resilience* (White River Junction, VT: Chelsea Green Publishing, 2015) p. x.
[65] David Holmgren, *Keynote Presentation* at the 15th International Permaculture Convergence in Taiwan (6 November 2024).
[66] David Holmgren, *Collected Writings and Presentations 1978-2006* (Hepburn: Holmgren Design Services, 2007), p. 271.
[67] Ibid., p. 273.
[68] Luminaries Rob and Michelle Avis undoubtedly will alter permaculture practice through their communication and organizational energy and capacity, and their technical background in engineering.
[69] David Holmgren, *Permaculture: Principles and Pathways Beyond Sustainability* (Hepburn: Holmgren Design Services, 2011). He distills his and Mollison's earlier design principles into twelve principles.

> future… but rather making visible a potential ontological alternative – one that is already inherent in the present.[70]

They seek to move beyond anticipation to value what is currently possible, discoverable through practicing permaculture. I share their value of discovery, but I also hold an ecotheological perspective that allows us to participate in what Jesus has already accomplished, making it partly accessible to us now. This participation includes a hopeful anticipation of the peaceable kingdom. I say "partly accessible" because while Jesus was "with the wild animals," we cannot expect to be "with" dangerous animals or those that thrive in harsh environments. However, we can value these creatures by creating space for them on Earth, and through permaculture practices, we can explore possibilities that we may not have envisioned for coexisting with other beings.

Bauckham argued that Jesus with the wild animals symbolizes the inbreaking kingdom for all creation in Christ's first coming, prefiguring eschatological restoration. I contend that when practiced with faith, permaculture can guide this anticipatory hope in the new creation and the restoration of the human-nature relationship through God in Christ.[71] Holmgren writes from a humanist and atheistic perspective (notwithstanding some openness to spirituality), and his permaculture cannot be fully reconciled with Christian theology. [72] Nevertheless, from a theological perspective, Holmgren's permaculture can inform the practice of the symbols of Jesus with the wild animals and Francis in Jesus's tradition. I argue that based on its definitions, ethics, and principles, permaculture can effectively guide how we reenter nature, embrace dominion as caring responsibility, and appreciate God's delight in biodiversity.

While I do not extensively develop the distinctively "religious" aspect of practicing these symbols through permaculture, I assume a hopeful ecotheological perspective.[73] In their Christian practice, the permaculture methods I advocate will presuppose the symbol of Jesus's redemptive work (Mark 1:13), follow the Christian tradition exemplified by Francis, and be implemented alongside Christian worship and the theological virtues of faith, hope, and love. In this sense, permaculture can guide a form of "yearning in hope for the redemption [of creation] yet to come"; to "avert and repair ecological destruction" as a hopeful practice that "believers share with the rest of creation."[74] Although permaculture lacks a metaphysical grounding for its ethics, Bauckham's themes and ethical guidelines provide this grounding, allowing Holmgren's permaculture principles to inform a theological practice.

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[70] Laura Centemeri and Viviana Asara. 'Prefiguration and Ecology: Understanding the Ontological Politic of Ecotopian Movements', in *The Future Is Now: An Introduction to Prefigurative Politics*, edited by Lara Monticelli (Bristol University Press, 2022), p. 11.

[71] Bauckham, 'The Story of the Earth', p. 96.

[72] Such as an ideal in Holmgren's permaculture of religious diversity, not as a matter of dialogue, but valued as such.

[73] Gretel Van Wieren addresses ways in in which environmental work can be practiced in distinctively religious ways. See Gretel Van Wieren, *Food, Farming and Religion: Emerging Ethical Perspectives* (New York: Routledge, 2018).

[74] Bauckham, 'The Story of the Earth', p. 96.

Viewpoint for the Human-Nature Relationship: Permaculture as Humans Reentering and Finding Their Place Within Creation

Bauckham argues that reentering nature involves recognizing the "limits that being recipients of [nature's] bounty entails" and making the ethical choice to limit ourselves to care for other creatures and maintain our place as creatures before God. Limits pertain to both the earth's finite resources and the "limits to which humans can tamper with the earth's ecosystem with impunity" before exhausting resources to the "excess of consumption and expansion" that characterizes modern civilization.[75] The stakes include squandering excess at the expense of others, driving non-human species to extinction, converting wilderness into human landscapes, and defying nature until it retaliates. For Bauckham, reentering nature entails embracing our creatureliness rather than acting godlike in a vain effort to create a utopia separate from nature. He leaves open the question regarding how humans should reenter nature and establish appropriate limits.

