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Special Issue Reprint

Religion and Planetary Climate Crisis

Edited by
Todd Jared LeVasseur

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Guest Editor

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This is a reprint of the Special Issue, published open access by the journal *Religions* (ISSN 2077-1444), freely accessible at: https://www.mdpi.com/journal/religions/special_issues/ZS3583MFD5.

For citation purposes, cite each article independently as indicated on the article page online and as indicated below:

Lastname, Firstname, Firstname Lastname, and Firstname Lastname. Article Title. *Journal Name* **Year**, *Volume Number*, Page Range.

ISBN 978-3-7258-5317-5 (Hbk)
ISBN 978-3-7258-5318-2 (PDF)
https://doi.org/10.3390/books978-3-7258-5318-2

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About the Editor

Todd Jared LeVasseur

Todd Jared LeVasseur operates at the inter- and transdisciplinary intersections of the environmental humanities, with a focus on religion and nature, environmental ethics, environmental history, critical theory, posthumanism, sustainability science and education, energy humanities/climate change, material feminism, queer ecologies, sustainable agriculture, and ecological animisms. His work is thoroughly interdisciplinary, while being comparative and historical in scope and method. Dr. LeVasseur utilizes a variety of social scientific and humanistic research methods to engage the overarching research question that guides his scholarly path: how can the human animal, from individual to global scales, learn to actively generate just, regenerative, resilient, and sustainable behaviors and lifeways as humans move into the Capitalocene/Carboncene/Anthropocene/Plantationcene, if at all?

Preface

This Reprint is organized around the theme of "Religion and Planetary Climate Crisis." This crisis is understood to be biogeochemical, especially in geological time frames, but also political, economic, technological, ethical, and therefore, biocultural. Central to understanding the crisis is accepting the realization that "We are on the brink of an irreversible climate disaster" (Ripple, et al. 2024). This realization justifies the need for humanities scholars to rapidly address rapid global heating in their research and teaching, and, thus, the requirement for the field of religious studies/theology to rapidly do the same. The articles reprinted in this Reprint begin with this starting assumption, which then grounds the exemplary scholarship undertaken in each reprinted article.

Readers are further reminded that, by definition, no religious production has ever happened on a planet that contains 425+ ppm CO_2 such that rapid climate change is the evolutionary and biogeochemical carrier within which all future religious production, and the scholarship and teaching about religious production, will by definition occur (LeVasseur 2021a, 2021b, 2021c). Therefore, this Reprint explores how theology may be responding to imminent climate regime shifts, with a dominant focus on various Christian theologies; how the sociology of religion may inform readers about how human groups are (or are not) using religion to organize around climate change; and investigates how religious actors are influencing cultural and social discourses around rapid climate change and "dwelling" (Ingold 2022) practices within shifting bioecologies of place (Haberman et al. 2021), especially in relation to technology, metrics of sustainability, and far-right populism. Readers will find that all of the chapters in some way also grapple with the role that religious ethics may (or may not) play in addressing the normative elements of runaway climate chaos, and thus each chapter in its own way explores the interface of politics and religion in the context of rapid global warming. It is hoped the efforts contained herein provide models and pathways for the type of engaged scholarship that will be needed within the Academy, including by scholars in religious studies/theology, to navigate the planetary climate crisis upon our doorstep.

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Guest Editor

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Article

Studying Rome While It Burns

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Abstract: The call for papers for this Special Issue Iidentifies contemporary humanity as experiencing a global "biogeochemical . . . political, economic, technological, ethical, and therefore, biocultural" crisis and asks scholars to consider how "religion may function as an adaptive or maladaptive presence" in response. Unasked is the adaptive capacity of scholarship as a crisis response. When buildings fall in earthquakes, or cities burn in wildfires, or second stories flood, few people just keep on doing what they were doing, "with a change of focus". This is "studying Rome while it burns". It's time to put out the fire if we can and survive it if we cannot. We scholar/teachers can't go on doing the same things and expecting different results. Unprecedented circumstances call for unprecedented actions in response. What would actual crisis responses on our part look like? What steps do we need to take as human beings in response to this crisis? How will that affect us as professionals? Seeking an ecology, rather than unanimity, of action and thought, and guided by Brian Walker's resilience theory and a number of Indigenous scholars, I suggest a process of reintegration, analogous to regenerative agriculture, which is at once both socio-cultural and ecological. This process, necessarily rooted in place, progressively situates us experientially in a dynamic, creative, and relational world characterized by connection, collaboration, and relation. As scholars, we will find forms of discovery, discussion, and dissemination that share these qualities. As teachers, we will model this world to our students and embody it in our classrooms and curricula.

Keywords: reintegration; disintegration; regeneration; climate change; academy; higher education; religion; resilience; relationality; ecology

This article was written on ancestral, unceded lands of the central Kalapuya (Santiam, Lukamiute, and others), currently adjacent to the Confederated Tribes of Grande Ronde. (Lewis (Grande Ronde) 2023).

I have used the phrase "studying Rome while it burns" several times in conference presentations and private conversations over the past few years and received a tremendous resonance, especially among junior scholars. They tell me that in order to make a living in the Academy[1], they are forced to hide their genuine convictions and actual understandings in order to conform to an Academic normalcy, which is the only path to sufficient employment. They are separated, dominated, and controlled by the Academy, forced to pretend that their "studies" are powerful responses to climate crisis and/or social injustice, lest they fade into the obscurity of unemployment. This process begins early, at least in high school, and earlier for others. It's a project to earn a Ph.D., an appointment, and possibly tenure. There's a lot of pain there. Since separation, domination, and control characterize the forces driving a crisis, it's unlikely an institution that requires its participants to submit to them can help us overcome that crisis. I don't think I could have written this paper and submitted it for publication while I was still employed in (rather than retired from) the Academy. It's an initial step on my part to put down my fiddle and notice the fire. So, while "Studying Rome While It Burns" was written in response to the call for papers for a Special Issue of *Religions*, it is not in conformity with that call.[2]

Despite the journal's name, I do not address "religion" or associated concepts in this text, which presents a meta-critique of the Academy. Why submit it here? Most simply, because I have spent a career a career studying, writing, and teaching about religion,

and, increasingly, about ecology and religion.[3] In writing to scholars of religion, I am addressing colleagues, many of whom I know, many more whose publications I have read. We attend the same conferences, peer review each other's work, and collaborate to shape the field. When I call for "us" to have conversations, I am thinking specifically of these colleagues, as well as the broader Academic community. The call for papers for this Special Issue begins by asserting that we live in the midst of a "biogeochemical . . . political, economic, technological, ethical, and therefore, biocultural" crisis, with which I wholeheartedly agree.[4] It goes on to claim that the urgency of the crisis calls for an equally urgent response by humanities scholars. Again, I agree completely: we need all hands on deck. Then, though, it begins to wander off course, insisting that "the field of religious studies/theology (sic)" must do the same, without considering whether those fields could be more part of the problem than of its solution.

Continuing in this vein, the call goes on to describe arenas in which investigations might be pertinent (theology, sociology of religion, whether climate change and its associated discourses are affecting religion, and vice versa). Becoming more specific, it asks religion scholars to continue our customary scholarly activities while pivoting our focus to climate-crisis-related materials. We are invited to engage in a 25-year retrospective of a key figure, to analyze an important scientific text in the light of theoretical material in ecology and religion and/or post-colonialism, to critique religious studies for not considering how climate change affects religion, to consider how climate change affects religion (as apocalyptic imagination or (non)adaptive response), to consider energy as a formative factor in the development of religion, as well as the religious and religious-adjacent motivations of climate activists, or maybe provide a biography of a "climate activist" (Levasseur 2023).

All in all, it reads like any of dozens of calls for papers I've read, focused on a wide variety of special topics.[5] It's hard to understand how this constitutes crisis response. When buildings fall in earthquakes, or cities burn in wildfires, or second stories flood in hurricanes, few people just keep on doing what they were doing "with a change of focus". What would an actual crisis response on our part look like?

While the call for papers asks how "religion may function as an adaptive or maladaptive presence" in response to the crisis, it fails to consider whether "humanities scholars", "religious studies and theology", or "the Academy" function or can function adaptively or maladaptively. When it insists that humanities scholars must "urgently address" the climate crisis in scholarship and teaching, it assumes that humanities scholarship and teaching will be, or at least can be, adaptive, and that it could constitute part of an adequate crisis response. I am not so sure; I would like us to pause to consider the question.

In light of the crisis announced by the call for papers, human beings, whatever our professional practices and identities, must urgently respond to our common crisis, especially those of us with prestige, power, position, and privilege.[6] What steps do we need to take as human beings? How will that affect us as professionals?

In *A Natural History of the Future*, Rob Dunn[7] wrote about the gap between what climate change professionals say in public and what they plan for in their own lives. "Most people who study climate change" support "the best possible outcomes" in their public and professional roles, but their private and personal plans show that they expect much worse. They look at properties in "say Sweden or Canada", and ask questions about year-round flowing water and the likelihood that malaria will move into the neighborhood. "With insider information and disposable income, they are preparing in advance to flee" (Dunn 2021, pp. 96–97). I wonder how many of us are among their number?

Earth's life pattern is near or may already have passed tipping points whose cascading effects are likely to create new ecological conditions that are substantially less hospitable to humans than those we now experience. Our species is at some risk, and civilization ("city-based culture") is likely in for a very rough ride. Yet I believe in our capacity to respond adaptively, creatively, compassionately, realistically, and successfully to the crisis. In so doing, and in order to do so, we will have to address the domination of the many by the few as well as the ecological behaviors that engender climate change, not least because

they are so intertwined. We have no choice but to rely on one another. Solidarity and compassion are prerequisites. On the other hand, our ancestors lived through ice ages. So let's get on with it!

The complexity and intensity of the crisis suggest that rather than finding "solutions", we likely need to learn and practice adaptive creativity for the foreseeable future. We know what we're trying to accomplish. We want our lifeways to enhance the complexity, bio-diversity, abundance, and resilience of the places we inhabit in support of our own thriving.[8] We know it's possible for humans to do so: the Amazon rainforest, the great North American forest and plains, the North California coastal mountains and hills, and boreal Europe are all examples (Curry 2021; Berkes 2018, pp. 47–50; Paschall 2022; Meyer 2017). Unfortunately, the lifeways that dominate today lead instead to ecological degradation and social injustice.

Responding to this crisis calls for an ongoing creativity that has not been scholarship's stock-in-trade. Despite the hopes expressed in the call for papers, it is not clear whether the Academy can contribute to adaptive responses or if Academics can use our Academic training and institutional and public roles to do so.[9] After all, education, including higher education and the Academy, is fully implicated in developing and maintaining these dominant and degrading lifeways. Currently, working in the Academy requires scholar/teachers to act in ways that exacerbate the crisis and our teaching encourages and prepares students to do likewise.

In "Is Decolonizing Education Possible?", Darlene Lane Santa Cruz (Chicanx/Tarajumara/Eudeve/Opata) described education in the United States as one of four primary institutional contexts of the dominating culture, along with economics, politics, and medicine (Santa Cruz 2020b, pp. 125–26). Taken for granted, these institutional contexts inescapably structure everyday life and experience; their existence and assumptions are part of our almost unconscious background. The Academy, or some Academics, may fancy higher education as a special place of resistance, liberation, or transformation, as I once hoped, but it is not. There are, of course, individuals and groups in the Academy who are resistant, liberatory, and transformative, and we might note that economics, politics, and medicine can tell liberatory and transformative tales of themselves as well. But the Academy is no more likely than they are to lead us to social and ecological wellbeing. As Gregory Cajete (Tewa) puts it, "the only real opportunity for deep holistic learning is when one exits the system intentionally, or by accident or through failure" (Cajete 2020b, p. 197).[10]

It is also true, in my experience, that the most "resistant, liberatory, and transformative" people working in the Academy are deeply aware of and distressed by the ways in which their work is distorted and restricted by its inherence in the Academy. We seldom talk of these things openly, but early in the morning at conferences, when we share late-night snacks and thoughts before retiring, or sometimes when walking in relative solitude in a forest or at a beach, we talk with one another. Few indeed would claim they are doing the work they most believe in, or which they would do "if they could". This has been as true of agroecologists, appropriate technologists, biologists, and chemists as of social scientists and humanists, and as true of professionals in student success and academic support as of faculty members.

Returning to Dunn, we can get a sense of the magnitude of the disconnect between the call for papers (and Academic normalcy in general) and the reality of crisis. Suppose we give up on the "best possible outcome" mentioned above. Simply to stop increasing the rate at which we are making things worse "requires radical change . . . If you are living a lifestyle even remotely similar to the life you were living ten years ago, with regard to diet, travel, daily transportation or heating and cooling, you are unlikely to be on this trajectory" (Dunn 2021, p. 96). What lifestyles are we living? What lifestyles do our institutions prepare graduates to inhabit? To aspire to? Are we responding to crisis? Are we teaching our students to live amidst and respond to crisis?

It might seem best simply to leave the Academy and go elsewhere to seek solutions to social–ecological crisis. But where? We all need to make a living, and there are few

opportunities to do so that do not contribute to crisis. Flooding the streets with unemployed Academics doesn't seem effective. To the extent that we have to replicate crisis-producing habits in order to get and stay employed, so be it. I did so, and I am free to write as I do because I'm retired. But let's recognize and admit to our subjugation. Let's not succumb to cognitive dissonance and believe we're being rewarded by the dominating culture for challenging or transforming it. Then, we can collaborate to find the opportunities we do have to respond to crisis and help our students do so as well.

If Academics are to contribute to adaptive responses to climate crisis, we must simultaneously address human (personal) as well as Academic (professional) issues in their complex interrelationship with (or non-distinction from) one another. We'll have to do this individually, with one another (collegially), and with our students (pedagogically). This isn't too surprising, since separation and division are hallmarks of maladaptation, while relationship and participation lie at the root of adaptation.

I come to these conclusions in part on the basis of works by some Indigenous scholars of Indigeny, as well as the resilience theory of Brian Walker (Walker and Salt 2006, 2012).[11] With, e.g., Geoffrey Benjamin, I use Indigeny to refer to a place-based, community-of-beings experience of the world and to the cultures and individuals who inhabit those communities. This contrasts with "Indigeneity", which is a legal term defining participation in politically recognized groups for purposes of legal action and land claims (Benjamin 2017).[12]

There's space here for one example. Some years ago, I was in Orayvi (Oraibi), on Third Mesa in Hopi. A young man, obviously coming from working in a field, climbed the footpath to the mesa and hailed me and JC, with whom I was travelling. In our conversation, we learned his mother was Hopi and his father from another Indigenous group. He had been raised mostly in Oakland, California. In fact, he had recently been sent "to the res" by the Oakland penal system as an alternative to jail. He said he had, just the previous night, participated in his first dance, and that he was attending to his uncle's instructions and trying to learn Hopi ways. Then, he committed a grave violation of those ways by offering to show us the interior of his Grandmother's house, which he had inherited upon her recent death, for a fee. We declined. Later, he somehow found our room at the Hopi Cultural Center and asked for marijuana, which we were both unable (having none) and unwilling to provide. Then, he panhandled us.

This young man was clearly Indigenous. He had immediate native ancestry, was accepted as Hopi, and inherited a house. He was fully entitled to that legal condition. But he was not an Indigene: he knew nothing of the community-of-beings into which he had moved, of the protocols governing inter-species relationships there, or of his obligations or opportunities in relation to his human and other relatives there. It is Indigeny, and not Indigeneity, which interests me, and Indigeny is the focus of some, but by no means all, Indigenous scholars.[13]

The generally submissive and constrained condition of junior faculty that I noted above may be especially difficult for some emerging Indigenous scholars because Academic success often requires either giving up Indigeny or hiding it underneath Academic knowledge (see, e.g., Sam (Ktunxa ?aqlsmaknik) 2020; also, Santa Cruz 2020a, p. 74). I recall one young Indigenous scholar I met a few years ago at an international, resilience-focused conference. They were presenting on water in the region to which they were Indigenous. The presentation focused on "science-based" evaluations but incorporated some Indigenous knowledge about local water that was not entirely aligned with what "science" had to say. At the end, they asked the audience if they were "allowed" to incorporate this traditional knowledge in the Academic context. While we were happy to say "yes" and to accept it at the conference, we had to admit that only their dissertation advisor and committee (and eventual potential employers) could answer that question. Perhaps their doctoral program valued their Indigeneity more than their Indigeny.

In any case, the Indigenous scholars of Indigeny to whom I refer insist it is necessary for experience and understanding to flow in the other direction, from Indigeny to Academia. They call on Academics, as well as others, to (re)integrate into the socio-cultural and

ecological communities whose interrelated well-being is necessary for our own, not just conceptually, but experientially and practically, with a special focus on our inherence in a particular place (Berkes 2018, *passim*; Cajete 2015, p. 217). They ask us to distinguish between "dominion over nature", characterized by prediction and control, and participation in the "community of beings", characterized by "'relational values' that are inherent not in things, but in relationships, and in responsibilities to relationships" (Berkes 2018, p. 296). It is the former that is generating our crisis and the latter which may allow us to respond adaptively to it.

Brian Walker's resilience theory echoes this, though he comes from an entirely different background (Walker and Salt 2006, 2012). A resource manager with a Ph.D. in Ecology, Walker applies chaos theory and its key concept of complex adaptive (or self-organizing) patterns to articulate the pattern that characterizes human existence. Coining the term "social-ecological", Walker demonstrates that the socio-cultural and ecological worlds form a single self-organizing pattern, itself composed of self-organizing patterns, including our selves. There is no "out" side from which humans can understand or act on "the rest". There is a single, complex, interactive, and dynamic pattern, which is inherently creative and in which surprise is inevitable. Such a pattern is intrinsically uncontrollable; our attempts to control it undercut the foundations of our existence. Walker insists that a thriving human future requires fundamental transformations not only in our ideas about the world but in our experience of it.

The crisis is not primarily a knowledge problem; it's a conduct problem, a way-of-life concern (see, e.g., Merz et al. 2023). No existing or newly developed bodies of knowledge, methods, techniques, literatures, disciplines, interdisciplines, or integrations thereof, can lead Academics to the intuitions we need to respond adaptively.[14] We are not plagued by fragmented or incomplete knowledge that we need to complete or connect. We ourselves are fragmented and require (re)integration through a process (analogous to regenerative agriculture) which is at once socio-cultural and ecological.[15] Reintegration requires us simultaneously to engage personally/professionally, theoretically/practically, and mentally/bodily in ways that are uncommon in the Academy. I address this essay to you more as a person than as a professional, and from me more as a person than as a professional, though both are in play.[16]

The sources to which I have referred describe the world (including ourselves) as relational, dynamic and creative, intrinsically filled with surprise, and calling for continuous adaptive response in return. In this relational world, domination, separation, and control are momentary and destructive illusions, while collaboration, relationship, and connection support the long-term thriving of entwined human and ecological aspects. These sources direct us to attend closely to place, especially the place where we live, in order to become intimately familiar with the community-of-beings that comprises it (see, e.g., Long et al. 2020).

In *God is Red*, Vine Deloria, Jr. (Standing Rock) described place as the primary locus of sacred experience for natives in what came to be called North America (Deloria 1973; see also Deloria 1979). Cajete wrote of a "natural democracy" of each particular place, in which "plants, animals and other entities in the natural world have rights of their own" (Cajete 1994, p. 89). This natural democracy "is what social justice looks like for Indigenous people where rights are inherent to all people and the natural world and their existence denotes a participatory and cooperative relationship" (Santa Cruz 2020a, p. 74). Participating in such a community requires us to establish intimate and longstanding relations with the places we inhabit and the communities-of-beings with whom we share inhabitance (Cajete 2000, pp. 93–95, 176–213; Berkes 2018, p. 296).[17]

When humans have such relations, we enhance our social–ecological communities and increase their ability to survive disruption and restore well-being (their resilience). Without these relations, humans disrupt and degrade social ecologies and eventually endanger our own existence. Unfortunately, "normalcy" in the United States is characterized by separation rather than relationship, and emphasizes control over collaboration and

competition over cooperation. Unless we live our way out of these structures of experience, we will simply replicate them in our attempts to overcome their effects (see e.g., Santa Cruz 2020a, p. 57). As a first response to crisis, we will have to stop generating it.

Getting to that point requires us to transform the structures of our experience so that we intuitively and habitually inhabit the dynamic, creative, and relational world described above, becoming, in the process, less separative, dominating, and controlling, and more connected, collaborative, and relational. We do so in part by establishing long-term, multi-generational, social–ecological relations (Cárdenas 2020, p. 90; Forbes (Rappahanock) 1974, p. 16; Rosales (Ndéh) 2020, pp. 56–59). As scholars, we will find forms of discovery and reporting appropriate to this relational world and which incorporate the virtues of connection, collaboration, relationship, and place. As teachers, we will, of course, model this to our students and embody it in our classrooms and curricula.

It's all well and good to read about relational being and write about living among multiple non-human agents, but to respond to crisis, we need to live in that world and in relationship with those agents. It's not just a matter of thinking, but of experience and practice. What would (does) it feel like to live as a self-organizing pattern in dynamic mutual self-formation with other self-organizing patterns at multiple scales? Making this transition is no easy matter; it takes discipline, patience, and practice to change habits of separation and domination into habits of relationship and participation. The former manifest in what I call "disintegration", a condition which separates us from the actually existing relationships upon which we in fact depend, whether or not we acknowledge them. They continue to exist, but we do not experience them and consequently cannot participate in them skillfully or gracefully. Therefore, we live amidst crisis. By reintegrating into conscious participation in these constitutive relationships, we can begin to live (and therefore think) more relationally, dynamically, cooperatively, and creatively.

Practicing relationship, deference, and participation allows us to experience the social–ecological relationships upon which our well-being depends and to participate in them intentionally and effectively. I imagine this process of reintegration to be analogous to that of regenerative agriculture (The Carbon Underground and Regenerative Agriculture Initiative 2017).

We need to (re)establish intimate relationships among mind/body, theory/practice, and experience/idea. As one way to move in this direction, I suggest some "reintegrative praxes" whose goal is to engage us in the conscious practice of ongoing creative social–ecological processes. Reintegrative praxes assume the relational world described above and they attend to relationship and cooperation, inviting dynamic transformation and creativity. They insist on the importance of place and encourage us to be aware of our emplacement and of the places we inhabit and pass through.

Most reintegrative praxes are simple and accessible to anyone, requiring neither special training or remarkable aptitude, subverting the usual separation that elevates "Academic" practices.[18] They can be carried out individually or in groups and can easily be adapted to classrooms and other pedagogical venues. If reintegrative praxes are successful, they will quickly change as the forms of their practitioners' experience changes. Then, too, they are sensitive to place and will differentiate according to the places in which they are practiced.[19] So these praxes will change over time and differ from place to place, even as they help establish patterns of social–ecological relationships that can endure and adapt. They are not propositions, but prompts, and they are neither universal nor eternal.[20]

This is not an appropriate venue to explore reintegrative praxes in depth (but see notes 16 and 18). "Studying Rome" aims to initiate a conversation which would be derailed at its outset if it focused too intensely on any one voice. I'm sure there are many ways for us to move toward relational experience so that we enhance social–ecological resilience. We should suggest as many as we can think of, try them, and find out what works and where and when. To present only reintegrative praxes invites them to become the focus of attention, shortcutting the collaborative creativity we so badly need and devolving into a critique and defense of the praxes.

Is there time? Can we change before the crisis turns into a catastrophe? Who knows? At the very least, the alterations we've already made to the atmosphere, soil, oceans, and fresh water mean that we are now experiencing the early stages of major social–ecological transformations that are no longer avoidable. These include keystone-species-level alterations in the ecologies of most, if not all, bioregions, as well as the largest human migration in history. Under the best of circumstances, we're going to experience some difficulties and need creative adaptation. One virtue of learning to experience the world as dynamic, relational, and creative is that it enables us to enhance social–ecological resilience no matter the circumstances. Reintegration will help us make it through the crisis without collapse if we can, to cope if we can't and things fall apart, and to form viable lifeways afterwards, if it comes to that.

If we're going to respond to crisis effectively, all of us, scholars and non-scholars alike, will have to engage in open-ended, iterative, exploratory, and embodied processes of discovery. We can begin with the processes and practices that accompany and support existing forms of collaborative, or group creativity, such as, for example, some performing ensembles and athletic teams, such as those Keith Sawyer studied in *Group Creativity* (Sawyer 2004).[21] Learning how to form and join creative, collaborative groups is itself reintegrative, and it is likely to be a useful adaptive skill. Let's help our students develop this and give them plenty of practice.

Collaborative creativity arises in the midst of difference as the members of the ensemble manifest and adapt to their differences. The ensemble does not subsume individual players into a larger whole; it manifests the wholeness of relationships among the individuals, a wholeness which exists because of the quality of attention they give to one another. As in ecologies, creative collaboratives require a sustained relationship across differences among multiple creative sources; establishing creative cooperative ensembles not only supports individuality, it is necessary to full individuation, a lifelong and developmental process of growing in one's identity and capacity in relationship (see, e.g., Cajete 2015, pp. 36–42, 108–9, 151; Cajete 2020a, p. ix).

However, the experience of self as a contingent, dynamic, and relational pattern does conflict with contemporary norms of individualism, which are deeply embedded not only in students' experience of self but also in our own. Both we and our students may feel uneasy, even threatened, by giving up the individualized identities with which we identify in order to explore open-ended and relational processes of self-discovery. It's important not only to know how to put this difference in front of students but also how to address their individual and collective anxiety about letting go of the one to discover the other.

Just as relational experience supports and requires individuation, it necessitates multiple forms and ways of understanding. As we respond to the crisis, we'll be best served, I believe, by an ecology of thought. We need lots of voices and many ways to proceed. I look forward to sustained, generative difference, not increasing unanimity. I'm looking for conversation partners, not acolytes.

It does seem to me, though, that we need to stop studying Rome while it burns. It's time to put the fire out if we can and survive it if we cannot. There really is a social–ecological crisis and the Academic institutions in which we make a living are deeply complicit in it. We can't just go on "being Academics". Instead, we need to devise crisis responses, to find ways of life, modes of conduct, forms of experience, and processes of education adequate to the task. If we think capitalism is a problem, we'll need to become less subject to it and to help our students do so as well. If we think the world is relation-like and we are outcomes of patterns of relationship, we need to act like that is true.[22]

Until and unless we can transform the Academy itself, we'll still need to "look like Academics", or we won't be able to get enough contingent work to survive, much less earn and retain tenure. We'll have to work in guerilla fashion: piecemeal; covertly; fugitively. But, as the call for papers notes, we are living in a "biogeochemical . . . political, economic, technological, ethical, and therefore, biocultural" crisis to which we must urgently respond. Our students don't just need a critique of capitalism, they need strategies to be less subject

to it. They don't just need a description of relational and place-based experience, they need the experience. Our students need us to share with them the ways of life, modes of conduct, and forms of experience we develop in response to crisis, and to participate with us creatively in developing them.

We can't go on doing the same things and expecting different results. Whether we adopt reintegrative praxes or follow some other path, we will have to take unprecedented actions in response to our unprecedented circumstances. It's a feel-our-way, find-our-way process, requiring close attention and continuous adjustment, learning to do something none of us knows how to do while developing an understanding in new and unfamiliar ways, like artists facing empty stages, blank canvasses, unmarked paper, or silence.

Funding: This research received no external funding.

Data Availability Statement: No new data were created for this article. Data sharing is not applicable to this article.

Conflicts of Interest: The author declares no conflict of interest.

Notes

1 "The Academy" includes not only colleges and universities but also the related professional venues by which post-secondary education is supported and which it supports. "Academics" include the faculty, staff, students, and alumnae of American community colleges, colleges, and universities; their counterparts in research institutes, museums, and research libraries; and workers in professional academic organizations (including the American Academy of Religion), publishing houses, and academic journals such as this one. "The Academy as an institution" extends even beyond these venues to elements of government, business, and philanthropy which provide or withhold funding and make use of both research outcomes and persons with degrees. Together, they create an ecology of knowledge production and authentication within the larger cultural landscape, and each component of that ecology is shaped by every other.It's a landscape with which I am familiar. I earned tenure at four institutions, including full Professorship at three. I served as department chair, academic dean, and vice-provost. I have taught in and overseen undergraduate, graduate, and terminal degree programs, and provided senior leadership for units in student support services and student academic support, as well as study abroad and community engagement. I have sat on President's Councils. So I know the ins and outs of a good number of corners of the Academy.

2 You'll notice that I violate a number of conventions of academic writing, including using first person and contractions. They emerged out of, and continue to create and enforce, distinctions of class and culture class, not to further clarity of thought. They function to make academic writing unnecessarily opaque and distasteful to non-academic readers, to divide us into status groups according to the formality of our language, and to subordinate non-academic to academic thought. Enforcing Academic writing conventions, a practice that often beginning in grade school, is one way the Academy participates in social domination and control.

3 I co-founded the "Body and Religion" unit of the American Academy of Religion and the "Ecology and Religion" unit of the AAR's Southeast Region. I edit a book series called "Studies in Body and Religion." I wrote the chapter on material culture in the *Routledge Handbook of Research Methods in the Study of Religion* (R. M. Carp 2011). I attended the inaugural meeting of the International Society for the Study of Religion, Nature and Culture, as well as its meetings in Morelia and Amsterdam. I am "in" the Academic Study of Religion and it makes sense to me to address these comments to you, my colleagues.

4 If you doubt we're in a crisis, see, e.g., Ripple et al. (2023) and Lee and Romero (2023). While the call for papers recognizes social justice concerns, it identifies the crisis as primarily geo-chemical. Working with the concept of social–ecological, drawn from Walker and Salt (2006), I maintain there is a single global crisis encompassing social justice and ecology.

5 A few papers are already posted online. Looking at the "recent publication" on *Religions* website, I was unable to distinguish them from a variety of papers in other special publications with quite different foci.

6 That pretty much includes everyone with an advanced academic degree and income derived from college teaching or scholarship. We tend to belong to the 25% of humanity "responsible for 74% of excess energy and material use" (Merz et al. 2023).

7 Dunn is Neal Reynolds Distinguished Professor in the Department of Applied Ecology at North Carolina State University and in the Center for Evolutionary Hologenomics at the University of Copenhagen. He lives in Raleigh, North Carolina, so, according to his own account, he's wondering where to move. Maybe Copenhagen?

8 We'll need to do this to avoid collapse, and if collapse occurs, we'll need to do it to thrive in the places we find ourselves.

9 Following Gregory Bateson, who wrote that meaning is a "difference that makes a difference", (Bateson 1980, p. 110 and *passim*), and Mihalyi Csikszentmihalyi, who defined Creativity as transformation of domains of meaning (Csikszentmihalyi 1996, p. 7), effective climate responses will be meaningfully creative, making differences that transform domains of meaning. For Csikszentmihalyi, Creativity is socio-cultural, and the scarce resource is "gatekeeping", the process by which possibly creative proposals

are winnowed until some are accepted into a field. It's not so much that individuals don't innovate and more that gatekeepers fail to perceive, or are threatened by, individual creativity, and he recommends that educational policy and corporate practice aimed at enhancing Creativity focus on improving gatekeeping rather than enhancing individual creativity (see e.g., pp. 37–45). He capitalizes "Creativity" to distinguish it from the individual and collaborative innovations, some of which are recognized by gatekeepers and integrated into fields and most of which are lost. Greater Academy Creativity would require better and different gatekeeping, affecting admissions (especially to graduate programs), peer review and journal and book editing, and tenure and promotion. It would, I suspect, be quite a change!

10 The Academy, and education in general, have been at the forefront of two processes, both of which are destructive to social justice and ecological well-being. The first is a historical mission to remove immigrant and Native children from their birth cultures in order to resocialize them into the dominant culture and suit them for roles in the economy. The second is a historic mission to extend economic growth indefinitely by inducing previously non-existent desires and intensifying the experience of desire to mimic that of need by means of a marriage of social science, design, and business, creating induced insatiable desire. There isn't space here to demonstrate these phenomena, but Santa Cruz (2020a) provides a good primer on the first. McKnight and Block (2012) offer a brief introduction to the origins of latter, culminating in Hoover's Committee on Recent Economic Changes of 1929. For more on induced insatiable desire, see Forbes (2008) and Kimmerer (Potowatomi) (2015).

11 The word "Indigeny" in my initial submission provoked an irate and disdainful response from a peer reviewer, who cited its archaic use to refer to penury and accused me of fraudulent scholarship.

12 Benjamin takes social scientists to task for using the "recently coined term indigeneity" to obscure important facts on the ground, of which indigeny is one (p. 363). In note 4, he remarks that "indigeneity" did not appear in the 2005 editions of either the Oxford or the Shorter Oxford dictionaries.

13 I am not suggesting that urbanized Indigenous peoples cannot be Indigenes, or that people who live "on the res" necessarily are. The situation is far more complex than that. This is just an exemplary story about a single individual.

14 We have known since the 1980s that the global population could sustainably live at material levels approximating those of Eastern Europe, manifest in various cultural forms. We know what could be done, but we have no idea how to implement it. Achieving resilience is much less a technical problem than a socio-political one. See, e.g., Merz et al. (2023).

15 "Regenerative Agriculture is a holistic land management practice that leverages the power of photosynthesis in plants to close the carbon cycle, and build soil health, crop resilience and nutrient density. Regenerative agriculture improves soil health, primarily through the practices that increase soil organic matter. This not only aids in increasing soil biota diversity and health, but increases biodiversity both above and below the soil surface, while increasing both water holding capacity and sequestering carbon at greater depths, thus drawing down climate-damaging levels of atmospheric CO_2, and improving soil structure to reverse civilization-threatening human-caused soil loss. Research continues to reveal the damaging effects to soil from tillage, applications of agricultural chemicals and salt based fertilizers, and carbon mining. Regenerative Agriculture reverses this paradigm to build for the future". (The Carbon Underground and Regenerative Agriculture Initiative 2017, p. 1)

16 A colleague noted the irony that I reveal little about myself as a person in this text. There are several reasons, among them that I do not hold myself up either as an exemplar or a cautionary tale. In such a short piece, it's hard to tell personal stories without adopting one or another of these stances. Another is the impersonal abstraction of writing itself. I'm a fan of face-to-face and my preferred larger scale medium is theatre, in which artists and audience necessarily share space and time. I can, of course, provide demographics: 74 years old, white, male, CIS, married (blissfully, 39 years), two sons, one daughter-in-law, two grandsons (4 and 4 months), residing in Salem, Oregon, retired, Ph.D. in Interdisciplinary Studies, early career in experimental theatre, later, Academic career teaching and administrating in art schools and interdisciplinary studies departments, and ending with a stint leading the undergraduate college at a small West coast Catholic liberal arts oriented university. Born in Wisconsin, raised in San Antonio, TX, graduated high school Bethesda, MD, arrived in San Francisco to go to Stanford in 1967 (Summer of Love!), lived in the Haight from 1971–1973 with a theatre collective of seven houses and sixty-three people (give or take), worked in private colleges of art and design, regional State Universities, and a private liberal arts college while living in California, Missouri, Illinois, and North Carolina.

17 My own process toward inherence in place has been slow, and somewhat peripatetic. Learning to waymake, hunt, and fish as a child in Texas engendered a habit of close attention to the living world around me and to the creatures living there with me, as well as a reverential sense of the integrity of a place. It also led me, through "conservationism," into ecology. In a dozen years in the San Francisco Bay Area I fell in love with fog, redwood trees, live oaks, ravens, red tailed hawks, and so much more. We would have stayed, but economics and family drove us away, first to Kansas City, then Geneva, IL and Boone, NC, before a final few years back in the Bay Area. Each place has shaped and taught me, but there's no space here to articulate that. In Illinois, though, at my wife's instigation, we began a small native planting project. In time, that interest grew into the restoration of a small stream and just under 3 acres of land in the North Carolina mountains, and our current project "restoring to native" our lot in Salem, Oregon, where we have lived for the past six years. So we have learned over time a good bit about how to begin to meet, collaborate with, and learn from our co-inhabitants. But we moved a lot, mostly for economic and partly for cultural reasons. If I had it to do over again, I'd try hard to find a way to stay put.

18 There is one praxis with special relevance for Academics and our students. It involves making experientially true for ourselves as individuals general propositions we hold true of "humans" and "the human species", what you might call an Academic,

taken-for-granted, philosophical anthropology. The story goes like this: homo sapiens is an animal species whose evolution can be traced over millions of years in a variety of successive ecological contexts. Hominin evolution is marked by the development of complex practical and symbolic cultures and homo sapiens is evolved to be a socio-cultural animal. Culture plays a significant role in shaping not only shared but also individual experience and understanding. In addition, each specific person is deeply formed by associations, especially through direct relationships with living persons. The most powerful associates are primary caregivers in infancy and early childhood. A human individual, then, is the outcome of a dynamic pattern of relations among evolution, ecology, culture, and association. All of us in general and each of us individually depends on this pattern; we are not independent. It seems to me most Academics agree that this account is true, and that most general education programs teach some version of it. But I don't think most of us experience the world and ourselves as if it was true. That's at least intellectually dishonest. So, for Academics especially, one important reintegrative praxis is to integrate into our experience, as a matter of course, the evolutionary, ecological, cultural, and associational relationships that constitute our being and upon which we depend to exist.

[19] Places differentiate but they do not necessarily establish conflict. Ecological transitions such as those between valleys and mountains or seacoasts and inlands suggest the ways in which places both border and blend with one another.

[20] The first reintegrative praxis is to slow down and go outside, wherever you are and especially where you live. Slow down; go outside (J. E. Carp 2006). It may seem counterintuitive to slow in response to crisis, but this crisis is born out of speed, and succumbing to speed is submitting to disintegration (J. E. Carp 2011). Slowing gives us the perceptions and relationships that we need and which are impossible at speed. No matter how urgent it is to respond to crisis, going fast is a recipe for failure. The great UCLA basketball coach John Wooden used to tell his players, "Be quick, but don't hurry".

[21] I have worked as a theatrical actor, director, and playwright and taught in professional colleges of art and design.

[22] We would, for example, help students inoculate themselves from induced, insatiable desire, which would probably involve helping them excavate how the Academy generates and participates in this. It's worth noting that "changing people's minds" generates less change than altering our behavior (Primavesi 2007). It might be better to barter with our students and help them establish barter relationships than to teach them to critique capitalism only to be subject to it after graduation. Kitchen gardening, mending and repair, and participating in communities where skills are routinely and fairly bartered all help to buffer capitalism and develop relationship. If your students already engage in all of this, help them respect it, enjoy it, and bring ceremony to it. The point is that practicing and teaching non-capitalist economic behavior is likely more important than teaching "anti-capitalist theory", just as behaving relationally is more powerful than espousing relationship. It's better to incorporate slowing down and going outside into our pedagogy than our ideology.

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Article

Qualified Hope and the Ethics of Planetary Boundaries

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Abstract: The present essay explores the way theologies can contribute to the discussion of the ethics of the "planetary boundaries" framework and its rhetorical proposal for a 'safe operating space'. I first give a brief description of the 'planetary boundaries' framework proposed by Johan Rockström and others. The idea of a 'safe operating space' is not simply a neutral scientific assessment, but more importantly, a narrative framework that weaves stability, risk, and uncertainty together. This narrative needs both the humanities and the sciences to be understood. Second, I propose how theological reflection can contribute to the discussion through its interpretation of the rhetorical and ethical facets of the 'planetary boundaries' proposal. Specifically, a Christian theological lens is able to develop a model of a qualified sense of hope, which can be leveraged as a bridge between the dire warnings and uncertainty of the science of 'planetary boundaries', on one hand, and the call for transformation and action that researchers make on the other. Finally, I provide some recent examples of this theologically-inspired 'qualified hope' in the face of environmental change.

Keywords: planetary boundaries; hope; ethics; theology; sustainability

1. Introduction

The year 2023 was globally the hottest year since humanity has taken records, nearing the threshold of 1.5 degrees Celsius warming identified by the Paris Agreement. This is symbolic of many environmental changes, and the social and cultural changes that will inevitably accompany them.

Religion is a facet of human culture that will be impacted by environmental change, but religious traditions will also be used to understand the shifting senses of meaning and value that humanity will confront. For as Todd LeVasseur (2021) and others have pointed out, religious beliefs, practices, and communities find themselves in a unique position: all religions are responsive to the material world in which they are embedded, and no religion currently practiced has ever before operated in a world defined by 420 ppm of carbon dioxide in the atmosphere. Simply put, religion has been a product of the Holocene. Indeed, the Holocene is "the only Earth system state civilizations have historically known" (Richardson et al. 2023, p. eadh2458). The planet—and, consequently, human religions and spirituality—are entering an entirely new climatic and material regime. Whether this period is called the Anthropocene, the Capitalocene, the Cthulocene, or something else entirely (Chwałczyk 2020; Lorimer 2017), human communities must now ask how religious traditions must change to address planetary change, environmental resilience, and climate adaptation.

Taking leave of the material and social stability of the Holocene, then, I argue that religious reflection has a role in understanding the crisis before us—and in assisting scientific and social communities in finding a pathway between unrealistic techno-optimism and fatalistic pessimism. Technological responses will likely play a role in our planetary future but are not always contextualized using the lens of human meaning structures. In this vein are theological responses to climate geoengineering (Clingerman and O'Brien 2016; Clingerman 2014, 2015, 2022), which caution against techno-optimism. Similarly, theological responses can assist in overcoming a sense of dread and fear of the future with a

focus on hope. As the following argues, then, religious reflection can reorient discussions of the ethics of planetary boundaries away from thin discussions of the precautionary principle and toward a dialogue about the possibility and limits of hope and the human future.

The present essay explores the terrain of the way theologies can add to how we interpret assessments of quantified framings of sustainability and our planetary home. I first give a description of the work on 'planetary boundaries' completed by researchers associated with Johan Rockström and the Stockholm Resilience Centre. With clarity and rhetorical forcefulness, this framework provides researchers with a way to propose a quantifiable diagnosis of the sustainability of human action on a planetary scale. It advocates for the need to be attentive to a 'safe operating space' on the planet using scientific assessments and (more recently) a view of planetary justice. While researchers assert that this framework is an objective assessment of the state of the planet, the planetary boundaries framework is not entirely neutral nor objective. Rather, it is a *story* that names humanity's material place in the midst of crisis and radical uncertainty. The story told is intended to be one that suggests an ethical stance toward human impacts on the planet, even though it chronicles scientific information. What is missing is a narrative vocabulary that frames how to respond to the ethical call that this scientific interpretation seems to require. And so, the second half of this article illustrates how Christian theological reflection adds to the discussion by providing a narrative tool. Specifically, religious reflection offers us the sense of qualified or constrained hope, namely, a hope that is bounded by the realities of the situation. This can be useful to bridge the gap between scientific assessment and the motivation to act, especially when we seek to understand why the planetary boundaries discussion is an attempt at human self-transformation in the face of environmental crisis.

