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Hope for Reconciliation Ecology in the Anthropocene

In this thematic issue of *Perspectives on Science and Christian Faith*, the authors take on what has been a central challenge to humanity from the beginning. Although God created all things to be good, due to our fallen nature, we have damaged the creation so much that it is groaning for redemption and reconciliation (Rom. 8:22). As the human population has grown exponentially commensurately with our ability to damage creation, we have reached a time which seems aptly named "the Anthropocene" because of the overwhelming influence of humans on planetary function.

As I reported in my call for papers for this special issue,[1] the Anthropocene Working Group announced on July 11, 2023, that Crawford Lake in Ontario was chosen as the golden spike of the Anthropocene.[2] This led to a flurry of excitement in Ontario and beyond; the enthusiasm extended to the American Scientific Affiliation meeting in Toronto, Ontario, later that same month when the field trip I was on made a detour to stop at the suddenly famous Crawford Lake. Alas, it was not long before the International Commission on Stratigraphy poured cold water on the Anthropocene concept in February 2024, voting against the proposed geological epoch, arguing that the geological indicators were insufficient to establish the Anthropocene as distinct from the Cenozoic.[3] The decades-long debate over the Anthropocene label is itself one of many signs that reconciliation ecology is needed.

Arguments are heating up over what to do about a damaged creation, even as record heat waves and ever-increasing global temperatures continue to sound the alarm about climate change. These long-running arguments as seen from faith perspectives have frequently found their way into the pages of this journal, portraying both the angst associated with the groaning of creation and the hope faith promises to bring to the table. In 2014, a theme issue was published on the implications of new findings in environmental science.[4] Topics included climate change, stewardship of marine resources, geoengineering, and reconciliation ecology as a new paradigm for advancing creation care. Evidently, eleven years later these issues are still top of mind, in that many similar topics are covered in this current theme issue, with all four articles highlighting the value of the reconciliation ecology paradigm that was delineated by David Warners, Michael Ryskamp, and Randall Van Dragt in the 2014 issue.[5]

The first essay in this current issue on reconciliation in the Anthropocene, by Abigail Tamkin and David Wituszynski, purports to build a bridge to reconciliation ecology through the concept that, as we humans are creatures made in the image of God, it is in our very nature to practice reconciliation ecology. They point out that whereas many Christian believers are skeptical about caring for the environment, the doctrine of the *imago Dei* is universally upheld by the Christian faithful. If, in truth, all people of all cultures and religions are made in God's image, then all are called to participate in the mending of broken relationships among each other *and* between humans and nonhuman creations. To make their case, Tamkin and Wituszynski discuss how the expectation of imaging God from Genesis can be seen as a vocational

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calling for all to pursue good relationships with the non-human creation. They also emphasize how Jesus entered into the creation he himself crafted as a loving sojourner and ruler, modeling the same kind of role we are created to take on as God's image bearers.

The second essay is written by William Miller, who researches tick-borne diseases and how they are on the rise in North America. Zoonotic diseases inextricably link environmental health and human health. As Miller points out, when it comes to tick-borne diseases, a changing North American landscape, increasing wildlife and wildlife-human proximity, together with climate change are a recipe for disaster. How should we respond? Reconciliation ecology is the answer. Like Tamkin and Wituszynski, Miller finds another extension to make reconciliation ecology more relevant to a wider audience—the One Health concept. One Health is increasingly being adopted in many circles as a model which recognizes the closely entangled relationships among human, animal, and ecosystem health.

In the third article, "Restoration Aquaculture: Reconciling Aquatic Creatures and Ecosystems to Enhance Fruitfulness for All" by Steven Hall and his colleagues, we are introduced to several cases in which human ingenuity is brought to bear on the reconciliation of a groaning creation. Alligators brought back from the brink of extinction now support a $77 million sustainable industry in the United States. The authors envision a similar pathway for pairing the conservation and culture of sturgeon. The use of marine aquaponics is already supplying a rapidly increasing proportion of the world's food supply: at 6% annual growth, aquaculture is outpacing all other protein sources. Like Tamkin and Wituszynski, Hall et al. refer with hope to the *imago Dei*. They are convinced that human wisdom through imaging God can result in sustainable aquaculture systems. Success in sustainable aquaculture would reduce overexploitation of terrestrial and aquatic systems.

The final article by Sam Pimentel is both inspiring and daunting, as Pimentel expounds on the beauty of the world's glaciers while warning that many of them are in rapid decline. The fact of the matter is that 50% of the world's glaciers will disappear by 2100 due to rising global temperatures, with stark consequences for both land and sea, and by extension, us. These beautiful glaciers act as markers for what we might call the Anthropocene, and as inspiration to do the right thing and attempt to reduce greenhouse gas emissions to slow glacier melting via reconciliation ecology.

The five stages of reconciliation ecology as articulated by Warners et al. in the 2014 issue on environment are worth repeating here to underline how reconciliation ecology works.

1. Recognizing the wrong that was done (Awareness)
2. Lamenting personal complicity (Repentance)
3. Minimizing further harm and working to fix the wrong that was done (Restoration)
4. Accepting forgiveness extended by the agent that was wronged (Acceptance)
5. Moving forward in a new relationship marked by mutual flourishing (Renewal)[6]

Whether we are looking at zoonotic diseases, alligators, or glaciers, it is about making relationships right. Indigenous cultures have a long-standing recognition of the power of relationship healing. As Indigenous ecologist Robin Wall Kimmerer advocates in *Braiding Sweetgrass*:

> We need acts of restoration, not only for polluted waters and degraded lands, but also for our relationship to the world. We need to restore honor to the way we live, so that when we walk through the world we don't have to avert our eyes with shame, so that we can hold our heads up high and receive the respectful acknowledgment of the rest of the earth's beings.[7]

This is the hope for reconciliation ecology in the Anthropocene if we each work to better reflect God's image. May you be inspired by this hope as you read the contributions to this special issue.

Notes

[1]David R. Clements, "Reconciliation Ecology in the Anthropocene," *Perspectives on Science and Christian Faith* 76, no. 2 (2024): 125–38, https://www.asa3.org/ASA/PSCF/2024/PSCF9-24Clements.pdf.
[2]Alexandra Witze, "This Quiet Lake Could Mark the Start of a New Anthropocene Epoch," *Nature* 619 (2023): 441–42, https://doi.org/10.1038/d41586-023-02234-z.
[3]Ritwick Ghosh, "A Fond Farewell to the Anthropocene," *Issues in Science and Technology* 40, no. 3 (2024): 20–22, https://doi.org/10.58875/OUAY7538.
[4]Dorothy Boorse, "New Findings in Environmental Science and Their Implications for Christians," *Perspectives on Science and Christian Faith* 66, no. 4 (2014): 194–202, https://www.asa3.org/ASA/PSCF/2014/PSCF12-14Boorse.pdf.
[5]David Warners, Michael Ryskamp, and Randall Van Dragt, "Reconciliation Ecology: A New Paradigm for Advancing Creation Care," *Perspectives on Science and Christian Faith* 66, no. 4 (2014): 221–35, https://www.asa3.org/ASA/PSCF/2014/PSCF12-14Warners.pdf.
[6]Warners et al., "Reconciliation Ecology," 226.
[7]Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants* (Milkweed Editions, 2013), 195.

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