Permaculture practice involves a continual reentry into nature's bounty and limitations, engaging with it to design systems that meet human needs, typically starting with food production at home or locally. This process embodies our creatureliness and encourages self-limitation to foster sharing with others and nature through ethical actions. It begins with Holmgren's principle of observe and interact, which requires respecting the unique characteristics of a place—such as soil types, sun angles, water flow, and wildlife—to inform the design. The permacultural ideal is to observe patterns for a year before implementing significant changes. While financial or other constraints may impede this ideal, it underscores the essential need to reenter nature by first observing the limits and possibilities of a given location before incorporating significant change and design.

Holmgren says that "a sense of limits comes from a mature understanding of the way the world works" and that permaculture arose out of "awareness about the limits of resources."[76] The permaculture ethic "fair share" describes setting limits to consumption and reproduction, and redistributing surplus. [77] A particularly challenging aspect of this principle is how to meaningfully determine where to set limits on consumption to make effective ethical choices as moral agents. Permaculture's focus on consuming locally sourced goods helps us identify these limits and develop new strategies that broader consumption patterns do not offer. The woodlot example illustrates how limits can be appropriated based on experience and proximity to resources:

> … if we grow a woodlot to supply our firewood, wasteful use will [drain the source of wood. But if] …we buy firewood, we might never consider how much forest or woodlot is required to provide for our heating. [And] … the impacts of our choices … will seem remote and abstract.[78]

Permaculture also aims for individuals to locally procure their own food.[79] While this goal is often unrealistic as an absolute, gradually approaching it each season makes this lifestyle a process of reentering nature.

Holmgren cites Kat Lavers' suburban permaculture garden as an example of increasing production through experience and knowledge. Over her relatively small

[75] Ibid., p. 132.
[76] Holmgren, *Permaculture: Principles and Pathways*, p. 8.
[77] Holmgren, *RetroSuburbia*, p. 26.
[78] Holmgren, *Permaculture: Principles and Pathways*, p. 75.
[79] Holmgren, *RetroSuburbia*, p. 437.

garden area (115m² / 1237ft²), she produced 253kg of food in the first year, 305kg in the second, and 355kg in the third, with a projected potential of around 510kg (1124lb) annually.[80] This productivity results from deepening reentry into nature while procuring food, enhancing cooperation with natural processes (e.g., waste incorporation, poultry, variety, location, and weather). Effective food production requires consistent interaction with nature's processes (e.g., climate, weather, and animals). Additionally, as one reenters nature, knowledge of reliable food sources and their availability increases. Holmgren concludes, "we are shaped by our place and the cycle of the seasons more than we shape them."[81] Thus, while it may seem ironic to consider reentering nature through agriculture, food production is indeed a primary way for humans to reconnect with nature.[82]

Consequently, as sourcing food at home and locally necessitates interaction with nature through its cycles, permaculture can exemplify the practice of reentering nature. This direct interaction with the "created order" for our sustenance rekindles our sense of creatureliness and deepens our kinship with other beings and dependency on God.[83] In this way, permaculture practices can facilitate a prefigured participation in the new creation symbolized by Jesus in Mark 1:13.

The Character of Restored Human-Nature Relationship: Permaculture as Practicing a Dominion of Caring Responsibility

As an atheist, Holmgren does not subscribe to biblical understandings of image-bearing or dominion. However, his perspective on humanity's relationship with nature can be paired analogously with Bauckham's concept of dominion as caring responsibility for fruit in ecotheology.

As noted, Bauckham acknowledges human eminence when considering the human place in nature. For Bauckham, eminence seems to walk the knife edge between acknowledging human dominion and the eminence of bearing God's image and a qualified dominion of responsible care and fraternal relations with animals. However, rather than merely probing the character of caring dominion, for example, for polar bears, or an endangered species, a more holistic approach such as Holmgren's permaculture is needed.