The focus here will be on Christian theology and ethics, but with an acknowledgement that the dynamic presented here is true for other faiths. In the interplay of meaning and faith, narratives are important. Religious narratives, as ethicist Tallessyn Zawn Grenfell-Lee points out, are not simply antiquated tales. She argues that the theological reading of disruption-based narratives—precisely the type of narrative being discussed here—gives three ideas to readers. First, "they offer understanding and compassion" while validating anxiety or fear; second, "they offer a theological framework, or container, big enough to carry the crisis, no matter how big it is". And they act as an invitation to a sense of vision and hope (Grenfell-Lee 2022, p. 9). These three points are the dynamic that faith offers the scientific discourse surrounding planetary boundaries. Looking through the lens of Paul Tillich's sense of faith as 'ultimate concern'—what concerns us absolutely and completely, and what is ultimate itself (Tillich 1951, 2009)—seeing religious narratives as an invitation toward hope and compassion (even in stories rife with anxiety) becomes clearer still. This is especially true, given Tillich's story of the human condition is a 'courage to be' in the face of non-being—our embodied existence is not merely incidental, but the location wherein we find symbols of the ground and abyss of Being Itself. In other words, religion provides narrative frameworks that draw together and contextualize our partial narratives, thereby bestowing significance to ruptures and non-linear contexts in meaningful ways. For this reason, understanding our dependence on hope in environmental change benefits from including theological, ethical, and spiritual reflection.

2. The Science of Planetary Boundaries

The Holocene has been fundamentally hospitable for biological life, with human society—and, by extension, all extant religions, especially so-called 'world religions'—as prime beneficiaries. Therefore, it should come as no surprise that biophysical stressors (especially the recent, planetary changes connected to the Anthropocene) are of great concern for the human community because environmental stressors will likely lead to a significantly less hospitable future. If we are concerned about our planetary future, a question must be asked: "What are the non-negotiable planetary preconditions that humanity needs to respect in order to avoid the risk of deleterious or even catastrophic environmental change at continental to global scales?" (Rockström et al. 2009b). This

question might appear to be 'merely' scientific, but it is also central to religious studies and theology (LeVasseur 2021).

Addressing this question is the rationale for the 'planetary boundaries framework' proposed in 2009 by sustainability scientist Johan Rockström and several colleagues. The heart of this proposal is the idea that scientists *should* (not merely can) develop a systematic assessment of the systems upon which global sustainability and human society depend. The initial boundaries framework identified nine biogeophysical boundaries, which together mark out a habitable space for a sustainable future: climate change, ocean acidification, stratospheric ozone, global phosphorus and nitrogen cycles, atmospheric aerosol loading, freshwater use, change in land use, biodiversity loss, and chemical pollution. Each boundary has a theoretically measurable threshold: for example, the 1.5 degree Celsius threshold for climate change. In 2023, many of the scientists who were involved in the 2009 study contributed to a new study that updated the status of the nine planetary boundaries. This recent work includes gloomy news. In the authors' estimation, human activity has pushed six of nine boundaries beyond a 'safe operating space' (Richardson et al. 2023). Thus, researchers saw their work as a confirmation "that humanity is today placing unprecedented pressure on Earth system. Perhaps most worryingly in terms of maintaining Earth system in a Holocene-like interglacial state is that all the biosphere-related planetary-boundary processes providing the resilience . . . of Earth system are at or close to a high-risk level of transgression" (Richardson et al. 2023, p. 11).

Measuring the nine individual 'planetary boundaries' under a single umbrella is not only scientifically interesting but also rhetorically powerful because it creates a narrative to interpret human actions through definable markers of unacceptable impacts. The boundaries framework strongly argues that crossing one or more boundaries likely will lead to significant changes and tipping points that threaten the human future. In other words, these nine systems are proxies for environmental stability. In turn, weaving these systems into a single narrative allows us to form judgments about the planet's stability as a human home: "[t]hese boundaries define the *safe operating space* for humanity with respect to the Earth system and are associated with the planet's biophysical subsystems or processes. Although Earth's complex systems sometimes respond smoothly to changing pressures, it seems that this will prove the exception rather than the rule" (emphasis added, Rockström et al. 2009a, p. 472). Such a story can be grasped by a popular audience beyond the scientific community, as seen by Rockström and Klum's (2015) highly visual account (*Big World, Small Planet: Abundance within Planetary Boundaries*). And, the framework gives a clear justification for further scientific work for measuring human impacts on global scales. Numerous researchers continued exploring this framework, including updates to the framework in 2015 and 2023 (Richardson et al. 2023; Rockström and Klum 2015; Rockström et al. 2023). For scientific and lay audiences, the 'safe operating space' narrative can be a warning rather than a disinterested assessment.

Some of the power of this story comes from the fact that it relies heavily on the cross-cutting juxtaposition of safety and risk. Because the boundaries are "densely interconnected" (Lade et al. 2020), "we do not have the luxury of concentrating our efforts on any one of them in isolation from the other" (Rockström et al. 2009a, p. 474). Some impacts might otherwise be within the safe boundary, but they will reach a tipping point in response to the transgression of a different boundary. If we look at each area of environmental change as separate, we overlook how earth systems interact and potentially reinforce each other, changing the planet as a whole (Richardson et al. 2023). However, this also opens the framework to criticism: much of the 'planetary boundaries' discourse acknowledges the need for an interconnected modelling of different strands of information, but this does not adequately draw on all disciplines and forms of knowledge to make its case for action. In particular, disciplines that focus on human meaning and ethical understanding are not fully leveraged.

This criticism becomes clear when seeing how the balance between safety and risk is predicated on the fear of uncertainty in the face of a risk-filled future. Uncertainty

is a fundamental part of the rhetoric of the 'planetary boundaries' discussion—and this uncertainty extends past the focus on technical quantifiability. Though scientific in outlook and methodology, the 'planetary boundaries' framework nonetheless leads us to ask more existential questions: how can we approach the hospitable nature of the planet in a way that allows us to understand the ongoing material possibility and peril of the human world? And how do we culturally, emotionally, and ontologically process such potential planetary precarity? Researchers exploring the 'planetary boundaries' framework do not fully acknowledge these as fundamental questions, but they are implied throughout their work. After all, planetary stability is not a given.

Another way to put this is that the 'planetary boundaries' framework confronts a sense of 'radical uncertainty'. In their work on climate and environmental change, Geoffrey Heal and Bengt Kristöm (Heal and Kristöm 2002) explain that there are issues of both scientific and socio-economic uncertainty. Drawing on this, theologian Jan Jorritt Hasselaar identifies a third level of 'radical uncertainty', which is a more fundamental uncertainty. Underlying scientific and socio-economic uncertainty, radical uncertainty stems from the basic, lived experience of the human condition itself (Hasselaar 2020, pp. 227–28). Hasselaar's idea of radical uncertainty is indebted to Hannah Arndt, which isperhaps why it suggests one of the reasons that the planetary boundaries discussion has captured the imagination of so many researchers—the crisis being explored by the discussion is a challenge to the human condition itself.

If the boundaries discussion uncovers a sense of radical uncertainty (not just scientific and socio-economic uncertainty), it is because *we require, and yet are unable to know, our planetary home—at least through science alone*. And the scientific measurement of our 'safe operating space' continues to push us deeper into crisis. Already in 2009, the researchers judged that three of the seven boundaries had been surpassed.

Throughout this discussion, there is an underlying realization that *we live in a world on edge*. This requires transformation. However, the social and cultural factors that create transformative possibilities do not yet have any systematic influence on the assessment of the framework. Biermann and Kim comment, "By design, their assessment effort was science-driven . . . Input from civil society groups, for example, was not systematically sought after, even though all planetary boundaries might suggest political action with profound consequences for national and global governance" (Biermann and Kim 2020, p. 499). And so, while scientific researchers focused on 'planetary boundaries' acknowledge the normative dimensions of the conversation, relevant fields are not involved in deepening the discussion. Unfortunately, the knowledge used to create and assess the boundaries is condemned to be provisional and partial because it does not draw on fields in the humanities and social sciences that aid in value creation, ethics, narrative, and cultural understanding.

We can see numerous examples of how this limitation already impoverishes the planetary boundaries discourse. To give one example: after the initial conceptualization of a 'safe' system (that is, maintaining biophysical stability), more recent assessments have recognized the need to expand this to include justice (Biermann and Kim 2020; Raworth 2012; Rockström et al. 2021a, 2021b; Gupta et al. 2021; Kashwan et al. 2020; O'Neill et al. 2018; Steffen et al. 2015; Brand et al. 2021). This began with Raworth's proposal of 'donut economics' (Raworth 2012), which envisioned the need for material safety and the equity of basic human needs. Living in the 'donut' is one way of introducing justice and equity into an otherwise thin conception of the prerequisites of human flourishing. However, what is considered in new calls for 'safe and just' boundaries continue to neglect fields that critically study the meaning of conceptions of justice and flourishing. For as philosophers Hickey and Robeyns (Hickey and Robeyns 2020) point out, justice is generally contested—it does not have a settled definition. In turn, there is not a consensus as to what planetary justice might mean. What is more, Hickey and Robeyns point out that the ethical question of justice is logically prior to the legal one. Unfortunately, the definitions of justice given in relation to the 'planetary boundaries' framework are typically thin, instrumental, and focused on legal issues. As of yet, ethical presuppositions or underlying meta-narratives

are not discussed in detail in the 'planetary boundaries' discourse. At most, the scientific community investigating the 'planetary boundaries' framework attempts to position their work in the context of the precautionary principle, without much nuance or critique.

The 'planetary boundaries' discourse attempts to point policy and society toward an interpretation of the material impacts of human activity in the face of risk and uncertainty. Even though the concept of boundaries appears to be about scientific data, its real power is found in how it constructs a vivid story to make judgments about the alignment between, on one hand, human global impacts and, on the other, the values human actions represent. And so, the foregoing discussion raises a new question: how can the rhetoric of 'planetary boundaries' *motivate* confidence that the current status does not define the future, and thus foster the transformation of human practices?

3. Finding Faith in Our Operating Space

What is needed in the planetary boundaries' discourse are tools to enrich the narrative it promotes. After all, Rockström and others argue that a 'safe' Earth requires looking beyond the science toward the human story, saying "[w]e need to address the root causes, rather than the symptoms: our relationship with nature and the causes of unsustainable investments, production, and consumption that would lock us into our current destructive pathways" (Rockström et al. 2021a, p. 1209). This requires a step beyond the mere adoption of the precautionary principle. Instead, *any discussion of 'a safe operating space' cannot be a neutral scientific assessment, but requires a narrative framework that weaves together the humanities and the sciences*.

To be transformative, the story of a safe operating space and planetary boundaries must not only describe uncertainty and risk, but equally promote a new, ethical form of interpreting human impact on the planet. Already we see this impulse for transformation as an undercurrent in the 'planetary boundaries' discourse. Radical uncertainty, justice, the political grounds for resource use, and the possibility of new sustainable practices, can lead to the conclusion that science alone will not provide an adequate discussion of our earthly, material boundaries. As Diaz et al. recommend, "Reversal of recent declines—and a sustainable global future—are only possible with urgent *transformative* change that tackles the root causes: the interconnected economic, socio-cultural, demographic, political, institution, and technological indirect drivers behind the direct drivers" (emphasis added, Díaz et al. 2019, p. 1327). Put simply, the conversation surrounding planetary or earth system boundaries has primarily focused on the sphere of science and policy, but something is missing. Specifically, the 'planetary boundaries' discussion is a yearning for an experience and practice of hope. It asks: in the midst of uncertainty and risk—the threatening, unknown narrative of the future offered through scientific measurement—is there any *promise* for the future?

For the purposes of the present argument, religious hope is the trust and desire for a sought-for future, which for religious communities often includes renewal and reconciliation. In some cases, this reconciliation is eschatological in orientation, while other traditions focus on a transformation of the present through acknowledgment of a horizontal transcendence. The present argument will focus on examples of Christian hope. For Christians, the idea of hope prominently features elements of soteriology and eschatology. The focus on hope is longstanding, from the early Church and scriptural traditions (cf. van den Heuvel 2020), through the last century and the influence of Jurgen Moltmann's *Theology of Hope* as a signpost for post-World War II theology (Moltmann 1993). For millennia, Christian hope has been a key means through which faith is open to the promise of an eschatological future. Indeed, as one of the three theological virtues, hope is prominent as a form of practice amidst environmental change (Thompson 2009; Stuart 2020). While the story of climate change, loss of biodiversity, and human overconsumption can otherwise fall into 'easy despair' and fear, faith contributes a possibility of a call to action and hope in response to the 'unacceptable present' (Conradie 2013). Indeed, the examination of planetary boundaries

has eschatological and soteriological elements, which suggest analogues to the structure (though not the theological content) of Christian hope.

When attempting to understand the possibility and promise of hope, theology and ethics bring something to the table. These fields focus our attention on interpretive resources, which interrogate meaning and understanding in the midst of environmental change (Clingerman 2015). In the present case, religious reflection offers something that has been otherwise missing in the discussion: a constrained, qualified hope that is needed to embark on the 'urgent transformational change' that Diaz and others recommend. That is to say, what 'planetary boundaries' and Christian ethics share is the need to find a balance between despair and hope, what might be characterized by Rebecca Solnit's phrase "hope in the dark" (Solnit 2016).

By reflecting on examples of how theology and ethics structure hope, scientific researchers will find examples of an ethically rich, conceptual bridge that reconciles dire warnings ("we have crossed six boundaries, each of which is essential for the sustainability of human life and society") with the desire to use scientific information to spur transformational change. Christian theology, like the 'planetary boundaries' framework, requires hope that, in spite of the several challenges we face, we can change our relationship with our world and each other. But this hope must be tempered by our uncertainty, and the state the planet is in. Christian communities—like secular ones—might not fully appreciate the complex nature of hope, even if their intellectual traditions invite this reflection. But as shown below, Christian hope involves trust, desire, and a motivation to participate in a possible future.

Hope is essential for interpreting the meaning of a 'safe operating space', but it is important to raise a caveat: religious studies scholars often warn against assuming that religious communities or theology can disproportionately influence public perception of 'green' issues. Furthermore, I do not suggest that religious communities will spearhead transformational change once talk of 'planetary boundaries' is 'translated' into theological language. More bluntly stated, the argument is not that we must pray to remain within a safe operating space, but rather that religious traditions can offer robust models of how hope can rhetorically balance a desire for a transformed future in the face of crisis.

More scientifically-minded researchers might be suspicious of whether the boundaries proposal requires normative humanistic disciplines like religious studies, theology, and ethics. This suspicion might be tempered by recognizing that these fields are well-versed in contributing to the conceptual, emotional, and embodied elements of narratives that challenge our sense of human action and meaning. As ethicist Willis Jenkins writes, "religion-trained scholars can sometimes help other disciplines explore worlds with strange relations and otherwise ways of being people" (Jenkins 2024, p. 16). That is to say, religions are frameworks of relationships as well as senses of meaning which can enrich other disciplines. With this perspective in mind, theological and ethical viewpoints can interpret 'planetary boundaries' not merely as a catalogue for different indicators of human impact on the planet, but as a concept that attempts to gather separable material assessments into a coherent narrative for understanding global environmental change (it should be noted that the planetary boundaries framework does not have a strong teleological and mythic structure, making it quite different than—and in many ways conflicting with—the 'Universe Story' framing some religion and ecology scholars advocate).

A portrait of whether we have overstepped the boundaries of our home planet beckons us toward emotional and moral assessments, not merely technical and scientific responses, and this is something religious traditions have experienced. For Christian theologians, the overarching theme of faith is to see promise in the midst of human fallibility and salvation in the brokenness of the world. In other words, Christian theology gives an example of the human search for hope in the face of radical uncertainty—precisely the type of uncertainty we see underlying the scientific attempt to align scientific measurements with the hospitality of the planet. Such a comprehensive theological narrative proposes models that can be

adapted to illustrate how exceeding our bounds in the global environment requires a response envisioned through *the narrative structure of hope in the face of threatening despair*.

It is also important to note that theologically-informed environmental discussions are not without criticism. For instance, theologian Michael Northcott points out that the Christian sense of hope is not always welcomed in environmental contexts. He notes that some have accused Christian hope as being a cause of environmental problems, insofar as "the idea of progress in human development, and hence economic, material, and technological progress, are genealogically linked with the Christian hope of creating the Kingdom of God on earth" (Northcott 2020, p. 216). Any investigation of religious hope needs to adopt an attitude of humility and suspicion, lest it become blind, prideful, or oppressive.

If the nine planetary boundaries are interconnected stories of radical uncertainty, then, theological discussions suggest a model of hope that other disciplines are less equipped to offer. When scientific or socio-economic assessments of the 'planetary boundaries' are faced with the radical uncertainty of overstepped boundaries, the response is too often somewhat rudimentary and unreflective—at times, little more than implying that our impacts are 'good' or 'bad', right' or 'wrong', 'sustainable' or not. In contrast, ethical and theological approaches provide narrative forms that create a means to dwell on the hope within crisis. For hope is a religious response to the despair and grief we feel at the overwhelmingly dire state of the environment, Dalton and Simmons (2010) explain, and so environmental theologies have the work of transforming social imaginaries via hope. Such hope is not unbounded or infinite. If the 'planetary boundaries' are in truth a story about radical uncertainty, theology and ethics can suggest how to practice narrating this story through *qualified* hope.

Before narrowing in on specifically religious elements of hope, we first should show how a narrative can leverage a sense of hope without requiring a specifically theological lens. For instance, Leslie Head helpfully suggests five dimensions in the concept of hope in the face of environmental change (Head 2016, pp. 76–80), which all rest on the fact that hope is an embodied practice. First, hope is embodied in ways that are similar to the embodiment of melancholy and grief. This partly explains why hope, grief, and mourning are paired together in environmental studies. Second, hope allows one to be open to new possibilities and offers a space for action. Third, hope can reframe our world, but it can only do so by creating a rupture that allows space for a new possibility to emerge. In other words, hope relies on 'generative moments', which might be good or bad. In this rupture, violence and grief can become catalysts for something new. Fourth, Head acknowledges that hope is found in non-linear situations, and therefore is always at risk of failure. Hope does not guarantee successful outcomes for the new possibilities it opens to us. Finally, the act of hope has a lot in common with being a practice and an experiment. Head explains this with reference to Annemarie Mol's conceptualization of the messiness and provisionality of hope through verbs like 'tinkering', rather than assigning hope as something with a clear structure or telos.

Head's description does not explicitly tell us how religions and faith commitments enrich the understanding of hope for both individuals and communities. Nor does Head's view explain why hope ought to be qualified when investigating environmental change. While the conceptualization and function of hope is not the exclusive domain of religious communities, beliefs, or practices, religious faith aligns each of the five facets Head points out with a more fundamental interpretation of meaning. Many religions weave each of these five elements together through a 'trans-contextual' narrative (a narrative that is inclusive of, and yet transcends, partial, 'little' narratives that are embedded within a specific context). For example, the Christian tradition interprets 'possibility' as a sense of the future in the face of uncertainty and the 'tinkering' of hope, because Christian faith emphasizes the intersection between the possibility of hope and the brokenness of humanity and the world. Thus, Christianity often positions hope through a trans-contextual narrative that frames the uncertain present through human fallibility and the embodiment

of redemption (Clingerman and Ehret 2013). This trans-contextual narrative uncovers the ambiguity of being human in the world: a 'qualified hope' that stands between risk and promise, emergency and possibility.

4. The Boundaries of Qualified Hope

Christian religious reflection provides a narrative model of qualified hope, through which the 'planetary boundaries' framework can bridge its dire scientific warning and its desire for transformation. For the present purposes, 'qualified hope' means an expression of hope that is tempered or chastened by uncertainty and contingency. It is a hope that depends on an "if . . ."—"we have hope for the world, *if* we have the courage to act to remain within planetary boundaries . . ." The qualifier is not a foregone conclusion but instead is a recognition of our fallibility weighing on us as we seek human flourishing.

This section will summarize a few examples of theologically-framed, qualified hope in the face of crisis. The examples below are illustrative, not exhaustive, but suggest an interesting dynamic: each author suggests a form of qualified hope through which to understand the human relationship with our world. That is to say, these authors do not attempt to offer an unfettered, unconstrained, or unqualified sense of hope for the future, but rather a tentative hope that embraces uncertainty, risk, and existential threat. For each author, adding qualifications to a sense of hope makes sense. The story of climate change, loss of biodiversity, and human overconsumption can fall into 'easy despair' and fear, but faith also contributes a possibility to create a call to action and hope in response.

A more optimistic example of a qualified, theologically-informed hope is offered by theologian Cherice Bock (2016). Bock argues that faith and theology should "move from a space of critical alienation to one of critical hope, and for many pastors and people of faith to move from a space of uncritical hopefulness into critical hope" (p. 12). Bock emphasizes the need for a *critical* hope, influenced by Paolo Freire's liberative pedagogy. Bock's definition of critical hope consists of a double movement. On one hand, it is a hope that is built on a critique of ". . . our own complicity in the sociopolitical structures of our time", (p. 13), but does not remain there, lest this critical evaluation leaves us in a space of fatalism and despair. On the other hand, critical hope is an enactment of Christian hope; it is as a process oriented toward the future, through which we overcome our failures and seek reconciliation. Bock's ecotheology of critical hope is a theological practice that acknowledges the world's brokenness and suffering in the midst of climate change and also provides the steps that can be taken to create the world as it should be.

While Bock relies on the work of Freire to develop an ecotheology of critical hope, O'Neil Van Horn suggests that we respond to environmental change through a theopoetics of 'dark hope' (Van Horn 2019), which relies on Catherine Keller and Paul Tillich. Van Horn envisions dark hope in a way that is more conceptual than Bock's critical hope. If Bock highlights hope as a practice of reconciliation, Van Horn attempts to draw out hope as a contemplative call away from our normal modes of thinking. According to Van Horn, "Dark hope lures toward the possible, toward imagining a world that 'could yet be' in the face of the possibility of 'no longer being'" (p. 279). Like Bock, this view of hope acknowledges the temporality of hope, seeing hope as a lens for viewing the possible future. Unlike Bock, Van Horn says that this future is possible only as 'dark' insofar as there is uncertainty, unpredictability, and 'un/knowing' about the actual future that will arrive. This requires attempting to see what future transformations an opaque world might hold. Dark hope, then, is the creation of possibilities in the midst of our own limitations: "A dark hope is not a blind hope nor a nullification of hope. It is a re/vocation of hope—not a withdrawal, but a reorientation of its *vocare*, its call" (p. 283). Van Horn's hope for environmental thought rests in a sense of doubt, which is a response to poetically approaching the cloudiness of the future in the midst of crisis.

The philosophical nature of Van Horn's 'dark hope' fits well with Brian Treanor's call for a 'deep' or 'twilight hope', which emerges in the context of what he calls 'melancholic joy' (Treanor 2021). Treanor's view of hope is not limited to the context of environmentalism

(the subtitle of his book is 'on life worth living', expressing well where he sees the need for a qualified hope to be), but it is clearly associated with Treanor's ongoing work in environmental philosophy. Treanor offers a way to mediate the differences found between Bock and Van Horn, emphasizing hope to envision a future in light of a reformed, chastened sense of joy. Hope, in this context, is not in contrast with despair, but has a relationship with it.

Treanor's deep hope is not desire or wish fulfilment. Instead, Treanor says that deep hope is "an expression about and affirmation of the value of being" (p. 78). Such a hope is not easily found, especially because we usually think of hope as focused on receiving something in the future. Thus, he acknowledges that "our situation may admit the possibility of joy—moments of happiness before the curtain falls—it seems to preclude hope, insofar as hope is oriented toward the future and in the future the curtain will, inevitably, fall. Hope depends on a future that is uncertain in many respects but, disturbingly, least uncertain with respect to loss, suffering, death, dissolution, and the other horseman of despair, which number well more than four" (p. 73). Rather than thinking of hope in superficial ways, we require a hope 'in the dark' (quoting Solnit): a hope that is (1) an assertion of both what we see and who we are, (2) a non-calculative, risky wager, (3) connected to the transcendent (pp. 78–86). Such a deep hope is intransitive, says Treanor; it is without an object, but rather is an existential mood (p. 75). Treanor takes Solnit's idea of 'hope in the dark' one step further by embedding it within a sense of spirituality (though not a Christian theological commitment, per se) and philosophical hermeneutics. Treanor's view of hope reorients us to see time in ways different than Bock and Van Horn, focusing on us living in the present.

A fourth example of qualified hope is the work of theologian Miguel De La Torre. De La Torre's work is not centrally focused on environmental issues, but rather economic liberation and the marginalized. Challenging the influence of Moltmann on Christian views of hope and history, he advocates for an inversion of a simplistic, unreflective hope by calling for Christians to 'embrace hopelessness'. Why hopelessness? Because "[w]e live under a constructed history perpetuating a false justification of oppressive structures geared on privileging one group over against others. In the midst of overlapping unjust structures and the intersection of racism, classism, ethnic discrimination, sexism, heterosexism, and all the other ideologically based 'isms' imaginable, a sense of hopelessness grips the soul as realization of the depths of oppression makes solutions appear simplistic" (De La Torre 2017, p. 2). In other words, "Hope, as a middle class privilege, soothes the conscience of those complicit with oppressive structures . . ." (p. 5). As frequently pointed out above, hope is closely tied to both the past and future. Yet many of our histories are not neutral, but profoundly exclusionary. In turn, those who are erased from the past are excluded in the present and future. De La Torre makes explicit the politics of hope by forcefully pointing out that those who have no future cannot partake in hope.

De La Torre's call for hopelessness is not a form of nihilism but an attempt to illuminate the conditions of marginalized people and offer a way to empower themselves. Hopelessness, he argues, should not be romanticized, but should push us to take up a liberative praxis that says 'f*ck it' in the face of chaos and oppression (p. 149ff.). Elsewhere, he develops this idea through an ethics *para joder*, or a liberative movement, where the disruptive trickster breaks oppressive rules out of love, not spite, to trick the dominant powers as an act of surviving. De La Torre goes so far as to say, "In a very real sense, Jesús is a holy *joderon* (a holy screwer)" (De La Torre 2015, p. 161). In his discussion of hopelessness and the need for liberative disruption, De La Torre's explanation of the political nature of hope—and, specifically, issues of equity, exclusion, and marginalization—is an essential correction to the frequently individualistic and apolitical conversation on religion, hope, and the environment.

The examples given by Bock, Van Horn, Treanor, and De La Torre show how Christian religious reflection offers forms of qualified hope in the face of environmental crisis. In each case, hope is complex, ambiguous, and yet open to the future. For Bock, critical hope

is the acknowledgement of our complicity and a practice of reconciliation. Van Horn sees 'dark hope' as a vocation of contemplation in the midst of environmental change. Treanor sees twilight hope as an acceptance of our flaws in encountering the world on the way toward the promise of a fuller affirmation of being. And De La Torre challenges us with the need for a political, liberative hopelessness as a vehicle to move us through both hope and despair.

Through these examples, what can we conclude about faith—and Christianity in particular—and the need for a qualified hope in the face of the radical uncertainty of our earthly boundaries? Foremost, each author shows how the practice of hope does not deny the precariousness or brokenness of the present. Indeed, each takes seriously the temporality of hope and the inevitability of dwelling in the present. Facing the finite presence means hope cannot be unbounded, ungrounded, or unqualified—and yet hope is still possible. By qualifying hope, each suggests that our desire for meaning does not presume that we can overcome catastrophe. Radical uncertainty humbles us and allows us to name the past and present crises in clear ways. Yet each author also illuminates an 'in spite of . . .' that culminates in the possibility of 'hope in the dark'. By creating this uneasy, yet (to borrow from Treanor) joyful, balance is meaningful, because it connects the political and social dimensions of practices of hope, fear, and despair.

5. Qualifying Hope for Our Safe Operating Space

The theologians and philosophers discussed above provide examples of how the Christian tradition amplifies and complicates Head's definition of hope in the face of environmental crisis. Together they illustrate how to interpret hope as a story of brokenness, crisis, reconciliation, and the (im)possibility of liberation. These examples of qualified hope caution us against an overreliance on the precautionary principle as a motivation to respond to the scientific assessments of planetary boundaries. These are facets otherwise missing in the 'planetary boundaries' discourse but assist in the development of a thicker description of what the lived experience of a 'safe operating space' can mean.

As a means to question 'planetary boundaries', 'qualified hope' is useful because of its narrative richness. As shown above, the 'planetary boundaries' framework is not exclusively a scientific endeavour, though it appears to be one on the surface. Its resonance and impact stem from the fact that it is a narrative creation. The call to action it seeks to convey makes sense only by uncovering the underlying story: humanity must find avenues of transformation because we live in a world on the edge and in the midst of radical uncertainty. The scientific framework itself does not (indeed, cannot) investigate or offer resources for understanding the existential depth or lived experience of this narrative. It requires a means of hope. In contrast to the inability of the framework to embody hope, embedding hope in stories is a skill for faith traditions like Christianity, which was formed by a dialogue between the stories and texts of the tradition that describe its meaning, the lived practices that embody its meaning, and the theological conceptualizations that analyse its meaning.

What happens when we join together the radical uncertainty of scientific information with the qualified hope of theology for transformative, lived possibilities of the 'planetary boundaries' discussion? First, theological and ethical assessments of qualified hope offer a blueprint for enriching scientific understanding through ethical and cultural reasons for seeking justice. While researchers bring forward the political and social need to include justice in the discussion of 'planetary boundaries', we often leave unanalysed the reason we *seek*—we thirst for and desire—justice. Thinking about hope *and* its limits is a precondition to understanding *why* justice is an imperative, and why a thin conception of justice shackles our discussion. Without the ambiguous reading offered by qualified hope, the conversation is limited to policy mechanisms and the precautionary principle, instead of a more robust definition that sees justice as transformational and ethically-oriented. As one example, Kashwan et al. argue that the boundaries framework would be more successful if there was a prioritization of the poor in its analysis of our 'operating space'. This becomes richer

by incorporating the language and the liberative praxis of Bock and De La Torre, who present a strong and resonant narrative on the need to be inclusive of the marginalized and oppressed in fundamentally different ways.

Second, theologically-oriented reflections qualify uncritical hope in order to acknowledge and understand the lived dimensions of being human in a fractured world, defined by imperfections and ever-threatened by conflicting values and interpretations of meaning. Creating a 'safe operating space', therefore, must be constructed in and by human differences. Although Rockström et al. suggest that "[t]o address the wicked nature of the global problems requires first setting a shared and just value system about how to address these problems" (Rockström et al. 2021a, p. 1210), this is contrary to a sense of qualified hope. What is more, the 'planetary boundaries' framework was not undertaken by first identifying a shared value system. In fact, it would be quickly apparent that there is not an objective, shared value system. The religious narratives discussed above conclude that what seems an obstacle to transformation is the inevitability of conflicting and ambiguous values. Yet, as we have seen through the examples of qualified hope above, what is necessary is not to claim a single shared value system, but to recognize that conflicting values are the cause of breached planetary thresholds and are the preconditions for a renewed human existence. To respond to any call to action about planetary boundaries means pursuing a transformation that deepens diverse values and ultimate concerns.

In other words, hope has a focus on fostering our ability for restraint. Northcott makes an important point when he suggests that, contrary to seeing hope as absent in the dystopian interpretations of human action upon the world, we ought to see how it focuses us on human restraint and "a preparedness to give space to other creatures so they recover a measure of agency and formative influence on habitats and places" (Northcott 2020, p. 224). More fundamentally, the sense of hope that emerges from Christianity (and other faith traditions) is one that focuses on redemption and the union of all creatures with each other, and with the Creator.

Finally, this discussion of hope challenges the scope of what we envision as a 'safe operating space' in the world. An insight into the 'planetary boundaries' framework is the attempt to study the world as a single whole with many interwoven dialogues. The interweaving of little narratives into a new perspective defines the scope of hope of humanity being on the earth. That is not to say humanity ought to see itself as an exclusively planetary species. Discussion of 'global' or 'planetary' earth systems are human concepts to explain a certain view, but human understanding should also be a local affair—our stories make sense only by interrogating both the parts and the whole of the story, so to speak. Thus, as Joanna Zylinka argues, humanity as a species uses the twin practices of ethics and storytelling in order to tame the world, since "... the majority of the processes of the so-called 'world', (or, indeed, the 'universe') across different scales unfold outside and beneath both human agency and human consciousness, in ways that we can at best describe with mathematical equations but that we cannot ever obtain a 'total' picture of" (Zylinka 2014, p. 78). The planetary side of things keeps our embeddedness in the world in check, and the manifestation of hope in local settings serves to grasp a "sense and taste for the infinite", in the words of Friedrich D.E. Schleiermacher.

Overall, qualified hope is a corrective to viewing overstepped boundaries and radical uncertainty through despair or nihilism. Otherwise missing from the discourse, the sense of qualified hope is a bridge for transforming the 'planetary boundaries' discourse. For as Solnit explains, hope is a doorway, and "[w]alls can justify being stalled; doors demand passage ... To be hopeful is to take on a different persona, one that risks disappointment, betrayal ... Other times that tale of gloom seems to come from the belief in a univocal narrative, in the idea that everything is headed in one director, and since it's clearly not good, it must be bad" (Solnit 2016, pp. 23–24).

Funding: This research received no external funding.

Data Availability Statement: Not applicable.

Conflicts of Interest: The author declares no conflict of interest.

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Article

Mystic Christianity and Cosmic Integration: On a Pilgrim Trail with John Moriarty

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Abstract: This essay takes initial steps on a journey with an Irish eco-spiritual philosopher, the late John Moriarty. As a gateway into his broader oeuvre and way of thinking, we explore Moriarty's image of the Christian mystical Easter journey—the Triduum Sacrum—as a vision for humanity and the planet. After briefly reviewing his spiritual biography, we consider Moriarty's re-framing of the story as a journey to the bottom of a symbolic Grand Canyon, a mystical trail beyond historical time to a primordial unity before the evolution of the species. There, the total integration of the natural ecumene is experienced. For Moriarty, this journey leads not only into the past, but prefigures a pilgrimage that everyone can—and should—take. Analyzing primarily his own writing, we highlight the intercultural roots and ecumenical connections of Moriarty's work, which draws extensively on spiritual traditions and contemporary debates from across the world. On that basis, we sign-post directions for further research into a potential post-Christian ecology as a new way of thinking about the earth and our role on it, based on an attitude of *Gelassenheit*.

Keywords: cosmic Christ; Easter journey; ecumene; ecological integration; evolution; pilgrimage

1. Introduction

In his book *Poacher's Pilgrimage: An Island Journey*, Alastair McIntosh (2016) recounts a twelve-day pilgrimage to the island of his childhood, describing a journey through space and time, across a physical landscape and into a spiritual one. Pilgrims often seek out places of spiritual significance. The Scottish island of Iona, for example, is a centre of Christian pilgrimage especially significant for followers of St Columba/Colmcille (Nic Craith 2013) and was previously a place of pilgrimage for Druids (Newell 2021). Beyond significant places, spiritual meaning may arise from the pilgrim journey. The Celtic Christian tradition knew the concept of *peregrinatio*, where the destination is unknown (White 1992). However, the concept of pilgrimage is not confined to Christianity (see, e.g., Cobbold 2009; Maclean 2003; Reader 1999). Nor is pilgrimage necessarily based on religious motivation. Consider, for example, the association of *Morgenlandfahrer* (Hesse 1932), whose journey, while spiritual, was philosophical rather than theological; as were the quest for the elusive 'Blue Flower' of *Wandervogel* and *bündische Jugend*, and the 'social sculpture' of Joseph Beuys, which were also experiments in cultural renewal in 20th century Germany (Kockel 2007). In each instance, the journey, however distinct, is a quest associated with transformation and insight.

This essay takes us on a pilgrim journey with an Irish Eco-Spiritual philosopher, the late John Moriarty. We focus on Moriarty's vision of the Christian mystical Easter journey—the Triduum Sacrum—as an endurance for the sake of transformation and insight, and its significance for cultural and ecological renewal. Having introduced this theme in his first book, *Dreamtime* (Moriarty 1994), Moriarty re-frames the Triduum Sacrum in terms of a mystical trail that has been pioneered by Jesus. He re-imagines the historical journey of

Jesus as one where the Christ travels to the bottom of the Grand Canyon—beyond historical time and beyond the evolution of the species to a time of unity. It was here that Christ experienced total integration of the world, a vision in many ways anticipating the 'Integral Ecology' of *Laudato Si'* (Pope Francis 2015). Moriarty sees this pilgrimage as a ritual journey that everyone can and indeed should take in the face of cultural and ecological crises. As human beings, "we each have it in us to undergo Gethsemane" (Durcan 2003, p. 47). The pilgrimage culminates in a kind of *kenosis* ("an 'emptying' of self"; see Armstrong 2023, p. 101) as the pilgrim endures the abyss: "All who enter the darkness of Good Friday on Golgatha endure it" (Moriarty [1998] 2013, p. 457). This spiritual experience facilitates consciousness of the integration of the species, and the realisation that there is no 'them' and 'us'—instead, there is just 'we'. In consequence—which has implications for how we experience, and address, climate change—we acquire a new way of thinking about the earth and our role on it (Moriarty [1997] 2013, p. 22):

> Heidegger says that in the age of the worlds' night someone must endure the abyss. For purely human reasons . . . Gilgamesh endured it and . . . he lost. For universal reasons, Jesus crossed the Kedron and, as A'noshma Jesu, he endured it, and with him there came ashore a new way of seeing and being in the world.

His designation of the Christ as *A'noshma* ('Turtle') indicates the compass of Moriarty's cosmic vision, detailed in his three-volume *Turtle Was Gone a Long Time* (1996–1998), in which he frequently refers to Heidegger's 1946 essay "What Are Poets For?" (Heidegger 1971). His re-imagination of the Triduum Sacrum is replete with references to a range of spiritual and indigenous traditions as well as contemporary debates from across the world that cannot be explored in-depth within a single essay. We therefore concentrate here on the story itself, as conceived by John Moriarty. The Canyon metaphor he used to convey it, and the Journey metaphor are primarily considered in relation to this. Connections that deserve particular attention, especially the Journey theme, the Pauline vision of a Cosmic Christ, the ecological spirituality of thinkers like Teilhard de Chardin, or Moriarty's engagement with the eco-philosophy and ontotheology of Martin Heidegger, are introduced in the discussion as pointers for further exploration, but their detailed treatment must be left for another occasion. Given that many readers of this journal may be unfamiliar with John Moriarty and his work, we begin with a brief review of his spiritual life-journey.

2. John Moriarty's Spiritual Voyage

John Moriarty was born into a traditional Irish Catholic home in Moyvane, in North Kerry, Ireland, in 1938. Although not exactly a scenic place, John's love of nature and animals and stories was nourished in this landscape, and his sense of the mystical in the natural world blossomed. In his autobiography, Moriarty tells of his early connection between nature and the Divine. He writes: "More often than not now, I'd go off through the fields on my own. There were fields that I loved. Fields with a sward of natural, wild herbs. In the Hill Meadow I saw hints of Paradise" (Moriarty 2001, p. 13). Moriarty writes of the transformation that occurs when a beautiful yellow buttercup emerges from the brown soil, and he wonders "what else is down there" (Moriarty 2001, p. 13). He compares the act of smelling a primrose with the Eucharist, but one without any suggestion of blood or bloodshed. And the experience of breathing in the fragrance radiated down to the soles of his feet: "Then I could walk the earth without hurting it. Then I could walk in Paradise" (Moriarty 2001, p. 13f).

For Moriarty, spirituality and care of the earth were one, but from an early age he became aware of the separation between humans and animals in the Christian tradition. He was appalled one Christmas Eve when he realised that animals were not included in the Christmas experience. Although a donkey commonly appears in cribs, the farmyard animals in the outhouses were unaware of the excitement. "Christmas didn't happen in the outhouses. Christmas didn't happen to the animals. The animals were left out. And since the animals were left out, so, inside me somewhere, was I" (Moriarty 2001, p. 6). This experience would shape his future thinking about integration.

From a very early age Moriarty's vision was what we can only call mystical, in the tradition of thinkers—such as St. John of the Cross, St. Francis of Assisi, Teresa of Avila, Julian of Norwich, Meister Eckhart, Lao Tzu, William Blake, William Wordsworth, or the Irish poet Patrick Kavanagh—who saw a mystical dimension in the natural world, instinctively aware, as Wordsworth (1798) put it, of 'something far more deeply interfused', of something 'immanent' that was so obvious in, and central to, the world view of our pre-Christian ancestors.

Moriarty's faith in traditional Irish Christianity was shattered at the age of 17 when he read Darwin. The sheltering mythology of his youth was blown apart. John went into the despair of nihilism and in effect abandoned the traditional form of Christianity that he had grown up with. In his first year training as a primary teacher, he encountered Herman Melville's *Moby Dick.* He described the book as a Christmas gift to someone in despair. "Given what ailed me I could be given no better Christmas gift than this, the know-ledge that someone else had experienced the shudder and the horror, the knowledge that someone else's world had opened at the seams and left him to fend for himself in the purely unseeing, purely unknowing overwhelming of Saturn's grey chaos" (Moriarty 2001, p. 31). Moriarty subsequently studied philosophy to degree level at UCD, and from then on philosophy infused all his writings.

In 1965, Moriarty was appointed to the University of Manitoba, Winnipeg, Canada. In preparing for this appointment, he read the history of colonial dispossession and was confronted with a moral dilemma: Was he now complicit in the conquest? Might a native medicine man once have stood in the place he now occupied? His first encounter with a Cree reinforced this sense of unease. The man completely refused to engage with him, and Moriarty was both upset and challenged. Moriarty determined to break this barrier, he would learn more, and so began his journey into the cultures and beliefs of indigenous peoples—native American, Inuit, and Aborigines. He immersed himself in these, while simultaneously exploring the mainstream religious systems of Christianity, Judaism, Buddhism, Hinduism, and Islam. He began to see the similarities between visionaries in all of these traditions, and to recognise the truth of what Aldous Huxley (1990) called 'the perennial philosophy'. "His contemplation of religion and belief systems was deep including Christianity, Judaism, Hinduism, Sufism, Buddhism, Taoism, the Upanishads, Celtic Nature and Otherworld beliefs, Native American beliefs, Inuit and Aztec Cultures, Minoan civilisation among others" (Ó Ciaráin 2020). During his six years in Canada, he also took the opportunity to travel throughout the USA and Mexico. In his final year in Canada (1970–1971), Moriarty took a road trip from Manitoba through the mid-western United States to the Grand Canyon in Arizona, which left a lasting impression and shaped his thinking.

At the age of thirty-three, Moriarty decided to abandon his academic career and to return to the west coast of Ireland. He believed that he was 'in danger of becoming an intellectual' and desired to learn to live in the world without the conditioning of his education and of his religion; he was keen to erase the European inheritance of 'Jerusalem, Athens and Rome'. He wanted to find his 'bush soul', his soul outside of society. While this endeavour was initially very uplifting, ultimately it proved a perilous undertaking and resulted in what can only be described as a spiritual breakdown. It involved tremendous psychological suffering, which he somehow recognised as 'the dark night of the soul'. He found himself saying the old prayers. "Surprised, almost managing a smile of embarrassment, I was a Christian. Not a 'Christian again'. I was a Christian for the first time" (Moriarty 2001, p. 522).

It was not to the traditional form of the Christianity of his youth that Moriarty returned. Instead, he imagined a renewed mystical Christianity that was informed by his encounters with other spiritual traditions. It was a form of Christianity that goes beyond (and possibly against) the church and embraces the mystical dimension of all traditions, whatever their provenance. Aidan Mathews (1998), an Irish broadcaster, once described it in the following terms: "There was something magnificent about his single-minded oppositional stance

in our deconsecrated world; and to watch him perform his rain-dance on the astro-turf is to witness an ecumenical invocation of all human spiritual authority, North, South, East, and West, against the power and dominion of technocratic consumerism, of the liberal laboratory outlook". Moriarty re-imagines a version of Christianity that is broad, ecumenical, and mystical. It is a "pan-Christian labour that incorporates the wisdom tradition of all faiths" (Higgins and Aherne 2019, p. XX). This is not the Christianity of Moriarty's childhood, but it is one that has deep consequences for the earth. In this essay we focus on a key element of this re-imagined spirituality, the journey to the depths of the earth, and its implications for our approach to climate crisis.

3. Towards a 'Canyon Christianity'

Moriarty re-framed the Easter story as a mystical trail that has been pioneered by Jesus. He drew parallels with a range of Hindu tales—in part to explain his meaning, but also to draw other spiritual traditions into his pan-Christian narrative. Moving beyond a literal interpretation of the Gospel to a mystical interpretation, he mapped an experiential trail that, if undertaken, takes us back before historical time, before the evolution of species, to the very source of life. This journey returns us to the embryonic potential, the seed potential, the creative source, to our deepest roots, where we can start afresh.

3.1. The Mystical Trail

Moriarty divides the Easter journey into distinct phases. Although in the Christian tradition the Easter journey usually begins in the Garden of Gethsemane, he focuses on the crossing of the Kedron as the initial point. The crossing of rivers has symbolic significance both historically—Caesar started the Roman civil war by crossing the Rubicon, Napoleon crossed the Nemunas with his Grande Armée en route to Moscow—and in myth: the Swan Maidens warning the Burgundians against crossing the Danube en route to the Court of Etzel, King of the Huns, or, perhaps most resembling Moriarty's Kedron, the river where Siddhartha (Hesse 1922) becomes a ferryman.

The Kedron—where John begins the re-imagining of the Easter journey—features on several occasions in the Bible. Running through a valley to the east of Jerusalem, and part of the city's sewage system, it formed a boundary that Jesus must often have crossed en route to the Mount of Olives and to Bethany. Although geographically a small river, Moriarty re-imagines it geologically akin to the Colorado, a river flowing at the bottom of the deep canyon it has cut, teeming with the karma—the total of good and bad deeds—of all the world, including that of Jesus. As he traverses that water, Jesus absorbs all this karma and successfully inherits and integrates it into his own being as he journeys towards Gethsemane. "To cross the Kedron as Lamb of God, for Lamb of God reasons, is to cross it where it is Colorado-river deep in the world's karma, it is to absorb willingly that karma, all of it, into oneself, and to climb with it, carrying it to an abyssal summit of Moksha Mountain called Golgotha" (Moriarty 1994, p. 27).

Christ is accompanied to the Garden of Gethsemane by three apostles. Although Peter, James, and John have come to the garden with Jesus, they do not partake in Christ's suffering. Instead, they fall sleep. While this may be a natural outcome of tiredness, it may also be a form of protection from the enormity of the sufferings that Christ is enduring. Three times he returns to his friends, finding them asleep, and on each occasion, Christ resumes his journey through the different geozoic eras of the earth.

Initially, Christ sinks into the Kainozoic (the last 66 million years of Earth's history) where "standing there alone on the Canyon floor, he breathes Kainozoic air, the same air that lizard and fox and egret and bighorn and humming bird and owl and moth and butterfly and squirrel and wood louse and rattlesnake breathe" (Moriarty 2006, p. 8). Subsequently, he descends into the Mesozoic (the middle era 252–66 million years ago), breathing "Mesozoic air, the same air that ichthyosaurus and tyrannosaurus and styracosaurus and ornithamimus and meganeura and mischoptera and archaeopteryx breathe" (Moriarty 2006, p. 8). On the third occasion, he sinks down into the Palaeozoic (ancient life, 541–

252 million years ago) and breathes the same air "that sponge and jellyfish and crinoid and ammonite and trilobite and brachiopod breathe" (Moriarty 2006, p. 8f). The journey is very painful as the bad blood of humanity, originating from 'the sin of the world' in these eras, boils over in Jesus. In his agony, he sweats out the bad karma of humanity: "And being in anguish, he prayed more earnestly, and his sweat was like drops of blood falling to the ground" (Luke 22:44).

Moriarty uses the metaphor of a trail to the bottom of the Grand Canyon to illustrate the Christ's journey in a new way. Drawing on his previous engagement with First Nation spirituality, Moriarty imagines Christ descending the Bright Angel Trail to the floor of the Grand or Karmic Canyon in Arizona. Christ's journey is not a descent just through various geological ages but also involves "going down below humanity, down below mammal, down below reptile, down below amphibian, down below fish, down below ammonite, down below alga down below the first protein" (O'Donoghue 2013). On the floor of the Karmic Canyon, Christ is invited by Bright Angel to drink from the rockpool that mirrors aeons of stratified karma. Initially reluctant to drink, Christ begs his Father to remove the cup but agrees nevertheless to do his Father's will. Cupping his hands, he drinks the water and takes unto himself the Earth's karma and all its dark energies. The act of drinking the water sanctifies the Earth's karma, and Christ experiences total integration of his human and other-than-human nature.

Good Friday is associated primarily with the death of Christ. In many accounts of the crucifixion narrative, the focus is on the death of the human Christ, but a deeper inspection suggests that this is not actually an anthropocentric story. Rather, the whole of creation is involved. Both Mark 15:33 and Luke 23:44 note the darkness that comes over the earth for about three hours. Norman Habel (2009, p. 111) remarks that this is an expression of sympathy from the earth that is reminiscent of Jeremiah 4:28 announcing that the earth mourns, and the skies grow dark. Susan Millar (2008) writes that the "voice of Earth is heard through the descent of darkness". Alan Cadwallader (2004, p. 53) regards this darkness as reflecting the empathy of the earth. The Golgotha experience has a total cosmic setting. The crucifixion of Christ has Earth as its centre. On Good Friday, Jesus exits his physical body and dis-engages with the Earth. It is a process of dis-illusionment, resembling the transcendence of Māyā as understood in the Upanishads (Mitra 2020). Reality as the human Jesus knows it disappears and even his God disappears—hence his cry "my God, my God, why hast thou forsaken me?" (Matthew 27:46).

The Hebrew word 'Golgotha' is translated as the place of the skull. Moriarty imagines a tableau where Jesus is looking down into Adam's empty skull. It is a state of total emptiness. The old is completely gone. This is a time of dereliction and fear, of existential void experienced by the disciples on the Sabbath, a liminal time-space between crucifixion and resurrection. McDonagh (2017, p. 17) reminds us of the fundamental importance of this 'empty' time-space for Creation, which "does not end at Genesis 1:32 with the creation of humans: it ends rather in Genesis 2:3 with the Sabbath rest of God". Pope Francis (2015: 71) also highlights the significance of the Sabbath, and the Jubilee, for renewal, recreation, and redistribution. In this existential void we may glimpse 'the rich nought' (Moore 2009), the nothingness beyond being and becoming that could ground allegories of the Divine reconnecting God to the Earth (Heisig 2019, p. 104).

The empty skull is symbolic of the emptiness that is at the core of Moriarty's understanding of the Easter journey. Drawing on the lens of Hinduism, Moriarty frames the Hill of the Cross as the "Hill of the Koshaless Skull". Kosha denotes a veil or an obstruction, and a Kosha-less skull is one without the veil of the senses that hinder rather than facilitate our experience of reality (Raina 2016). Moriarty advocates letting go of our sensual and empirical experience of reality, to transcend the ego and any sense of selfhood. Prepared by the night of Gethsemane, Christ lets go of everything related to the senses. His journey to the depths of Golgotha is an evolutionary step—the foreshadowing of entry to what Moriarty calls the Divine *Ungrund*. Introduced by the German mystic Jacob Boehme, the *Ungrund* designates the atopical Nothingness that engenders Something. For Boehme, as

later for Heidegger, this "Nothingness or nihilation . . . gives rise to Being" and is thus "required for the 'letting-be' of beings, for the un-concealment of Being" (Koenker 1971, p. 44). We will come back to Heidegger and his idea of 'letting-be'.

3.2. The Journey towards Integration

While drawing on other spiritual traditions, Moriarty reframes the Easter journey as one towards the experience of total integration. The movement was more in time than space. Moriarty identified a new metaphor for Jesus. Going back through the ages, Jesus drinks the karma of the species and joins in the sufferings of the earth over time. The geological epochs are not separate but blend into one another. "Eating the bitter herbs of history, of humanity, was an image for him of facing up to the totality of human nature and was at the core of his own philosophy of inclusion and integration" (McGillicuddy 2018, p. 114). During the historical event, Christ experienced the integration of all our evolutionary processes.

The total integration Jesus experienced on arriving at his destination meant there was no separation of animals from humans or of plants from animals. It was a "consciousness that isn't fenced off from other consciousness. . .. a consciousness not fenced off from the consciousness of cheucau or fox, iguana or finch, not fenced off for that matter from rock and star" (Moriarty 2001, p. 687). For this reason, Moriarty (2009, p. 143) called Jesus

> our hero of integration. He has enabled us, now again, to drink from the well of commonage consciousness in the crypt, a well a Pleistocene shaman might have drunk from, a well Cernunnos might have drunk from. Grand-Canyon deep in the earth's karma, Jesus has enabled us to be incarnate. He has enabled us who, hitherto, were only on the earth, to be of the earth.

Thus understood, the Triduum Sacrum—agony in the garden of Gethsemane, endurance of the abyss on Golgatha, resurrection in the garden of the Sepulchre—enables our new perception. Through this pilgrimage, "Jesus brought redemption to the whole of creation . . . It follows that we have responsibility for all life on the planet with which we are interrelated and interdependent" (Ó Ciaráin 2020). This is a move from the personal 'I' to a collective 'we', and to a place where the animals also experience Christmas.

Moriarty saw Christ's suffering on the cross as for the benefit of all creation for all times. The whole earth throughout the ages has undergone the passion of Christ. This was a truly cosmic Christ. This image, often associated with Teilhard de Chardin's attempt to reconcile science and religion, has its roots in the letters of St Paul. Balabanski (2022) and considers "the Pauline eschatological vision of cosmic liberation and renewal ecologically as reconciling all things, not just the rift between God and humanity". This cosmic Christ did neither prioritise contemporary human life over previous lives, nor human life over that of other creatures. His act of redemption initiated a healing process for the whole earth, achieved through a process of integration. The Canyon experience was the first step away from ego- and anthropocentrism. In consequence of such "awful passes" of suffering, the individual ego was transcended, and Jesus was enabled "to live fully in unity with others and with nature" (Charleton 2008).

Integration was at the heart of Moriarty's thinking against anthropocentrism. In his re-framing of the Easter journey, Moriarty offers an alternative vision where all things live ecumenically with one another, uniting humanity with nature, magic, and the divine. During the Easter journey, Christ experienced a strong sense of mutuality with all life (human and non-human). There was no divide between humans and the rest of the world. "Like Naess, Moriarty viewed the development of what he called 'commonage consciousness' as a progression or maturation of the ego which involves a gradual transition from an atomistic identity to one that incorporates a greater and greater range of beings" (Ward 2022, p. 7). The deep ecological unity of nature is represented by Moriarty with the symbol of the empty skull. The cross is empty. The tomb is empty, and the skull is empty. There is no atomistic sense of self. Instead, there is a strong sense of being at one with nature.

That sense of collective unity with nature has been echoed by other ecologists. In a life episode reminiscent of the dramatic ending of Chingiz Aitmatov's (1989) novel *The Place of the Skull*, the American ecologist Aldo Leopold, having shot a female wolf, recalled the fire die in her eyes—a fire that suggests to him a knowledge shared between the animal and the mountain. He perceived an empathy between the wolf and her *οἰκουμένη*—her habitat—undiscovered by human beings. Leopold advocated that humans need to learn how to 'think like a mountain' (Leopold 2021) in an effort to overcome the anthropocentric insistence that the world is revolving around 'us'.

For Moriarty, the transformative journey from 'I' to 'we' can be undertaken by all Christians (in the broad ecumenical sense) who journey with Christ through the Triduum Sacrum. The Jesus event did not begin on Holy Thursday and end on Easter Sunday more than 2000 years ago. It is a continuous process. It is flowing like a fountain of living water for those who wish to drink of it. The trail to that living water is open for those who choose to cross their Kedron. This is not a physical journey, but more like a Vision Quest. Contemporary Christians are not expected to literally walk a trail across the real Kedron, into the Garden of Gethsemane and onto Golgotha, any more than they need to descend into the Colorado's Grand Canyon. Instead, this is a mystical journey with Christ: "With him not in the sense of walking beside him or after him. With him in the sense of sacramental assimilation to him" (Moriarty 2006, p. 146). Taking this route, Christians are with Jesus the sacrament rather than Jesus the person. "Existing independently of him, his achievement in the Karmic Canyon, drinking from the cup and the skull within it, is an inheritance we can appropriate into the roots and auroras of who we are" (Moriarty 2006, p. 146).

Mysticism is an experience, not a doctrine or creed; something Christians undergo like a caterpillar entering the cocoon stage—not a series of external events but a transformative private initiation. As Christians journey through the Triduum Sacrum, they move towards self-loss in the Divine, the heavens mirrored in the depths. Christians go through a process of dis-integration that involves "unlearning the separations, categorizations, and instrumentalizations of achievement, production, and supremacy" (Gillespie 2022). Having taken this in, they emerge into non-dualizing consciousness. There is no separation in the Divine. This is a state of unitive awareness represented by the empty skull, the empty tomb, and the empty cross. Like a butterfly emerging from its spent chrysalis, post-Triduum Christians are a new creation. They emerge from the Canyon into a robust, capacious and compassionate Christianity, a religion that could embrace and encompass all that we are, unlike the religion Moriarty had experienced as shunning much of our human nature.

Realising soul in themselves, these Christians see soul in all creation. They are open to behold the miraculous in everyday life. This leads to an ecumenical as opposed to dominating way of being-in-the-world. The fences come down. Christians surrender to reality as unconcealed—not as they have been conditioned to see it: There is no hierarchy of species, and Christians can gradually emerge into a 'commonage consciousness'. Humans are not separate from the elements or the biosphere around them. Humans are one with their fellow creatures within their habitats. "The world does not only 'environ' us, but we are also it, it is in us and we in it" (Moriarty 2005). This is not traditional Church Christianity. It is a new Christianity that replaces an ailing tradition. In its metaphors and symbols, in its rituals and its vision, Moriarty saw this Church Christianity as no longer nourishing the needs of humans or the Earth, a Christianity that has failed to integrate its own shadow, its own instincts, and has set itself apart from animal nature as well as from the Divine.

This severance, partially expressed in the Christian tradition's concept of 'sin', has its roots in a misleading interpretation of the Scriptures. For centuries, God's command in Gen. 1:28 has been read as a licence to exploit the natural world "according to any human whim or fancy", whereas "dominion" is, in fact, "a challenge to human beings to imitate God's loving kindness and faithfulness" (McDonagh 2017, p. 17) towards our commons and the relations that sustain it. The interconnectedness of this commons as a 'web of relations' is

the red thread running through the papal encyclical *Laudato Si'* (Pope Francis 2015), which speaks also of a "sense of deep communion with the rest of nature" (91) as we proceed on our "pilgrimage, woven together by the love God has . . . [for all] . . . and which . . . unites us . . . with brother sun, sister moon, brother river and mother earth" (92). There is much in this encyclical that Moriarty might have been heartened by, not least of all the postulate of an Integral Ecology (137–162), with its emphasis on heritage (143), home, belonging and rootedness (151), and a notion of the common good inseparable from a comprehensively understood human ecology (156–158).

4. The Evolutionary Context

The concept of integration we find at the heart of Moriarty's vision is commonly associated with indigenous peoples and probably reflects Moriarty's encounters with First Nations during his time in Manitoba, as well as his lifelong engagement as a gifted storyteller with indigenous stories. Indigeneity, whether with a small or a capital 'I', is intrinsically connected with roots in place (Kockel 2012, 2024), and with dwelling therein, often referred to as human ecology. "Dwelling is an act of resistance against the cultural homogenisation and self-abstraction made possible by technology" (McGrath 2021, p. 99)—that is, against modern egocentrism. Thinking meditatively and dwelling authentically engenders an attitude of what Heidegger called *Gelassenheit* (letting-be-ness; see Davis 2009) that supports relationality and kinship. The German mystic Meister Eckhardt is credited with coining this concept (Lipič 2021) to explain how the human soul may recover its *unio mystica* with the Divine, the unity of creature and creator, soul and being. Keith Basso (1996) points to a sense of integration Native Americans experience whose dwelling consists of multiple "lived relationships". Deborah Bird Rose (2013) uses the concept of kinship in a similar way. Moriarty's mysticism is infused with indigenous mythology. *Dreamtime* was the title of his first published monograph, and the titles of his later books explicitly reference indigenous narratives. These include the three-volume *Turtle Was Gone a Long Time* (Moriarty 1996, 1997, 1998), the title of which refers to the diver myth found in Siberia and North America, in particular among the Maidu of California.

However, this integration was also the worldview in pre-colonial Ireland, encapsulated in the Gaelic word *dúchas* (heritage). *Dúchas* encodes a particular way of thinking about humans and nature that is multi-species rather than anthropocentric (Nic Craith 2023). In the Gaelic world, humans and non-humans were not separated. There was an ecological balance between all beings. Kinship and unity are prevalent in all mythology that John draws on heavily. Inevitably, these concerns infused the writings of Celtic Christians. Pelagius (360–430 AD) argued that "when Jesus commands us to love our neighbors, he does not only mean our human neighbors; he means all the animals and birds, insects and plants amongst whom we live" (Van de Weyer 1996, p. 72).

This ecological connectedness was also the vision of some Christian thinkers prior to and since Moriarty's writings, from Martin Luther's reading of Paul's epistles to more contemporary engagements of Christian spirituality with science, such as Pierre Teilhard de Chardin ([1969] 1971). McIntosh (2023) critiques the faith of Thomas Berry with whom Moriarty would have agreed on many points. Like Moriarty, Berry argued that "we are involved in a profound cultural pathology. Because we refuse to deal with this cultural pathology, we are in a state of denial" (Berry et al. 1991, p. 46). We do not engage with nature. "We are talking to ourselves. We are not talking to the river, we are not listening to the river. We have broken the great conversation [and] shattered the universe" (Berry et al. 1991, p. 20). And just like Moriarty, Berry argued for a changed set of relationships between humankind and the Earth, which would honour and recognise the kinship between all the elements. "Each atomic particle is in communion with every other atom in the vast web of the universe. This web of relationships throughout the universe is what first impinges on the waking consciousness of the human from the beginning" (Berry 1978).

Echoing *Laudato Si'*, the human ecologist Alastair McIntosh (2023) argues that "[t]he Earth must not be approached in a fragmentary manner, but in an 'integral' or holistic

manner, as 'a single reality'". This would not be easily achieved. Just as Christ had suffered the passion, we also need to suffer. "What is needed is a deep cultural therapy. It is like addiction. We are not going to get out of this until we undertake the agonies that drug addicts have to undergo. ... There is no death without renewal" (Berry et al. 1991, p. 46). This is not a Christianity of "bells and smells"; instead, "a theology that faces up to cosmotheandric crucifixion can only find its realization from the depth of the second day on the cross, when, as it is expressed in the Apostles' Creed: 'He descended into hell'" (McIntosh 2023).

While there are similarities between Moriarty's work and Teilhard's endeavour to bridge the chasm between science and religion, especially in relation to their Christology, cosmic vision, and continuing evolution, Moriarty makes little reference to Teilhard in his writing. Tucker (2005, p. 13) noted that, thanks to Teilhard, it had now become possible to recover the cosmological sense of Christ, present in the letters of St. Paul, which had waned since the early Christian era: "We may now reintegrate a focus on the historical Christ of social justice with the Cosmic Christ, the Logos at the heart of the universe". Along with Teilhard's vision of "the unity of life that resituates the human in the whole cosmic order . . . [and] . . . provides a means of reciprocity and reverence with the natural world" (Tucker 2005, p. 9), this suggests considerable common ground. However, the two writers appear to have diverged in their perspective on evolution, and on the value of complexity. Teilhard adapted (see Shoshitaishvili 2021) the concept of 'noosphere' to capture the increasing complexity of human awareness evolving towards the 'Omega Point' (Teilhard de Chardin 1959)—his chiffre for the Cosmic Christ. By contrast, Moriarty (2001, p. 1069) referred to Teilhard's 'noosphere' as a "thing" that was suffocating our spirituality, "closing ever more thickly above us and about us. We are asphyxiating in our own psychic exhaust".

In one of his last writings, Teilhard suggested Christianity "is reaching the end of one of the natural cycles of its existences. . . After what will soon be two thousand years, Christ must be born again" (Teilhard de Chardin [1969] 1971). Yet this 'second coming' may be not what human interpretations expect, as Chinghiz Aitmatov (1989, p. 142) has Jesus explain in a fictional dialogue with Pilate: "It is not I . . . who will return, resurrected; it is [humanity], who will come again to live in Christ . . . I will return in [humanity], through my suffering". Moriarty's Triduum Sacrum points in a similar direction. Aitmatov's Christ continues: "I will be your future, left thousands of years behind in the chronological past: this is the Almighty's plan, to raise [humanity] in this way onto the throne of [its] true calling, . . . to goodness and beauty".

Berry called for a new and expanded form of Christianity. Scientific developments have led us to understand the evolutionary process in a different way from early Christian thinkers, and we must articulate our Christian belief differently. We have, in our new understanding of the universe, new ways of understanding the divine manifestation in the natural world. We have a new type of revelation (Berry et al. 1991, p. 54). As McIntosh (2023) summarises it: "Early Christianity, he suggests, shaped a theology that went beyond the gospels, and we must do the same today".

Moriarty also called for a new form of Christianity—one that goes beyond the Church and integrates and takes account of the wider ecumene. His argument is that if we can integrate that realization, grow that vision, then we will never be able to hurt the earth we walk on, and will instead walk in beauty. For us, what is extraordinary about Moriarty's work is that he has made the passion of Christ central to the process of what he sees as "our further and final evolution" (Moriarty 2006). It is only with the evolution of the compassionate spirit that the world will change; while this is a Buddhist insight, Moriarty's Jesus internalises and integrates our animal nature and our human savageries, brings them to the surface and blesses them.

Moriarty was keen that Christianity would expand beyond its traditional boundaries. His was a form of spirituality that drew upon all the resources he had accumulated over a lifetime (Ó Ciaráin 2020):

> Moriarty called repeatedly for genuine ecumenism with all beliefs and religions. He sought a new Christianity which draws from native wisdom such as that of the Aztec people, the first Native American tribes, and indeed the ancient native mythology of Ireland: the oldest vernacular literature in Western Europe.
>
> It was a form of Christianity epitomised in the person of Black Elk (Moriarty 2007):
>
> I think of him (Black Elk) as a new kind of Christian. A Christian who, as his name suggests, is ecumenical with elk, that meaning all animals, living and extinct. A Christian who is ecumenical with lightning. A Christian who, before he converted to Christianity, concluded the rituals he performed with the words *mitakuye oyasin*, meaning all my relatives, in other words, everything that exists, and it might well be that a ritual is effective only when it is pan-ecumenical, only when it is in and from and with and through all things.

This would break the boundaries of our thinking as well as those of different forms of spirituality. Moriarty was not thinking in traditional terms. Instead, his challenge is for us to re-imagine Christianity within a cosmology of inclusion of the whole earth, encompassing all creeds, all cosmologies, and all ideologies. Moriarty (1994, p. 26) wrote:

> We are most humbly, heirs with Hindus to Upanishads.
>
> We are most humbly, heirs with Buddhists to Sutras.
>
> We are most humbly, heirs with Taoists to the Tao
>
> Te Ching.
>
> We are, most humbly, heirs with Christians to
>
> Evangel and Evangelanta.
>
> We are, most humbly, heirs with Jews to heard of and unheard of
>
> Books of Splendour.
>
> We are, most humbly, heirs with Sufis to Bezels of Wisdom.
>
> We are, most humbly, heirs with Navajo to sacred circles and songs.
>
> We are, most humbly, heirs with Siberian, Inuit and Aboriginal shamans
>
> to sacred songs.

For Moriarty, the Triduum Sacrum is the final stage in the process of evolution, but it is not just the evolution of the earth that is at stake. It is also the evolution of Christianity, which Moriarty felt had stopped growing with the New Testament. His is a mystical Christianity—he sometimes called it 'Canyon Christianity' (drawing on his metaphor of the Grand Canyon). It is an ecumenical Christianity that might, in its relational, cosmological, and ecological integration, sustain a "morally oriented *Gelassenheit*" to "usher in a new world" (McGrath 2021, p. 102f)—an attitude reflecting the spirit of *mitakuye oyasin*. Cultivating such a *Gelassenheit* might well help us "prevent the coming eco-catastrophe" if we can "conceive both nature and humanity differently" (Huttunen and Kakkori 2022, p. 639). What sources this *Gelassenheit* may draw on was left open by its proponent Heidegger, and it remains a moot point; Moriarty's intercultural spiritual intuition may be one of them.

Author Contributions: Conceptualization, M.N.C., U.K., M.M. and A.C.; methodology, U.K.; investigation and resources, M.M. and A.C.; writing—original draft preparation, M.N.C., U.K., M.M. and A.C.; writing—review and editing, U.K.; project administration, M.N.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are contained within the article.

Conflicts of Interest: The authors declare no conflicts of interest.

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Article

Living Well Together in a Climate-Changed Future: Religious Imaginaries on the Cutting Edge of Genetic Technology

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Abstract: This essay focuses on the emotional and relational investments of scientists and others engaged in and supportive of genetic technologies used in conservation efforts, with particular attention to the different moral and religious imaginaries that fuel endeavors to save species threatened by climate change and extinction. I argue that two distinct visions and competing religious repertoires can be discerned in the secular landscape of genetic technologies deployed in coral restoration and de-extinction. Each endeavor brings forth its own forms of magic, myth- and meaning-making. At the heart of coral protection is the symbol of the holobiont, suggestive of cooperative endeavors, collective labor, networking, and distributed and embodied knowledge. Central to de-extinction imaginaries are motifs of individual competition, machine metaphors, "selfish" genetic components, and a spirit of entrepreneurial excitement and profiteering. The essay contrasts these two visions as competing accounts of relationality—or the lack thereof—and asks which religious and moral imaginaries we should embrace as we move into an era marked by intensified technological intervention and high-risk efforts to address the effects of climate change. I suggest that the values that drive de-extinction technologies are largely at odds with environmental and social goals of living well together, as humans and more-than-humans, in a present and future world transformed by climate change and species death.

Keywords: corals; de-extinction; extinction; holobiont; religious imaginaries; genetic engineering; gene drives; climate change; Ruth Gates; George Church; Stewart Brand; Kevin Esvelt

1. Climate Emergency and the Genomic Turn

As I write, in late summer 2023, the drumbeat of climate change is growing too loud and insistent to ignore, for all but the most committed denialists. An exceptional marine heatwave has warmed the North Sea to temperatures not seen in over 170 years. In Southern California, where I live, scientists are tracking a rare and powerful hurricane that is spinning toward the coast, fueled by anomalously warm Pacific waters. A storm of this sort has not made landfall in California in nearly 84 years. In Florida, a massive coral bleaching event caused by record-high ocean temperatures is currently underway. Meanwhile, on land, the town of Lahaina, Hawai'i, with thousands of years of rich history, has just been devasted by wildfire, leaving a path of destruction that eclipses all previous records. In Canada, wildfires have recently burned an area the size of New York State—easily the worst wildfire season on record for that part of the world. Smoke from the fires has choked cities across the U.S. and beyond, all summer long. A blanket of smoke is hovering over the Pacific Northwest as well, from wildfires on both sides of the border. The dismal list goes on and on. These days, the weather *is* the news, and "unprecedented" is beginning to lose its meaning.

While headlines often focus on human losses, the impacts of these events on wildlife and ecosystems are also grave and rapidly intensifying. Earth has witnessed numerous mass extinctions over the course of its long history, but the current extinction event, often called the sixth mass extinction, is unique in that it is driven by human activities including

unsustainable use of land, water, and energy, and climate change. For some species it is already too late, or nearly so. Indeed, for many ecosystems around the world, the idea that we can return nature to a pristine state looks increasingly fantastical. Consequently, some scientists are turning to cutting-edge genetic technologies to rescue the remaining members of some species from extinction or to attempt to reverse extinction once it has occurred. The latter approach is referred to, somewhat misleadingly, as de-extinction. Both projects—rescuing coral and de-extincting—are swept up in the "genomic turn" that is reshaping much of contemporary environmental management (Braverman 2018, p. 201).

The emotional and psychological impact of these mounting crises on climate scientists and conservationists is receiving wider attention, as more and more researchers speak candidly about the difficulties of continuing their work in the face of grim odds and rapidly vanishing creatures (Einhorn 2023). The affective register of research on climate change and extinction often varies widely across different types of conservation and restoration projects, ranging from feelings of profound grief and despair to excitement and optimism about the life-saving and life-shaping power of emerging technologies. In what follows, I explore these dynamics along the lines of what ethnographer and legal scholar Irus Braverman calls the "emotional and relational landscape" of researchers who are using genetic tools to address the impacts of climate change (Braverman 2017, p. 56). These varying landscapes hint at how individuals understand themselves to relate—or not—to other lifeforms and larger ecological and social contexts. They offer important insights into the justifications, values, and motives that drive the deployment of technologically intensive approaches to saving species threatened by climate change. In short, they speak to what religion scholar Lori G. Beaman calls "the ability to imagine oneself in relation to others and what one has in common with others" (Beaman 2017, pp. 11–12).

Relational sensibilities, or the lack thereof, are often expressed through affective discourse that attends contemporary environmental management practices. But affect is not the whole story, for what is revealed in these imaginaries is a construal, or perhaps a reconfiguration, of one's place in the world that is shaped by and expressed through science and technology. Put differently, scientific and technological understandings and objectives are inseparable from affective commitments to intervening in nature (Schaefer 2022). These interventions may take the form of world repairing—work that brings diverse constituencies together to make the planet "liveable for human and other-than-human beings"—or world-dominating, or perhaps some complex combination of the two (Beaman and Stacey 2021, p. 1).

My claim is that these "construals" of oneself in relation to others and the wider world (both social and ecological) constitute religious imaginaries.[1] "The power of the term imaginary", Beaman and Stacey argue, lies in its "ability to traverse distinctions between religious and nonreligious ways of understanding the world while avoiding thinking of either as unified systems" (Beaman and Stacey 2021, p. 4). Imaginaries are often conveyed through, or partially comprised of, what Timothy Stacey calls religious repertoires: images, symbols, stories, and rituals. They stake a claim to who or what "the human" is or ought to be; they are bound up with meaning-making, and sometimes myth-making. Religious and moral imaginaries form a loose "constellation" of stories, events, and characters (real or fictitious) that influence how one acts in the world, and how one envisions possibilities and renders action meaningful (Stacey 2022, p. 81). Practitioners of emerging technologies used in restoration or de-extinction express their visions of life in the course of applying sophisticated tools. While the tools themselves may be similar or even identical, the worlds these practitioners hope to bring into existence contrast in important ways with one another in the cases we will examine below.

In settings and activities that appear devoid of religion, as with certain kinds of sustainability work, we can nevertheless identify religious repertoires—"practices that make some ways of perceiving the world meaningful and others meaningless: what human and other beings are; what the world is; how these interrelate; and whether things could or should be different" (Stacey 2023). Often, these visions partake of forms of "magic" or

magical thinking with objects or technologies that make another world seem possible, even (perhaps especially) when the odds are strongly against it. Magic here does not "compete with science but complements it" (Stacey 2023, p. 117).

As Stacey's studies of activism show, magical thoughts and feelings often shape sustainability work, including environmental activism which "involves taking on causes that all the evidence suggests are impossible to win or else already lost" (Stacey 2022, p. 124). For those working to save corals, for example—an effort that merges science with activism to a degree not often seen in scientific endeavor—magical imaginings occur with some frequency, as do enchanting underwater encounters with corals themselves. Similarly, scientists working to bring species back from extinction also engage in forms of magical thinking and "against-all-odds" efforts to call forth new worlds through science and technology. Techniques of de-extinction and related genetic technologies are also spoken of in terms that express awe at genetic elements and the machine-like bits and pieces of organisms with which these scientists tinker as they experiment with the basic ingredients of life.

These religious repertoires warrant close examination because of the power they hold for effectively "locking in some socio-ecological futures and locking out others" (Stacey 2023). What forms of magic—what kinds of religious repertoires and imaginaries—do we want to preserve and pass on as humans collectively enter a time of extreme climate disruption and intensified intervention in nature? Which religious visions are most conducive to living well together in a climate-disrupted present and future? (Beaman 2017). In the regulatory void that presently exists for many emerging genetic (and other) technologies, scientists are increasingly left to self-regulate—or not. In this setting, the "values and visions"—the moral imaginaries—of individual scientists take on enormous importance since they will "at least partly determine the scope of the research" and its "normative dimensions" (Braverman 2017, p. 56). At the heart of this essay is an examination of competing religious visions and religious repertoires of scientists experimenting with genetic technologies to safeguard and recover species from conditions of extreme climate change and extinction. Two widespread and seemingly similar forms of high-tech socio-ecological intervention are closely scrutinized and disentangled, drawing on tools and critique from the study of religion.

2. Emerging Environmental Technologies: Similarities and Differences

Two broad examples of technologically-intensive forms of management—scientists working to save coral reef ecosystems from climate-induced extinction, and those adopting genetic technologies to undo extinction—seem to mark a departure from traditional environmental approaches.[2] They offer a rich comparison owing to numerous apparent similarities as well as what I see as their significant ethical differences. The juxtaposition also raises questions about the usefulness of categories like synthetic biology or genetic engineering that are often invoked to classify (and possibly denounce) certain types of interventions or to distinguish them from others. Let us look first at the similarities.

De-extinction efforts, like the proposed resurrection of the wooly mammoth, are sometimes framed as a form of climate mitigation (for reasons explained below), which suggests a fruitful comparison with genetic technologies deployed to adapt corals to conditions of climate change. Additionally, both coral-saving and de-extinction technologies are high-profile initiatives that attract rapt and sometimes sensational media attention, as well as the patronage of billionaire investors. Researchers involved in both endeavors often attain a kind of celebrity status as they come to embody the hopes and fears of people all around the globe in a time of great climate peril. Celebrity status creates a magic of its own, as these scientists are mythologized in award-winning documentaries and feature films.[3] Both projects constitute a kind of last-ditch, by-any-means-necessary form of conservation and both carry with them an uneasy (to some) sense that we are transitioning from the familiar territory of environmental protection into a brave new world of biopolitical manipulation. As such, these interventions are part and parcel of a new landscape of Anthropocene ethics,

where human oversight and intensive technological involvement in nature define a new normal (Kolbert 2021).

Both forms of environmental management draw upon technologies that might be categorized as synthetic biology. There is no single, agreed-upon definition; rather, synthetic biology consists of a suite of applications from which researchers select. The National Human Genome Research Institute describes synthetic biology as a "field of science that involves redesigning organisms for useful purposes by engineering them to have new abilities" (NIH n.d.). Whether or not a particular technology is seen to align with the description of synthetic biology may have more to do with how words like "natural", "novel", "artificial", "engineering", and "useful" are defined than with the technologies themselves. Terms like useful are also vague. Is the usefulness of the technology understood in anthropocentric terms or is it instrumental in the survival of organisms themselves? Does it matter?

Another account of synthetic biology, offered by Harvard geneticist George Church whose work is at the center of contemporary discussions of genetic technologies like CRISPR, defines it as "the science of selectively altering the genes of organisms to make them do things that they wouldn't do in their original, natural, untouched state" (Church and Regis 2012). Yet, like the previous definition, this raises many additional questions. What constitutes a natural, untouched state at a time when the entire planet is impacted by climate change? What "things" are organisms being made to do? Moreover, management approaches that involve these technologies are typically pursued precisely because the "natural" state of an ecosystem has so radically shifted that further intervention seems warranted. In this context, Elizabeth Kolbert's recent work explores the "recursive logic" of the Anthropocene, whereby human interventions and alterations of the environment necessitate *further* rounds of interventions to address the negative impacts of the initial, flawed intervention—potentially, in an iterative fashion (Kolbert 2021, p. 117). Thus, for example, one response to widespread coral bleaching and death caused by warming and acidic oceans is to manipulate the genes of corals to make them more resilient to climate change. Humans can assist their evolution, essentially augmenting and speeding up adaptation to climate change.

There are currently a handful of techniques for assisting coral evolution. These include stress exposure or "stress tests" that allow some corals to become acclimated to warming temperatures (changes may then be passed on to the next generation); selective breeding that puts the sperm and eggs of the most resilient corals together to produce super-performing corals; methods of assisted gene flow, also called assisted migration, that spread beneficial mutations around coral populations by physically moving them (e.g., translocating coral stock with heat tolerance from warmer to cooler locations that will be heating up); and techniques focused on the photosynthesizing plant cells within corals—or the microbiome, as it is called—to optimize the symbiotic relationships that keep corals healthy.

We might ask then: are techniques of assisted evolution that expedite "natural" resistance to heat in corals (or their algal symbionts) a form of synthetic biology? Do they constitute "engineering"? Does selecting for heat resistance, in and of itself, amount to synthesizing something "novel" or is it merely enhancing a pre-existing natural ability? Are assisted corals doing "things" they (sometimes) do in "nature" or not? The answers are not crystal clear (and indeed, some coral scientists vehemently deny that they are engaged in the engineering or synthesis of anything "new"). Some might argue that there is an obvious difference between these coral restoration techniques and de-extinction in that the former seek to "save" while the latter aspires to "bring back" organisms that have met their demise. Moreover, one might say, it is no wonder that these two efforts lend themselves to different emotional registers and moral imaginaries, given that scientists in the first camp form affective bonds with the creatures whose deaths they are desperately trying to prevent, whereas those in the latter group often have no direct experience with creatures they hope to "resurrect".[4]

However, the difference between "saving" and "bringing back" is murkier than it might seem. To see this, consider again the example of enhancing coral resilience through assisted evolution. One way to describe assisted evolution is to say that it essentially *remakes* corals in ways that better align them to a human-imposed target, namely, current and future anthropogenic conditions of climate change. "In moving species or ecosystems toward states that they have never been in before, we are in some senses newly defining what we deem to be valuable and using the tools of assisted evolution to *create* value" (Filbee-Dexter and Smajdor 2019, p. 3).

Similarly, de-extinction projects entail the creation of novel organisms from existing genetic materials that are combined with fragmentary (or "ancient") DNA culled from specimens of extinct organisms, producing what is at best a proxy of the creature that went extinct.[5] In some cases, the genome of this new creation is deliberately tweaked to make it a better fit with environmental conditions humans have created. For example, owing to a dearth of intact DNA for most extinct organisms, efforts to de-extinct creatures like the wooly mammoth combine genetic material from closely related Asian elephants with DNA extracted from specimens. The resulting organism would be a hybrid creature, a mammophant, that looks like a mammoth and has some mammoth-like properties like cold tolerance. Mammoths have been extinct for at least 4000 years (and much longer for some populations). In order to give an environmental patina to the mammoth de-extinction project, researchers often cast it as a conservation effort. By editing wooly mammoth genes into existing (endangered) Asian elephants, they can create a creature that is more cold-tolerant than its natural counterparts, and thus able to live in habitats not normally suited to them (Wray 2017). Expanding elephants' range to colder regions is one way of addressing a major (human-caused) threat to their survival, namely, habitat fragmentation and encroachment.

In short, because de-extinction is not the "return" of what was lost but rather the *created* approximation of that thing (a creature subject to further refinements as deemed necessary), this technology is not so dissimilar from some forms of coral "restoration" as it might appear. Arguably, both define a new target set by humans; both, one might say, *create* value. While the elephant case differs from that of corals in that genes are imported from a different species, both produce organisms better adjusted than their erstwhile "natural" counterparts to human-caused conditions, including projected *future* conditions.

In conclusion, then, given the lack of clarity or consensus regarding terms like synthetic biology and genetic engineering, and the surface similarities between coral restoration and de-extinction, perhaps in differentiating them, we do well to focus less on the tools involved than on the intentions, motivations, and imaginaries of the people using them. What do they understand themselves to be doing? What ultimate ends are being pursued, and why? These ultimate goals, these modes of self-understanding, are inextricably linked to ethical and affective states, and to broader values and worldviews. Put differently, the label given to a particular technology seems less informative, and less revealing, than the moral, emotional, and religious imaginaries that embed these tools and drive their deployment.

As we, as a society, grapple with questions of whether and how to use these technologies, it is critical that we scrutinize these broader visions of relationality and consider the kinds of worlds they seem likely to usher into existence, both for our own sake and the sake of myriad other living creatures. In evaluating these projects, we need to consider factors beyond what the technologies do at the level of genetic manipulation. One place to start is with the religious imaginaries that orient and give meaning to these high-tech interventions.

3. An Orientation to Two Competing Imaginaries

For all of their similarities, coral rescue and de-extinction invite reflection on two competing accounts of what it means to be human, about how we enact or deny relationships with other organisms through innovative technologies, and even how to define life

itself. The broad contours of two visions might be articulated as follows: one approach, evident among prominent coral scientists, tends toward a communitarian ethos of human and nonhuman life. It understands technology as guided and potentially constrained by relationships and values inherent in nature itself and, therefore, worth safeguarding, even as tools of environmental management increasingly coopt and refine natural processes. A second approach, recognizable in some prominent de-extinction efforts, enshrines in various ways principles of individualism and individual (human) creativity, and social and evolutionary competition. It suggests humans as architects of life, creatures who confer intelligence and meaning to natural processes.