Holmgren views humans as unique within nature, needing to change it ("design" it) to meet our needs. Theologically, I would argue that human interaction and design reflect elements of biblical dominion. We are a dominant species in that we alter the environment to live, which seems intended by God, who tasked us with cultivating the garden and filling the earth. However, due to sin, humans often use this dominance to create unnatural systems that lead to anthropocentric damage like pollution and habitat destruction.[84] Permaculture offers a way to make responsible changes in nature by consistently considering place and nature in designing environments for human needs. In this sense, it informs a theological perspective through the exercise of a natural virtue. As such, although not religiously grounded in Holmgren's case, permaculture can foster a corrective dominion of caring responsibility. This approach guides the practice of

[80] Holmgren, *RetroSuburbia*, pp. 236-237.
[81] Ibid., p. 240; see also p. 437.
[82] Holmgren, *Permaculture: Principles and Pathways*, p. 108.
[83] Bauckham, *Living with Other Creatures*, p. 144.
[84] As Bauckham notes, sin "impedes that positive, outward directedness of human life, and turns people in on themselves in despair and self-centredness." Bauckham, 'Ecological Hope', p. 48.

Bauckham's "proximate hope," reflecting our present hopes and prefiguring our "ultimate hope" for the new creation in Christ.[85]

Undergirding permaculture philosophy is a recognition of human uniqueness within the animal world, analogous to the theological concept of image bearing, along with a deep sense of embeddedness in creation. Human uniqueness acknowledges that our needs require designing changes in our environment (e.g., water, shelter, waste, community, livelihood, food, energy). Permaculture aims to meet these needs "in a sustainable—or, better yet, regenerative—way if we are to build an equitable, ecologically sound culture."[86] The tension between being attentive to nature—observing it as it is—and accepting that human involvement necessitates change is navigated through thoughtful and reciprocal interactions with nature, emphasizing a caring responsibility as members within nature.[87]

Permaculture's approach to animals exemplifies caring responsibility. Theologically, compassionate care for animals stems from at least two principles: 1) our membership among other creatures, and 2) God's concern for non-human beings, which reflects caring motives. In permaculture, caring for animals involves their role as working partners.[88] This approach assumes that using animals for work and food is not only practical but also more humane than the industrial model of raising livestock solely for food. It recognizes humans as integral members of ecological systems and views animals as valuable contributors to resilient human activities, especially if the need arises to transition away from abundant fossil fuels.

The role of working animals in permaculture is not strictly anthropocentric; it navigates the tension of cooperation and uniqueness within nature while valuing animals in human systems. This "use" of working animals should be broadly understood—not just a horse pulling a plow, but recognizing that animals (and biota in general) fulfill distinct functions in our world, some of which we directly incorporate into designs, while others remain mysterious but accepted as intrinsically valuable. In permaculture, this acceptance is not indifferent to life forms that may conflict with the system's needs (for example, deer eating seedling tree crops). But it does consider the trade-offs inherent in such exchanges, and approaches "pest" problems gently and with the larger ecosystem as a concern. Thus, permaculture's approach exemplifies a dominion of caring responsibility that fosters virtue through the context of shared work and benefits as well as a gentle approach to elements that conflict or are not yet understood. When practiced in faith, it guides a prefigurative practice in the messianic restoration of human and non-human relationships within nature with hope for eschatological restoration of biodiversity.

Divine Attitudes for the Human-Nature Relationship: Permaculture as Guiding Participation in God's Delight in Biodiversity

Given Bauckham's biblical arguments supporting the preservation of biodiversity—preeminently that God delights in biodiversity—the question then is *how* to preserve biodiversity and practice delight in it. On this, Bauckham provides no clear direction. He

[85] Bauckham, 'Ecological Hope', p. 46.

[86] Hemenway, *The Permaculture City*, p. xi. Hemenway builds on Holmgren's descriptions of human needs.

[87] See Holmgren, *Permaculture: Principles and Pathways*, pp. 13, 24, 265.