I am not suggesting that we view these two visions in stark, categorical terms, such that the coral community adheres, monolithically, to one ideology while proponents of de-extinction are wholly committed to the other.[6] Both, in fact, share a general optimism regarding the potential of technology in the realm of conservation. However, the basic elements I have sketched out in each case are clearly discernible as comprising two types, and their comparison prompts important questions regarding the attitudes that attend human management and manipulation of the environment.[7]

We begin with an overview of coral imaginaries. Corals and coral reefs are remarkably rich in meaning and symbolism, and they are central to a movement to think differently about the very nature of life and how living beings relate, and should relate, to one another. In an age of extinction and environmental precarity, corals appear to hold great significance as symbols of relationality and collectivity—representing some of the values humans might cultivate in order to address societal factors driving climate catastrophe.

4. Coralation: Corals in the Human Imagination

> "There's a whole mutualistic vein to this that affected my psyche. I believe that there are great lessons there for every process we engage with . . . I mean, mutualism is where we should be going—we should be trying to balance our relationships on this planet".
>
> –Ove Hoegh-Guldberg, professor of Marine Science, in conversation with Irus Braverman

For much of human history, corals have played an important role in the imaginaries of many cultures across many geographic regions. Today, at a time of great environmental peril, they are "revelatory figures with whom we may think through, and feel, our contemporary social and ecological vulnerabilities" (Braverman 2018, p. 249). It is a sad irony that just when scientists and the broader public are beginning to grasp how singular these creatures are, many coral reefs are in rapid decline. Widespread coral "bleaching events" caused by warming oceans were once exceedingly rare, but are becoming more and more frequent and severe.[8] It is estimated that by 2030, more than 90 percent of the world's coral reefs will be threatened by human activities, including human-caused climate change and ocean acidification. By 2050, scientists estimate that nearly all reefs will be threatened, with 75% facing high, very high, or critical threat levels (Coral Reef Risk Outlook n.d.). Those seeking to arrest their downward spiral often engage in forms of myth-making and magic that have long defined the human-coral relationship.

Corals share a symbiotic relationship with photosynthesizing algae, called dinoflagellates, that live within them and serve as a source of food. Bleaching results, it is thought, when the symbiotic algae in coral polyps are unable to photosynthesize properly and are consequently ejected by the host. Most corals cannot survive without the products of photosynthesis the algae provide. Polyps become translucent, appearing as white bone.

The symbiotic algae-animal relationship is a steady source of fascination with corals, for it calls into question the stability of the plant/animal boundary (and even the animal/plant/mineral distinction). A key principle of coral life is what Braverman cleverly terms coralation, a neologism that expresses material interconnection and symbiotic interrelation, while also signifying a shapeshifting quality that makes corals difficult to pin

down. Strange, wonder-inducing creatures, corals have long confounded efforts to classify and taxonomize them. To some, they suggest the irreducibility of life to the status of a mere specimen (Navakas 2023a). An assemblage of stone and flesh, they also invite speculation on the line between life and nonlife (Helmreich 2016, p. 49).

We humans have long been captivated by corals, despite their lack of humanlike and mammalian qualities that typically attract us—no endearing face or eyes, no limbs to speak of, no clear sex. Not even a brain. To be sure, corals can be beautiful with vibrant rainbow or blood-red hues, but compared to many charismatic "poster species" of the environmental movement, they are alien and difficult to anthropomorphize. Adding to their classificatory complexity, corals are not individual creatures, nor are they even a pair of organisms, but something like a community or complex consortium of organisms living together.[9] As assemblages, superbeings, or "holobionts"—a term recently popularized by coral scientists and a wide array of scholars—corals inspire an appreciation of how even seemingly discrete entities are in fact deeply entangled with and constitutive of other living beings. Multiple layers of meaning, many of them hopeful, are "encapsulated within the corporeality of coral life" (Braverman 2018, p. 21).

The question of what, if anything, constitutes a coral "individual" is so confounding that it creates difficulties in applying environmental law to them. Ascertaining their status as endangered or threatened requires that individual corals be "both identifiable and quantifiable", a task ill-suited to these creatures (Braverman 2018, p. 206). While corals may be vexing from a legal standpoint, they have fired the imagination of many scholars in the environmental humanities for whom they representant distributive modes of agency and subjectivity (Helmreich 2016, p. 54). For all of these reasons and many others, corals are and always have been, "good to think with" (Braverman 2018, p. 11).

In popular culture, religious mythology, and as a matter of scientific fact, corals are life-giving, world-making creatures. They are widely prized for ornamentation and medicine and for the wisdom they impart for living cooperatively with others. Reef-building corals create elaborate, living infrastructures that benefit a wide array of creatures and support an astounding degree of diversity, providing homes and sustenance for at least 2 million other species, or approximately a quarter of all life in the oceans. Humans too depend on corals which protect coastal areas from storms and erosion, and provide sources of food and medicine, as well as many recreational activities and tourism dollars.

Modern-day scientists and conservationists who are working to save them are participants in the creation of coral imaginaries, no less than ancient cultures who spun stories of the life-sustaining and healing power of coral. Corals gathered from the sea have long played a role in religious rituals, offerings, and ceremonial architecture in Pacific regions (Molle et al. 2023). Among Indigenous Pacific Islanders corals are associated with genealogy and the origins of life itself. According to the Kumulipo, the Hawai'ian creation chant, the coral polyp was the first organism created, along with the first man and woman. The message of the creation story is that "life in the sea and life on land are inexorably connected, and what we do on land has a direct connection and impact on all organisms in the sea" (Coral Reef Alliance 2016). In other parts of the world, corals have been invested with protective and talismanic powers. "From the Middle Ages until the 19th century, anxious new parents across Europe and North America clasped red coral necklaces and bracelets to their children's bodies . . . because coral symbolized physical and spiritual protection" (Navakas 2023b). In paintings from the 19th century, corals—especially red corals—often represent fertility, family, blood, and bloodlines. They are also broadly associated with labor and laboring bodies of various sorts, including women's labor in childbirth (Navakas 2023a), a point we will consider again.

The Great Barrier Reef which spans 1600 miles off the north-east coast of Australia is large enough to be seen from space—an astonishing feat for a brainless plant-animal amalgam. In view of their world-building powers (and despite their non-anthropomorphic qualities), corals are also seen to exhibit a variety of capacities often associated with humans. They are routinely hailed as architects, designers, manufacturers, and even chemists

capable of producing anticancer or antiviral drugs, as well as their own sunscreen to shield themselves—within limits—against conditions of climate change (Berwald 2022). While arguments for coral protection often cite a litany of anthropocentric interests and ecosystem services, many researchers speak of their value and uniqueness in terms not easily reduced to a utilitarian framing. Words like "generous", "hospitable" and "beneficent" are often applied to them.[10] Various coral-induced epiphanies have reconfigured the landscape of the biological sciences, lending support to a "rhizomatic" perspective that favors nonhierarchical and nonbinary categories and modes of thinking.[11] In short, corals and coral-like assemblages have the potential to challenge theories of the autonomous individual both in nature and in society. Ove Hoegh-Guldberg, the coral scientist whose appreciative remarks about mutualism are quoted above, observes that a significant factor in the destruction of the Earth is the still-prevalent Victorian notion of "survival of the fittest" which exalts the individual and individual success (Braverman 2018, p. 60). Corals test the limits of individualist imaginaries and assumptions.

Disdain for competitive individualism and praise for symbiosis are not uncommon sentiments among those who study and protect corals. In the world of biology, the symbiotic view of life is often opposed to gene-centered neo-Darwinian frameworks that reify the individual and promote competition as the driving force in a zero-sum game of evolution. In this sense, corals act as "a constant reminder of the importance and pervasiveness of collaboration and mutualism", as Braverman writes, and "they have thus been central to the recent scientific realization that 'we have never been individuals' and that 'we are all holobionts'—assemblages of microbial forms of life with complex interrelations" (Braverman 2018, p. 249). In their now-classic work on this subject, *What is Life*?, biologist Lynn Margulis and eco-philosopher Dorion Sagan understood symbiosis to undermine "the prevalent notion of individuality as something fixed, something secure and sacred". Extrapolating from this account, the human has also come to appear more like a composite than a single entity, Margulis and Sagan argue, "as each of us provides a fine environment for bacteria, fungi, roundworms, mites, and others that live in and on us" (Margulis and Sagan 1995, p. 236). Coral lifeways have helped to inaugurate a shift toward conceiving of value, even sacredness, as inhering in collectivities and in relationality itself.

5. Coral Magic

For many who study corals, the magical quality of corals, and the enchantment of undersea life generally, orients and sustains their work. The experience of entering alien ocean worlds—both literally and imaginatively—forms part of the religious repertoire and moral outlook of many coral scientists. Proximity to this alien world, and empathic sensibilities cultivated through repeat, ritual-like encounters with otherness, may have something to do with the degree of care and commitment demonstrated by many coral scientists.[12] The meditative experience of diving is part of what draws some to a career in marine science and keeps them coming back to a majestic world normally hidden from human sight, even as repeat visits bring despair over the deteriorating condition of corals. For some, diving is a spiritual practice of being present to one's surroundings and oneself. "The background noise of terrestrial life is muted and one automatically attunes to the breath . . . Inhaling takes you up, exhaling brings you down . . . Time is defined by the movement of the breath" (Braverman 2018, p. 153). Even among scientists whose work is conducted largely in laboratory settings, encounters with life in the ocean world are what initially "hooked" them and drew them to their work. Ruth Gates described "falling in love" with corals during an early diving expedition in the West Indies (Fuji 2016). Though her work involved extensive lab time, Gates was forever finding excuses to head back into the water or to stay there longer than was strictly necessary. In an interactive documentary about corals called "Lost Cities", released just after her untimely death in 2018, Gates evokes the magic of the dive. You roll off the side of the boat into the water; blue bubbles erupt all around you. As they disperse, a strange vista unfolds beneath you, an "underwater

cathedral" of corals. "How", Gates asks in the voiceover, "can nature even do something like this?"

Similar expressions of love and affection for corals, and wonder at their mysterious qualities, are common among researchers, as are experiences of intimate communion with coral life. While some scientists have to be coaxed to speak openly about personal and spiritual investments (having been disciplined throughout their career to bracket personal feelings), many express intense emotional involvement with the creatures they study. Note, for example, one exchange involving marine biologist Les Kaufman, in which he references a special form of communion between corals and those working to keep them alive. "We're listening to the corals", Kaufman tells Braverman, "this is how they talk." "So the corals are whispering?" she asks. Kaufman explains, "Coral whisperer means I'm whispering to the corals. But the coral is whispering back" (Braverman 2018, p. 1).

"Coral Whisperer" or "Reef Whisperer"—terms denoting individuals with unique abilities to communicate with nonhuman lifeforms—are monikers often attributed to people trying to save them. A graduate student coral whisperer at Boston University describes her research on assessing corals' ability to withstand stress. The work entails wounding a coral polyp by scraping off a tiny bit of tissue and then monitoring how the corals heal under varying environmental conditions. "I feel a little bad about it", the student, who describes herself as vegetarian, confesses to a reporter. She speaks "like a loving pet owner" as she feeds her rock-like charges with a slurry of shrimp administered with a turkey baster. "It's pretty cute", she admits. The lab space where the experiments take place is affectionately dubbed "The Room of Requirement", with a nod to the special chamber that magically appears in times of urgent need, in the Harry Potter series (Barlow 2014). In her conversations with Braverman, Gates again turned to a familiar sacred image: "Coral reefs are my cathedral . . . I have a deep sense that this is where I am meant to be". Expressions of love and fascination, she acknowledges, are "all the wrong things for a scientist to say" (Braverman 2018, p. 232).

Intimations of magic and myth abound. One marine biologist describes his connection to corals as follows. "I'll start with magic", he says, referencing the ancient Greek myth in which Perseus kills Medusa, spilling blood that gives rise to red corals. The biologist eagerly awaits the full moon, the time when the corals spectacularly spawn. Upon discovering newly spawned larvae in the aquarium where he had placed mother colonies, he says, "I feel like they are my babies" (Braverman 2018, p. 17). Another researcher kisses the aquarium that holds her "beloved" specimens. "I created such a strong bond with them", she explains. Working with them was a "dream that came true". Describing how she would race to the lab at all hours of the night when a crisis emerged or equipment malfunctioned, she says "I loved it!" When they spawned, she adds, "I was the happiest person in the world" (Braverman 2018, p. 254). Like Rachel Carson who insisted on returning sea creatures to their homes after observing and sketching them, dedicated researchers carry coral fragments used in the lab back to the ocean, in the hopes that they might reattach themselves.[13]

More generally, for many who study and protect them, corals provide a model of, and for, the interconnection of life and the importance of collaborative endeavor. As noted previously, they are also broadly associated with labor and laboring bodies of various sorts, including women's labor in childbirth (Navakas 2023a). Massive coral reefs inspire the hopeful idea that many laborers working together can create something grand and long-lasting, as reefs are thought to expand by sustaining others rather than displacing them (Navakas 2023b). They are a prototype of smart growth.[14]

These forms of coral meaning-making are frequently voiced even, or especially, among those pursuing assisted evolution technologies. This may seem surprising, given that Gates' dedication to creating "super corals" through selective breeding and expedited evolution seems the very emblem of a survival-of-the-fittest approach. (The "super coral" designation seems to have originated with media reports). "Just as elite athletes are selected and groomed from a young age to rise above their competitor", as one journalist breathlessly

describes the project, "in this lab hundreds of juvenile corals are being conditioned for a showdown of survival of the fittest" (Mascarelli 2021). Gates herself invoked the athlete metaphor to describe super-performing corals. Yet, at the same time, it is mind-boggling to extend the individualist framework of "the fittest" to creatures who not only defy classification as individuals but are variously categorized as metaorganisms, hybrids, and even chimera (consisting of two or more individuals). Gates often stressed that other creatures are heavily involved in the making of a high-performing coral; they do nothing alone.

Gates' own interpersonal style and sensibilities resonated with the cooperative style and distributive agency of the creatures she studied. She was a vocal critic of the siloed, ego-driven, individualist ethos of academia, describing the system as essentially broken. Creative problem-solving, she believed, was best nurtured in collaboration with others. Science writer Ed Yong, in an eloquent remembrance of Gates, makes a similar connection: "Reefs enrich the oceans by creating spaces in which thousands of diverse species can thrive. Gates nurtured a vast community of researchers by opening doors for them and supporting their lives" (Yong 2018).

Others too have noted how the symbiotic, assemblage-like nature of corals is mirrored in networked approaches to saving them—efforts that often blur the boundaries between scientific fact and cultural values. As Braverman shows, the relative optimism of scientists doing restoration work with corals springs from the sense of hope created in "human-nonhuman networks and collaborations" (Braverman 2018, p. 5). Gates went against the grain of conventional scientific practice in turning her research into hopeful action. Writer and social designer Cheryl Heller argues that Gates routinely harnessed "the power of relationships and a shared vision" to accomplish her goals, implementing principles of "collaboration and net-worked cocreation". She constructed a social architecture that mimicked the coral lifeforms she regarded as the "genius architects of the natural world" (Fuji 2016). Those networks included not just other scientists and students, but an assortment of devoted conservationists, politicians and government agents, Indigenous people, filmmakers and journalists, and even schoolchildren (Heller 2018). The "spirit" of collaborative undertakings across diverse constituencies is a significant source of the magic that draws people to activist endeavors, as Stacey (2022) argues. Gates excelled at evoking spirit among coral scientists and caretakers, in the face of almost impossible odds.

6. Hopeful Labor

Admiration and advocacy for corals extend well beyond scientific circles. The collaborative spirit of coral protection and reverence for the collaborative essence of coral lifeways are particularly strong among networks of women researchers and artists. Gates described her mission-centered approach as "feminine", noting the marginalization or dismissive attitude women in the field experience in the male-dominated science community, where women's approaches are seen as "emotional". "I constantly talk about my passion for coral reefs, my emotional connection" (Braverman 2018, p. 232). While women remain underrepresented in marine sciences, as they do in STEM fields generally, many notable leaders in coral reef conservation, including some conducting trials with assisted evolution, are women. In fact, women have made landmark contributions to coral conservation for decades (Foxwell-Norton et al. 2021) and many of the traditional and current custodians of coral reefs are Indigenous women.

A case in point of the gendered dimensions of coral protection is the Crochet Coral Reef project. Feminist scholar of science and technology studies Donna Haraway celebrates corals as symbiotic (or sympoetic) creatures, arguing that they represent a counterpoint to entrenched patterns of Western thought that exalt "human exceptionalism and the utilitarian individualism of classical political economics" (Haraway 2016, p. 57). Haraway's interest in coral lifeways led to her involvement in the Crochet Coral Reef, described as an "ever-evolving nature-culture hybrid" that blends art, applied mathematics, feminism, evolutionary theory, environmentalism, and community-based practice. Created by Australian

sisters Margaret and Christine Wertheim, the project is a "one-stitch-at-a-time meditation on the Anthropocene" (Crochet Coral Reef n.d.).

The crochet reef exemplifies the longstanding association of corals with collective labor, a subject explored in fascinating detail by Michele Currie Navakas in *Coral Lives: Literature, Labor, and the Making of America*. Captivating in its own right, the crochet project calls into being a model of what humans can achieve when they work together, like so many coral polyps, in ways that neither ignore the severity of ecological problems nor give in to "fantasies that rescue is around the corner from some sudden technological solution" (Crochet Coral Reef n.d.). It is not clear what sort of technological solution would be considered "sudden" or fantastical by the reef's main creators, but the hope expressed by those involved in the crochet reef mirrors the discourse of women coral scientists who engage in assisted evolution technologies as an expression of hope. Those who turn to these technologies might be seen as less "hopeful" to some, in the sense that they believe corals can no longer recover on their own; theirs is a kind of climate realism mixed with hope. In rejecting fantasies of technological rescue, practitioners of coral crochet narrate hope in terms that resonate with the orientations of coral scientists, even as the latter reach for technological solutions. In particular, hope often lies in, and is activated by, the collaborative networks of practitioners.

The crocheted creations intentionally mimic the structure of reef-like forms, drawing on techniques of hyperbolic (non-Euclidian) crochet, a type of algorithmic weaving that utilizes a surface that exhibits negative curvature. In an essay that explains the hyperbolic geometry behind the crochet project, Margaret Wertheim remarks on the power of corals and sea slugs to test the limits of human abilities and imaginations through their bodies and creations. Corals "who'd never studied non-Euclidian geometry had meanwhile just been doing it" (Wertheim 2016). Elsewhere Wertheim articulates what is at stake in the project, namely, the value of *embodied* knowledge (Wertheim 2009). Wertheim notes that we live in a society that valorizes symbolic forms of representation—algebraic representation, logic, equations, codes—over embodied modalities. Yet, nature has been generating hyperbolic shapes for hundreds of millions of years, while mathematicians denied that such a thing was impossible, in part because they failed to pay attention to the living world around them. "Does a sea slug 'know' hyperbolic geometry?" The Wertheim sisters ask. "Does a head of coral?" The project ventures that "in some sense they do". In making these structures, corals are *doing* math, the sisters argue (Crochet Coral Reef).

The crochet project advances its agenda along two related fronts: calling attention to forms of intelligence embodied in corals that are now threatened with climate change, and celebrating the sophistication of "domestic feminine art", a parallel form of embodied knowledge—and play—enacted by thousands of (mostly) female weavers. The discourse surrounding the project elevates feminist practice, while also expressing deference to, even reverence for, nature's own ways of knowing and doing. It provides an opportunity to "affectively attune ourselves" to the grave conditions of corals, without giving in either to despair or naïve optimism (Davis 2020).[15]

The "evolutionary" vision embedded in the crochet project is a nod to the many reefers (up to 20,000 participants) who make their own satellite reefs. As the project site explains, the collaborative spirit challenges prevailing notions of creativity as the purview of the *individual*, much as corals themselves have enabled a paradigm shift away from a neo-Darwinian focus on the individual (per Margulis and Sagan's critique) as something fixed and sacred. In other words, the project evokes a distinctly cooperative style of evolution that one might not immediately associate with Darwinism in its competitive, "red in tooth and claw" mode. "By inviting in people from all walks of life the *Crochet Coral Reef* offers a radical alternative to the model of artist as singular prodigy" (Margaretwertheim.com n.d.). One might say, it provides a vision of flourishing together.

Crucially, as a scholar close to the project argues, the reef also offers an alternative vision to that of technological rescue executed by the lone heroic scientist. It enshrines:

> the power of collective action, as an embodied resistance to the damaging narratives of the male genius who will come up with the techno-fix to solve the current ecological crisis. Instead it represents a global insistence of the possibilities of collective dispersed action without the need for a hero. It is this politics, learned from the watery depths and dedicated to feminist praxis, that is so needed at this moment in time (Davis 2020, p. 73)

A similar spirit animates the efforts of many coral scientists who cultivate realistic hope and reverence for nature, even as they engage with ever-more interventionist approaches to saving corals. Some of the most optimistic of coral scientists—Gates among them—speak in measured tones about the prospects of technological rescue and the enormity of the task of saving reefs from the ravages of climate change. Gates often called attention to the "mystery" of corals—their baffling ability to live essentially forever, the inability of science to fully grasp all that corals know and can do. In a similar vein, an Australian scientist working to save the Great Barrier Reef through "industrial-scale" interventions that range from marine cloud brightening (a kind of small-scale geoengineering) to assisted evolution and genetic engineering, remarks, "It's just absolutely hubris and so arrogant to think that we can survive without everything else. We come from this planet" (Kolbert 2021, p. 109). In short, a certain respect for the power of natural processes, and the magic that inheres in corals themselves, persists even in the midst of high-tech interventions. The attitudes expressed by these scientists suggest that a willingness to consider hi-tech interventions, genetic and otherwise, can go hand in hand with a humble attitude of world-repairing.

Gates and her frequent collaborator Madeleine van Oppen (who is exploring assisted evolution with algal symbionts) have routinely denied that their work constitutes genetic engineering. They emphasize that their techniques hew to "old-fashioned" selective or cross-breeding, or that they are simply doing what evolution would do, but faster. And it is true, to some extent, that super corals happen in nature; bleaching disasters reveal the "winners"—the survivors of a kind of accidental assisted evolution, triggered by human activity. Still, Gates insists, "We're not creating anything new: we're doing what nature does, and just trying to find ways to do it more quickly" (Braverman 2018, p. 236). The claim that assisted evolution creates nothing "new" can be debated, as I have suggested. But more significant than whether a certain technology creates novelty is how researchers understand and express their motivations and their relationship to broader contexts in which the technology is used. What matters is the deference they show to sustaining, as best we can, processes that did not originate with us and are not fully at our disposal. We might think of Gates and van Oppen as reluctant designers. Braverman, for example, discerns in the attitudes of these two scientists, and those in the broader coral community, a certain amount of "trepidation" about intervening, and a preference for minimal intervention whenever possible (Braverman, p. 218). The danger of humans assuming the designer role in assisting evolution is that doing so might foster or reinforce dispositions, and ways of understanding what it means to be human, that are injurious to nature (and possibly to ourselves)—and which likely caused harm to nature in the first place (Filbee-Dexter and Smajdor 2019). To be sure, these worrisome attitudes and dispositions do exist among genetic engineers and synthetic biologists. They are vividly encountered, I believe, in de-extinction initiatives. Turning to the moral and religious imaginaries of those who tinker—without trepidation—with technologies surrounding de-extinction (and intentional extinction) brings into sharper relief a form of enchantment with fabrication and control of life that is genuinely troubling in its refusal of relational, communitarian values, and networked knowledge and action. In de-extinction, the magic of salvific technologies and the wonder of human genius trump the magic and mystery of encountering other complex beings and forms of agency. The rituals of laboratory experimentation and rationality are seen to preclude the need for rituals of mourning, and myths of Darwinian competition set a confident masculine tone.

7. De-Extinction and Denial

In some of the most widely publicized and celebrated projects aimed at de-extinction, genetic technologies are mobilized with striking disregard for ecological and social contexts, and the key forms of relationality that shape organisms and species into what they are. Organisms, in the imaginary of some aspiring de-extinctionists, are machines comprised of parts to be interchanged, omitted, or enhanced. Genes are deployed as usefully "selfish" units of matter that can be programmed at the engineer's bidding, even in the service of excising unwanted parts of an ecosystem altogether—a project that may culminate in programmed extinction. For these scientists, de-extinction and extinction are both attractive possibilities, menu options on a list of interventions from which we select. Especially noteworthy is the prominence of a neo-Darwinian, gene-centered vision among pioneering researchers working with technologies of de-extinction (and relatedly, extinction), in contrast to moral imaginaries that inspire and are inspired by work with corals. De-extinction projects reflect the instrumentalist mindset and individualistic, anthropocentric imaginaries of the researchers and entrepreneurs leading the charge. Enchantment with machines and organic life as units of information or "code" contrasts in interesting ways with the celebration of embodied, distributed knowledge and agency seen among many admirers of coral communities. In the cases under examination here—focusing particularly on entrepreneur, futurist, and ecopragmatist Stewart Brand, and work conducted under the auspices of George Church's Harvard lab—humans are positioned as godlike sculptors of life, conferring meaning and value to otherwise deficient, meaningless, or even immoral natural processes.

Does the comparison already sound a bit overdrawn? To be sure, the critique of godlike scientists has become cliché, and in the context of de-extinction, the charge is often issued in tandem with the usual tiresome references to *Jurassic Park*, Frankenstein, and other narratives that function as a shorthand for forbidden knowledge. Leveling the charge of playing God, moreover, often acts as a diversion from more productive discussions of how humans ought to relate to nature and what we might call divinity. That said, however, the attitudes displayed by prominent de-extinction advocates do exhibit an investment in playing God, if by playing God we mean something like asserting mastery over nature and reveling in unlimited possibilities of creating and remaking life. For some in the de-extinctionist camp, the act of making and remaking life is pursued as if nature were a storehouse of potentially (but not yet) valuable materials that can be swapped out, interchanged, and replicated as needed to achieve creative fulfillment for the designer, and in ways only tangentially related to environmental concerns or objectives. High-minded humanitarian and environmental rationales for this work often appear strategic and ad hoc (Sideris 2024).

8. The Tool Imaginary

A particular vision of creativity and fulfillment has roots in some of Stewart Brand's earliest and most widely cited oracular pronouncements. "We *are* as gods", Brand announced in the inaugural issue of the *Whole Earth Catalog* in 1968, a do-it-yourself manual for a tech-savvy counterculture. Brand's early articulation of this credo was followed by the words "and we might as well get used to it". Brand, who is 84 years old, has tweaked this dogma over the decades but never disavowed it. To wit: "We are as gods and we might as well get *good* at it" and, later, "We are as gods and we *have* to get good at it".[16]

But what did Brand mean by aligning humans with gods in the first place? What did he imagine gods to do? For Brand, getting good at (or used to) being God was, and is, largely an individual, independent pursuit. Gods, in Brand's vision, are autodidactic, self-created creators. Brand's initial elaboration in the *Whole Earth Catalog* of what it means to be god celebrates (in his words) the "power of the individual to conduct his own education, find his own inspiration, shape his own environment . . ." (Whole Earth Catalog 1968, p. 2). The catalog was conceived as a toolkit for expressing individualist urges and excellences. Brand is considered by some to be the father of online networking.[17] Yet, for all his ties to systems

and systems thinking, networks, and networking, his vision of godlike creativity was borne not of a relational impulse, but of the quest to reinvent oneself and the world. Brand celebrates direct power that "eschew[s] institutions in favor of individual empowerment" (Weiner 2018). The ranks of his devotees include ardent cyber-optimists, tech visionaries, entrepreneurs, and others enamored of "tools" and "tool talk", ranging from Steve Jobs to the founders of Facebook, Stripe, and Airbnb. For those in this lineage, tool talk "encodes an entire attitude to politics", specifically, a *rejection* of politics, in favor of clever "tinkering". Tools are seen to enable networks and communities; they are not constrained by them.

In the imaginaries of Brand and many who came after, countercultural proclivities mingle promiscuously with libertarian values and entrepreneurial excess, a peculiar mix of commitments sometimes labeled the "Californian Ideology" (Barbrook and Cameron 1995). Brand nowadays considers himself post-libertarian, but his apolitical, acontextual visions of society live on in his projects. Brand considers ecopragmatism a reasoned-governed approach, in contrast to the emotional intensity, romanticism, despair, and melodrama of the traditional environmentalism he abjures.[18] He presents ecopragmatism as an alternative to ideology. De-extinction is Exhibit A of Brand's tool mentality—and of the suspect forms of magic and enchantment that define his (and his collaborator, Church's) style of apolitical play with the basic elements of life.

In 2012, Brand and his wife Ryan Phelan co-founded a nonprofit organization called Revive & Restore, with a stated mission of "genetic rescue" and biodiversity enhancement for endangered and extinct species. A centerpiece of that initiative was the aforementioned wooly mammoth project. Mammoth revival is proffered as a form of climate mitigation, a massive rewilding experiment to slow the melting of arctic permafrost and the attendant release of methane, a potent greenhouse gas. Revive & Restore hopes to populate arctic regions with herds of lab-bred mammoth-like creatures whose trampling and grazing behavior might recreate the steppe ecosystem that existed in the Pleistocene, when megafauna dominated. Ecological mechanisms of the steppe ecosystem, including the predicted behavior of reintroduced mammophants, would have a cooling effect on the climate and, it is hoped, keep permafrost frozen and methane contained.

Brand and Phelan have connections with the father and son team, Sergey and Nikita Zimov, who own land in Northern Siberia dubbed Pleistocene Park, where the rewilding experiment would unfold. For genome engineering expertise, they have turned to George Church whose talents lie in the creation of novel DNA sequences. Church's overarching ambition is to rewrite the genetic code (Nair 2012). The mammoth project is just one of many adventures in genetic technology that have defined his life and career. Magical encounters with machines and machine-like entities set him on his course. An early fascination with computer technology (before the advent of widespread personal computers) shaped Church's lifelong penchant for viewing life as bits of information to be decoded, rewritten, and repurposed. In 2009, he developed automated genome engineering methods that helped pave the way for the creation of the first living cells from man-made instructions—life in a lab, more or less, or as fellow biologist and wealthy entrepreneur Craig Venter proudly proclaims it, the "first self-replicating cell on the planet to have a computer for a parent" (Biello 2010).

Church's breakthroughs in genome sequencing have also led to the proliferation of private enterprises like 23 and Me and Navigenics, a "personal genomics" company. He has long been fascinated by the prospect of de-extincting mammoths. Ideally, for Brand and Church, the newly created organism, a de-extincted mammophant, would be gestated and raised by an elephant mother, but this is problematic for many reasons. Elephants have distinct characteristics and behaviors, so a mammoth-like creature raised by an elephant might not exhibit the mammoth behaviors needed to make the rewilding/climate project a success. Additionally, as noted previously, Asian elephants are endangered, so recruiting them for surrogacy is inadvisable. Church and his team therefore hope to fabricate artificial wombs, manmade contraptions in which the fetus would gestate for the unusually protracted elephantine period of approximately two years, reaching a birth

weight of close to 200 pounds. Once birthed, the creature would somehow be coaxed into behaving like a mammoth.

9. Impossible Worlds of Nonrelation

One can discern a through-line from Church's pursuit of synthetic, lab-created life and personal genomics, to machine-gestated hybrid creatures who carry undead genes. The mammoth revival project is billed as a nature-based solution to climate change. Yet the motivation for the project bears little obvious connection to the values that animate environmental conservation and restoration. From mammoth conception to (possible) mammoth introduction, the whole endeavor announces its refusal of relationality and of the *storied* nature of organisms and ecosystems. Consider Church's vision of gestating a lab-created fetus in a mechanical womb that treats uterine environments as interchangeable things, manufactured objects that exist in the world apart from the bodies they belong to, or the creatures that grow within them. In reality, of course, the uterine environment itself affects how genes are expressed in the gestating creature. A mother's hormones trigger developmental changes in fetal life, governing when and how certain genes are expressed. However closely related to mammoths, surrogate elephants cannot replicate the (long-extinct) mammoth's uterine environment.

Assuming that the gestational phase of the project can get off the ground, additional, and seemingly insurmountable obstacles remain, many of which are social and relational. A few facts about elephant maturation and social arrangements will suffice to illustrate the unattainable vision—and immoral imaginary—of mammoth de-extinction. Elephants and, we might assume, mammoths, are intensely social creatures. They live in tight-knit family herds that often contain multiple generations. These groups consist of related females who share complex relationships with one another as they work together to raise their young. Females take on dominant roles, and some elephant species have clear matriarchs. Asian elephants reach sexual maturity at 8–13 years of age, but females often do not reproduce until they are closer to 16 or 17 years of age, at which time they usually give birth to only one baby. Mothers nurse for two to four years, sometimes longer. Many males of the species do not mate until the age of 30. Like many intelligent creatures, elephants are long-lived, slow developers. These features (and others) define the bare minimum of what it means to be an elephant. They speak to qualities that do not attach to individuals only, much less to genes, but rather play out in relationships among organisms and between organisms and their environment. While it might be possible to edit in (or edit out) genes linked to certain behaviors—for example, matriarchy—the trait means nothing in the absence of social and ecological contexts and dynamics. The challenges these features present for anyone hoping to engineer herds of such creatures are daunting at best. Needless to say, we do not even know what additional challenges a mammophant might bring, since we know so little about mammoths.

Church and his team envision lab-bred creatures raised by humans. They estimate the number of mammoths needed to recreate the steppe ecosystem and arrest melting permafrost to be around 80,000 (Wray 2017). Read that sentence again. And imagine for a moment the task of orchestrating and synchronizing all of the complex interactions that allow these creatures to successfully gestate, develop, mate, give birth, form functional social arrangements, learn from one another, and navigate complex environments—and then imagine recreating those dynamics to generate a herd of 80,000 animals, one captive-raised and captive-bred animal at a time.

What makes it possible for enthusiasts of mammoth revival even to conceive such schemes is a complete disavowal of organisms and species as constituted by ecological and social relations. Colossal, the company that has bankrolled the mammoth project since 2021 (co-founded by Church and serial entrepreneur Ben Lamm), runs a slick website featuring a menu of "disruptive" conservation technologies. The site downplays the barriers to realizing mammoth de-extinction in brief step-by-step descriptions that are almost laughable in their casual oversimplification. One reads, for example: "Help with

nutrition and social interaction for young calves to thrive." The yawning temporal gap that separates extinct mammoths from current ecosystems is greatly minimized. Mammoths, the site informs us, went extinct "only 4000 short years ago" (Colossal.com n.d.). In geological time, 4000 years may seem insignificant, but it is more than enough time for an ecosystem to move on from the demise even of a keystone species.[19] Colossal meanwhile plays up the increasingly untenable theory that humans hunted mammoths to extinction—the so-called overkill theory—thus giving greater weight to mammoth extinction as unnatural and their resurrection as the just and proper course (in fact, most scientists now believe mammoth extinction was brought about—ironically—by climate change). When pressed on the sketchy details of mammoth resurrection, Church quickly changes tactics from promising the imminent return of a mammoth to claiming that the public has misunderstood him. He and his team are "really resurrecting genes, not species", he insists, as if genes have inherent value apart from organisms, and ecological and evolutionary processes (Amanpour & Co. Public Broadcasting System 2019).

Let us assume that the technology can be perfected to the point that a resurrected organism is an authentic copy of its extinct counterpart. It still makes little sense to claim that a *species* has ceased to be extinct when an individual has been brought back. Species are dynamic, aggregate entities, living repositories, with long evolutionary histories shaped by complex interrelationships with other creatures and their natural environment (Sideris 2024). These relationships, which extinction erases, are precisely what de-extinction fails to recover: "Engineered reproductions" of organisms, as philosopher Ben Minteer writes, "will not have evolved in relationship with other species and within a given ecological setting over millennia" (Minteer 2018, p. 111). Natural histories and ecological relationships lie at the root of what makes species valuable, and their loss through extinction lamentable (Sideris 2024). There are many reasons to value the natural history of an unengineered creature, but an important one might be easily overlooked: a species' history and relationality "encourages the adoption of an attitude of humility toward them", Minteer argues (111). Perhaps, as he proposes, the root of human-caused extinction is a "self-regarding worldview" that feeds fantasies of mastery and fabrication. With de-extinction, the awe and sublimity once directed at nature is now directed at our own techno-prowess in manipulating life. The self-regarding worldview is consistent with the bankrupt imaginary of de-extinction that treats living creatures and systems as an extension of the individual's creative impulse to design and redesign life at the tinkerer's will. The peculiar magic that inheres in these creative endeavors is plainly discernible in de-extinctionists' understanding of life as a machine.

10. Machine Magic

To burnish their project's ecological credentials, Brand and Church promote mammoth resurrection under the heading of ecosystem recovery (Wray 2017). They concede (at times) that the organism created through these technologies is not a precise replica, but they argue that a decent proxy can plug a hole in an ecosystem left by the departed species. This argument fits with their broader understanding of life as consisting of interchangeable units. Brand argues that so long as there is an abundance of different species in an ecosystem, extinction itself, even human-caused extinction, is of no great significance (a claim that seems at odds with his preoccupation with mammoth resurrection). Extinction, he maintains, creates new opportunities for diversity to flourish. Organisms threatened with climate change can simply move somewhere else and hybridize, he suggests (Wray 2017, p. 69). The Anthropocene is "creative" in that climate change "tends to open the way for more species rather than fewer", resulting in a natural world that "as a whole is exactly as robust as it ever was" (Brand 2015). New parts can simply replace the parts that have vanished. The pieces can be reshuffled.

Church and Brand hold sympatico views of life. Church defends an account of animal life that is so crassly and anachronistically Cartesian that it seems to come from the mouth of a movie villain. "All organisms", he announces, "are mechanical in the sense that

they're made up of moving parts that inter-digitate like gears. . . . They are atomically precise machines" (Der Spiegel 2013). Church's faithful recitation of the animal-machine theory occurs in the course of a wide-ranging and frankly bizarre interview in the German publication *Der Spiegel*. The interviewer, listening as Church blithely outlines potential future projects, ranging from the prospect of de-extincting Neanderthals to abandoning Earth for other planets, appears increasingly nonplussed by the great scientist's disregard for matters of ethics and propriety. Finally, this question is put to him in point blank fashion: "Mr. Church, do you believe in God?" Church utters a bromide about the power of faith in human history. The interviewer stops him short: "But you're talking about other people's faith. What about your own faith?" "I have faith" Church proclaims, "that science is a good thing". He explains that the word "awe" was practically invented for scientists. "A poet sees a flower and can go on and on about how beautiful the colors are", he offers pedantically. "But what the poet doesn't see is the xylem and the phloem and the pollen and the thousands of generations of breeding. . . All of that", Church concludes with a flourish, "is only available to the scientists" (Der Spiegel 2013). Assuming Church is in earnest (it is difficult to judge because his commentary appears parodic in its recourse to such well-worn tropes), his response provides a succinct summary of the secular enchantment of the de-extinctionist. Genuine awe—awe at the organism reduced to its component parts—is the purview of the scientist alone (Sideris 2017).

Church's animals-as-machines perspective is of a piece with a broader vision of life that tasks humans with decoding, copying, and engineering diversity from the raw materials at hand—a sacred obligation Church has dubbed "regenesis", the reinvention of nature and ourselves (Church and Regis 2012). Church's pragmatic, human-centered understanding of the value of diversity forms an interesting contrast with celebrations of natural diversity, like those issued in praise of coral reefs. Diversity for Church is a hedge or bulwark against human extinction specifically. The task of synthetic biology is essentially to utilize existing life as a template from which to generate more diversity. Resurrecting Neanderthals, he claims, is a form of "societal risk avoidance", as the main objective in de-extincting them is to "increase diversity" (Der Spiegel 2013) Neanderthals might prove useful, Church suggests, because they might think differently than "we" do—a benefit of diversity. Church has some very particular disaster scenarios in mind, for which Neanderthals might serve as insurance. "When the time comes to deal with an epidemic or getting off the planet or whatever", he predicts, "it's conceivable that their way of thinking could be beneficial" (Der Spiegel 2013).

Getting off the planet or whatever. In Church's apocalyptic fantasy, scientists synthesizing diversity in the lab will be the ones to rescue humanity from destruction. Church heads up the Wyss Institute for Biologically Inspired Engineering. His lab has supervised and inspired projects ranging from age reversal to seeding other planets with life, to intentional eradication of pest species. The research projects of his mentees offer a glimpse into the culture and broader reach of the world-famous Church lab.

One such protégé is Kevin Esvelt, an avid supporter of gene drive technology to control or even eliminate "unwanted" species. Gene drives are self-propagating genetic elements that bias inheritance, spreading genomic alterations through a population very quickly, even if the genetic elements confer a disadvantage to the organism, like sterility.[20] Emerging techniques using CRISPR can force a particular edit to be inherited by all of an organism's offspring, efficiently driving a trait through an entire population.[21] Climate change has given urgency to some lines of gene drive research, because mosquito-borne diseases are on the rise, and are expected to continue their uptick in a changed climate. Hence, one of the main applications of gene drives is mosquito populations to control or eliminate disease vectors in malaria-carrying mosquitoes.

11. Selfish Scenarios

Gene drives are depicted as "selfish genes" par excellence, a term popularized by Richard Dawkins who understood evolution to take place at the genetic (not the organismal,

species, or population) level, as individual genes battle it out for survival. On this account, what looks like cooperation or altruism at the level of organisms is in fact driven by selfish genes striving to propagate themselves, beyond even the death of the individual who carries them. Because genes are shared among close relatives, the fate of a given individual matters less (from the gene's "perspective") than the survival of the genes in *any* body.[22] Central to much of selfish gene theory are the intertwined ideas of evolution as competitive strife and genes that "program" their carriers. A great deal of mythic baggage has accumulated around selfish genes. "We are survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes", in Dawkins' famous diagnosis. "We, and all other animals, are machines created by our genes" (Dawkins 1976, p. xxi, 2). Over the decades, selfish gene theory has been challenged, amended, contextualized and, among some biologists, rejected outright. One area of biology (or biotech) where the concept still holds sway is in the discourse on gene drives.

For Esvelt, who christens his MIT lab "Sculpting Evolution", the appropriate ends toward which scientists must guide nature are determined by a utilitarian calculus in which humans reign supreme as creatures endowed with unsurpassed capacities for both intelligence and suffering.[23] Note that so powerful are manufactured gene drives that they might wipe out a species altogether (intentionally or otherwise). Esvelt, the gene-driver, acknowledges the toll human-induced extinctions have caused and are currently causing, but his brand of (oddly speciesist) utilitarianism posits humans as the most valuable species owing to our sophisticated capacities.[24] Creating more creatures like us would redeem the value destroyed through mass extinction events involving less impressive species. Thus, he reasons that "if we terraform Mars and seed it with life, that will more than outweigh any of our past sins" (Esvelt qtd. in Braverman 2017, p. 62).

It is easy to see how the Dawkinsian life-as-gene-machine imaginary aligns with Church's animals-as-interlocking-gears perspective, and vice versa, even if theories and technologies of the gene have grown more sophisticated since Dawkins' *Selfish Gene*. Esvelt has a particular axe to grind when it comes to the natural world. Like Church, he describes his mission in language reminiscent of a stock character from a bygone era, as he denounces nature as an abomination, red in tooth and claw. The natural world is an arena of unrelenting bloody strife and natural selection is "heinously immoral". Esvelt is determined to address this "fantastic degree of suffering", to redeem nature's intrinsic evil (Specter 2017, p. 36). As a child, he was captivated by Michael Crichton's book *Jurassic Park* (Specter 2017, p. 36). But what he terms his "real conversion" to biotech occurred with a childhood trip to the Galapagos. He became "fascinated" with the idea that complex systems—organisms—were all "written in the language of DNA". At that point, he knew. "I wanted to spend the rest of my life learning how to rewrite the genes of organisms to make some extremely useful and interesting things" (Specter 2017, p. 36). In these magical childhood moments, and the narratives of conversion that replay them, lie the seeds of the adult scientist's religious repertoire. Like Church, Esvelt believes that features inherent in nature itself cry out for a human upgrade. Nature exists to be rewritten, to make interesting things. It is troubling, but perhaps not surprising, that—as Braverman observed in interviews with Esvelt and other gene drive scientists—all were "undereducated" in the finer points of ecology. She concludes (with admirable restraint) that "their views about nature-human-animal relationships could benefit from some sophistication and historical contextualization" (Braverman 2017, p. 71). One might say that Esvelt has no view of nature-human-animal *relationships* at all.

In her critiques of the selfish gene concept and evolutionary mythmaking more generally, the philosopher Mary Midgley argued that the "selfish" descriptor came not from science but from "a fresh outcropping of the strong, egoistic, individualistic strain in our political and moral thinking" (Midgley 2001, p. 196). The concomitant view of nature as violent and immoral also owes much to popular mythmaking around Darwinian theory. Scientists and philosophers who assail nature as immoral, evil, or absurdly meaningless often dismiss those with more positive views of nature as starry-eyed romantics. Esvelt, for

example, mocks the idea that "nature is the essence of goodness" (Specter 2017, p. 207). But as Midgley understood, the same thinkers fail to recognize their *own* affective investments and the degree of mythmaking that goes into pronouncing the world cruel and senseless (Midgley 1985). Jettisoning the "romantic" vision does not excise the emotion and drama; it merely replaces one evolutionary drama with another— nature red in tooth and claw. These moral imaginaries and mythic renderings of our place in nature can easily become entangled in the practice of science; they appear, for those in their thrall, to speak truths about nature that are equivalent to science. If ethical decisions are rendered according to a crude utilitarian calculus; if nature is cruel, immoral, dysfunctional, and organisms are machines we can decode, there is surely little reason to refrain from gene-driving a species like mosquitoes to extinction if it benefits mankind in the struggle to survive climate change. The genetic engineer becomes the savior who intercedes on our behalf, the hero with the techno-fix, who stands between us and the apocalypse.[25]

12. Navigating World-Pictures

Midgley's claims about evolution *as* religion, and the moral and affective investments of scientists who deny the existence of "feeling" in regard to nature, deserve another look as we draw this lengthy analysis to a close. Like coral scientists who find hope in genetic technologies, de-extinctionists (and those, like Esvelt, whom we might call extinctionists) also see these technologies as bringing a much-needed good news story to a world drowning in dire headlines. These genomic feats inaugurate a shift away from what Brand dismisses as the "constant whining and guilt-tripping" that has dominated the conservation community, toward a celebratory mood of "high fives and new excitement" (Brand 2014). Brand and others in his cohort present Revive & Restore as a counterpoint to the mournful passivity that plagues traditional conservationists. To grieve is to do nothing. "Don't mourn, organize!" Brand advises (stealing a line from labor activist and songwriter Joe Hill). Focusing on extinction introduces an unnecessary "emotional charge", he believes.

The claim that de-extinction, and other "active" genetic interventions pursued by Revive & Restore, replace emoting with *doing* something is belied by Brand's own effusive, highly emotive discourse. Brand depicts de-extinction as a "wild scheme" that "could be fun" (Qtd in Rich 2014). Whereas Esvelt upbraids romantics who see purity and goodness in nature, Brand and Phelan seek to distance themselves from negative feelings of hopelessness or guilt that they associate with traditional environmentalists—those whom Brand labels "lazy romantics" (Brand 2015). De-extinctionists, eschewing romance, want to claim the mantle of rational planetary management. Ecopragmatism, understood by its proponents as the triumph of action over navel-gazing self-recrimination and despair, is the guiding philosophy of Revive & Restore. And yet, the focus on bringing back ultra-charismatic creatures like the mammoth is very much about how these creations would make us *feel*. The fact that humans might accomplish these astonishing feats—the idea that we are indeed "as gods"—speaks volumes of the intensity of emotion and excitement that drives de-extinction. Unlike the coral scientists who acknowledge emotional investments, these species revivalists have failed to grasp the profoundly emotional commitments that fuel their own imaginaries and their longing to bring into existence highly improbable worlds.

The emotional landscape of these de-extinctionists (and potential extinctionists) is hiding in plain sight. But it is an impoverished landscape, lacking gravitas. What is missing is the *relational* landscape that might allow these aspiring creators of new, unlikely worlds to place what they call "hope" into an appropriate moral, social, and relational context. Missing too is what Braverman and others call active hope—the sort of hope that has confronted genuine grief and despair, dwelt with them again and again, and emerged refined and reoriented by them (Sideris 2020). As Donna Haraway has observed, there is something decidedly puerile about the imaginaries of those she calls "Stewart Brand types", who exhibit an "incapacity to mourn . . .to be finite", and are therefore forever

grasping for new tools without comprehending the losses they seek to "fix". They cannot understand that death and loss are real, and thus they appear oddly "blissed out" by their own unscathed and intact privilege. They "have no idea what their own positionality in the world really is", Haraway astutely observes. In an apt characterization of the magic that pervades their high-tech, individualist adventures, she discerns in these tinkerers "an almost Peter Pan quality". They never grow up (Weigel 2019).

Indeed, contrasts between communal coral imaginaries and the apolitical Promethean dreams of de-extinctionists emerge so vividly in a side-by-side analysis that the comparisons almost write themselves. The contending images are archetypal, familiar, and hard to resist. On the one hand, the sacred holobiont, a symbol of relational life and collective labor. On the other, the apotheosis of the selfish gene locked in eternal zero-sum strife. The life-giving coral, synonymous with fertility, vitality, blood, and birth; the bloodless artificial womb of the de-extinctionist, and the sterility of the self-destructing gene-drive organism. The irreducibility of the coral superbeing; the lab specimen of the reductionist engineer. The coral as designer and architect, the originator of life; the human genetic engineer as life's intelligent designer. The coral world-maker. The human world-maker. Above all, perhaps, the ethos of the nurturing, networked female scientist versus the ego-driven competitiveness of her masculine counterpart. These juxtaposed images and mythic motifs are, of course, overdrawn. They traffic in well-worn, recurrent narratives, stereotypes (gendered and otherwise), and stock imagery. The binaries are too simplistic. But they contain important truths nevertheless. As Midgley understood, the point is not to extricate ourselves from all world-pictures, for that is not possible. We must instead navigate intelligently among our imaginative visions and our religious repertoires, and choose which ones to live by. We need to interrogate our myths and scrutinize our enchantments, not banish them outright. The question is: which of these socio-ecological imaginaries do we wish to inhabit as we move into a phase of intensified technological intervention in life processes? Which visions should we lock in and which should we lock out, if we hope to live well together in climate-changed future?

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Conflicts of Interest: The author declares no conflict of interest.

Notes

1 One could just as easily call them, as Beaman and Stacey do, "nonreligious" imaginaries. Nonreligious is not necessarily the same as an atheistic stance; rather, nonreligious describes individuals for whom *not* being religious is *not* significant to their identity. For the sake of consistency across terms and with the concept of religious repertoires, I will call them religious while acknowledging the inexactitude and myriad connotations of the word.

2 Rather than label these tactics with more traditional terms like conservation or restoration, I choose to label them for the time being as management. Whether or not they constitute restoration or conservation depends on the details and is not easily determined in advance. Whatever else is going on, organisms and species are being managed in relation to goals that may or may qualify as either restoring or conserving, and may in fact have no robust "environmental" justification at all, as is the case with some examples of what is called de-extinction.

3 For example, Ruth Gates, a beloved coral scientist who died in 2018 is featured prominently in the film *Chasing Coral* (2017). Harvard geneticist George Church is featured in a few documentaries, including one focused largely on the life and legacy of techno-entrepreneur and ecomodernist Stewart Brand titled *We Are as Gods* (2020).

4 However, the distinctly *non-relational* nature of de-extinction is not simply a function of the impossibility of forming meaningful attachments to extinct creatures (though that is part of it). Denial of relationality is in some sense built into the very ideology of de-extinction, as I will argue.

5 Cloning techniques come closer but are of little use with extinct creatures for whom there is often no intact DNA.

6 Indeed, Braverman's study underscores the diversity and disagreements within the coral community.

[7] Questions of human intervention in the natural environment are not new and have long been at the center of environmental ethics. The key question in much of environmental ethics, since its inception as a field of study in the 1970s, has not been whether humans should *ever* intervene, but rather when, how, why, and, if so, to what extent? Contemporary ecomodernists or ecopragmatists who define themselves against those they consider "traditional" environmentalists often set up a strawman account of what that tradition values and practices. Despite what these boosters of a human-managed planet might claim, traditional environmental conservation and restoration has never defined itself by a hands-off approach to some purportedly pristine and pure entity called nature. At the same time, the fact that humans have long intervened in nature should not be read as an "anything goes" mandate to remake the planet, simply because it has already been "used", as ecomodernists are fond of saying. (See for example Erle C. Ellis, "Ecology in an Anthropogenic Biosphere." *Ecological Monographs*, 85(3), 2015, pp. 287–331).

[8] Scientists categorize bleaching events according to their severity and scale: local, mass, and global.

[9] Indeed, I remain perplexed as to whether to use the word coral or corals. Navakas (2023a) uses the plural, Braverman (2018) the singular.

[10] See for example Juli Berwald's (2022) frequent encomia to corals.

[11] See Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (University of Minnesota Press, 1980).

[12] An example of how intimate observation of lifeforms in the oceans can foster empathic values and novel insights regarding radical otherness is seen in the widely acclaimed (and critiqued) film *My Octopus Teacher*.

[13] Wildlife artist Bob Hines who worked alongside Rachel Carson during the writing of *The Sea Around Us* reported that regardless of the late hour or how exhausted they were, Carson insisted on returning sea creatures to the exact spot from which they were taken. (See "The American Experience: Rachel Carson's Silent Spring". Public Broadcasting System, 8 February 1993).

[14] And yet, we should refrain from uncritically romanticizing collective labor as symbolized by corals. As Navakas argues, celebrations of communal labor that draw on coral imagery sometimes *erase* the lives of exploited and enslaved workers whose bodies are absorbed and forgotten in the process of "growth". A darker vision of corals suggests that "generation after generation, from birth until death without leaving, the workers build a structure that excludes them . . . Meanwhile the reef rises from their laboring bodies which endlessly merge to become a coral island that supports those who did not produce it and do not remember who did" (Navakas 2023a, p. 3).

[15] Some scholars, such as Sophia Roosth, view the crochet reef in a more pernicious light, aligning the techniques and motives of its practitioners to the objectifying aims of synthetic biology—an obsessive desire to control and manipulate life. I do not find this critique particularly persuasive; there is nothing obviously "post-organismic", as she claims, about the reef project. In fact, the problematic imaginary of life-fabrication she discerns has much more in common with de-extinction experiments and related projects. (See Roosth 2013).

[16] For an example of the third iteration of his famous maxim, see Brand, "We are as Gods and Have to Get Good at It." *Edge* (2009). 18 August 2009. Brand seems to have misquoted himself or misremembered the original phrasing in the *Whole Earth Catalog*. He recalls his own credo as having said "might as well get good at it", whereas the 1968 publication of *Whole Earth Catalog* actually reads "might as well get used to it".

[17] See Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (University of Chicago Press, 2006).

[18] Ecopragmatism, also known as ecomodernism, embraces geoengineering, biotechnology, genetic engineering, nuclear energy, intensified urbanization, and other technological controls as consistent with environmentalism. (See Brand, *Whole Earth Discipline: An Ecopragmatist Manifesto*. New York: Viking, 2009).

[19] Very recent research suggests that in fact the extinction date of 4000 years ago may be skewed by ancient DNA samples by as much as thousands of years, meaning that mammoths actually went extinct much earlier. (See Bas Den Hond 2022). Again, there is much we don't know.

[20] Gene drives do exist in nature (some confer no fitness advantage) but their power is constrained by evolutionary pathways.

[21] Given that some coral scientists want to create corals that are resistant to warming oceans, gene drives seem like one possible way to achieve those ends. Some scientists (though not Gates or van Oppen) have explored this avenue with corals, though the possibilities are limited in the near term.

[22] Dawkins often insists that he never meant to imply that selfish genes make for selfish individuals, but his book is full of statements contradicting that claim, such as the idea that we must consciously build a cooperative society because humans are "born selfish".

[23] Esvelt subscribes to a philosophy called "effective altruism" that is increasingly common among world-shaping billionaires and technocrats. Some of his endeavors, under the auspices of his company BioSecure, received funding from the disgraced cryptocurrency mogul Sam Bankman-Fried, a fellow practitioner of effective altruism. https://www.science.org/content/article/crypto-company-s-collapse-strands-scientists (accessed on 2 November 2023).

[24] *Oddly* speciesist because Esvelt and other "effective altruists" look to utilitarian philosopher Peter Singer, who sought to dismantle speciesist biases that grant special moral consideration to humans and human suffering, over against other lifeforms.

[25] Esvelt positions himself as a champion of open science, continually warning the public about the kinds of technologies he himself is unleashing. He is fond of quoting J. Robert Oppenheimer who did the same (only after his creations were unleashed), and

others have made the same connection. "Not since Robert Oppenheimer has a scientist worked so hard against the proliferation of his own creation", one profile of Esvelt reads (See Love (2019). Also see Rowan Jacobsen, "Deleting a Species", *Pacific Standard*, 7 September 2018. Available online: https://psmag.com/magazine/deleting-a-species-genetically-engineering-an-extinction (accessed on 2 November 2023).

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Article

The Far Right Culture War on ESG

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Abstract: This article examines connections between religious nationalism, extremist movements, and environmental politics, with a focus on environmental, social, and governance (ESG) frameworks and debates in the United States since 2020. It begins with a brief history of ESG, then examines responses from mainstream conservatives and far-right groups to the growth of ESG. It argues that the current backlash against the use of ESG is part of a larger conservative culture war against "woke" politics. The article offers a detailed look at the role of the conservative advocacy group Heritage Action and its "ESG Hurts" campaign, and shows how climate denial, conspiracy theories, and hostility to race and gender politics are interconnected parts of a growing ideological movement rooted in Christian Nationalism and climate denial.

Keywords: ESG; far-right extremism; culture war; Christian nationalism; social movements; climate change

1. Introduction

For the last few years, my research has explored the growing political impacts of religious nationalism and extremist movements on democratic politics. In this article, I focus on how these dynamics intersect with environmental and climate issues by using debates over environmental, social, and governance (ESG) frameworks in the United States. An ESG framework typically focuses on what is known as the triple bottom line—environmental, social, and governance issues—in relation to how businesses operate, invest money, and make governance decisions. While there are many debates over how exactly to define and measure what is or is not ESG, for the purposes of this paper I understand ESG as a "broad term that refers to the inclusion of environmental (E), social (S) and governance (G) criteria into investment decisions taken by companies as a manifestation of responsible or sustainable investment practices" (Câmara 2022, p. 4). Related terms include corporate social responsibility (CSR) and socially responsible investing (SRI), and both terms address "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (Wood 1991, p. 693). ESG frameworks use certain criteria or "screens" to evaluate the role of social policies, environmental impacts, and governance decisions in a given business. Examples of ESG investment screens include avoiding human rights violations in supply chains and incorporating climate reduction policies into business decisions.

The use of ESG investment frameworks has grown significantly in recent decades. This growth is fueled in part by the ongoing role of extractive capitalism in causing our planetary climate crisis, as well as growing calls among social advocates for more holistic corporate practices. Speaking to this shift, Paulo Câmara and Filipe Morais note in a recent handbook on ESG that "Sustainability is quickly becoming the Holy Grail for governments, businesses, and society. It represents a fundamental shift in human development arguably more significant than the industrial revolution" (Câmara and Morais 2022, p. ix). In this context, ESG frameworks are seen as one key mechanism to help push business practices towards more responsible and ethical directions, often with climate issues in mind. For example, one major ESG effort in recent years has been the campus fossil fuel

divestment movement, led by groups such as 350.org. This movement calls on universities to divest from fossil fuel industries and their funders and instead invest in climate-friendly companies and practices (Maxim 2013).

In response to the growth of ESG frameworks, mainstream conservatives and far-right groups have increasingly framed ESG as part of a larger culture war that is forcing "woke" politics onto an unwilling public. Seen through this lens, ESG is simply the latest radical left issue that must be opposed, alongside police reform, social justice, and climate change (e.g., Levin 2021, 2023; Ramaswamy 2021). As Republican presidential hopeful Vivek Ramaswamy argued, "This new trend [of woke capitalism] has created a major cultural shift in America . . . It's polarizing our politics. It's dividing our country to the breaking point . . . Wokeness has remade American capitalism in its own image" (Ramaswamy 2021, p. 4).

Like most conservative Republicans opposed to ESG, both Levin and Ramaswamy are climate change deniers. "So this is actually, I think one of the grave threats to liberty today, you know, wherever you stand on climate change, I think most of the climate change agenda, I'm just going to say it is a hoax. I'm going to call that for what it is" (Ramaswamy 2023b). Ramaswamy later doubled down on his denial in response to a prerecorded audience question on youth support for climate change at the August 2023 GOP presidential candidate debate. "The climate change agenda is a hoax" (David Pakman Show 2023). This bold rejection of the scientific consensus isn't a surprise given Ramaswamy's stated politics. For example, in responding to another question about how the candidates would address US economic growth, Ramaswamy responded: "This isn't that complicated guys. Unlock American energy. Drill, frack, burn coal, and embrace nuclear" (David Pakman Show 2023).

In a similar vein, Mark Levin argues in his latest book that "There is no better subject to illustrate such a colossal deception [of the public by Democrats] in today's world than 'climate change,' which is central to the Democrat Party's growing authoritarianism over all aspects of American life" (Levin 2023, p. 116). He later complains about Chuck Todd rejecting the call to provide equal airtime to question the validity of climate change. "Despite the fact that there are countless scientific experts throughout academia and think tanks who know far more than Todd, his producers, and NBC's executives, and who have written extensively in scholarly books and papers questioning climate change, man-made climate change, the extent of climate change, the dangers of climate change, natural global and atmospheric changes, and on and on . . . they will not permit legitimate, substantive, intelligent, contrary views to meddle in their ideological agenda" (Levin 2023, p. 148).

The silencing of legitimate and substantive doubts about climate change due to mainstream media's leftist bias is a common talking point on the right. But in truth, the reason climate denialism receives no serious consideration by mainstream media is because of the overwhelming international scientific consensus about the reality of climate change. As the UN's latest AR6 *Climate Change 2023: Synthesis Report* makes clear, and with a "high confidence" assessment, "Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1 °C above 1850–1900 in 2011–2020" (IPCC 2023, p. 4). It is scientific research, rather than ideological bias, that is the primary driver of mainstream media coverage of climate change as a serious (and real) political issue, but this fact is ignored by most right-wing media commentators.

Despite the growth of scholarship on conservative and right-wing politics in the social sciences, there remains a wide range of labels used to describe the movements I explore here. As Kathleen Blee and Kimberly Creasap note, "movements are difficult to label as either right-wing or conservative. A single movement is likely to have conservative and right-wing aspects . . . Many right-wing and conservative movements use similar strategies and rhetoric of vulnerability, fear, and threat" (Blee and Creasap 2017, p. 201). In his study of the populist radical right, Cas Mudde argues these movements "shares a core ideology that combines (at least) three features: nativism, authoritarianism, and populism"

(Mudde 2017, p. 5). My own analysis uses a similar approach in defining these movements. Attacks on ESG often draw on one or more of these features, particularly when ESG is described as promoting a radical Marxist agenda that is hostile to the nation and its core beliefs and values. As I will show, the narrative framing of ESG as anti-American is deeply entangled with both nativist and populist political claims about "we the people" as defined by far-right figures like Levin.

To help tell this story of how and why ESG has become a target of the far right, I begin with a brief history of how ESG and socially responsible investing emerged in the 1970s alongside modern environmentalism. As I discuss, social investing quickly became entangled with anti-apartheid politics and corporate investments in South Africa in the 1980s, and religious leaders like Leon Sullivan intentionally used corporate investments as a political tool to leverage social change. After briefly tracing how ESG evolved during and after this period, I turn to a case study of Heritage Action, one of the central advocacy groups behind the anti-ESG movement today, and their "ESG Hurts" campaign. I argue that this anti-ESG narrative needs to be understood as part of the resurgence of Christian nationalism and right-wing authoritarianism in the US, both of which view social justice and civil rights gains made since the 1960s as a threat to their idealized vision of the US. I develop this argument further by showing how far-right political figures such as Mark Levin and Vivek Ramaswamy have used their political platforms to spread an anti-ESG, pro-fossil fuel gospel. This extractivist gospel includes promoting a counter-narrative of climate denialism and greater fossil fuel expansion while simultaneously arguing the real threat is the radical left's "woke" political agenda and its attack on free market capitalism and conservative Christian family values.

2. Discussion

2.1. The Rise of Social Investing

Why do people like Levin and Ramaswamy see ESG as a threat to religion, personal liberties, and American capitalism? Part of what makes this question so interesting is that, despite the generally strong opposition to ESG today from political and religious conservatives and the far-right, religious conservatives were not always hostile to social change campaigns that targeted corporations. In fact, religious groups were sometimes at the forefront of these early movements. To better understand these shifting alliances, we need to look at how ESG first rose to prominence.

Following the birth of modern environmental politics in the late 1960s, activists began to call on investors to stop supporting companies that polluted the environment for profit. Although no organized movement around what is today called ESG existed at that time, efforts to address social and governance issues go back to the early 20th century on issues such as labor rights, workplace safety, and business ethics (Bowen 1953).

Momentum picked up in the early 1970s after The Conference Board, a US-based non-profit business advocacy group, released its landmark *Social Responsibilities of Business Corporations* report in 1971. As the report argued, "There is now a pervasive feeling in the country that the social order somehow has gotten out of balance, and that greater affluence amid a deteriorating environment and community life does not make much sense . . . There is widespread complaint that corporations have become cavalier about consumer interests, have been largely indifferent to social deterioration around them, and are dangerous polluters of the environment" (CED 1971, p. 14). These trends opened a wider discussion about corporate social responsibility in business that would expand significantly in the years ahead (Frederick 1994).

Another important milestone was the creation in 1977 of the "Sullivan Principles", a set of ethical business guidelines drafted by Reverend Leon Sullivan. At that time, Sullivan was a board member at General Motors, in addition to being a long-time civil rights activist and Baptist minister in Philadelphia. The Principles were a response to Sullivan's concerns over human rights violations and apartheid in South Africa. "The Principles must serve as a catalyst, not only in the business community, but in all sectors of South

African society," he argued. "The signatories to the Principles must act as models for other multinational companies, along with world religious bodies, colleges, financial institutions, governments, unions, and others, in regards to their dealings with South Africa" (Sullivan 1983, pp. 427, 430).

Drawing on his religious networks, Sullivan also mobilized faith groups to act, including forging a partnership with the National Council of Churches and holding meetings with the Church Commissioners of the Church of England. Sullivan hoped to encourage banks and institutional investors, including churches, to suspend investments and loans to the South African government until apartheid was abolished. This approach can still be seen today in the boycott, divestment, and sanction (BDS) movement (e.g., Palestine BDS movements and fossil fuel divestments). Sullivan wanted to create a "worldwide campaign of 'moral aggression' by churches" to put pressure on the South African apartheid government, arguing that if companies "neglect to respond satisfactorily, they should face divestment of church funds" (pp. 437–8). As a newsletter from the Coalition for Illinois' Divestment from South Africa (CIDSA) noted about their recent state-wide organizing drive, "During the week of April 14–19, speakers addressed over 50 groups throughout Illinois including churches, community, student and union organizations" (CIDSA 1985, p. 4). Historian Zeb Larson also pointed out that "Divestment created tangible targets for people to organize around and against that were also specific to where they lived: university pension boards, church investment boards, and local governments" (Larson 2022).

Although it is beyond the scope of this article, there is a long and rich history of interfaith and religious-based activism against apartheid in South Africa, included the divestment and boycott efforts led by the global Anti-Apartheid Movement (AAM) and its Inter-Faith Colloquium on Apartheid, which was created in 1984 (AAM 2000; Hudson-Allison 2000; Presbyterian Historical Society 2013). As I noted before, there is also a rich history of what is commonly referred to as faith-based investing, which tended to focus on negative investment screening, such as avoiding investing in adult entertainment, alcohol, tobacco, gambling, and abortion. As *InvestmentNews* reporter Jeff Benjamin noted about links between ESG and earlier religious investing, "In many respects, faith-based investing is the original impact investing, so it's only natural that the rapidly expanding appeal of ESG and sustainable investing is also raising awareness of faith-based strategies" (Benjamin 2020).

Seen in this light, the current anti-ESG rhetoric coming from conservative religious circles appears to be a more recent trend and reflects the deeper shift of religious activism towards ultra-conservative politics that began in the 1980s with the rise of the Moral Majority and Christian Right (Schnabel 2013). However, as I briefly discuss below in relation to Bud Light and Target, another possible interpretation is that what has changed is not so much the religious activism focused on corporations, but rather the progressive orientation of these religious pressure campaigns. Social justice issues drove many religious actors to oppose apartheid in South Africa during the 1980s. Today, however, the most vocal religious voices are coming from conservatives on the right who are opposed to social and environmental justice issues, as well as reproductive and gender rights.

These trends continued to grow throughout the 1970s and 1980s, pushed along by additional books, such as R. Edward Freeman's book *Strategic Management: A Stakeholder Approach*. Freeman opened his book by noting that both "business and service organizations are experiencing turbulence" and argued in response that "a new conceptual framework is needed" to address the growing social calls for businesses to change their ways (Freeman 1984, pp. 4–5). The Union Carbide disaster in Bhopal, India, in 1984 and the 1998 Exxon Valdez oil spill in Alaska both spurred consumer advocacy, environmental, and other civic groups to increase their use of shareholder activism to address such problems.

By the early 1990s, a small but important set of actors began to emerge focused on these new social investment strategies, such as the Institutional Shareholder Services (ISS) company, which was founded by long-time shareholder activist Robert Monks in 1985. ISS

was one of the first companies to provide ESG-related services to institutional investors (Minow 2011). By the early 2000s, a variety of institutional structures began to emerge, including the Dow Jones Sustainability Index, which helped bring wider attention to ESG issues in the corporate sector. During this same period of the late 1990s and early 2000s, there was also a growing alter-globalization movement focused on the emerging nexus of ESG issues, especially in the fair trade and anti-sweatshop movements on university campuses, which helped give such issues both a wider appeal and great political attention (Armbruster-Sandoval 2005; Bartley and Child 2014).

Today, there are thousands of companies that focus on some form of ESG investing, as well as numerous indexed investment funds that use ESG screens to help select and direct investments. Legal scholar Quinn Curtis and co-authors noted that "ESG investing . . . is growing explosively" (Curtis et al. 2021, p. 1), while another legal scholar, Elizabeth Pollman, argued that "ESG is one of the most notable trends in corporate governance, management, and investment of the past two decades." However, this growth of interest and support for ESG in business has also led to a growing body of criticism from those opposed to these trends. As Pollman argues, ESG policies are "at the center of the largest and most contentious debates in contemporary corporate and securities law" (Pollman 2022, p. 1).

As an active participant in campus ESG movements since the late 1990s, I have watched it grow from a relatively arcane and specialist topic to a primetime buzz word used by mainstream conservative and far-right groups as part of their culture war talking points. Following the nationwide Black Lives Matter uprisings in the summer of 2020, ESG rapidly found itself lumped alongside Critical Race Theory (CRT), Social-Emotional Learning (SEL), action civics, and LGBTQ+ politics by those on the right. According to their narrative framing, ESG and these other social issues are all part of a nefarious plot to destroy American families and undermine capitalism.

This recent spike in attention is clear if we look at the US Google search trends for "ESG" over a ten-year period from 15 September 2013 to 15 September 2023 (Figure 1). What we see in those search results is a clear uptick in interest in ESG around the fall of 2020. This trend of interest in ESG has grown more pronounced since 2020. As I discuss in more detail below, this growth of interest overlaps with the launch in 2022 of the "ESG Hurts" campaign by Heritage Action and an increased push by far-right groups and media figures to paint ESG as the latest and greatest threat to conservative values.

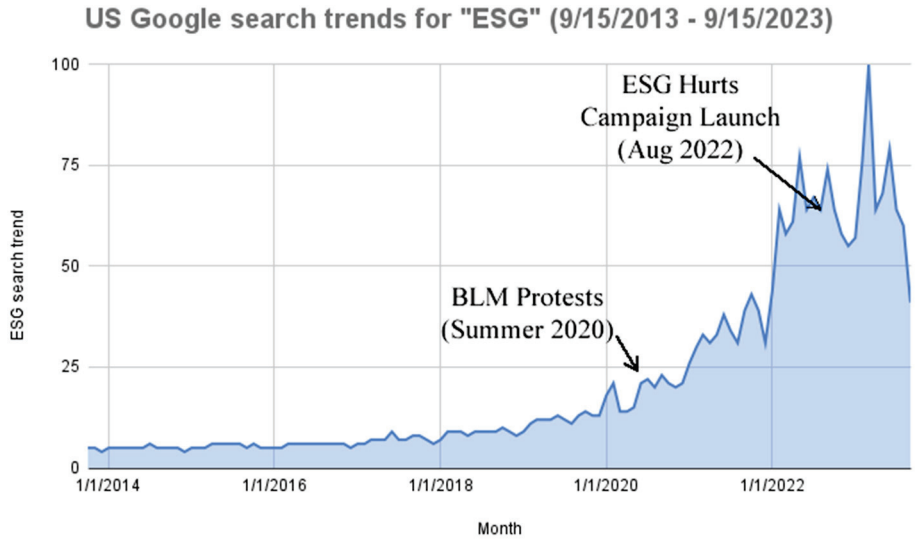

Figure 1. ESG Google search trends (2013–2023).

As a 2023 report from The Conference Board noted, this "ESG backlash is gaining momentum, and many companies expect it to further increase in the immediate future

. . . The increase in backlash will likely be driven by emotionally charged topics, such as hot-button social issues and the transition to more sustainable forms of energy that raises fear of job losses" (Johnson 2023, p. 1).

To better understand who is behind this anti-ESG movement and how they are framing their opposition to ESG policies, we need to look closer at one of the central institutional players, Heritage Action.

2.2. Heritage Action & Anti-ESG Politics

Heritage Action is a 501(c)4 PAC created by the Heritage Foundation, which is a leading ultra-conservative, US-based think tank. The Heritage Foundation is at the center of most of the recent attacks on social justice issues, and because of this, understanding their role can help us better understand organized efforts to oppose ESG. This paper focuses specifically on their "ESG Hurts" digital campaign, how it has evolved since its launch in August of 2022, and how it is communicating with its supporters and allies.

It is important to note that along with ESG Hurts, the Heritage Foundation also created a handful of related front groups and affiliated websites, including Save our Elections, Save Our Schools, and the "Back the Blue" Police Pledge campaign. Each of these websites serves as a hub in a larger conservative network of political action groups working against "woke" politics. Figure 2 shows the ESG Hurts homepage (www.esghurts.com), which Heritage Action created as a digital resource portal for those opposed to ESG. The site includes a mix of vague information about ESG. Most of their information is factually inaccurate or relies on selective details to give a one-sided picture, but the average reader would likely not be able to tell. The site also links to various right-wing news articles and tv programs featuring Heritage Foundation and Heritage Action staff and allies expounding on the dangers posed by the "woke ESG agenda". It also includes examples of model anti-ESG legislation that policymakers can adapt for local use and offers action steps that conservative activists can take to engage with ESG issues locally.

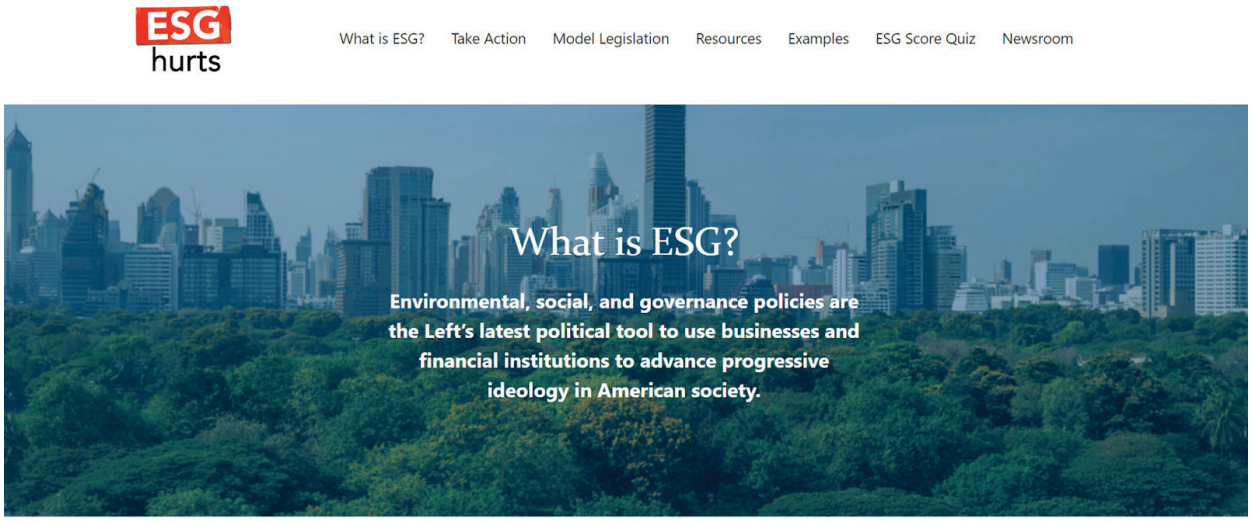

Figure 2. ESG Hurts website.

During the spring and summer of 2023, the "Take Action" tab was focused on efforts to support S.J. Res. 8 and H.J. Res. 30, which were both related to the 2023 Congressional Review Act then under debate. That legislation, which was ultimately vetoed by President Biden, sought to overturn a 2022 Department of Labor rule which allowed 401(k) investment fund managers to "consider climate change and other environmental, social, and governance factors when they make investment decisions and when they exercise shareholder rights, including voting on shareholder resolutions and board nominations" (Congress.gov 2023).

A press release announcing the launch of the ESG Hurts campaign in the summer of 2022 included quotes from two Heritage Foundation staff. The first, from a Heritage Foundation visiting fellow named Andy Puzder, claimed that ESG is "socialism in sheep's clothing" and suggested the real goal of ESG supporters is to "avoid the inconvenience and messiness they see in our representative democracy and our free-market economy." Puder ended by arguing that "Most Americans are unaware of what's happening or how to fight back. That must end. We must fight back against this Marxist 'woke' ideology that would turn our economy into a battlefield in the culture war" (Heritage Foundation 2022). I highlight this quote as it provides supporting evidence that groups like Heritage Action view ESG as part of the broader culture war they are waging against the political left and "woke" politics generally.

A second quote from Jessica Anderson, who was Heritage Action's Executive Director at the time, similarly warned that "American families and workers should not be forced to abide by the left's radical opinions on gender ideology, climate change, and abortion to make a living" (Heritage Foundation 2022). The framing here of climate change as the "left's radical opinions," rather than an empirically established scientific fact, is important to note, and echoes claims by Levin, Ramaswamy, and many other conservatives. This sort of framing underlies environmental skepticism in general, and climate denialism in particular, and shapes much of the far right and conservative opposition to environmental issues, including ESG.

After noting three common groups who promote ESG policies–left activists, financial firms, and government bodies–the ESH Hurts website offer this definition of ESG:

> ESG is a political tool used by progressives to advance Leftist ideology in businesses and financial institutions. From requiring NASDAQ-listed companies to appoint board members based on race and sex, to requiring greenhouse gas emissions to be reported, ESG is destroying our free market and threatens both American interests and our cultural fabric of freedom, choice, and liberty.
>
> ESG policies are a thinly veiled attempt to radically transform corporations into social justice warriors. Pro-ESG businesses support the Left's "woke" culture war to redefine gender, promote critical race theory, and cancel conservatives . . . But companies that adopt ESG policies risk failing Americans who have invested their savings in the company and hurting Americans by moving our society into dangerous dependence on foreign oil, creating social credit scores, and demanding investment decisions based on pro-abortion policies. (Heritage Action 2023)

To further reinforce these associative claims, the website includes a visual graphic depicting how a range of issues opposed by many conservatives fit under a broad ESG umbrella (Figure 3).

As this visual suggests, a cornucopia of issues have all been lumped under the ESG umbrella, from climate change and CRT to transgender politics, affirmative action, and anti-Chinese social credit score paranoia.

It is important to note that most of these issues have little to do with ESG frameworks and how they are used for investing. In the case of China specifically, this framing relies on inaccurate but common claims regarding how Chinese social credit initiatives supposedly work. These claims assume that any association with Chinese communism is enough to taint ESG as un-American, anti-democratic, and anti-capitalist, and that the average person does not know enough about China and their social credit initiatives to evaluate such claims (Horsley 2018). It is enough to simply state that ESG is "destroying our free market and threatens both American interests and our cultural fabric of freedom, choice and liberty" (Heritage Action 2023).

Attempts to lump everything conservatives dislike under this "woke" umbrella is most evident with the three issues highlighted under the "Social" category–Critical Race Theory, Pro-Abortion Policies, and Transgender Activism. Despite what conservatives often claim,

ESG frameworks have absolutely no relation to CRT, which is a high-level academic legal framework for analyzing the interconnections of race and law and their impacts on society (Delgado and Stefancic 2023). However, such framing works for conservative audiences because CRT and diversity, equity, and inclusion (DEI) programs have successfully been conflated as the same thing. This helps explain why, in political discourse on the right, anything they oppose can easily be labeled as part of a radical Democrat or socialist agenda, or increasingly since 2020, as part of a new and dangerous wave of Cultural Marxism supposedly threatening to destroy Christianity and the nation (e.g., Levin 2021; Ramaswamy 2021; Wolfe 2022; Rufo 2023; Torba and Isker 2023).

Figure 3. Heritage Action ESG infographic.

Similarly, the connections between ESG, gender, and abortion are tenuous, but at least here there is some basis for ESG criticisms. For instance, it can be argued that shareholder activism and ESG-informed investment strategies which encourage the cultivation of gender-inclusive workplaces or promote employer insurance coverage for women's access to reproductive healthcare, to pick two common examples, are promoting a "leftist" ideology through an ESG frameworks. However, for such arguments to make logical sense, we must first accept two implicit conservative religious claims advanced by these anti-ESG proponents.

The first conservative claim is that gender-inclusive policies for LGBTQ+ individuals and access to reproductive choice for women are things we should oppose on religious grounds as immoral or sinful. The second conservative claim is that LGBTQ+ individuals' very existence, and a woman's right to make her own private reproductive health choices, are harmful to society and something that businesses should not be involved with. Similarly unquestioned normative assumptions were evident in a recent Heritage Action email calling out the "subversion" of conservative values by woke corporations that have embraced the "absurd" position of supporting the LGBTQ+ community, supposedly due to ESG:

> The conservative grassroots have been fighting back hard against the Environmental, Social, and Governance (ESG) agenda which sees large corporations and asset managers use the money of their investors i.e., you, to reinvest that money against your values.
>
> Recent examples of such subversion come from Bud Light when they featured activist Dylan Mulvaney, who self-identifies as a woman, on promotional material as well as Target's promotion of absurd LGBTQ+ "Pride" merchandise targeting children. The predictable backlash resulted in the loss of dozens of billions of dollars for both companies. ("Saturday Summary" (Heritage Action Email 2023))

It seems obvious, but Bud Light hiring trans influencer Dylan Mulvaney to create an Instagram video promoting March Madness, or Target selling LGBTQ+ themed Pride Month merchandise in their stores, are not examples of a nefarious ESG agenda. Rather, those are examples of everyday business decisions, not the magical result of woke shareholder activism or ESG. Conservative activists were quick to point out that their boycott was having a major impact on these companies, pointing to reports that Bud Light stock prices fell as much as 26 percent following the boycott (Bary 2023). However, as many people pointed out, Bud Light stock prices had been in decline since at least 2015, and the overall financial impact of these boycotts was limited. However, as I noted earlier, such efforts suggest we may be seeing a renewal of religious-based corporate pressure campaigns like those during the 1980s, but this time in favor of more regressive social policies aligned with Christian nationalists and conservative social values. Rather than calling for more inclusive policies, religious boycotts target businesses who host drag queen story hours or promote gender-inclusive business practices or merchandise.

As the ESG Hurts campaign declared, "ESG is destroying our free market and threatens both American interests and our cultural fabric of freedom, choice and liberty" (Heritage Action 2023). In other words, radical leftists are using ESG to force corporations to address social issues, when they really have no role. They are simply market distortions that artificially drive up the price of doing business and lead to reduced dividends for shareholders–or as is commonly claimed by opponents, it goes against the "fiduciary responsibility" of investment managers to maximize returns for their clients–hence the mention of the loss of billions of dollars for both Bud Light and Target.

2.3. Disentangling Religion and Politics

As I noted earlier, what Heritage Action and many other anti-ESG critics typically leave unsaid is that these supposed "American interests" and the "cultural fabric of freedom, choice and liberty" are rooted in support for a patriarchal and heterosexual society where abortion and queerness are seen as socially deviant and sinful. Neither the Heritage Foundation nor Heritage Action appear to rely on explicit references to religious ideas such as sin, as least that I have seen. However, their claims about what is or is not a threat to the fabric of American culture are clearly rooted in conservative Evangelical and Catholic religious cosmologies in which the conflation of democracy, capitalism, and Christian nationalism is unquestioned. For anyone familiar with the growing body of scholarship on White Christian nationalism in the US, such claims are increasingly commonplace, and Heritage Action (as well as the Heritage Foundation) falls squarely within this sphere of conservative White ethno-religious identity politics (Whitehead and Perry 2020; Butler 2021; Posner 2021; Gorski and Perry 2022; Stewart 2022; Onishi 2023; Whitehead 2023; Crews Forthcoming).