[88] "Context" but not comprehensive extent of human-animal relations.

seems to advocate conservation approaches and suggests broadly that humans leave certain areas entirely wild, not for ecotourism, but implying that they are isolated from human interference altogether.[89] This extreme view is unrealistic in today's world (notwithstanding value for conservation areas), and a more integrated possibility must be found for valuing biodiversity. Permaculture fosters a practice of delight in and preservation of biodiversity, particularly through the ethic of Earth care and Holmgren's design principles of "use and value diversity" and "use edges and value the marginal." Earth Care in permaculture is pragmatic and humble, recognizing that humans directly depend on the earth and thus have a primary responsibility to care for it. It also suggests that the earth is a vast system beyond our understanding, which obliges us to protect elements of nature that may not seem immediately relevant to human needs.

In Holmgren's permaculture, the appreciation of biodiversity and the valuing of the marginal are situated within a broader framework of diverse cultures, nature, and permaculture practices. For Holmgren, religion brings forth strengths from various values and traditions, contributing diverse perspectives to permaculture, much like elements within an ecosystem. Some aspects of this perspective will conflict with others, such as achieving consensus on issues of social morality beyond a specific permaculture community or individual permaculturist's views.[90] Challenges also arise for Holmgren's view of diversity in Christian theological perspective, whether regarding morality or ontology and perspectives of the divine being (is God one/many, or personal/impersonal?). While Christian theology may diverge from Holmgren's view of diversity—particularly if it holds contradictory beliefs as equally valid—it aligns with him in recognizing the value diverse cultures offer each other. Holmgren's approach to diversity is particularly relevant to this investigation as it promotes biodiversity through systems that support diverse biota, elements, and functions.[91]

Ethnobotanists and anthropologists recognize that "every bio region of the world had its own characteristic ways of cultivating plants, husbanding animals, and organizing the landscape, and often its own language to describe reality, which are reflected in local conditions and a degree of isolation from neighboring regions" which we are in danger of losing.[92] Holmgren sees losing this biodiversity as damaging to culture, place, and possibility. He conceptualizes permaculture as a mediating approach in contrast with conservationist efforts to preserve biodiversity: "While permaculture incorporates strategies to conserve biodiversity, it also seeks a more fundamental redesign of all we do, so that biodiversity becomes a valued and functional part of our world."[93] Holmgren's consideration of diversity is broad, but in view here is the biodiversity that results from different permaculturists practicing in different places. Each system will have capacities for biodiversity that include space for diverse biota of the region as well as the diversity of expressions an individual (or communal) permaculture system.[94]

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[89] Bauckham, 'Modern Domination of Nature', pp. 44, 45.

[90] Centemeri and Asara, 'Prefiguration and Ecology', p. 21.

[91] In permaculture, each element of a system should perform many functions, and each function should be supported by many elements.

[92] Holmgren, *Permaculture: Principles and Pathways*, p. 210.

[93] Holmgren, *Permaculture: Principles and Pathways*, pp. 203-204.

[94] Another valuable area to explore is the potential for agency and virtue at the homestead level, taking into account the diversity of micro systems created by individuals and the environmental choices available to them.

A permaculture system itself must be biodiverse and multifunctional for resilience. For example, a common practice in permaculture is to "catch and store" water onsite by slowing its flow with "swales," terraces that catch rainwater for irrigation of fruit/nut trees planted near the swale.[95] But irrigation is only one of their functions in a permaculture system. They can also feed ephemeral pools or watering holes for livestock, grow plants, and provide resilient habitat for amphibious and other wildlife during drought, or incorporate aquaculture as a food source.[96] The available moisture on the surface enables increased biotic activity of flora, fauna, and fungi which strengthens topsoil and even converts it from subsoil.[97] Slowing surface waterflow also detoxifies and purifies the larger watershed while recharging the aquifer.

Such systems provide space not only for human needs and leisure but also for wildlife and non-human biodiversity to flourish. Holmgren's permaculture encourages delight in biodiversity not merely as a form of conservation separate from human activity, but as interwoven within productive human systems. It becomes reintegrated, appreciated, and celebrated within our daily pursuits. Thus, permaculture practices can guide the believing practitioner to share God's delight in biodiversity while also recognizing intrinsic value. In this way, it guides a prefigurative practice for the eschatological restoration of biodiversity.