However, individual opponents of ESG and the radical left agenda have no issues with using the language of religion in their criticism or defense of what they imagine is under threat by ESG policies. As one anti-ESG pundit, Peter Kalis, claimed, ESG is "an emergent faith as zealously embraced by some as Christianity is by others." He goes on to argue that "It is central to this curious religion that the climate is changing in a way that will destroy humanity. It's this fear above all that gives the movement its religious urgency. In theological terms, it's an eschatology, a view of the end of the world—but crucially, one humanity can determine" (Kalis 2023).

In a similar vein, Vivek Ramaswamy stated in an August 2023 op-ed in the *New York Post* that "One of my favorite scientists, Blaise Pascal, said it best: If you have a hole the size of God in your heart and God doesn't fill it, something else will. That's how you get climatism, COVIDism and transgenderism. We all bend the knee—if not to God, to false idols instead. We must restore what is real over what is artificial to revive this nation" (Ramaswamy 2023a). These underlying conservative religious logics, and their associated transphobia and hostility to the LGBTQ+ community (among other issues), was evident in conservative efforts to boycott both Bud Light and Target in the summer of 2023. As

another example, during a June 2023 Pride Month protest organized by conservatives outside a Target store in Miami, Florida, two female protestors were photographed holding signs that read, respectively, "Keep Satan Away from !Our Kids!" and "Boycott Target Save Our Kid's" [sic] (Sladky 2023).

Here, the use of religious language is explicit–it is Satan threatening children through the promotion of queer visibility, such as Target's Pride Month displays. These are the same arguments advanced by the extremist conspiracy movement QAnon, the Save Our Kids campaign run by Heritage Action, and even Donald Trump. Heritage action has strong overlaps with extremist groups like Moms for Liberty, who are best known for their attacks on the teaching of CRT in primary school—a common yet false claim—as well as efforts to impose book bans in schools related to the topics of race and gender. This influence of Christian nationalism and extremist politics can be seen in remarks made by former President Trump at the September 2023 Pray, Vote, Stand Summit organized by the Family Research Council, a leading far-right political action group run by Tony Perkins that is well known for its militant pro-life Christian political agenda.

> For four magnificent years, I was proud to be your relentless champion for freedom, for life, for liberty, and for the great biblical traditions of Western civilization, and that's what it is . . . I was honored to get up every single day and do battle on your behalf. Oh, I did battle . . . I'm still doing battles, doing more battle than anybody even understands. But I wanted to and had to stand up to the communists, the Marxists, the atheists, and the evil and demonic forces that want to destroy our country. They're destroying our country. (Trump 2023)

As such expressions of right-wing authoritarianism in the US suggest, many far-right partisans no longer view democratic politics as involving legitimate political disagreements. Rather, politics is a story of good versus evil in which political opponents are depicted as "evil and demonic forces." The discursive framing offered in remarks like those from Trump further reinforces a Christian nationalist narrative of spiritual warfare in defense of capitalism, Western civilization, and the Judeo–Christian nation. One brief note of caution is warranted here regarding such language. I agree with Giovanni Maltese, who argues that "Scholars of religious studies should refrain from lumping Christians who seem to draw on spiritual warfare in with authoritarianism, fundamentalist militant Christianity or with the far-right, *tout court*" (Maltese 2021, p. 6). As Maltese clearly shows in relation to spiritual warfare discourse in the Philippines, such language can also advance anti-capitalism and social justice frames. However, as I have tried to show, this is not the case for how the US Christian right uses the language of spiritual warfare, which is far more rooted in notions of religious warfare and secular conspiracies.

It is this same conspiracy mindset that was behind the controversial Christian film *Sound of Freedom*, which is about child sex-trafficking. The film was a conservative blockbuster in the summer of 2023 as drag show protests and bills popped up across the US and spread false associations between drag shows, transgender individuals, and child sex-trafficking. As Chris Lehman argued about the *Sound of Freedom* in his review for *The Nation*, "It's easy to see how this didactic vision of a demonic global network of powerful child predators keys directly into QAnon folklore—and how the ironclad moral certainty of Ballard and his allies reflects back the deliriums of apocalyptic redemption now convulsing the conspiracy-minded American right" (Lehman 2023).

This link was made even more explicit when Jim Caviezel, who played the lead character of Tim Ballard in the film, went on to promote QAnon lies about a secret underground cabal of Satan-worshiping globalists killing children and harvesting their adrenochrome–a long-standing antisemitic trope at the heart of the QAnon child sex-trafficking craze (Murray 2023). The irony for many outside observers was the fact that Christianity has a sordid history of complicity in child sex abuse cases (Craissati and Beech 2003; John Jay Report 2004; Eshuys and Smallbone 2006; Kewley et al. 2015). Thus, it was little surprise to many critics when news broke that Fabian Marta, a notorious host of "Sugar Daddy/Sugar

Baby" parties and an "Angel investor" for *Sound of Freedom*, had just been arrested for child kidnapping in Missouri (Phillips 2023).

At first glance, this seems unrelated to the ESG issues we have been discussing, but in conservative media circles they are part of the same narrative. There is a common claim that *Sound of Freedom*, which was completed in 2018 under license to 20th Century Fox, but which was then shelved after Walt Disney took over Fox in 2019, was shut down because of Disney's woke ESG policies, its pro-LGBTQ+ stance, or maybe, some suggested, because Disney was part of these child sex-trafficking rings. As one conservative commentator on Twitter asked: "DISNEY bought & SHELVED #SoundOfFreedom refusing to release it. Why wouldn't Disney want us to see human trafficked children saved? . . . GOD'S CHILDREN ARE NOT FOR SALE" (Reborn 2023).

3. Conclusions

So, what we have seen is that over the past decade, and especially following the summer of 2020, conservative and far-right activists are collapsing distinction between their opposition to ESG, their belief that CRT is pushed in schools, worries about transgender issues, and their advocacy of climate denialism. These issues are described as part of a vast and evil (even demonic) left-wing conspiracy to destroy freedom and liberty in the US, undermine conservative Christian values, and call into question the merits and sustainability of continued extractive global capitalism. From borders and policing to crime and social policy, everything is part of a "woke" political conspiracy that now includes the entire Democratic party, the majority of mainstream media, and most political institutions. As Levin argues in his latest book, whose premise is that Democrats are the real authoritarian threat, "America is unraveling. Our founding and history are under assault. Our families and faiths are being degraded . . . Capitalism and prosperity are being devoured by economic socialism and climate-change fanaticism" (Levin 2023, p. 2).

ESG is now squarely in the crosshairs of most conservatives, thanks in part to the efforts of a well-funded dark money political campaign led by groups such as Heritage Action, and regularly boosted by right-wing political figures such as Levin and Ramaswamy. It does not matter that most of what is blamed on ESG—such as the Dylan Mulvaney or Target examples discussed earlier—have nothing to do with ESG investing. Much as we saw with CRT in 2020, and then DEI in 2022, these terms are used as empty signifiers and have become catch-all terms for conservatives in their culture war narrative. "Reverse racism is racism. It's wrong now just as it was in 1964. The 'anti-racist' movement actually creates more racism" (Ramaswamy 2023a).

Given the evolution of such rhetorical attacks on ESG and related climate issues, it should not be surprising that calling attention to our planetary climate emergency leads figures like Ramaswamy to claim our best solution is "abandoning the climate cult" and embracing even more fossil fuels. As Levin argues in his latest book, "For the Democrat Party, 'climate change' is not about science. It is the most lucrative, limitless, and successful source of power and control over the individual, the economy, and, consequently, the American lifestyle" (Levin 2023, p. 140). It is not hard to understand why organized opposition to ESG appears to be growing amongst some people when this is the dominant narrative being offered to conservative voters in the US in 2023.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The author declares no conflict of interest.

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Article

Teaching against the "False Religion" of the Market: Toward Explicitly Anticapitalist Teaching and Research in Religion and the Environment

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Abstract: David Loy's 1997 essay, "The Religion of the Market," should be a foundational text for all who study and teach the intersection of religion and the environment. In contrast to the more field-defining essay by Lynn White, Loy focuses on the structural and economic roots of environmental degradation and calls for scholars and practitioners to actively oppose the global capitalist systems causing the problem. When brought into conversation with other anticapitalist scholarship, Loy's essay offers ways to characterize existing debates about economics within our field, and can be used to argue against hegemonic capitalocentrism to set the stage for other kinds of resistance in our teaching and scholarship.

Keywords: religion and environment; anticapitalism; capitalocentrism; David Loy

1. Introduction

In her famous 2019 speech to the United Nations, Greta Thunberg made a clear connection between climate change and the dominant global economic system:

> People are suffering. People are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction. And all you can talk about is money and fairy tales of eternal economic growth. How dare you! (Thunberg 2019, p. 96)

Labeling the world's most prominent stories about money and economic growth "fairy tales" was a powerful rhetorical move. With it, the then-17-year-old emphasized how childish the world's leaders have been in failing to respond meaningfully to climate change. She simultaneously dismissed those who argue that the economic costs of political action are prohibitively high and those who suggest that markets rather than governments must solve the problem.

Thunberg's indictment of global capitalism's injustice and unsustainability echoes a fairly common refrain among environmentalists[1], which we will argue here should be even more common than it is in scholarship and teaching about religion and the environment. By offering the explicit label "anticapitalism," we hope to align our field more with Thunberg and other environmentalists who critique the hegemony of market systems[2].

As scholars of religion, we recognize a culture's "fairy tales" as, potentially, myths with deep spiritual significance; the "fairy tale" of eternal economic growth is no exception. Rather than simply a bloodless and clinical set of theories, the ideas that govern our economy are based upon and evoke a complicated set of moods, motivations, beliefs, and practices. David Loy's foundational 1997 essay "*The Religion of the Market*" offers a helpful way of thinking about this. He argues:

> Our present economic systems should also be understood as our religion, because it has come to fulfill a religious function for us. The discipline of economics is less a science than the theology of that religion and its god, the Market, has become a

> vicious circle of ever-increasing production and consumption by pretending to offer a secular salvation. (Loy 1997, p. 275)

Loy's perspective sheds powerful light on the environmental argument against capitalism as currently practiced. It also helpfully clarifies the role of religious communities and scholars of religion in responding to environmental degradation. Scholars and teachers of religion and environment should take Loy seriously and should use his perspectives to examine and consider other explicitly anticapitalist perspectives.

We, the authors of this essay, are not opposed in principle to markets or market economics. To the contrary, we recognize that markets have been used to organize people for many centuries and that modern capitalism was, in many ways, an elegant solution to the problems it was designed to solve. But we are opposed to what Loy calls "the Market," a type of advocacy for unbridled capitalism, private property, and devotion to profit that defines so much of the economics and politics in the contemporary industrialized world. We believe that this form of global capitalism and the largely unquestioned support for it in so much public discourse has led, and will continue to lead, to environmental degradation and injustices among human beings[3]. Thus, we argue that scholars and teachers of religious environmentalism should explicitly oppose "the Market."

We are not economists and do not intend to articulate or advocate for a global alternative to capitalism here. Instead, we seek to continue Loy's work of uncovering the religious ideas that underpin the Market. We believe that our world and our neighbors deserve better than what they are getting in our current system and that better alternatives begin with good ideas and concepts. For this reason, we are comfortable naming "anticapitalism" as a moral imperative without necessarily aligning ourselves with one or another alternative economic system. This essay operates mostly at the conceptual level, hoping that these ideas will contribute to a conversation that bears fruit in practice.

Section 2 contrasts Loy's essay with Lynn White Jr's more famous explanation of the origin of environmental harm. We appreciate Loy's more structural analysis and his assertion that if religion and religious studies do not stand in opposition to the dominant systems of capitalism, they will be irrelevant to the contemporary world. We then offer the first of two correctives to Loy's approach in Section 3, drawing on the ideas of geographer J. K. Gibson-Graham to suggest that Loy ascribes undue power to capitalism and that a sophisticated religious approach to the issue will focus attention on existing "diverse economies" that stand as inspiring contrasts to the Market.

Section 4 uses the anticapitalist framework of Erik Olin Wright to demonstrate that much of the work in the field of religion and environment can already be classified as anticapitalist and to offer a vocabulary for making this more explicit. Section 5 then draws on Amitav Ghosh's recent work to explore the ways anticapitalist analysis can be expanded to include opposition to colonialism and, we hope, racism, patriarchy, and many other structures of oppression.

Our conclusion argues that those of us who teach religion have a responsibility to our students: to teach them about religious anticapitalism and to thereby show them alternatives to the destructive forces that currently define too much of their world.

Two introductory notes are in order. First, our argument is to the field of "religion and environment" broadly construed. We assume, but do not argue here, that this is an essential part of the study of religion and that everyone in our discipline should relate their work to environmental issues (LeVasseur 2021).

Second, we hope that this essay will influence not only research but also teaching. We believe that most scholars in our field have more impact in our classrooms than anywhere else. At the same time, our focus on conceptual questions means that we will not offer specific teaching tools or techniques. Instead, we hope the perspectives developed here will inform teachers who want to think about and reconsider how their work relates to "money and fairy tales of eternal economic growth"[4].

2. The Economic Roots of Our Ecologic Crisis

In 1967, Lynn White Jr.'s "*The Historical Roots of Our Ecologic Crisis*" offered a clear, if simplistic, historical explanation for environmental degradation and insisted that religion could be part of the solution. He argued that Western Christianity had created the conditions for the abuse of the natural world by justifying and encouraging technology that exploits nature. The worldview of Christianity, "the most anthropocentric religion the world has seen," made extractivism and dominance on a global scale possible. Thus, Christianity "bears a huge burden of guilt." In a conclusion that has been remarkably popular with scholars of religion, White then argued that since environmental degradation is rooted in a mistaken religious worldview, the remedy to the problem "will be essentially religious." Specifically, he counseled that to properly care for the environment, Christians should "find a new religion, or rethink our old one" (White 1967, pp. 1205–7).

White's argument that "what we do about ecology depends on our ideas of the man-nature [sic] relationship" provided an opening for both adherents and scholars to put religion at the center of our conversations about the environment. More than 50 years later, such conversations have proliferated in our discourse and in some religious communities. Much of the discussion has centered on White's agenda: debating anthropocentrism and greening religions along the lines of the human–nature relationship (Whitney 2015)[5].

David Loy, writing 30 years after White, undertook a similar project in his essay "*The Religion of the Market*." However, Loy did not cite White and did not discuss anthropocentrism as a problem. Similar to White, Loy offered a clear and simple account of the historic roots of environmental degradation, with significant implications for religious people and religious scholarship. But unlike White, Loy argued that the roots of the problem are fundamentally economic and warned that avoiding this aspect of the problem would consign religious people and scholars to total irrelevance and powerlessness in the face of environmental degradation.

Loy takes a functionalist view of religion, agreeing with White that religions shape our worldviews and, hence, our behaviors. Loy then hypothesizes that any ideology functioning in this way should be understood as a religion. The observation that money and markets seem to govern the moods and motivations of the majority of the developed world then leads to an exercise in analogical thinking: if the Market is our God, then economists are the theologians, advertisers are the priests, self-interested greed underpins the ethics, and the teleology points to "happiness through individualistic accumulation and consumption" (Loy 1997, pp. 275, 286)[6]. In naming all of these as religious, Loy points to the Market's uncanny power and pervasiveness. It is, he concedes, "the most successful religion of all time, winning more converts more quickly than any previous belief system or value-system in human history" (Loy 1997, p. 276).

If the Market is a religion, Loy insists, then scholars of religion should judge it as such. And he does not hesitate to do so. Arguing that human beings and the natural world have both been commodified so that they could be exploited for profit, he suggests that global capitalism is inherently linked to abuses of nature and of human dignity. Ultimately, reverence towards the Market represents "a defective value-system. . . based on an erroneous belief system."

Loy, therefore, understands the Market as a bad religion; it "is not just an economic system but a religion—yet not a very good one" (Loy 1997, p. 289). In his judgment, global capitalism fails to live up to its promises to make people happy and, in the process, degrades their morality and the ecological basis for all life. Therefore, "all genuine religions are natural allies against" global capitalism, which is "an idolatry that undermines their most important teachings" (Loy 1997, pp. 282, 289). Ultimately, Loy's article is a call to action: "religions are not fulfilling their responsibility if they ignore this religious dimension of capitalism," but if they rise to the challenge and call out this false religion, then they may earn their rightful place in society (Loy 1997, p. 278). Otherwise, the religion of the Market will continue to spread, weakening and ultimately displacing traditional religions.

For White, religions essentially amount to worldviews, and these can be evaluated based on how anthropocentric they are. A religion that fails to pass White's test is simply bad for the environment. Loy's judgments on religions are based more on their impact than their worldview. "All genuine religions" teach against the idolatry of the market and therefore have roughly equivalent worldviews for Loy. The question becomes, can they act on their teachings? Can they present a genuine alternative that encourages the Market's adherents to abandon their false faith? A religion that fails to pass Loy's test is worse than wrong. It is irrelevant. And irrelevant religions will fade away.

Thus, Loy's understanding of religion includes a more structural and collective view of the phenomenon than White's. Loy does not want to see the end of markets altogether; rather, he aspires to restore "market forces to their proper delimited place within community social relations." This can happen when human beings' "spiritual urge" is met by the teachings and practices of healthy religions rather than the machinations of the Market (Loy 1997, p. 279 n.2, p. 289).

What if, in the nearly 30 years since Loy's essay, the field of religious studies had taken his arguments as seriously as we have White's?[7] Unlike White, who essentially taught Christian thinkers that "we have met the enemy, and he is us," Loy has an external enemy (the wrongful religion of the Market) and a call to action (oppose the enemy!). White's charge to "find a new religion, or rethink our old one," appears to have been easier than Loy's charge to "redirect this repressed spiritual urge [away from the Market and] back into its true path" (White 1967, p. 1206; Loy 1997, p. 289). What if we scholars had been deliberately challenging, refuting, and providing explicit alternatives to the religion of the Market for the past 30 years? Where would our field be? Where would our religions be? Both, if Loy is correct, would be more relevant to the world's real problems than they are now.

Our field, and particularly our classrooms, should attend much more to Loy's perspective than to White's. While both diagnose environmental problems as religious, and both offer a place for scholars and practitioners of religion in the response, Loy's analysis is much more actionable, more productive, and more prescient than White's.

Loy's essay offers not only a call to action for scholars and teachers of religion but also a clear way to articulate the relevance of our work: We are specially equipped to understand the Market's role in contemporary society and to consider key possibilities for opposition. Scholarship and teaching in religion and the environment should follow Loy's guidance and become explicitly, resolutely anticapitalist.

3. The Limits and Dangers of Capitalocentrism

We can understand and build upon Loy's argument better when we place it in the context of a broader field of anticapitalist scholarship. This includes not only work that explicitly advocates for socialism or communism but also arguments that markets, profit, and property should not be as dominant in contemporary industrial life as they are. The core assumption of anticapitalism is that the Market, though powerful, is not all-powerful. Though pervasive, it is not all-pervasive; though dominant, it is not inevitable. People can choose to use markets to solve problems and coordinate activities, and they can choose not to do so.

Loy's essay fits into this category because he emphasizes that the dominance of capitalist thinking in all economic reasoning is a relatively recent historical phenomenon. Popular discourse in the Western world often assumes that capitalism is the only viable economic structure and that arguments against market-based solutions are inherently naïve or simplistic. Loy instead begins from the anticapitalist assumption that contemporary economic realities developed out of human choices, and so different choices can and should lead to different structures in the future.

However, while Loy makes it clear that the Market is not inevitably dominant, his essay repeatedly insists that global capitalism is currently hegemonic. The "first truly world religion" has, he suggests, largely succeeded in extending itself to every corner of

life on every corner of the globe. Its powers of conversion are "extraordinarily effective and persuasive" (Loy 1997, pp. 275, 278).

An important corrective, the anticapitalist research of J. K. Gibson-Graham (1996) focuses on exploring the limits of capitalism's dominance[8]. Their 1996 book *The End of Capitalism (as We KnewIit)* argues from the perspective of economic geography that the Market does not occupy as much "space" as it seems or claims to. They offer an extensive argument against the "widespread understanding. that capitalism is the hegemonic, even the only, present form of economy and it will continue to be so in the proximate future" (p. 2). Capitalism is powerful, they admit, but it is not nearly as dominant as it claims to be.

Ten years later, Gibson-Graham expanded this critique in *A Postcapitalist Politics.* Here, they introduce and critique the concept of "capitalocentrism," which they define as

> dominant economic discourse that distributes positive value to those activities associated with capitalist economic activity however defined, and assigns lesser value to all other processes of producing and distributing goods and services by identifying them *in relation* to capitalism as the same as, the opposite of, a complement to, or contained within. (Gibson-Graham 2006, p. 54, italics in original)

In other words, capitalocentrism is the mistaken belief that the Market is the most important system in the world. It suggests that anything that can be quantified in capitalist terms is inherently more important than anything that cannot.

Gibson-Graham names capitalocentrism in order to insist that it is as mistaken as most other "-isms." They argue that people live and work outside the boundaries, dictates, and standards of markets and the Market in many ways, valuing and prioritizing many activities and relationships that make no sense from capitalist standards. Therefore, rather than developing a grand alternative to capitalism like Marxism, they focus on daily choices that exist outside of the Market. They refer to this as uncovering the "diverse economies" concealed and silenced by capitalism's claimed hegemony.

These diverse economies comprise many kinds of human interaction: much of government, many bartering exchanges, most household management, all gleaning and hunting and fishing that takes place on public or unmonitored property, volunteer work, the governance and accountability of non-profit organizations, and many other institutions and relationships. Gibson-Graham insists that these diverse economic expressions add up to a significant part of human life, even in industrialized societies that are generally understood to be dominated by the Market. Capitalism cannot explain the ways most people relate to their children, their charity, their friends, their pets, and their gardens.

Of course, Gibson-Graham is concerned about the dominance of the Market in contemporary life; opposing this is an animating motivation for their work. But they suggest that one important strategy of such resistance is naming capitalocentrism as a mistake. Diverse economies reveal that many aspects of life have not been colonized, or not fully colonized, by global capitalism. By their account, "'marginal' economic practices and forms of enterprise are actually more prevalent, and account for more hours worked and/or more value produced, than the capitalist sector" (Gibson-Graham 2008, pp. 616–17). These diverse economies demonstrate that any story of capitalism's unquestioned dominance is much more tenuous than those who tell it might admit.

Gibson-Graham does not spend much time on the fact that religious institutions are a key site of diverse economies[9]. Nor do they explore the potential of religious traditions to contribute moral arguments and traditions that pre-date the Market as we know it today. Here, they could benefit from Loy's argument and its insistence that faith traditions offer alternatives to the Market. Indigenous rejections of land ownership (Deloria 1999), Buddhist critiques of consumerism (Kaza 2005), and readings of the Hebrew Bible that insist on the personhood of land (Joerstad 2021) all suggest that religious traditions build diverse and resistant economies. Those looking to oppose the hegemony of capitalocentrism have much to learn from religion.

However, Gibson-Graham also offers a helpful corrective to Loy's essay, which seems at points to imply that religion is the only alternative to capitalism. For instance, his essay decries the "prostitution of universities and the media" and seems to express no hope for their redemption outside of religion (Loy 1997, p. 277). In part, the challenge is definitional: by categorizing Market economics as a "salvation religion," Loy suggests that only another religion could replace or compete with it. Gibson-Graham suggests that this perspective is too singular and too capitalocentric; Loy misses the diversity of economic expressions. Capitalism is simply not as big and powerful as it presents itself to be; it is not even as big and powerful as Loy's essay assumes.

Gibson-Graham's cataloging of diverse economies offers a vital resource for classrooms and research in religion and environment. In addition to the philosophical and religious work Loy calls for, the study and teaching of religion should also include attention to the many other aspects of life that exist outside of the Market. We should help students to understand not only the ways religious traditions and ideas inform diverse economies but also the ways existing religious communities and religious people support organizations and lifestyles outside of the supposedly hegemonic systems of capitalism. As we teach and write about religion, we should note the ways many religious and spiritual communities relate to land as something other than property; the ways religious schools, camps, and soup kitchens work to correct the excesses and injustices of the Market; the ways many (though of course not all) religious leaders reject profit as a standard of success[10].

4. Anticapitalist Strategies in Religion and Environment

Another useful conversation partner in the field of anticapitalism is the sociologist Erik Olin Wright. Wright offers careful, rigorous accounts of capitalism's flaws, including a detailed account of the ways it contributes to environmental problems (Wright 2010).

Most useful for our purposes is Wright's final work, a short and accessible text entitled *How to Be an Anti-capitalist in the 21st Century*. This book includes a helpful typology of "strategic logics" within anticapitalism, different approaches to resisting the dominance of the Market. While he was focused primarily on anticapitalism as a political and social movement, we believe four aspects of Wright's typology are useful in categorizing the conceptual work being done by scholars of religion. Using this typology, we can see that a great deal of writing in religion and ecology is already anticapitalist and could better be named as such[11]. Therefore, this section will briefly review Wright's strategies and name a scholar within our field who we see demonstrating each one. Because we, as authors, focus our research on Christian ethics, we will be citing thinkers from the Christian tradition; however, we are confident that this typology could also be applied to others.

4.1. Strategy #1: Smashing Capitalism

First is what Wright calls the "classic strategic logic of revolutionaries," which asserts: "At its core, capitalism is unreformable. The only hope is to destroy it, sweep away the rubble and then build an alternative" (Wright 2019, p. 39). Wright admits that most efforts at large-scale revolution against capitalism have failed to lead to social emancipation; however, Wright argues that it is still important to recognize the power of "an emancipatory alternative to capitalism, organized around qualitatively different principles" (p. 42).

We see an example of this approach in a thinker who has inspired a great deal of work on religion and the environment: Wendell Berry. Berry seeks to separate himself from the excesses of capitalism by farming on a small scale near the land where he grew up. But he does not seek to merely escape the dominant world; he also prophetically criticizes the Market, "an economy firmly founded on the seven deadly sins and the breaking of all ten of the Ten Commandments." Capitalism, so described, needs to be smashed. Therefore, Berry argues that Christians are called to imagine and enact a "Christian economy" that organizes life and work on entirely different principles (Berry 1992, p. 100).

4.2. Strategy #2: Dismantling Capitalism

Wright's second strategy seeks a more "gradual dismantling of capitalism and the building up of an alternative" (Wright 2019, p. 43). This approach views the overthrow of the Market as a process rather than an event, accepting that people must live within capitalist structures as they currently exist, even as they try to develop an alternative.

We suspect that David Loy's work fits best into this model; he would agree with Wendell Berry that global capitalism, as currently practiced, is terribly destructive but seems less resolute about rejecting it immediately and completely. Similarly, Christian theologian Sallie McFague describes capitalism as the product of a "corporation or machine model" of the economy that "is injurious to nature and to poor people." But she approaches the alternative differently than Berry, asking, "Is there a 'Christian' economics? No, I don't think so." Instead, she argues that Christians are called to partner with ecological economists and many others in a deliberative process of more gradually resisting and replacing the values of the Market (McFague 2008, pp. 86, 37). In this strategy, it is vitally important to develop alternatives to capitalism, but those alternatives are understood to require slow, deliberate consideration.

4.3. Strategy #3: Taming Capitalism

The third strategic logic does not seek to overthrow capitalism but to temper its worst impacts. "It is possible," Wright notes, "to see capitalism as a source of harms without attempting to replace it. Instead, the goal is to neutralize those harms" (Wright 2019, p. 44). This approach seeks to balance capitalism with "counteracting institutions" that make up for its weaknesses. Wright suggests that before the prominence of neoliberalism that began in the 1980s, this was the mainstream view among Western economists and politicians, who assumed that markets needed to be tempered by political structures and other institutions.

Taming capitalism appears to be the strategy of Christian economist Alasdair Young. His book *Environment, Economy, and Christian Ethics* argues that economics and the capitalist systems it studies have much more to offer than most Christian theologians admit. Capitalism, Young argues, creates efficiencies and coordinates large-scale projects exceptionally well, and this will be essential for any pragmatic solutions to environmental problems. He admits that "the solution to environmental problems cannot be left to free enterprise" but insists that "Christians should still be prepared to support policies that make use of market forces, where appropriate, rather than rejecting them on principle" (Young 2015, p. 244). The Market should not be overthrown but tamed.

4.4. Strategy #4: Escaping Capitalism

The final strategy we consider foregoes any attempts to manage things at the scale of global capitalism and assumes that "the best we can do is to try to insulate ourselves from the damaging effects of capitalism, and perhaps escape altogether its ravages in some sheltered environment" (LeVasseur and Peterson 2018, p. 51). Wright's primary examples are intentional communities of worker collectives, hippies, and the Amish. They share in common a move away from Market structures on a small scale, an escape from capitalism.

We see this strategy in Laura Yordy's *Green Witness*. While Yordy does not devote much time to critiquing the Market, she includes economic standards of efficiency and economic globalization in her account of "management" ideas that degrade and destroy creation. Such thinking cannot solve environmental problems, she argues, and are distractions from the true calling of the church. Christians are to turn away, adhering to no worldly standards but instead attempting to live out the eschatological vision of their faith. Christians are called to "testify, through character, worship, and action, to the Kingdom of God as inaugurated, preached, demonstrated, and promised by Jesus Christ." The "redemption of creation" comes from God, and the job of Christians is to adhere to God's Kingdom rather than the Market (Yordy 2008, pp. 85, 42). This is an escape from capitalism, a refusal to live by the Market's standards while trusting that only God can truly change the system as a whole.

Many other thinkers could be included in these categories, and much more nuance could be developed in distinguishing between them. For our purposes, though, it is enough to argue that this vocabulary will be helpful as we continue debating between different approaches. It is easier to engage with the nuances of anticapitalism when we can distinguish between attempts to smash, dismantle, tame, and escape the Market. The four thinkers named here—and, we would suggest, the vast majority of writing in our field that deals with economic issues at all—are already demonstrating anticapitalist strategies. To name this more completely will help us to engage in a genuine discussion of that fact and to do the work for which Loy called developing religious arguments against the Market.

5. From Anticapitalism to Anticolonialism

One of the most important strengths of Loy's essay, we believe, is its insistence that religious traditions and the study of religion have political and economic implications. When our work is presented as primarily a response to Lynn White Jr., we have the option of focusing on theological, philosophical, and personal questions that can seem distant from practical economic and political concerns. David Loy is a necessary correction, making it clear that any relevant twenty-first-century account of religion in the industrialized world must explicitly deal with the structural influences and implications of religious communities.

But it is important that this move toward anticapitalism not be taken to mean that the Market is the only quasi-religious force in the world that calls for a response. While Loy's essay focuses on the power of the Market and economics as its "theology," his method of analysis opens the door to other kinds of analysis, as well.

For example, we think Loy's perspective could contribute to anticolonial teaching and research. Here, we can build on the connections helpfully made by the novelist and essayist Amitav Ghosh, who argues that contemporary environmental degradation is as rooted in colonial assumptions as it is in capitalism. For Ghosh, capitalism should not be understood as "the principal fault line on the landscape of climate change" but rather one of "two interconnected but equally important rifts, each of which follows a trajectory of its own: these are capitalism and empire" (Malm 2016, p. 146).

Ghosh also offers a thoughtful reflection on the often-cited statement that "It is easier to imagine the end of the world than the end of capitalism," which he attributes to literary critic Frederic Jameson. Ghosh notes that, although this phrase has

> attained the status of received wisdom, it takes only a moment's reflection to realize that it is patently untrue. The majority of the world's population did not live in capitalist societies for much of the twentieth century. Even in the West the normal functioning of capitalism was suspended for years, during the two world wars. What has never been suspended, since the sixteenth century, are the dynamics of global empire. (Ghosh 2021, p. 120)

While assuming that capitalism and empire are interconnected and related, Ghosh emphasizes that the former is easier to oppose than the latter. People living today have easy access to visions of life outside of capitalism. It is much harder, he suggests, to imagine a life outside of colonial power structures. Nations that once explicitly colonized others' lands still maintain global political and economic influence, and that influence tends to contribute to climate change. Indigenous peoples around the world remain subject to external political forces, often in ways that benefit extractive industries. In the terms introduced above, we think it is fair to suggest that Empire, like the Market, is a false, disastrously successful religion that contributes to environmental degradation.

Ghosh also offers the provocative suggestion that capitalism becomes the monolithic symbol of our problems—as in Loy's essay—precisely because of what Gibson-Graham names capitalocentrism. In contemporary discourse, colonial thinking is concealed behind subtleties and euphemisms; however, capitalism boldly declares itself to be the hegemonic force of global order. This means that non-economic structures of domination "are harder to identify because they are not easily enumerable or quantifiable" (Ghosh 2021, p. 101).

Anything that cannot be easily measured and observed on the Market's terms is inevitably treated as less important, including the forces of colonization.

If done well, an anticapitalist approach to religion and the environment will include not just an analysis of the religious dimensions and religious responses of the Market but also of the Empire. And this analysis will, we suspect, also open further avenues of critique against whiteness, maleness, heteronormativity, ability, and many other structures of power and oppression.

In *Racism as Zoological Witchcraft*, Aph Ko articulates a much-needed corrective to the discourse of intersectionality. The issue of intersecting oppressions, she explains, is not as two-dimensional as the "intersection" metaphor implies. Rather, Ko asserts, the problem is a three-dimensional object, like a cube with several faces. From one side, it looks like racism; from another side, it looks like sexism. Another face reveals it to be speciesism, colonialism, or capitalism, or. . . et cetera. Tackling any one of these issues alone cannot be successful. For Ko, the meta-problem at the center is the logic of domination, the dualisms that create oppressive hierarchies. Colonialism thrives on the creation of, and exploitation of, an "other"; so do racism, sexism, and environmental degradation (Ko 2019). Global capitalism depends on the same logic to objectify humans and nature for the sake of profit.

Dualisms are erased and hierarchies are dismantled through creative and loving action. While many religions have participated in destructive hierarchies, our reading of Loy suggests that all "genuine" religions also contain tools to dismantle dualistic thinking. From "the last shall be first" to "all are one," religious teachings support practices of solidarity and love across differences. At their best, religions enact alternatives to capitalism and all other forms of domination by bridging differences, whether by helping those in need or making peace between a people and their place—religions, rightly practiced, re-weave rifts in the name of holy healing[12].

When Amitav Ghosh worries that too much focus on economics alone obscures the role of the Empire, he reveals the limitation of any exclusive focus in constructive work. To narrow one's attention only to colonialism, racism, sexism, or anything else would similarly limit possibilities.

Learning from Ghosh and Ko and many other interlocutors, a genuinely anticapitalist approach to religion and the environment will not teach or write as though the Market is the only problem, just as it will refuse to accept any suggestion that capitalism is the only way to structure human economies. Anticapitalist teaching and research will need to also be anticolonial. It will also, we hope, be antiracist, antipatriarchal, antiheteronormative, and anti-ableist.

6. Conclusions

> The famous Greta Thunberg speech cited above ends with a haunting prophecy:
>
> The eyes of all future generations are upon you. And if you choose to fail us, I say: We will never forgive you. (Thunberg 2019, p. 99)

In a similar vein, Dawn King's play, *The Trials*, portrays teenagers of the somewhat-near future judging those of us who are adults right now, deciding whether we did enough to fight climate change. The punishment for those found wanting is death.

> AMELIA. But. . .what about. . .forgiveness? And. . .being kind?
>
> GABI. It's too late for that! If they're over the economic threshold, and they went over the carbon limit. . . to me there are no excuses! They used too much, they're all guilty! (King 2022, p. 48)

White's play and Thunberg's speech are harrowing and sobering. They remind audiences that our actions have environmental consequences not only for abstract "future generations" but for young people alive today. They remind us that these young people are watching what we do and have the right to judge whether we are doing enough. As we, the authors of this essay, inexorably age, we see more of our students in Thunberg and King's characters. They are an embodiment of the future to whom we must answer.

The stakes are very high. The task—somehow smashing, dismantling, taming, or escaping the Market and the other forces that are degrading life on Earth—is daunting. But it is not optional.

The authors of this essay would both categorize the goal of our own written work as contributing to the "dismantling" of the Market; however, our project in this essay has not been to advocate for that strategy. Instead, we call on scholars in our field to be anticapitalists in some explicit way. More importantly, when we teach this subject, we can help students to recognize the anticapitalist arguments being made in our field and in religious communities. We can inspire students to become active participants in diverse economies that build and strengthen alternatives to the Market.

As Loy argues, scholars of religion and religious practitioners have a particular role in the work of anticapitalism. The Market has distinctly religious dimensions, and religions are well equipped to develop alternatives to it. We who teach religion have a responsibility to our students and to the future to learn and teach others to recognize and imagine alternatives. We have a responsibility to be anticapitalists.

Behind every no, there is a yes. Behind all the *anti-* prefixes—anticapitalism, antiracism, anticolonialism, and so on—there is a *pro-*. The social ailments of racism, colonialism, capitalism, and every other oppressive system stem from unholy rifts in our thinking and behavior. Scholars and practitioners of religion are well situated to facilitate holy healing and to build bridges across differences. This should animate our teaching and our writing. We can learn and teach others to think beyond market capitalism, to recognize when objectification undermines human well-being and the land's wholeness, and to build bridges that lead to a better future.

Thunberg and King's teenagers may never forgive us. That is up to them. We have the power, though, to try to be worthy of forgiveness. We, along with our colleagues and students, can plant seeds of discernment, creativity, and healing that work against the Market. We can cultivate, through our actions and our work, healthier relationships among humans and with the Earth. Twenty-five years after Loy's essay—it is time!

Author Contributions: Both authors participated in all stages of researching, developing, writing, and editing this paper. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Notes

1 A few examples suffice to establish the trend: (McKibben 2012; Hayes 2014; Klein 2014; Malm 2016; Aronoff 2021; Huber 2022).

2 There, are, of course, many critiques of global capitalism in our field, many cited throughout this essay. Our argument is not that this will be an entirely new project for our field, but that a more explicit and common language for it will allow for better discussion.

3 On this see especially (Daly and Cobb 1994; Moe-Lobeda 2013; Oreskes and Conway 2023).

4 In Patricia Killen's term, we aim for "midrange reflection" on teaching, which "lifts out" from particularities to "the issues, themes, questions, approaches, procedures, and so forth, that have the potential, thus identified, to be of general relevance in other situations of teaching and learning" (Killen 2007, p. 144).

5 For retrospective critique and analysis of White and his thesis, see especially (Jenkins 2009; LeVasseur and Peterson 2018).

6 Communism, interestingly, is named as a "capitalist 'heresy'" (p. 275).

7 For a helpful account of the ways this idea was discussed in the first ten years after Loy's essay, see (Foltz 2007). We appreciate Foltz's argument that religion scholars need to develop "a coherent framework for analyzing the faith-based perspectives of global economics and consumer capitalism" (p. 136), regret that this project remains unfinished, and offer the present essay in hopes of moving toward it.

[8] J. K. Gibson-Graham is a pen name shared by Julie Graham and Katherine Gibson, who playfully write in a single voice and shift between plural and singular first-person pronouns. As co-authors who have maintained distinct scholarly identities, we are impressed by and deeply respect their approach, and our reference to them as a non-gendered, singular scholar throughout is meant as a sign of that respect.

[9] Churches and temples are referenced in their coauthored book *Take Back the Economy* (Gibson-Graham et al. 2013), but not in detail or at length.

[10] This is not to say that religions are inherently anticapitalist, and of course a comprehensive account of religion will include the ways many religious people, leaders, and communities participate in and support the Market. But, inspired by Gibson-Graham, we believe it is at least as important to demonstrate that there are alternatives to the Market as to dwell on the ways it influences people and institutions. Furthermore, we follow Loy in believing that the moral teachings at the core of existing religious traditions are older and more charitable than the logic of the Market.

[11] Wright's typology includes six strategies. We will not address two: "resisting capitalism" is distinguished from "taming capitalism" largely by its relationship to state power, which is not strictly relevant to our discussion. "Eroding capitalism," which is Wright's preferred model, is a hybrid of all five other options, and so beyond the scope of our consideration here.

[12] It is worth noting that Ghosh sees religion as an important partner in resisting Empire and global warming, reporting that the "most promising development" in this work is "the increasing involvement of religious groups and leaders in the politics of climate change" (Malm 2016, p. 148).

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Article

Dialogue between Confucianism and Holmes Rolston, III—Its Significance for Theology in the Planetary Climate Crisis

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Abstract: Holmes Rolston, III examined the significance of Asian thought for Western evaluations of nature and questioned if Asian Romanticism can inform the realistic decision making required for practice. However, Rolston's general evaluation of Asian thought ignored Confucianism. This study launches a dialogue between Rolston and contemporary Confucianism on environmental philosophy and highlights the following points in response to Rolston: First, Confucianism is grounded on an "anthropocosmic" worldview and bases its environmental ethics on its affirmation of the "virtue of life and growth" and the related vision of "unity of heaven and human beings"; it is thus an objective environmental virtue ethics with the characteristics of sacred humanism that avoids anthropocentrism. Second, Confucian ethics is built on the premise of "one principle with various manifestations" and advocates for practicing benevolence through "love with gradations", which avoids an excessively idealistic ecocentrism. Furthermore, Confucianism may adopt Rolston's recommendation for Asian thought concerning the incorporation of evolutionary biology into Asian traditions to facilitate their own transformation and thus contribute to environmental philosophy. Upon an exploration of the compatibility and possible reciprocal illumination between Confucianism and Rolston, this paper points out the implications of the above dialogue for theology in the planetary climate crisis.

Keywords: Confucianism; Holmes Rolston, III; environmental philosophy; theology; planetary climate crisis

1. Introduction

The planetary climate crisis is becoming increasingly severe, posing a threat to human civilization (Steffen et al. 2018; Hansen et al. 2013). In the face of these challenges, human societies not only confront adversity but also bear profound responsibility. One of these responsibilities is to transform the values within cultures that are detrimental to the natural world. As religion serves as a significant source of values, the assistance of religious studies is required for the reformation of these values (LeVasseur 2021). Additionally, every religion bears the responsibility to respond and adjust to the climate crisis. As one of the representatives of Asian civilization, what kind of response can Confucianism offer?[1]

Holmes Rolston, III, widely recognized as the father of environmental ethics, has made remarkable contributions in the realm of environmental philosophy (Palmer and Cooper 2001, p. 291). He does not limit his exploration to the Western tradition and includes Asian philosophies like Daoism, Hinduism, and Buddhism to evaluate their role in shaping the Western evaluation of nature (Rolston 1987). It is interesting to note that, while Rolston investigated multiple Asian philosophies, he missed out Confucianism.[2] Often, Western academia categorizes Confucianism as "anthropocentric."[3] However, recent developments in comparative environmental philosophy and the field of religion and ecology have seen scholars delve deeper into Confucianism's ecological aspects, gradually giving rise to Confucian environmental philosophy.[4] Mary Evelyn Tucker and Tu Weiming

have shed light on the Confucian worldview, arguing that it is not anthropocentric but "anthropocosmic" (Tucker 2009, p. 163; Tu 2001, p. 245).

In the background of Rolston's inquiries into Asian philosophy (which we discuss in detail later) and the reconstruction of Confucian environmental philosophy, the questions posed from the standpoint of Confucianism are as follows: Is it possible for the often-overlooked Confucian environmental philosophy to provide a response to Rolston, and, if so, in what manner? If we were to adopt Rolston's approach to investigate Asian philosophy, how would we engage with Confucianism?

This research project aims to facilitate a reciprocal transformation between Confucianism and Rolston's environmental philosophy. Given the significant influence of Protestant Christianity, particularly Evangelicalism, in China and the United States, two prominent global powers, it becomes imperative to address the planet's climate crisis by reforming the eco-theology associated with Evangelicalism. Evangelicalism places emphasis on individual salvation while neglecting the salvation of the natural world (Santmire 1985, pp. 1–2). Considering this, how would the transformed Confucianism and Rolston's environmental philosophy illuminate Christian ecological theology? What implications does this dialogue hold for ecological theology in the face of a planetary climate crisis?

To tackle these questions, this paper begins by outlining Rolston's comparative research approach concerning environmental philosophy. Following this, it facilitates a conversation between Confucianism and Rolston, leveraging the contemporary discourse on Confucian environmental philosophy. Lastly, this paper highlights the implications of this dialogue for ecological theology in the planetary climate crisis.

2. Rolston's Approach

Rolston's piece "Can the East Help the West to Value Nature?" serves as the concluding article on environmental ethics in a 1987 special issue of the journal, Philosophy East and West. Prior to his work, five separate articles penned by various academics had been presented, concentrating on the potential of Asian philosophies to encourage Western reflection on environmental ethics, notably Daoism, Buddhism, and Hinduism (Ames 1987). These perspectives sparked Rolston's discussion on Asian thought. Unlike his colleagues, such as John Baird Callicott, who express strong optimism for the future of comparative environmental philosophy, Rolston's approach is marked by scrutiny and shaped by his scientific philosophy (Rolston 1987, pp. 172–90).

From an affirmative standpoint, Rolston maintains that Asian philosophy can aid Western thought in reevaluating and rectifying its philosophical premises regarding nature, thereby leading to more responsible environmental choices (Rolston 1987, p. 173). He urges that focus should be placed on the dominant ideas within each philosophical system, presuming that they hold positive implications for environmental ethics (Rolston 1987, p. 174). To avoid superficiality, he recommends delving into specific concepts for meaningful discourse. Following this rationale, Rolston explores the potential influences of Daoism's *yin*/*yang* complementarity, the concepts of *karma* and reincarnation in Hinduism and Buddhism, and Advaita Vedānta of Hinduism on the Western understanding of nature (Rolston 1987, pp. 175–89). He envisions that these Asian philosophies can assist the West in adopting a less anthropocentric framework and a heightened sensitivity toward nature (Rolston 1987, p. 174).

For instance, Rolston suggests that the *Advaita Vedānta* in Hinduism, the concept of emptiness in Buddhism, and Zen's perspective of "every particle of dust contains the universe and engenders all its powers" (Rolston 1987, p. 181) could greatly benefit the West's understanding of "individuals in ecosystems, diverse organisms integrated into a single biotic community, and plurality in unity" (Rolston 1987, p. 181). He views the *Avatamsaka Sutra*'s depiction of Indra's net as a metaphor that can help the West relinquish arrogance, acknowledge human beings as one among many, reject the assertion of dominion over nature, and thereby return to harmony with nature.

Yet, Rolston also acknowledges the practical difficulties in applying these philosophies, such as Indra's net model, to real-world scenarios. He illustrates this point with

a case study involving a decision about whether to develop the Colorado River to cater to urban water needs, which would potentially lead to the extinction of a local species, the humpback chub. He argues that the application of Asian philosophies like Indra's net model, which equates humans and chubs, does not offer practical solutions to such predicaments (Rolston 1987, p. 185).[5] Rolston contends that such attempts may come from category errors, neglecting the poetic nature of Asian philosophies and the details of the real world. He insists that, without a suitable method to adapt Asian thought to Western reality, the former cannot assist the latter (Rolston 1987, p. 186).

In conclusion, Rolston points out that the West anticipates responses from the East that can elucidate the complexities of evolutionary ecology, enhance the appraisal of nature, and guide practical environmental ethics, without requiring a conversion to Asian thought (Rolston 1987, p. 189). He also expresses hope for a unified East–West environmental ethics (Rolston 1989, p. 30). This sets the stage for the following question: Can Confucianism provide an answer to Rolston's viewpoints and aid the West in refining its understanding of nature and decision making? The subsequent section initiates a dialogue between Confucianism and Rolston to explore this question.

3. Confucianism and Rolston

In accordance with Rolston's standards for selecting Asian philosophies for comparative research with Western thought, the concepts chosen should be central to their respective systems and have a positive influence on ecological ethics. When evaluating contemporary Confucian environmental philosophy against this measure, and bearing in mind Rolston's emphasis on ethical practice, this paper engages with the specific Confucian concepts of "the virtue of life and growth" (生生之德 *Shengsheng zhide*) and "the unity of Heaven and human beings"(天人合一 *Tianren heyi*), "one principle with divergent manifestations" (理一分殊 *Liyi fenshu*), and "love with gradations" (愛有差等 *Aiyou chadeng*) in the ensuing dialogue with Rolston. The rationale for selecting these concepts is separately elucidated in the subsequent discussion.

3.1. The Objectivity of Confucian Environmental Virtue Ethics

Confucianism, characterized by its synthesis of multiplicity and unity, contains a variety of schools of thought. Nevertheless, "The virtue of life and growth" can be deemed the foundational spirit of Confucianism. Some scholars even consider the concept of "life" to be a central theme from the pre-Qin era to the Song and Ming dynasties and onward to the major philosophers of the Ming and Qing dynasties.[6] Unlike Western mainstream thought, which posits an alienation or even hostility between humanity and nature, or views nature as a meaningless backdrop or a mere resource provider, pre-industrial Confucianism was untouched by Western dualism. Confucians endeavored to understand nature through virtue, emotion, and intellect, based on human experiences and reflections within nature, thus formulating a cosmic view of the "virtue of life and growth".[7]

As noted in the Introduction, the Confucian worldview encapsulates the "anthropocosmic" worldview. Tu asserts that this worldview precisely embodies the Confucian advocacy of "The unity of Heaven and human beings" (Tu 2001, pp. 243–44). Confucianism perceives the universe, in its spontaneous organic process, as embodying three themes: "continuity, wholeness, and dynamism" (Tu 2001, p. 108). "The virtue of life and growth", as the driving principle and energy, promotes the universe's change, succession, and growth. As stated in the *I Ching* (易經 *Yijing*), "The transformation of *yin* and *yang*, and the continuous life and growth are called changes".[8] Inspired by the *I Ching*, Zhou Dunyi (周敦頤) elaborated his cosmology, constructing a theory of how everything is created and operated. What he wanted to present in *Taiji Diagram* (太極圖說 *Taiji tushuo*) was to explain the operations of "*Taiji*", "*yin and yang*". In this way, he illustrated the theory of how all things were formed (Zhou 1992, pp. 4–13).

Confucianism not only theorizes about "The virtue of life and growth" but also actualizes it in practice. As recorded in the *Survey of Song and Yuan Confucianists* (宋元學案

Song-Yuan xuean), Zhou Dunyi refrained from removing the grass growing before his window. When queried about this, he responded: "It's in accordance with my own ideas". Seeing the others' lack of comprehension, he elaborated: "Observe the phenomena of life and growth in heaven and earth" (Z. Huang 1992, pp. 66–78). From the ontology of Heaven and Earth giving birth to all things, Zhou Dunyi led to the practice of not removing the grass in front of the window, thus linking the Confucian concept of "The virtue of life and growth" with practice. This embodies Zhou Dunyi's interpretation of "The unity of Heaven and human beings": human actions should comply with the way of Heaven.

As indicated by the Cheng brothers (二程 *Er Cheng*), Heaven has the "virtue of life and growth", and humans, in inheriting this virtue, express "benevolence" (仁 *ren*), thus providing cosmological backing for Confucian "benevolence" (He 2000, p. 36). Those who achieve the finest qualities can integrate their life with the universe. Qian Mu 錢穆 posits that Chinese culture has consistently conformed to nature and can "integrate with nature's way" (Qian 1991, p. 94). As inheritors of the "virtue of life and growth", people need to demonstrate "benevolence" in their relations, thereby propagating the "virtue of Heaven". Apart from interpersonal relations, as exemplified by Zhou Dunyi, the relationship between humans and nature is another domain where "benevolence" is manifested. Confucians express this approach as "being affectionate towards parents (family), cherishing people, and caring about things." (親親仁民愛物 Qinqin renmin aiwu), gradually forming a sequential environmental virtue ethics.[9]

Rolston, in his response to environmental virtue ethics, acknowledges its validity as humans need to align with nature's rhythm and acquire corresponding virtues (Rolston 2005, p. 61). However, he contends that the notion of nature shaping virtues is a half-truth, and, if taken as a whole, it will be absurd (Rolston 2005, p. 62). Rolston argues that, while the pursuit of human excellence is a key motivation for environmental virtue ethics, it only forms part of the broader environmental ethics framework. If this partial truth is seen as the whole, the focus on the self-improvement of virtues becomes primary (Rolston 2005, p. 77). Rolston believes that environmental virtue ethics is overly focused on humans, whereas we should also pay attention to "values without us." (Rolston 2005, p. 69). His criticism of environmental virtue ethics primarily lies in its anthropocentric tendency—that is, shifting the focus of environmental ethics from the intrinsic value of external nature to human virtues. However, Confucian environmental virtue ethics, not affected by the dichotomy of subject–object thinking, avoids the trap of anthropocentrism that Rolston warns against.[10]

Firstly, the "virtue of life and growth", the source of environmental virtue, objectively exists in Heaven and is not influenced by human culture or social constructs. As Confucius said, "Does Heaven speak? The four seasons pursue their courses, and all things are continually being created, but does Heaven say anything?" (Yang and Yang 2000, p. 171). Confucius made this statement in response to his disciples' question about how to record his thoughts without his words. Confucius wanted to remain silent, not to make arguments with words, and to use the analogy of Heaven. Confucius believed that life and growth exhibit objectivity that is not influenced by human culture.

The birth of all things, as understood by Confucians, does not require human creation but is perceived through interaction with nature. Heaven does not need words to express its virtues, nor does it rely on human concepts to construct its value. Instead, it presents its inherent virtue of life and growth through objective facts. Xunzi 荀子 also said, "Heaven has its constant ways, it does not exist for Yao 堯, nor does it perish for Jie 桀." (Xunzi 2001, p. 96). Confucianism extracts the objectivity of Heaven from empirical facts, grounding Confucian environmental virtues in the objective source of the "virtue of life and growth." Such an emphasis on the external "life-giving" virtue aligns with Rolston's view: "But we fully flourish not with the excellence of an 'own self' but in celebrating the display of excellences in the surrounding world, both there with us and there without us. Humans are the only species capable of enjoying the promise of culture; humans are also the only species capable of enjoying the splendid panorama of life that vitalizes this planet.

Humans can and ought to inherit the Earth; we become rich with this inheritance, as and only as we oversee a richness of planetary biodiversity that embraces and transcends us" (Rolston 2005, p. 77).

Secondly, "benevolence", a manifestation of "heaven-man unity", is inherent in human nature through Heaven, and its concern lies in human nature as defined by the Heavenly Mandate, not in virtues constructed by humans. The source of both "virtue" and "benevolence" is nature, which gives birth to all things. These two virtues share the same origin and resonate with each other. However, due to the existential state of different roles between Heaven and human beings, humans also need to "improve their virtues." (正德 *Zhengde*) Through the practice of "sincerity"(誠 *Cheng*) and "understanding"(明 *Ming*), humans fulfil their potential and "participate in the nurturing of nature"(參贊化育 *Canzan huayu*) (Lin 2013, p. 342). Therefore, the virtues of Confucian environmental ethics originate from the virtue of the Heavenly Mandate and require human efforts to cultivate them, resulting in a divine and human ethics.

Lastly, the framework of Confucian environmental virtue ethics is not "how nature benefits our virtues" (Rolston 2005, p. 76); instead, the environmental ethics is derived from a framework of human–universe unity. Even though Confucianism advocates aesthetic experiences in nature, this experience is based on the harmonious coexistence of humans and the universe, not solely on human subjective feelings. This point aligns with Rolston's argument that it is incorrect to start environmental ethics with aesthetics (Rolston 2002, pp. 127–40). Confucianism, from the cosmogony of the "virtue of life and growth" to the environmental virtue ethics of "heaven-man unity", precisely emphasizes the "objectivity of the divine Subject" (Torrance 1969, p. 5). Tu suggests that, for humans to achieve "heaven-man unity", they must harmonize with the heavenly way in terms of sensation and thought, thereby completing the inner transformation and "interflowing with the spirit of Heaven and Earth" (Tu 1998, p. 118).

This approach suggests that Confucianism is a "holistic humanism", not a "secular humanism." (Tu 2001, pp. 247–49). Consequently, Confucian environmental virtue ethics, based on the "anthropocosmic" worldview, from the "virtue of life and growth" to "heaven-man unity", presents an objectified moral view with elements of sacred humanism. This view can avoid an anthropocentric stance, focusing instead on the intrinsic virtues of nature and the universe, rather than purely on human virtues.

Rolston's discussion about the cosmogenic process suggests that he would not oppose the Confucian approach to environmental ethics. Rolston believes that the essence of "nature" unfolds as a kind of "generative creativity" (Rolston 1999, p. xiv). This understanding of nature's creativity is very similar to the Confucian "virtue of life and growth". From a natural science perspective, Rolston would point out that the creation and transmission of values in the natural world and human culture are not separate but closely connected. From the universe's fine-tuning suitable for the generation of life to the sharing, distribution, and regeneration of values by genes, and to reciprocal altruism, all originate from the source of good, not from the source of selfish genes (Rolston 1999, p. 85).

The Confucian view from the "virtue of life and growth" to the "heaven-man unity" environmental ethics also echoes Rolston's approach to deriving ethics based on cosmology. By recognizing the generative creativity in nature and its connection to human culture and values, Confucianism offers a unique perspective on environmental ethics that can be reconciled with Rolston's views. This perspective recognizes the inherent value in nature and the universe, and the importance of human interaction with and respect for these natural systems.

Overall, the Confucian approach to environmental ethics offers a nuanced and philosophically rich framework for understanding our relationship with the environment. It balances the importance of human virtue and excellence with a recognition of the inherent value and "life-giving" virtue of nature and the universe. By doing so, it avoids the pitfalls of anthropocentrism and presents a more holistic and integrative approach to environmental ethics.

3.2. The Practicality of Confucian Environmental Ethics

In the Confucian tradition, the "virtue of life and growth" practices under the guidance of "one principle with various manifestations". This principle, a defining attribute of Neo-Confucian, is not a fringe idea but rather the mainstream in Confucian philosophy (Jing 2019, pp. 125–38). It was introduced by Cheng Yi 程頤 as a response to Yang Shi's 楊時 skepticism about Zhang Zai's 張載 *Western Inscription* (西銘 *Xi ming*), which seemed to align more with Mo-tse's (墨子 *Mo Zi*) notions of universal love.

Cheng Yi replied:

> "*Western Inscription* advances the truth of Confucian tradition and at the same time has righteousness. It expands on what the past sages had not developed and is on par with Mencius' theory of the original goodness of human nature and the cultivation of *qi*. The Mohist theory does not reach the level of *Western Inscription*. Whereas *Western Inscription* states one principle with various manifestations, Mohist's theory has two unities with no differences. The disadvantage of differentiation is that selfishness wins, and benevolence is lost. The disadvantage of no distinction is that there is no righteousness in love. The way to realize benevolence is to establish distinction and emphasize unity to prevent selfishness. If someone emphasizes the absence of distinction and indulges in universal love to the extreme of fatherlessness, righteousness will be destroyed". (Cheng and Cheng 2008, p. 609)

Cheng Yi posited that *Western Inscription* found a balance between unity and duality, emphasizing benevolence within differentiation and righteousness within unity. Though this concept evolved into metaphysical discussions, it was fundamentally grounded in ethical practice. The concept of Unity in Duality enhances the comprehension of benevolent love in practice, and it is applied in specific, real-world circumstances.

As per Wang Yangming's 王陽明 discourse:

> "For example, one will use hands and feet to protect one's body, even though all of them are of the same body. This does not mean to despise the hands and feet. Similarly, one loves both animals and plants, but one may also tolerate feeding animals with plants. One loves both animals and human beings, but one will tolerate butchering animals for feeding parents, banqueting guests or religious sacrifices. One loves both parents and strangers, but if one has a minimal amount of food sufficient for only one person's survival, one will give it to one's parent rather than to a stranger . . . . . ". (Wang 2008, pp. 346–47)

It is clear that Confucian love is executed in a particular order, guided by reason. This reason relates to innate knowledge, expressing love with varying degrees of intensity based on the relationship. Hence, the concept of "one principle with various manifestations" embodies an environmental ethical practice of "love with gradations". Confucianism handles the practice of "the virtue of life and growth" in a hierarchical manner, rather than with an unrealistic approach. This perspective responds to Rolston's concerns about the over-idealization of Asian thought. Contrary to certain Asian philosophies, Confucianism seeks to engage with the complexities of reality rather than with an unrealistic unity. Its attention to real-world conditions has a strong practical rationale.

Furthermore, "one principle with various manifestations" underscores the systemic value of unity. The "virtue of life and growth" does not revere a single life form, but rather views nature as a collective whole. This aligns with Rolston's recognition of nature's sanctity and his approach to holistic environmental ethics.[11]

In summary, Confucianism, based on the anthropocosmic worldview, executes environmental ethics in a realistic and holistic manner, eschewing the impracticality of eco-centrism. However, for Confucian environmental ethics to be effectively applied in contemporary contexts, it must be modernized via natural sciences and undergo self-transformation.

3.3. Human Responsibility: The Catalyst of Biology

Confucianism holds that humans, originating from nature, should embody "the virtue of life and growth", manifesting their inherent moral goodness to become benevolent persons in unity with Heaven and Earth. Additionally, humans should actively contribute to the nurturing of Heaven and Earth, which is the sanctity and dignity of humanity. Thus, the purposes of nature and humans are not separate; the human purpose unfolds as an extension of nature's purpose and should not conflict with it. Confucianism links human existence to nature, fulfilling Alister E. McGrath's advanced requirement for re-enchanting nature: "To re-enchant nature is not merely to gain a new respect for its integrity and well-being; it is to throw open the doors to a deeper level of existence" (McGrath 2002, p. 186).

To apply the environmental ethical implications of the Confucian concepts "the virtue of life and growth" and "the unity of Heaven and human beings" to contemporary situations, it is necessary to take Rolston's advice: "The East needs considerable reformulation of its sources before it can preach much to the West" (Rolston 1987, p. 189). Specifically, "the virtue of life and growth" needs to be interpreted in conjunction with modern ecological science, thereby giving direction to Confucian environmental philosophy. While Confucian observations of nature point out that the process of the ongoing creation of life is an inherent expression of virtue, they do not specify the direction of "life and growth". Rolston's interpretation of the direction of natural history can supplement this: "If we look back at natural history, we find that there is one direction, and it is a progressive one, namely, progress toward the balance of biodiversity and the complexity of life" (Rolston 1999, pp. 9–14). If Confucianism adopts this concept of transformation, it will define the direction of "life and growth" as balanced with biodiversity and the complexity of life. Then, Confucianism will naturally support the protection of biodiversity and its three dimensions: genetic diversity, species diversity, and ecosystem diversity (Gaston and John 2004, pp. 15–17). Similarly, Confucianism will also affirm the basic demands of humans, who are at the pinnacle of life's complexity, and the affirmation of a unique human position aligns with Confucian tradition.

Furthermore, Confucianism would support the preservation of nature's ability to generate complexity and diversity. From a negative perspective, the current severe ecological damage weakens nature's ability for "life and growth", and, Confucianism, which emphasizes human responsibility, would have stronger motivation to promote rescue and healing work in nature.[12] Thus, the Confucian transformation of the "life and growth" view, combined with biology, can give philosophical support to environmental ethics in a Confucian way while also clarifying human responsibility to participate in "the nurturing of heaven and earth."

Given China's current economic development reaching a critical juncture where the feasibility of rapid growth is increasingly in question, the integration of the Confucian "life and growth" view presents a timely opportunity to transcend the narrow confines of a quasi-religious, material-centric approach to development (Miller et al. 2014, pp. 2–6). By embracing the holistic advancement of morality, self-cultivation, and spirituality in Confucianism, China can broaden its developmental objectives and embark on a more comprehensive sustainability paradigm. Considering the profound impact of China's economic, political, and cultural dynamics since the onset of the reform and opening-up in the 1980s, the transformation of Chinese development holds the potential to foster the multidimensional flourishing of humanity and diverse forms of life within China and worldwide (Miller 2017, pp. 147–66).

Confucian environmental virtue ethics, from the worldview of "the virtue of life and growth" to the practice of "love with gradations", emphasizes the objectivity of nature without undermining the position of human morality. In the process of dialogue with Rolston, Confucian environmental ethics understood from a scientific situation does not neglect genuine human emotions, rational cognition, or corresponding responsibilities. Therefore, Confucian environmental virtue ethics can be seen as humanistic holism under the "anthropocosmic" framework (Marietta 1995, pp. 208–10). This standpoint does

not neglect the value of the whole ecology under the background of natural science, nor does it overlook the role of human culture and different real situations. For Rolston's environmental philosophy, the Confucian environmental philosophy based on the view of self-cultivation can help Rolston value the significance of human virtue and spiritual transformation for environmental protection.

Merely undergoing conceptual shifts without accompanying effective and direct action may not suffice to effectively tackle the planetary climate crisis. Yi-Fu Tuan astutely observed that the alignment between conceptual understandings of nature and corresponding actions is not consistently harmonious. Throughout Chinese history, instances of both detrimental and beneficial large-scale interventions altering natural landscapes have occurred (Tuan 1968). I posit that the prevailing dominance of agricultural production in Chinese society during those periods played a pivotal role in shaping such actions. With a primary focus on practical agricultural interests and a dearth of ecological knowledge, sustainable approaches were not necessarily chosen. However, in the contemporary era characterized by the ascent of modern ecology and the urgent climate crisis that intertwines with human well-being, there lies an opportunity to amalgamate ecological principles with the revitalization of our traditional cultural values. This entails, for instance, the modernization of the Confucian concepts expounded herein. As envisioned by Tuan, seizing the challenges posed by the current climate crisis could serve as a propitious occasion to harmonize the dichotomy between ideas and actions.

To seize this opportunity to address the broader intersection of religion and the climate crisis, it is beneficial to approach the dialogue between Confucianism and Rolston from the perspective of Christian theology. Then, from the perspective of comparative theology, what inspiration does the above dialogue provide for eco-theology?

4. Significance for Theology in the Planetary Climate Crisis

The dominant ecological theology presented by evangelical Christian communities is one of stewardship, emphasizing the responsibility to care for nature. Although it indeed advocates for environmental initiatives, it predominantly emphasizes God's initial creation, often neglecting to consider God's ongoing, dynamic involvement in the world, such as God's continual creative actions and sustaining work. This viewpoint may inadvertently diminish the endeavor of nature conservation to an obligation toward God, instead of a practice deeply grounded in a genuine love for the natural world. Furthermore, it fails to underline the profound, inherent connection between humans and nature (Lai 2001, pp. 38–39). Consequently, evangelical Christianity finds it challenging to fully embrace and endorse the environmental movement to confront the urgent planetary climate crisis (Clements 2014; Ecklund 2017; Lowe et al. 2022). However, the amalgamation of Confucian philosophy and Rolston's theology can offer a more holistic understanding of the stewardship approach.

Primarily, Confucian environmental virtue ethics stresses the heavenly virtues rather than the completion of a commissioned task. Confucianism advocates that individuals are responsible for actualizing their inherent virtues given by Heaven, ultimately transforming into benevolent beings who foster a deep love for the natural world. This benevolence, stemming from the divine mandate (*tianming* 天命), should be visible in relationships, embodying a life harmonious with heavenly virtues. In Christian terms, the sites for the renewal of the redeemed group's life in relationships are not restricted to family, church, or society but extend to the natural world as well. They should emulate God's benevolent heart rather than merely perform their duties.

God's love for all things in nature aligns with the teachings of the Bible. When God called Jonah to deliver the message of judgment to the people of Nineveh, His underlying motive was to encourage repentance, thus preventing disaster. This is because God's love extended not only to the lives of the people of Nineveh but also to the "many cattle" (Jonah 4:11 [NIV]) that dwelt among them. God's affection is not exclusive to animals; His love for all things in the world is further demonstrated when the Word becomes flesh and descends

into the world (Miller 2022, pp. 238–39). Furthermore, the incarnate Christ will guide all things to unite in Him (Sittler 2000, pp. 38–50). Eventually, God will come to dwell with human beings (Revelation 21:3 [NIV]).

Both evangelical Christianity and Confucianism echo a similar ethos of divine love. By assimilating Confucian environmental virtue ethics into its theology and unifying this with biblical tradition in a holistic manner, evangelical Christianity can imbue its notion of stewardship with a profound sense of benevolence. This would subsequently enhance the emotional depth and resonance of ecological theology. Consequently, this would enable evangelical Christianity to engage in measures addressing the global climate crisis with a greater emotional investment and depth of commitment.

Secondly, the concept of the "unity of heaven and human beings" in environmental virtue ethics also serves as a method for understanding the profound meaning of human existence. From Rolston's perspective, the environmental practice spurred by benevolence is a work propelled by walking with God. Rolston interprets how God creates and enriches values in natural and cultural history as follows: "The divine spirit is the giver of life, pervasively present over the millennia. God is the atmosphere of possibilities, the metaphysical environment in, with, and under first the natural and later also the cultural environment, luring the Earthen histories upslope. God orchestrates such self-organizing, steadily elevating the possibilities, making for storied achievements, enriching the values generated" (Rolston 1999, p. 367). Not only does God create from nothing (creatio ex nihilo), but He is also in a constant state of genesis. As Confucius states, "The four seasons pursue their courses, and all things are continually being created." Humans have a responsibility to align with God's continuous creation through ecosystems, or in Confucian terms, to "participate in the cultivation of heaven and earth" and facilitate the flourishing of life. Consequently, environmental protection is not a cultural by-product, or meaningless work in the end of times, but an eternal task undertaken in partnership with God.[13]

In this divine journey, humans experience a continual transformation of themselves within God's created "atmosphere of possibilities" (Rolston 1999, p. 367), discerning the multidimensional meaning of life's richness within existential experiences. Such an approach can fundamentally resist the ecological destruction brought about by consumerism, a quasi-religion. This pursuit of existence's meaning within the realm of unity between Heaven and human beings can deepen the theological meaning of the stewardship role.

In conclusion, the prevalent ecological theology of stewardship within evangelical Christian communities, while supportive of environmental practices, may overlook the intricate bond between humans and nature. Incorporating the Confucian principles of the "unity of heaven and human beings" and Rolston's theological perspectives can enrich this approach, underscoring a love for nature and our deep connections with the world around us. This fusion can help us better comprehend and execute our role as stewards of the Earth, guided by profound benevolence and commitment to the divine mandate of caring for all creation. The ongoing planetary climate crisis represents more than just an environmental challenge—it signifies a profound crisis in human cognition, morality, and spirituality. This article endeavors to tackle the deteriorating state of our ecological environment by incorporating interdisciplinary insights and reimagining theology for a contemporary context.

Some scholars who have analyzed the resolutions and campaigns of evangelicals over the past forty years have found that the resistance to environmental initiatives within conservative Christianity comes from apprehensions about the concept of "stewardship" evolving into a form of nature worship reminiscent of neo-paganism. Moreover, the presence of apocalyptic beliefs regarding the "end times" reinforces the notion that there is little value in being concerned about global warming (Zaleha and Szasz 2015). My research delves into the development of environmental philosophy, employing a comparative theological lens that specifically targets the evangelical standpoint. The primary objective is to illustrate that the concept of stewardship, when properly understood, does not inevitably result in the adoption of paganistic nature worship. Instead, it highlights the importance

of acknowledging and appreciating the manifestations of God's grace within the natural world. Additionally, I assert that Christian involvement in environmental endeavors holds profound and enduring significance, as it constitutes a ministry that transcends temporal boundaries, underscoring the essence and eternity of collaboration with the divine.

5. Conclusions

To summarize, Confucian environmental ethics from the stance of "the virtue of life and growth" to "the unity of Heaven and human beings" embodies a sacred humanism, effectively avoiding an anthropocentric bias. Confucianism, following "one principle with divergent manifestations", sidesteps the unrealistic stance of eco-centrism by practicing "love with gradations." This approach of environmental virtue ethics resolves the conflict between anthropocentrism and eco-centrism and effectively addresses Rolston's critical questions surrounding environmental virtue ethics and Asian thought.

Moreover, Confucianism can utilize biological insights to interpret its tradition, thus contributing significantly to environmental philosophy. The blending of Confucian principles and the theological perspectives of certain scholars presents a promising approach to developing an ecological theology that is practical, biblical, and deeply rooted in love for nature. This approach, by fully acknowledging the complex relationship between humans and nature, offers a more profound and satisfying understanding of our role as stewards of the Earth.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: I wish to express my heartfelt gratitude to my supervisor, Lai Pan Chiu, for his invaluable guidance and assistance in enhancing this article. I also deeply appreciate the constructive feedback and insightful suggestions provided by the academic editor and two anonymous reviewers. Their input has significantly contributed to the refinement of this work. I also extend my sincere thanks to the editorial team at the Religions Editorial Office for their diligent and meticulous efforts in readying the manuscript for publication.

Conflicts of Interest: The author declares no conflict of interest.

Notes

1 Regarding the influence of the Confucian views of nature and ethical axiology outside of academics, according to Robert P. Weller's work "Chinese Cosmology and the Environment", he presents empirical evidence supporting the notion that traditional Chinese thought holds a vibrant reservoir of ideas regarding the relationship between humans and nature. Weller emphasizes that these ideas, both in Buddhist and Confucian teachings, had important implications for human relations with the environment. They continue to thrive and exert influence across various aspects of Chinese society (Weller 2011, pp. 127–36).

2 Rolston mentioned Confucianism, but it was in the context of discussing Daoism, where he brought up the tense relationship between Daoism and Confucianism (Rolston 1987, p. 181). Rolston did not delve into the environmental philosophy of Confucianism. Furthermore, in his subsequent intellectual endeavors, he never addressed his omission concerning Confucianism.

3 "Anthropocentric" and "Anthropocentrism" are not necessarily negative (Hargrove 1992). In the face of the ongoing climate crisis and the overwhelming influence of human activities, the task of environmental ethics does not solely lie in the dichotomy between anthropocentrism and ecocentrism (Sorgen 2020). Instead, it calls for a focus on ecological values that transcend human beings and are rooted in the interconnectedness of all living entities. Furthermore, by acknowledging the distinct position of human beings within this ecological framework, a responsible environmental ethics should be derived. Additionally, it is essential to develop contextual environmental ethics that align with ecological science, allowing for the construction of diverse, holistic, and inclusive environmental ethics in different cultures (Marietta 1995; Minteer 1998; Hourdequin 2021).

4 The majority of scholars involved in the construction of comparative environmental philosophy and the discipline of religion and ecology include J. Baird Collicott, Tucker, John Grim, Celia Deane-Drummond, Willis Jenkins, John Hart, Tu Weiming, and Cheng Chung-Ying. For some related publications, see (Callicott and McRae 2014; Jenkins 2008; Jenkins et al. 2017; Deane-Drummond and Bedford-Strohm 2011; Hart 2017; Tu 2001; Cheng 1986).

[5] Rolston's understanding of Indra's net appears to be flawed. The real significance of Indra's net lies in the concept of interdependence, rather than equality.

[6] Liang Shuming said, "In my mind, the Confucian principle is creating." See (Liang 1999, p. 122). Thomé Fang even summed up the main idea of his essays collection with "virtue of creative creativity." (Virtue of life and growth). See (Fu 2007, p. 89).

[7] Thomé Fang was amazed at the "wholeness of life in man and in the world" developed by Chinese culture without outside influences and the "pervading unity of Man and Nature", which was advocated together by Daoism, Confucianism, and Moism. See (Fang 1980, p. 2).

[8] The English translation is by the author, and the Chinese text is from (Huang and Zhang 2012, p. 335).

[9] Huang Yong used Wang Yangming's teachings as an example to illustrate that Confucianism can derive an environmental virtue ethics (Y. Huang 2017, pp. 52–59).

[10] In my scholarly endeavor, I shall undertake the task of elucidating the environmental virtue ethics by drawing upon the "virtue of life and growth" and the "unity between heaven and human beings". Furthermore, I intend to delve into the realm of Confucian perspectives regarding the direction of "life and growth", employing Rolston's interpretations of the evolutionary historical framework. Notably, a parallel endeavor undertaken by Miller serves as a reference, wherein he meticulously examines the realm of sustainability through the prism of Daoism, subsequently constructing the Daoist environmental philosophy in light of the ecological exigencies of our modern era (Miller 2017).

[11] Rolston describes the Earth's "enthralling creativity" as "sacred". He states that, if there is any place that can be considered "holy ground, it is the promising Earth" (Rolston 2006, p. 313). For further exploration of Rolston's holistic environmental ethics approach, see (Kawall 2015, p. 18).

[12] If we approach the issue from a Confucian perspective that emphasizes compassion in fulfilling environmental ethics, then humans should intervene in the suffering of animals within the natural state. The debate regarding whether humans should intervene in animal suffering can be found in Oscar Horta's article (Horta 2017).

[13] John Polkinghorne, in his discussion of the relationship between Christian eschatology and natural science, suggests that the new creation is not a second creation ex nihilo, but rather a renewal built upon the foundation of the original creation. The new creation allows for the development and freedom of individuals in a closer relationship with God. See (Polkinghorne 2006, p. 70).

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Essay

Christianity and Anthropogenic Climate Change: A Broad Overview of the Catholic Church's Response and Some Reflections for the Future

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Abstract: Religions play a key role in shaping our worldviews, values, and behaviours and this includes our interactions with the environment. Fuelled by the development of the technocratic paradigm, Christianity has historically received a bad reputation for perpetuating anti-environmental views. Nonetheless, the development of ecotheological strands and the emergence of faith-based organisations focusing on climate justice have aided in producing the much-needed environmental reformulations. As such, this paper seeks to provide a broad overview of the role of Christianity in shaping worldviews, from those hindering environmental action to more contemporary ecotheological approaches discussing climate change, particularly Pope Francis' encyclical *Laudato si'*. Christianity's preparedness to navigate climate change will be theorised in relation to empirical evidence and the work of European faith-based organisations, as well as the methodological opportunities that the field of ecolinguistics can offer to inform effective communication.

Keywords: Christianity; anthropogenic climate change; ecotheology; *Laudato si'*; *Laudate Deum*; Pope Francis; liberation theology; ecolinguistics; the Catholic Church

1. Introduction

Religious narratives have the potential of achieving long-lasting results in encouraging both positive and negative participation at the level of environmental action. This makes religions an important point of departure for the understanding of climate change since they can 'engage people at a deeper level than economics and policy' (Wolf and Gjerris 2009, p. 119). In this sense, and compared to other social actors, religious leaders generally enjoy one of the highest levels of trust (Schliesser 2023) and are therefore key in developing the necessary level of engagement for tackling climate change issues. But even attempting to access the contemporary ecological collapse through a religious lens is complex. One of the main limitations is that different faiths rely on different ontologies and internal divisions within the denominations, so agreeing on climate change, and whether science and technology shall assist humanity, has proven to be challenging (Koehrsen et al. 2022). Moreover, there are different strands within and across religions regarding how environmental concerns are to be approached. As such, an essential enterprise is to individually examine how various religions/religious faiths make sense of the environment to provide an outline of the possible interactions with the topic of climate change. For the purposes of this article, religion is operationally defined as 'semantic and cognitive networks comprising ideas, behaviours and institutions in relation to counter-intuitive superhuman agents, objects and posits' (Jensen 2019, p. 7). Therefore, within this broad definition, faith can be argued to be 'the foundation that supports the creation of social links and the formation of communities. It gives rise to all interactions that result in social integration' (Sztumski 2020, p. 104); thus, it is a critical aspect to most varieties of Christianity, particularly when it comes to developing an ecological ethos.

As such, this article will focus on Christianity, and more specifically, the Roman Catholic Church. First, it aims to provide a broad overview of the various formations within

the Christian tradition that hinder ecological practices, in contrast to more environmental Christian reformulations. Second, the oft-cited assumption (Deane-Drummond 2008; Dedon 2019; Northcott 1996; B. Taylor 2016) that Christianity plays a key role in developing a techno-scientific worldview conducive to anti-environmental practices will be further examined in light of contemporary ecotheological concepts and debates. Particularly, Pope Francis' encyclical *Laudato si'* (Pope Francis 2015) and the apostolic exhortation *Laudate Deum* (2023) will be examined to provide a deeper understanding of its consequences, and more importantly, to find some hopeful ways to approach the current anthropogenic crisis. Finally, and in the pragmatic spirit of this Special Issue, this paper will theorise on Christianity's preparedness to tackle the climate crisis, taking the work of Christian European organisations and empirical research as a vantage point for this exercise, and exploring the potential application of ecolinguistic frameworks to theological corpora.

2. Anthropogenic Climate Change, Christianity and Nature

The Intergovernmental Panel on Climate Change (IPCC) have found empirical evidence that anthropogenic climate change is an unquestionable fact. The IPCC's 2021 Chapter on Human Influence on the Climate System succinctly states that '(. . .) human influence on the climate system is clear, evident from increasing greenhouse gas concentrations in the atmosphere, positive radiative forcing, observed warming, and physical understanding of the climate system' (Eyring et al. 2021, p. 425). The report provides evidence of continuous global warming since the 1950's, particularly arising from fossil fuel burning and various ways of land (mis)use. More recently, the 2023 Global Climate Report (NOAA National Centers for Environmental Information 2024) found that the average global temperature for the January–December 2023 period was the highest on record. It is estimated that temperatures could reach over 4 °C by the end of the century if carbon emissions continue to increase. The consequences of these emissions are seen in the rapid increase in Co2 and other gases that remain in the atmosphere, land, and oceans, causing multiple energy imbalances in the systems with serious consequences for society and beyond (Steffen et al. 2015). More tangible effects range from extreme weather conditions to natural disasters, such as wildfires, floods and droughts. Some indirect effects include the migration/displacement of already vulnerable communities (Kolmannskog 2012), food insecurity and the development of mental illness due to the exposure of extreme weather (Walinski et al. 2023), all of which also affect macroeconomic stability in the long term (Ciccarelli and Marotta 2024).

Whilst the scientific research of climate change has focused primarily on the natural science dimension for some time, the call for incorporating the societal and cultural aspects of climate change (Von Storch and Stehr 2006) have now slowly permeated the discussion. As Haberman (2021) notes, many religious communities regard climate change 'as an ominous sign of significant rupture between the human and the divine' (p. 3). Therefore, the multiscale nature of the crisis calls for rapid local responses and the engagement of religious communities to address these issues.

Religion, as a key cultural and social aspect both in theory and practice, is indeed part of the response to climate change (Jenkins et al. 2018), especially since science and technology provide limited assistance to solve problems underpinned in culture (Hulme 2009). But even religions' potential to provide effective societal responses may still be hindered by anti-science biases and climate change denial (Haluza DeLay 2014). As such, the fields of theology and religious studies must combine efforts in the applied sense by producing 'engaged public scholarship that aids efforts of resiliency and adaptation to climate change, including in the academy' (LeVasseur 2021a, p. xvii). But moving from the discursive scientific realm to the engaged activist and sociopolitical standpoint creates some practical difficulties. Climate change can indeed bring science and religion to work as a united front, not without a host of linguistic challenges when it comes to communicating such a complex issue to all audiences (Tucker 2015). This is a small but crucial aspect which will be tackled further in this essay. Understanding the impact of human activities on

the planet's systems is a necessary step to endeavour a deeper analysis of how religions are instrumental in construing certain beliefs regarding climate change and its causes. In this sense, and compared to other religions, Christianity's historical predominance and involvement in the societies that precipitated the climate change crisis make it a salient target of inquiry (Jenkins et al. 2018).

As noted by several scholars, Christianity's understanding of nature and ecology makes generalisability rather problematic (Conradie et al. 2014). Lynn White Jr.'s work (White 1967) arguably sparked the interest amongst scholars that religious worldviews shaped anti-environmental beliefs (LeVasseur and Peterson 2017). White addresses what he believes are the key elements for the understanding of anti-environmental and especially Western Christian practices, namely, the advances in technology and science that since the Middle Ages have shaped the view of Earth as a source of exploitation, producing a disenchantment and consequent rejection of animism. "The Historical Roots of our Ecologic Crisis" voiced some of the concerns that have previously been pointed out by critics who have not received the same degree of attention as White's paper. As B. Taylor (2016) observes, other prominent theologians (cf. Baer 1966; Sittler 1954) also critiqued Christianity's lack of concern for environmental matters but envisaged radical reform as an option.

One of the greatest challenges in determining the influence of Christianity in anthropogenic climate change is the plurality of views across the different 'Christianities' (Wolf and Gjerris 2009), but also empirical evidence that links religious identity to either pro-environmental or anti-environmental behaviours (LeVasseur 2014; S. Taylor 2002; Zemo and Nigus 2021). To this, Frohlich (2013) adds that 'Dividing Christian environmental thought into distinct categories is easier than dividing Christians into categories (ibid., p. 211)'. Several lines of research have focused on establishing common links between religious affiliation and climate change. After applying an online survey to 1927 Australians across four religious' groups, Morrison et al. (2015) concluded that like American Evangelicals, Christian literalists—i.e., Christians who followed a close interpretation of the Bible—were less likely to believe that climate change is happening; thus, they were more reluctant to endorse environmental actions, while non-literalists expressed split views on the topic.