Conclusions

One of Bauckham's important contributions to ecotheology is his proposal for a clear religious symbol for the human-nature relationship in Mark 1:13. Jesus with the wild animals in Mark 1:13 and Saint Francis following Jesus's tradition as symbols are not merely two of Bauckham's major themes, but they can be understood as fulfilling the criteria of other themes in his ecotheology. However, ecotheology must press beyond merely identifying symbols to seek exemplary and holistic practices that open up their ethical possibilities.

Assuming a faith perspective and a Christian worldview, I argue that permaculture can guide ethical possibilities for a lived Christian environmentalism and the practice of Bauckham's proposed symbol. In particular, it facilitates participation in the messianic redemption of creation that Jesus initiated in his first coming by reentering nature, embodying a dominion of caring responsibility, and sharing God's delight in biodiversity. Not only does a prefigurative practice bear witness outside of oneself to the hope of messianic redemption in the coming new creation, it is also suggestive of the value of practice itself as the testimony returns witness to the practitioner for eschatological hope in Christ.

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[95] Above, below, or on the swale depending on the trees and the system.

[96] Holmgren, *Permaculture: Principles and Pathways*, p. 233.

[97] Permaculturist Mark Shepard testifies in his books how rapidly clay can be converted into topsoil. See *Water for Any Farm* (Greeley: Acres U.S.A., 2020), p. 33; *Restoration Agriculture: Real-World Permaculture for Farmers* (Greeley: Acres U.S.A., 2013), p. 193.

Bibliography

Adhikari, Jagannath. 'Hindu Traditions and Peasant Farming in the Himalayan Foothills', in *Religion and Sustainable Agriculture: World Spiritual Traditions and Food Ethics*, edited by Todd LeVasseur, Pramod Parajuli, and Norman Wirzba. Lexington: University Press of Kentucky, 2016, pp. 129-137.

Robin Attfield, 'Christianity', in *A Companion to Environmental Philosophy,* edited by Dale Jamieson. Malden: Blackwell Publishing, 2003, pp. 96-110.

Bauckham, Richard. *The Bible and Ecology: Rediscovering the Community of Creation*. Waco: Baylor University Press, 2010.

Bauckham, Richard. 'Ecological Hope in Crisis?' *Anvil,* 29 (2013), pp. 43-54.

Bauckham, Richard. 'First Steps to a Theology of Nature'. *The Evangelical Quarterly: An International Review of Bible and Theology,* 58.3 (1986), pp. 229-244.

Bauckham, Richard. *Living with Other Creatures: Green Exegesis and Theology*. Waco: Baylor University Press, 2011.

Bauckham, Richard. 'Modern Domination of Nature', in *Environmental Stewardship: Christian Perspectives – Past and Present,* edited by R.J. Berry. New York: T & T Clark, 2006, pp. 32-50.

Bauckham, Richard. 'The New Testament Teaching on the Environment: A Response to Ernest Lucas'. *Transformation: An International Journal of Holistic Mission Studies,* 16 (1999), pp. 99-101.

Bauckham, Richard. 'The Story of the Earth According to Paul: Romans 8:18-23'. *Review and Expositor,* 108 (2011), pp. 91-97.

Bennett, Pat and Richard Bauckham. 'Rediscovering the Community of Creation'. *Theology in Scotland* 28.2 (2021). pp. 5–17.

Bouma-Prediger, Steven. *Earthkeeping and Character: Exploring a Christian Ecological Virtue Ethic.* Grand Rapids: Baker, 2020.

Centemeri, Laura and Viviana Asara. 'Prefiguration and Ecology: Understanding the Ontological Politic of Ecotopian Movements', in *The Future Is Now: An Introduction to Prefigurative Politics*, edited by Laura Centemeri. Bristol University Press, 2022, pp.130-143.

Davis, Ellen F. *Scripture, Culture, and Agriculture: An Agrarian Reading of the Bible.* New York: Cambridge, 2014.

Deane-Drummond, Celia. *The Ethics of Nature.* Malden: Blackwell Publishing, 2004.

Deane-Drummond, Celia. 'Plumbing the Depths: A Recovery of Natural Law and Natural Wisdom in the Context of Debates About Evolutionary Purpose'. *Zygon*, 42:4 (2007), pp. 981-998.

DeWitt, Calvin B. 'Unsustainable Agriculture and Land Use: Restoring Stewardship for Biospheric Sustainability', in *Crisis in Creation: Christian Perspectives on Sustainability*, edited by Robert S. White. London: SPCK Publishers, 2008, pp. 137-156.

Fick, Gary W. *Food, Farming, and Faith.* New York: SUNY, 2008.

Gottlieb, Roger S (editor). *The Oxford Handbook of Religion and Ecology.* New York: Oxford University Press, 2006. pp. 446-464.

Hemenway, Toby. *The Permaculture City: Regenerative Design for Urban, Suburban, and Town Resilience.* White River Junction, VT: Chelsea Green Publishing, 2015.

Holmgren, David. *The 15th International Permaculture Convergence (IPC15)*, 6 November 2015 Keynote Presentation. https://holmgren.com.au/wp-

content/uploads/2024/12/IPC15-Taiwan2.pdf?__vbtrk=MjY5MTIxOjYyOTQ5MTAwOm5ld3NsZXR0ZXI&_uax=MjY5MTIxOjYyOTQ5MTAw&utm_medium=email&utm_campaign=hd-so-jan-25&utm_source=vbout&utm_term=original-campaign. Accessed on 15 January 2025.

Holmgren, David. *Collected Writings and Presentations 1978-2006.* Hepburn: Holmgren Design Services, 2007.

Holmgren, David. *Permaculture: Principles and Pathways Beyond Sustainability*. Hepburn: Holmgren Design Services, 2011.

Holmgren, David. *RetroSuburbia: The Downshifter's Guide to a Resilient Future.* Hepburn: Melliodora Publishing, 2018.

Jenkins, Willis. *Ecologies of Grace: Environmental Ethics and Christian Theology.* New York: Oxford, 2008.

Jorgenson, Kiara A. and Alan G Padgett (editors). *Ecotheology: A Christian Perspective.* Grand Rapids: Eerdmans, 2020.

McKibben, Bill. *The End of Nature*. London: Penguin, 1990.

Pembamoyo, Eston Dickson. 'Renewal of Non-Western Methods for Sustainable Living', in *Religion and Sustainable Agriculture: World Spiritual Traditions and Food Ethics,* edited by Todd Le Vasseur, Pramod Prajuli, and Norman Wirzba. University Press of Kentucky, 2016, Chapter 3.

Rolston III, Holmes. 'Biodiversity', in *A Companion to Environmental Philosophy,* edited by Dale Jamieson. Malden: Blackwell Publishing, 2003, pp. 402-415.

Shepard, Mark. *Restoration Agriculture: Real-World Permaculture for Farmers.* Greeley: Acres U.S.A., 2013.

Shepard, Mark. *Water for Any Farm: Applying Restoration Agriculture Water Management Methods on Your Farm.* Greeley: Acres U.S.A., 2020.

Sideris, Lisa H. 'Religion, Environmentalism, and the Meaning of Ecology', in *The Oxford Handbook of Religion and Ecology*, edited by Roger S. Gottlieb. New York: Oxford University Press, 2006, p. 449.

Skeptico. *Does the spiritual have a place in permaculture?* (2012). Online at https://skepteco.wordpress.com/2012/01/09/does-the-spiritual-have-a-place-in-permaculture (accessed 2025-01-18).

Van Wieren, Gretel. *Food, Farming and Religion: Emerging Ethical Perspectives.* New York: Routledge, 2018.

Warners, David Paul and Matthew Kuperus Heun (editors). *Beyond Stewardship: New Approaches to Creation Care.* Grand Rapids: Calvin College Press, 2019.

Wilkinson, Loren. *Earthkeeping: Christian Stewardship of Natural Resources*. Grand Rapids: Eerdmans, 1991.

Wright, Christopher J. H. *Old Testament Ethics for the People of God*. Leicester: Inter-Varsity Press, 2004.