Earlier studies in the US account for similar findings to the ones in Australia. A 2007 survey from the Barna Group found that more conservative American Christians are less concerned about environmental issues than other segments (i.e., born again Christians, notional Christians). Within Christianity as a whole, Zaleha and Szasz (2015) observe that the 'end of times' is indeed a key factor influencing the lack of engagement in the US. As found in a 2014 Public Religion Research Institute study, supernatural events are expected as the coming of the apocalypse, conflicting with current environmental concerns. While apocalyptic environmentalism has been associated with a lack of engagement, evidence shows that it can have a positive effect in engaging individuals in action (Veldman 2012), particularly in emphasising the potential of narrative endings in constructing a moral that can sustain an ecological collective framework to deal with the crisis.

On the other hand, Clements et al. (2014) present an exhaustive analysis of the hypothesis that American Christianity has been turning 'greener' since the 1990's. Drawing on data from the 2010 General Social Survey, they concluded that self-identified Christians reported lower levels of concern regarding climate change than secular groups. However, they warn that since religious views are also informed by political, ideological and cultural values, these dimensions along with religion shall be explored to observe all the nuances. Similarly, Zaleha (2013) questions whether some religions can encourage more pro-environmental behaviours than others. Drawing on research in sociology and sociopsychology that appear to support this thesis, the author concludes that more research should be pursued to identify whether nature-venerating religions are indeed growing and the impact that these religions have in influencing pro-environmental behaviours. Despite the decline in American individuals self-identifying as Christians since the early nineties (Kosmin and Keysar 2009), American Christians collectively have lower levels of concern

about environmental issues, which would support Lynn White's thesis of Abrahamic religions as highly anthropocentric (Conradie and Koster 2020; LeVasseur 2012; Zaleha and Szasz 2015). Though there is a comprehensive body of research in Australia, the US and Europe, there are relatively few studies in Latin America, Africa, Asia and other areas with a large concentration of Christian followers (Hulme 2016), which informs this article's focus instead on European Christianities broadly.

Overall, in critiquing Christian thought as ecologically detrimental, Kinsley (1996) identified three core arguments: nature's desacralization, the anthropocentric domination of nature, and the relegation of nature and matter. The first argument relates to the rejection of animism. Any gods or spirits associated with natural elements are eliminated under the Christian view. Though nature is part of the creation, it is not sacred per se and if it is passive and devoid of spiritual essence, it is purely instrumental for exploitation. This *creatio ex nihilo* exposes nature's dependence and creation based on God's likeness. The passages of the Genesis[1] provide evidence for such claims.

However, Davies (1994) emphasises two key concepts from the Genesis story of creation that can counter such interpretive trends, relationships and responsibility: God created all things to be related to each other in an orderly and perfect way and man is responsible for its protection. In his analysis, he emphasises that for Christian doctrine, the separation of nature/culture is blurred as animals and humanity originate and finish their existence in the dust of earth. Keller (2003) contends the view of 'Creation out of nothing' since it fails to acknowledge the complexity of the *tehom*, the deep chaos of creation. Instead, she coins the term *creatio ex profundis* to emphasise a disembodied divine agency that brings all beings together.

The belief that man is central to God's creation and nature is merely instrumental sets the grounds for the second argument, i.e., man's entitlement to dominate nature. The development of science was decisive in expropriating and recovering the lost power after Adam and Eve's Fall from the Garden of Eden, as observed by Merchant (2001, p. 70) regarding Bacon's systematic attempts in manipulating nature:

> Before the Fall, there was no need for power or dominion, because Adam and Eve had been made sovereign over all creatures. In this state of dominion, mankind was "like unto God". While some, accepting God's punishment, had obeyed the medieval strictures against searching too deeply into God's secrets, Bacon turned the constraints into sanctions. Only by "digging further and further into the mine of natural knowledge" could mankind recover that lost dominion. In this way, "the narrow limits of man's dominion over the universe" could be stretched "to their promised bounds".

The development of technology and chemistry enabled mankind to explore and interpret nature and transform knowledge into power. As Merchant (2001) observes, the technocratic advances in the late 1920's often overlooked the environmental consequences, let alone the ethical implications, of producing synthetic products and artificial environments, as the main drive was to achieve control over nature and expand the human empire. This 'logic of domination' has profound implications for mastering not only nature, but also labour, indigenous communities and women. According to Hobgood-Oster (2005), religious and scientific assumptions are often substantiated and reinforced through binary oppositions, as further explained below, which perpetuate their dominance. Several prominent ecofeminists contested the patriarchal values sustained in the Christian tradition (cf. Ruether 2000; McFague 1993; Merchant 1980). Such critiques, along with the works of other environmental humanists, contributed to delineating the ideological constructs deeply ingrained in the Euro-Western social imaginary (Eaton 2016), including capitalist systems established long before the Industrial Revolution and that enabled the so-called 'logic of domination' and exploitation at unprecedented scales (Moore 2017).

The third argument relates to the philosophical belief that to access salvation, matter is to be transcended as the ultimate goal since 'Nature is seen as a cage or prison that restricts and binds the spiritual nature of human beings' (Kinsley 1996, p. 110; cf. Ori-

gen), hence, foregrounding the mind/body divide. The 'spiritual motif' undermines the 'ecological motif', the understanding that human spirit is found in this Earth (ibid.). Human beings—though endowed with a soul—are trapped in a human body, thus sharing some physiological characteristics with other 'lower beings'. Plumwood (2002) argues this Christian-specific form of Cartesian dualism has profound implications for how the more-than-human is valued; even if an interdependence is acknowledged, this is only on condition that humans' superiority is above the rest of the species.

All these arguments helped to fuel social, cultural and scientific developments that over time fostered the divide between the rational human being and the threat of the natural environment and its consequent mastery (Kinsley 1996). However, other trends within the Christian traditions have developed more ecological responses that seek a more balanced view of the relationship between nature, humanity, and God. Such proponents observe that although the Bible does not see nature as divine, it is nonetheless not devoid of life. For example, St. Francis of Assisi, Patron Saint of Animals and Ecology, embraced the natural world as his 'brothers and sisters', ascribing intrinsic value to the more-than-human world.

Drawing on the promise of theological renewal, Haught (1996) identifies three approaches that engage in an ecotheological reformulation of Christianity: the apologetic, the sacramental and the eschatological approach. The first follows a conservative and traditional view of 'Nature as God's gift' and relies on the concepts of *stewardship*—often emphasised by Pope John Paul II—and *dominion* as key virtues to be exercised to protect the natural environment. Stewardship is the Christian school taking on board environmental concerns in most segments of American Christianity. However, the term has many interpretations. For liberal Christians, it is an unavoidable call to act, whilst more conservative strands have more reservations, partly due to its associations to pantheism (Zaleha and Szasz 2015). This is particularly evident in Southern Baptists struggling to come to grips with the term, from a distinct conviction on environmental views in the early sixties 'to equating environmentalism to neo-paganism and endorsing free enterprise' (Zaleha and Szasz 2015, p. 24). The top–down nature of the apologetic approach, however, does not enable a radical transformation of Christianity, but rather sees the environmental crisis as a failure to interpret the normative message in the scriptures and other theological writings. Nevertheless, it still contributes to emphasising the need of retrieving traditional key concepts within the scriptures.

While the apologetic approach seems inadequate for tackling the problem more radically, the sacramental approach entails a more holistic understanding. God reveals himself in nature, and it is experienced through the relationship with the cosmos; thus, *creation* rather than *redemption* is focal to the understanding of the 'continuity of humans with the rest of the world' (Haught 1996, p. 273). This calls for a reintegration with the environment and the rejection of dualism since in alienating itself from the natural world, humanity has also abandoned God.

The world is our companion in transcendence and though a creation-centred theology aims at a radical transformation, the eschatological approach incorporates the need of connecting the pressing environmental issues to the *future promise of Nature*. This dimension, in Haught's analysis, is critical since 'Nature is not yet complete, nor fully revelatory of God. Like any promise it lacks the perfection of fulfilment. To demand that it provide fulfilment now is a mark of an impatience hostile to hope' (Haught 1996, p. 283).

The turn of the millennium saw Western civilization experiencing individualism and consumerism, a 'sacred canopy' rooted in neoclassical economics shared not only by Christianity, but by the government, and the economic system which explicitly promotes anti-environmental behaviour (McFague 2001). Under this ongoing situation, McFague (2001) writes 'It is difficult to believe that science and technology alone can solve the ecological crisis supported by a triumvirate (. . .) (ibid., p. 126)'. Indeed, Leduc (2007) notes that political and economic decisions in the US at a critical juncture of taking action to mitigate climate change were instead being informed by the various Christian worldviews,

particularly in relation to the burning of fossil fuels and peak oil during the Bush, Jr. administration.

Furthermore, in his analysis, Leduc (2007) draws connections between the apocalyptic understanding of climate change and lack of engagement of the Republican lead, especially after the American decision of not endorsing the Kyoto Protocol in 2001. The close ties between the Republican party and the fundamentalist Christians are used to exert their influence over political matters, particularly in rejecting climate change science on the grounds that 'the social disruption of climate change, wars, energy shortages are divine responses to the liberal order's ungodly homosexuality, humanism and environmentalism' (ibid., p. 268). Nonetheless, these claims contrast with the more (and currently minority) ecological views of the Evangelical Environment Network that acknowledges climate change as a sign of 'failure to exercise proper stewardship' (ibid., p. 268), but emphasises the possibility of renewal, drawing on both apologetic and eschatological approaches (Kinsley 1996). Leduc (2007) concludes that by turning well-rooted beliefs, '(. . .) both individuals and their political economic institutions may be able to actively follow religious and secular scientific signs towards an imaginative climate policy response that can fuel the way to an enduring earth and civilization' (ibid., p. 281).

Whilst attempts are being made by the Evangelical Environmental Network, advances are slow. As Zaleha and Szasz (2015) point out, it might be worth looking at the more liberal segments of the Roman Catholic Church, particularly protestants and liberal Christian theologians who have been developing environmental strands for the past fifty years. However, policy statements do not often permeate well in US local congregations, which can be reluctant to too forward-thinking views: 'American Catholics, can, and do, ignore Catholic popes when they dislike what they say' (Zaleha and Szasz 2015, p. 28), which can also lead to a lower credibility of the Pope and a lower concern for climate change issues (Nche et al. 2022), thus leaving less margin to inspire actual change. To overcome this, a more 'worldly Christianity' is needed (McFague 2001), one that shifts the focus from neoclassical economics to an ecological model that promotes 'the good life' in light of the Christian doctrine.

3. *Laudato si'* and *Laudate Deum's* Contribution to Harmonising Environmental Views on Climate Change

The previous section broadly outlined some of the key strands within the topic of Christianity and human-induced climate change, drawing on both theoretical and empirical data. As mentioned previously, religious leaders play a key role in engaging communities and creating trust. This section will problematise the notion of human-induced climate change in relation to two key documents by Pope Francis: the encyclical *Laudato si'* (2015) and the apostolic exhortation *Laudate Deum* (2023).

Whilst environmental concerns have previously been voiced by former popes (Edwards 2006), it was not until the encyclical *Laudato si'* ("Praise be to you") was released in 2015 that an explicit and radical call was made from the highest spheres of the Vatican foregrounding 'the deep structural causes of the climate and the ecological crisis' (Stephenson 2015, p. 14). Francis echoes some of the concerns of environmental activists and climate change advocates, thus positioning the encyclical not only as a theological document, but as a controversial and politically charged one from someone who is not associated with political affiliations and who comes from an institution seen as traditionally opposing science and reason (Pou-Amérigo 2018).

It would be unfair to state that Francis was the first Christian leader to voice concerns about the environment, but rather, the encyclical brought the Church closer to the conversation on climate change. For the past thirty years, the Ecumenical Patriarch Bartholomew I, leader of the Eastern Orthodox Church, has been actively engaging in climate change conversations with Orthodox leaders and various other actors to emphasise the role of environmentalism in spiritual practice (Chryssavgis 2007; Gschwandtner 2010; Morariu 2020; Theokritoff 2017).

In the encyclical, Francis establishes deep intertextual connections with the Ecumenical Patriarch Bartholomew I and former Catholic popes by endorsing their stances at the same time he acknowledges more forward-thinking positions such as Thomas Berry's cosmic dimension (cf. McIntosh 2023 in this issue) and liberation theology (Roccia 2021), a movement that began in the early 1960's with Peruvian priest Gustavo Gutierrez (1988) and Brazilian ecotheologian Leonardo Boff as the main exponents. Drawing from traditional Christian texts, particularly Franciscan sources, Boff's influential book "*Cry of the Earth, Cry of the Poor*" (Boff 1997) is central to bridging the gap with former ecotheological approaches, particularly by bringing both environmental ethics and liberation theology in conversation (Nothwehr 2016). In this regard, *ecology* is a fundamental concept in the understanding of eco-complex social relationships in the world:

> Ecology embodies an ethical concern likewise drawn from all knowledges, powers and institutions: to what extent is each individual collaborating to protect nature, which is in jeopardy? To what extent does each particular knowledge incorporate the ecological dimension not as one more topic for it to discuss, leaving its specific methodology unquestioned, but rather to what extent does each particular knowledge redefine itself on the basis of the findings of ecology, thereby contributing toward homeostasis, that is, toward dynamic and creative ecological balance? (Boff 1997, p. 4)

Similarly, in *Laudato si'*, Francis acknowledges previous efforts, but questions the quality of such endeavours by explicitly critiquing the lack of engagement and advocating for a united front to *protect our common home*:

> Many efforts to seek concrete solutions to the environmental crisis have proved ineffective, not only because of powerful opposition but also because of a more general lack of interest. Obstructionist attitudes even on the part of the believers, can range from denial of the problem to indifference, nonchalant resignation or blind confidence in technical solutions. (Pope Francis 2015, §14)

These understandings seem to align well with Gutiérrez's concept of 'integral liberation' developed in the early 1980's (Castillo 2016), namely in outlining the relationship between salvation and the process of human liberation. As Castillo (ibid.) observes, liberation in this sense is achieved at three levels: the socio-political, the cultural/psychological and the theological. Each dimension calls for a break from hegemonic economic, social and ideological patterns. Similarly, what appears to be at the heart of the contemporary debate is a deep critique of the dominant economic paradigm: to overcome the crisis, we need to shake off previous worldviews. This is not an easy task, as Eaton (2016) warns: to abandon obsolete worldviews is a complex—if not impossible—enterprise since we are immersed in them, 'we live within worldviews [. . .] and the idea that one can substitute one worldview for another is misleading' (ibid., p. 126).

Francis explicitly targets the role of technology in Chapter III fittingly named "The Human Roots of the Ecological Crisis". If Lynn White's efforts were to draw attention to religion—particularly Western Christianity—as the main cause of the contemporary crisis, then Francis draws attention to the anthropocentric technocratic paradigm. Whilst the great deeds of scientific advances are listed at the beginning of Chapter III, such compliments are also charged with criticism, namely, humanity's heavy reliance on science to solve our problems and the thirst for power that paradoxically brought us to this current bleak and rather ironic situation, given that we will still need to rely on science and technology to adapt to runaway climate change. It appears that technology is substantiated in religion, and religion is perpetuated through science, as Clingerman and O'Brien (2014) reflect in connection to the geoengineering debate. The authors refer to Barbour's observation 'that separation is but one possible relationship between religion and science; it is also possible to understand the two as competitive, harmonious, or complementary' (ibid., p. 30). This is indeed a point to consider when attempting to break away from the dualistic approach

deeply entrenched in the technocratic paradigm, an aspect critically taken on board in *Laudate Deum* (Pope Francis 2023).

Whilst advances in technology have also been key in alleviating poverty in many parts of the world, *Laudate Deum* (Pope Francis 2023) fails to consider the wide-ranging impacts technology has had on a broader scale, and the potential of artificial intelligence (AI) to being part of the solution (Gallego 2023). For some, new technologies such as the development of AI contribute to exacerbating the divide and humanity's reliance on technological fixes that can threat democratic human decision-making (Coeckelbergh and Sætra 2023). In this regard, democratic engagement can promote a more just climate adaptation and resilience by counteracting top–down approaches that perpetuate systemic injustice (Olsson 2022), particularly in terms of the empirical limitations the technocratic framework has on climate-related disasters and marginalized citizens (Gagné and Chostak 2023). These aspects appear to align well with Francis' call in *Laudate Deum* (2023) for bringing together international organisations that foster genuine political cooperation, an enterprise that would also involve the engagement of various actors including religious leaders and their communities. But a deeper challenge lies underneath our reliance on geoengineering, and that is addressing the capitalist conditions imposing the agenda on the hegemonic political groups driving the global economy. Therefore, geoengineering is only one of the culprits for perpetuating consumerist lifestyles that enable climate change denialism.

If both climate change and capitalism are deeply entrenched in a similar process of conformism/denialism, then Francis' call for a radical transformation in the sense of a 'social metanoia' (Cruchley-Jones 2010), a fundamental change in the way we think and engage with the world, is a much-needed appeal to tackle these issues.

4. Translating Theory into Practice: Christianity's Preparedness to Tackle a Warmer Planet

The urgency of moving away from technological fixes and fossil fuel societies is explicitly stated in *Laudato si'* and *Laudate Deum*, though the specific 'how' is somewhat undeveloped (Holden and Mansfield 2018). The implications are far more reaching, as carbon markets, in Francis' view, do not offer a radical solution but rather encourage speculation and perpetuate the consumption of the elites at the expense of the more deprived sectors of society. The latter are a motivating concern of the document, informed by Francis' concern for the poor, a concern that traces back to Jesus directly, providing evidence of how a Christian worldview can assist in challenging structural inequalities of the climate generation. Advocating for a degrowth in fossil fuel burning directly impinges on the interests of large multinational companies, international corporations, banks, investors, and supporters of 'green capitalism', amongst other stakeholders. Therefore, to believe that the Catholic Church alone can provide a solution to our multi-layered dependence on fossil fuels is absurd, if not rather naïve. It may aid, however, by providing insights on where to focus the attention to find significant responses (Pou-Amérigo 2018). In this regard, disciplines are certainly needed, but 'the specialization which belongs to technology makes it difficult to see the larger picture' (Pope Francis 2015, §110). Instead, we should rather, as Francis suggests, look at 'a humanism capable of bringing together the different fields of knowledge, including economics, in the service of a more integral and integrating vision' (ibid., §141). Such a statement justifies the need for the field of the environmental humanities as instrumental in consolidating the responses that can 'generate resistance to the assault of the technocratic paradigm' (ibid., §111), and more specifically, for this Special Issue's call 'to rapidly address global heating in their research and teaching, and thus, the requirement for the field of religious studies/theology to rapidly do the same' (LeVasseur 2023).

While the political implications of the Church's message are beyond the scope of this article, the attempts of translating policy into practice informed by a religious worldview shift can still be acknowledged. For instance, in preparation for the UN Climate Change Conference COP 26, forty faith leaders convened at the Vatican to produce a joint

appeal urging to take global action to safeguard the planet, with 'stewardship' as a key concept. These efforts are exemplary and highlight the importance of dialogue and interconnectedness within (inter)religious groups. Networks, such as The European Christian Environmental Network, have been advocating for ecological and social responsibility, taking care of creation since the late nineties; however, a few movements have emerged in recent years to tackle the climate crisis from a religious perspective. For instance, The Global Catholic Climate Change Movement (GCCCM)—an international network comprising over 400 member organizations framed in a tripartite dimensional approach, spiritual, lifestyle, and mobilization/advocacy—appeals to both the internal and external transformation embodied in *Laudato si'*. Social movements are also witnessing a renewed interest not only in addressing climate change issues, but also in protecting animals, natural resources and developing legislation that frames anti-ethical practices.

Even nine years after its publication, *Laudato si'* remains a relevant document for the climate change conversation and influence not only academic production but also decision-making and planning (Molina and Pérez-Garrido 2022). A note of caution is needed, of course. This is because despite the effervescence of Pope Francis' encyclical and its updated reflection in *Laudate Deum* (2023) continue to generate, questions arise as to whether this radical transformation is actually taking place (McCallum 2019; Praise and Action 2023). In the African context, for instance, Nche (2020, 2022) notes a gap between the Catholic priests' framing of the climate change message and the more local, pressing issues affecting parishioners. A more seamless and effective framing showing how competing issues, such as local poverty and migration, are deeply connected to climate change would allow more engagement. To do this, making clearer connections with other topics (science, politics, environmental politics, etc.) is needed to drive change at a systemic level. In this sense, the Ethiopian Orthodox Tewahido Church's sacred forests have been pivotal in ensuring the conservation of many endemic and endangered species in the region (Baez Schon et al. 2022; Fischer 2024), a successful example of how religion can work with other disciplines.

But low environmental action is also seen in the clergy. Wilkins' (2020) interviews to a US diocese revealed several barriers hindering action. At the individual level, the clergy manifested little prior environmental knowledge, a perceived irrelevance of Catholicism to discussing environmental issues and lack of time in their packed schedules. Added to these hurdles, structural barriers such as reducing ecological impacts and the public's perceptions that the environment is not within the diocesan priorities compounded with the clergy's concern of parishioners' resistance are also part of the list of overall aspects inhibiting action. Recycling programmes and setting up gardens are valid efforts, but a more systemic approach is needed in order to achieve the change that Francis urges in the encyclical. Whilst there is evidence of small local projects run by local parishes with success in Switzerland, for instance, established head church organisations lag in implementing environmental actions, partly due to bureaucracy and fear of green innovation (Monnot 2022).

Drawing on empirical evidence from Christian churches in the Exeter area (UK), Harmannij (2022) uncovers the tension that exists between the expectations from activists, academics and the media and the practical applications of faith-based environmental action: 'The reason why so many academics, media, and activists are so enthusiastic about churches and faith-based organizations is because they are seen as excellent places to challenge the status quo, mobilize people, move beyond individual behavioral action, and start collective action to save the environment'. (p. 315). However, as noted by Wilkins (2020), churches appear to struggle to transcend from individual action. In the German-speaking context, Blanc's (2022) findings suggest that whilst there is environmental action in terms of materialisation—i.e., traditional measurable outputs—whether these are theologically triggered is not clear. Therefore, 'environmental commitment appears as an individual issue shaped by personal experience, rather than collective theological reasoning' (p. 127). As Taylor et al. (2016) note, there is little evidence of religious groups or individuals exerting effective environmental action. Contrary to the perceived 'greening',

environmental concerns within the realm of religion appear to be of low or no priority at all in most cases. Therefore, this trend would appear to suggest that much of the preparedness to face the climate crisis will likely stem from individual efforts not necessarily associated with religious involvement.

But religions cannot work on their own. Just as the faith communities need to be in dialogue, disciplines must do the same in the face of climate change (Deane-Drummond and Artinian-Kaiser 2018), crucially by positioning nature at the centre (LeVasseur 2021b). Therefore, examining both how religious leaders frame and communicate their environmental messages and how recipients respond to them is a useful exercise to assess the effectiveness of these messages translating into practice, given the above data that suggest that large-scale action has to-date been lacking. As such, an ecolinguistics approach (Stibbe 2021) can provide the linguistic evidence that can assist the field of religious studies, particularly ecotheology with the interdisciplinary angle needed during times of crises.

Ecolinguistics draws on cognitive science, discourse analysis, and a variety of methods to understand and reveal the stories that connect humans and their environment. An analysis of Laudato si' (Pope Francis 2015) with the Lancaster Desktop Corpus Toolbox (LancsBox) revealed patterns in the collocations and concordances of specific lexical items ('cry', 'Earth', 'poor') that appeared to confirm the hypothesis that Francis' encyclical leans towards liberation theology. For example, the first and most explicit instance of 'cry' in connection to all lexical items appears in Chapter V. Global Inequality: 'Today, however, we have to realise that a true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor*' (Pope Francis 2015, §49 emphasis in the original). As Goodchild (2016) points out, Pope Francis' explicit emphasis on the above suggests an acknowledgement of the debt to the liberation theologies of the Global South, a debt owed by the more traditional strands of the Church.

On the other hand, 'Earth' occurs 58 times in the corpus and can be broadly classified within five themes: Earth personified as a Sister/Mother; Earth as subject to dominion; Earth as something we are part of and should protect; Earth as God's creation; and Earth as in scientific discourses. The most frequent category, 'Earth as something we are part of and should protect', closely aligns with the understanding of positive discourses, namely those that 'value and celebrate the lives and wellbeing of all species, promote human wellbeing, call for a reduction of consumption, and promote redistribution of resources from rich to poor' (Stibbe 2021, p. 22).

The noun phrase 'poor' is another salient marker in the corpus (N 61). Whilst the struggles of the oppressed rather than ecological concerns are the focus in liberation theology, Boff (2014) argues that 'the relationship to ecology is direct, for the poor and the oppressed belong to nature and their situation is objectively an ecological aggression' (p. 321). The poor are central to liberation theology. In adopting their standpoint, the story contained in this theology reveals the extent to which societies marginalise the poor and how 'religions and churches are tied to the interests of the powerful' (Boff 2014, p. 322). What makes liberation theology distinct from other theologies is its recognition that true liberation is ultimately achieved at a political level. In the same vein as Boff, Francis links the struggle of the poor with the environmental catastrophe and exemplifies 'the intimate relationship between the poor and the fragility of the planet' (Pope Francis 2015, §16). He enumerates several environmental- and human-related phenomena in which the poor are portrayed as affected participants—premature deaths by atmospheric pollutants (Pope Francis 2015, §20, 48)—due to a variety of climate change phenomena forcing the poor to migrate (Pope Francis 2015, §25, 51, 190), such as water scarcity and water pollution (Pope Francis 2015, §29, 30, 48), human and organ trafficking (Pope Francis 2015, §91, 123), food scarcity (Pope Francis 2015, §50), and unfit living conditions (Pope Francis 2015, §152). The linguistic analysis shows that such conditions also apply for the use of 'poor' as a modifier, as in 'poor countries/nations' (Pope Francis 2015, §52, 78, 142, 176), and 'poor areas/regions' (Pope Francis 2015, §51, 52, 172). For Francis and Boff, the poor

ultimately experience 'the gravest effects of all attacks on the environment' (Pope Francis 2015, §48) due to perverse economic systems (Pope Francis 2015, §52) which perpetuate their dependence on the wealthiest nations. Whilst the usage of the word 'poor' is largely associated with emphasising the degradation of both the excluded and the environment, Francis also draws attention to where to put the focus, namely, developing an ecological perspective that considers the unprivileged. Religions, in this regard, play a prominent role 'in protecting nature, defending the poor, and building networks of respect and fraternity' (Pope Francis 2015, §201) as well as encouraging more minimalistic lifestyles centred in God, the poor and the environment (Pope Francis 2015, §214).

Since the choice of lexicalization can be ideologically and politically charged (Alexander 2009), applying an ecolinguistics framework, as in the example above, can assist in revealing the extent to which the underpinning stories in religious discourses are respectful of the ecological systems or whether they perpetuate a logic of domination over nature and human groups. More importantly, such analyses can inform the communicative practices of religious leaders. Given the large reach of religious communities and their important role in communicating the values and world visions needed to tackle a warmer planet, it is imperative that more research is carried out to gather empirical evidence (Okyere-Manu and Nkansah Morgan 2022). With a few exceptions, the nexus between ecolinguistics and religious studies remains relatively underexplored (cf. LeVasseur 2018; Roccia 2021).

5. Conclusions

Several historical, philosophical, and anthropological approaches and examinations inform our worldviews, but religion appears to be crucial along with science. The paradox of worldviews and climate change lies in that Christianity, a global religion of over a billion people, can equally be held as ecologically harmful and ecologically responsible for the (mis)understanding of climate change. Many scholars acknowledge that Western history owes much of its anthropocentric thirst for dominion to the Christian tradition, framing certain constructs to subdue not only nature but individuals and societies. Such is Christianity's influence that it foregrounded modern science and the much-critiqued technocratic paradigm. Contemporary research sustains that individuals construe certain views regarding the environment in line with the interpretations of different strands within the tradition and that certain sectors are reluctant to acknowledge humanity's responsibility, particularly in responding to climate change. Paradoxically, we rely on science and hard data to obtain such observations.

However, it is in light of more contemporary debates from the Roman Catholic strand, such as the revival of liberation theology, that Christianity may redeem itself. The Vatican is explicitly calling for a radical transformation, 'a conversion' in the deepest sense of the word. Such a call has profound implications on the other components of the 'sacred canopy' (McFague 2001), and if the current message is aligned with liberation theology, then global institutions and social structures will also have to undergo this process. Therefore, for this radical transformation to take place, a more granular approach questioning both the capitalist processes that drive the sociopolitical decisions underpinning global economic processes should be pursued, an effort that will involve several actors, apart from the Church. As many have previously observed, Pope Francis' message may not have all the answers but may nevertheless assist in providing some cues that lead the way to more concrete solutions and shift away from the much-contested reliance on technology. More importantly, it can promote an inter-trans and multidisciplinary approach that can truly aid in this transformation.

Maybe re-imagining 'nature's unfulfilled promise' (Haught 1996) could also change behaviours, or as Veldman (2012) claims, 'To say that endings are essential in order for stories to have morals is already a hint that stories alter behaviour, that they encourage action in the real world even as they invoke an imaginary one' (ibid., p. 10). This may redefine environmental ethics under the premise of an integral ecology that encompasses the different dimensions of eschatology, the doctrines of creation, and scientific evidence to

'integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor'* (Pope Francis 2015, §49). It also becomes clear that for true practical action stemming from faith-based communities, broader systemic measures need to be in place.

Individual actions can only generate a number of valid efforts that may not be sufficient for the pressing urgency of the climate crisis. Similarly, religious groups as a standalone cannot be held responsible for generating the shift that Francis urges; efforts need to come jointly from other actors and sectors, and the role religion plays in this must be part of the conversation. Activism and faith-based action can be hindered by bureaucracy, time constraints and even a lack of prior environmental knowledge. Whilst this is a non-exhaustive list, it illustrates the hurdles religious communities must overcome to transform into environmentally engaged groups producing effective and rapid responses. More empirical research will be needed to uncover the effectiveness of environmental messages' production and reception—an exercise that will require the involvement of other disciplines such as ecolinguistics and ecotheology.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Conflicts of Interest: The author declares no conflict of interest.

Notes

[1] 26 Then God said, "Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, [a] and over all the creatures that move along the ground."27 So God created mankind in his own image,in the image of God he created them;male and female he created them.28 God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground." (NRSV).

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Essay

A Commentary on Thomas Berry's *Befriending the Earth*, 33 Years on

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Abstract: The author was approached by the Passionists in the United Kingdom, a Roman Catholic order in which the ecological theologian Thomas Berry had been a priest, to seek an opinion on the continuing significance of his book, *Befriending the Earth*. Published in 1991, it was written in dialogue with a Jesuit colleague, Thomas Clarke. This article shares that opinion with a wider readership. Parts of it are written in a first-person manner, illustratively journeying on from where Berry left off. Thirty-three years (counted inclusively) is a generous generational span; symbolically, it is equivalent to the life of Christ, a kairos time of transition. Most notably, what has changed over that period is that climate change has landed firmly onto the environmental agenda. Significantly, Berry hardly mentioned it in this work, but in an era of *Laudato Si* his message of "befriending the Earth" speaks louder than ever, with prophetic poignancy.

Keywords: ecotheology; climate change; Ecozoic; spirituality; Cosmic Christ; *Laudato Si*; *Laudate Deum*; integral human development; Passionists; human ecology

1. Introduction

When the Passionists in the UK asked for an opinion, I replied that *Befriending the Earth* was a prophetic book, ahead of its time and for our times (Berry et al. 1991).[1] It rises above its 1991 date of first publication, most of all because Thomas Berry extends our understanding of the natural environment. He does so, as he puts it in one of his fine turns of phrase, by opening out "'the compassionate curve' of the universe" (Berry et al. 1991, p. 14). This leads the arc of his "new story", deepening it to a consciousness of the Cosmic Christ.

I remember some years ago an elderly friend, Sr Catherine Brennan, called me up from a Dublin hospital bed. A nun of the Sisters of St Louis, a Roman Catholic teaching order, she had devoted her recent years to raising environmental consciousness through groups such as Eco-Congregation Ireland. Her respiratory illness was very serious. Over the phone, I could hardly make out the words as she struggled to catch breath. The gist was that she wanted to send her blessing for a conference that she had been arranging where I was due to speak the following week. She had a message that she felt to be of burning urgency, which she croaked out: "Tell them about the Cosmic Christ".

This commentary on Fr Thomas Berry's book gives an opportunity by which to expand that commission and to do so, vicariously, through his insights. *First*, I will set the book in the context of the time when it was written and as integral to the story of our time. *Second*, I will attempt a chapter summary to chart a roadmap. *And third*, in recognition that Berry was a priest within the Passionist religious order, I will reflect upon the "passion" or suffering of Christ, of humankind, and of the Earth itself. I aim to do this in a manner that might both honor Sr Catherine's commission and the prayer with which Pope Francis ends his ecological encyclical, *Laudato Si*: "Give us the grace to feel profoundly joined/to everything that is" (Pope Francis 2015, sec. 246).

2. The Context of *Befriending* in 1991

Berry published *Befriending the Earth* in 1991,[2] before climate change had become a generally accepted fact. Whilst the United Nations' Environment Programme (UNEP) and the World Meteorological Association (WMO) established the Intergovernmental Panel on Climate Change (IPCC), endorsed at the UN's general assembly in December 1988, the emergent reality and consciousness of it were still contested and, beyond specialist and "informed lay-person" interests, not widely known about in the public domain.

This noted, but given where science stood at the time, Berry set out "to situate theology in terms of understanding the meaning of science" (Berry et al. 1991, p. 26) and to seek "new ways of understanding the divine manifestation in the natural world" (Berry et al. 1991, p. 54). He did so acknowledging that he especially stood on the shoulders of Pierre Teilhard de Chardin. (Berry et al. 1991, pp. 1, 23–28) The job of science is to seek out facts about the nature of physical reality and to test them as well as the hypotheses that might explain them. Such is the *Logos* of logical structure and rationality. The job, or one of the jobs, of theology, on the other hand, is to relate these insights into how we see the world and experience our humanity. Such is the *Mythos* that carries and reveals meaning, typically through image, story, poetry, music, and the other arts that connect through to archetypal motifs in the collective unconscious.

Set in this historical and epistemological context, it may therefore surprise the reader that *Befriending* says virtually nothing about climate change. The closest Berry comes to it is in his chapter on the Ecozoic Age:

> We are beginning to be concerned by the possibilities of the greenhouse effect, which would change the temperature of the northern hemisphere possibly up to 6° Fahrenheit within the next century (Berry et al. 1991, p. 95).

Six Fahrenheit degrees (3.33 centigrade degrees) is a pretty smack on estimate for the pace of global warming in the absence of mitigating emission cuts. However, why just "beginning"? The 33 years that have passed since his book was published represent a generously apportioned "generation", the same length of time as Christ's life on Earth.[3] The scantness of Berry's attention to what is now such an overwhelming issue shows how far the science and experience of changes in the natural environment have shifted in that time. Those who were around then might recall where climate science stood in 1991. At the time, I, with a more senior colleague, Dr Ulrich E. Loening, was just launching the UK's first master's degree course on human ecology. Our tiny futures unit, the Centre for Human Ecology (CHE), sat anomalously within the Faculty of Science and Engineering of the University of Edinburgh.

I vividly remember the care with which we were required to speak about climate change. It was acceptable in general discourse in faculty meetings only to mention "possible" climate change, and not until the later 1990s was this upgraded to "probable" climate change. As Martin Robra, who led the Justice, Peace and Integrity of Creation team at the World Council of Churches in this era, has written: "It was prophetic for the WCC to focus on climate change already in 1990 although critical questions were raised: the focus on climate change should not weaken the commitment to struggle against poverty and injustice" (Robra 2020). Not only was the science yet to become "settled", there was a concern within both science and the humanities that, if it settled, it would overwhelm and perhaps squeeze out other concerns in the competition for attention and funding.

In 1989, to promote the public understanding of science and technology, the City of Edinburgh had staged the world's first Science Festival.[4] A year later, possibly as *Befriending the Earth* was being written, the university's Principal and Vice-Chancellor, Sir David Smith, took a bold stand and launched a university-wide Environmental Initiative. He expressed concern that many university students "remain ill-informed and confused", and this prompted "the need to explore the extent to which treatment of environmental issues could become part of general undergraduate teaching in every discipline, and not just restricted to obviously relevant subjects".[5] At the CHE, we were commissioned to

interview every head of department across all eight faculties and report on the educational possibilities for such transdiciplinarity. Then, before a modernizing reorganization took place, the Faculty of Divinity was listed in the university's annual calendar explicitly as first, "in order of precedence". Thomas Aquinas' designation of theology as "the Queen of Sciences" is a point that Fr. Berry would well have appreciated.

Our report, *Environmental Education for Adaptation*, had a seminal influence (Loening et al. 1991). Those were heady days across the 1991–92 academic session as we mailed out orders for copies from universities around the world. But. . . and here is the rub. . . in common with Berry's book, when I re-read today what otherwise remains a deeply relevant study, I am astonished to see that we made just four passing references to global warming, and none at all to greenhouse gases, to CO_2, or to climate change!

Why such omissions? Why, in both Berry's work and ours? Looking back now, it is not like we at the CHE were laggards. As an entry by the theologian and sociologist of religion, Professor Richard Roberts, generously described it in *The Encyclopedia of Nature and Religion*: "The role of the CHE as a pioneering organization is indisputable; many of its original analytical insights and practices have become part of the widely distributed armory of the informed environmental movement" (Taylor and Kaplan 2005, vol. 1, pp. 284–85). Rather, retrospect suggests that the emergent reality of climate change was putting us all through what Thomas Khun, the philosopher of scientific revolutions, called a paradigm shift. We were in a period of mental adjustment. A new reality was dawning, *and we wanted it not to be true*. I can remember thinking "Yet, another bloody thing!"

That granted, very quickly over the course of about a year the wheel turned. In June 1992 the Earth Summit, the United Nations' Conference on Environment and Development, took place in Rio. The convergence that it brought about of world leaders, diplomats, scientists, and citizens' groups from 179 countries went far to legitimize the new and uncomfortable paradigm. Its 27 principles recognized "the integral and interdependent nature of the Earth, our home", called for the eradication of poverty, urged that a precautionary approach be widely applied, called for citizen participation, especially of women and indigenous people, and noted that "warfare is inherently destructive of sustainable development" in stressing that "peace, development and environmental protection are interdependent and indivisible" (UN General Assembly 1992). As practical measures, Rio cemented agreements on biodiversity conservation, forest management, and "Agenda 21" to advance sustainable development; however, of greatest significance, it established the UN's Framework Convention on Climate Change (UNFCCC), and this with the objective to bring about the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCC 1992).

From here, starting in 1995 with COP 1 in Berlin, the UNFCCC set in train the ongoing series of "Conference of the Parties", the "parties" to these annual "COP" gatherings being the governments of the world that are signatories to the UNFCCC. The UN's earlier World Commission on Environment and Development had already, in 1987, set the paradigm of "sustainable development" with the following declaration: "Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987). That had to mesh with climate change, and so the social and political challenges of our time were tabled. Whilst the climate dynamic was too premature for Berry to have amplified it, the relevance of his vision of the way ahead is amplified retrospectively. As such, *Befriending the Earth* is not just a historical snapshot of the time; it is also a roadmap for which, perhaps, humankind is only now getting ready. Let me sketch that map.

3. A Roadmap of Berry's Thought

The following chapter summaries are not comprehensive. I have limited this outline to some key waymarks, selected according to what might speak most loudly to us now.

In chapter 1, "The Divine and Our Present Revelatory Moment", Berry presents his view that we are at the end of the Cenozoic period in geological time, and are entering what he calls the "Ecozoic Age", which responds to the need for a renewed set of relationships between humankind and the Earth. We must recover (or perhaps, discover for the first time) our sense of the divine, of humanity, and of redemption in the world around us. This is the revelation (or apocalypse) of our time. It invites reconstituting science around its "ultimates [that] are trans-scientific", these being "within a religious perspective and relating this to a new, larger, more expansive dimension of Christianity". This is "the theological role of our time" (Berry et al. 1991, p. 8).

In chapter 2, "Sacred Community, Spiritual Discipline, and Ritual", Berry highlights the Biblical *exodus* as a symbol of transformation. Exodus is the primary Hebraic liberation theology, the mythic history of the Israelites' deliverance from slavery in Egypt. I say "mythic", because spiritually it is the activated archetypal principle that both counts and carries meaning. Berry suggests that the exodus that can liberate in our times demands a re-Earthing of that which had been rendered transcendent and thereby separated from the world. To do this, we need to get to grips with our addictive relationship to what, in a later chapter, he encapsulates as a "transcendent technology, which enables us to evade the basic biological laws of the natural world" (Berry et al. 1991, p. 115). It requires a reconstitution of ecology as the study and practice of *community*. In other words, to double translate (as it were) from the Lord's Prayer, translating not just into *English* but into contemporary *meaning*: "Thy *community* come, thine *opening of the way* be done, on Earth as is in Heaven".[6]

This demands a restored *discipline* with the Earth—a way, a truth, and a life that we follow, as disciples, because:

> . . . we are involved in a profound cultural pathology. Because we refuse to deal with this cultural pathology, we are in a state of denial. What is needed is a deep cultural therapy. It is like addiction. We are not going to get out of this until we undertake the agonies that drug addicts have to undergo . . .. There is death without renewal (Berry et al. 1991, p. 46).

Such a pathway opens to a new sense of ritual, of sacrament, at which point a powerful passage from his Jesuit interlocuter Thomas Clarke explicitly brings in liberation theology. This, not just for its "option for the poor" which is "God's option" (and as Gutiérrez (Gutiérrez [1971] 1974, p. xxix) emphasizes, "by the irruption of the poor into our history"), but also as an emergent "option for the Earth" (Berry et al. 1991, p. 60). Clarke thereby builds a bridge from social liberation theology to ecotheology, and so the "wretched" of the Earth might find both an aetiological diagnosis and common cause with the roots of ecocide. Today, continues Berry, we are all Dives "being asked to reflect on whether we want to continue to be Dives or not" (Berry et al. 1991). Dives, it may be remembered, was the rich man in Hades or "Hell" who was beyond the reach of Lazarus in heaven to receive the succor of a drop of water.[7]

In chapter 3, "Christology", Fr Berry charts the part of theology, articulating his "compassionate curve" as a process that is driven from within itself, much as the Russian artist Wassily Kandinsky saw the sacred in art as emerging from "inner necessity".[8] For Berry, bygone generations of Christians have overlooked the fullness of divine revelation through the natural world—a truth that is more true of the Western church than that of the Orthodox East (Chryssavgis and Foltz 2013). With a nod towards the medieval Celtic scholar Duns Scotus, he suggests that "the primordial purpose of there being anything at all [rather than mere nothingness] is divine goodness, and the basic principle of goodness is that it tends to diffuse itself . . . a sharing, a giving of a person's self in an expansive way to others" (Berry et al. 1991, p. 68). Accordingly, and as he leads into this chapter from the previous one:

> If God is speaking to us through the universe, and if we are now seeing that the universe functions differently from what earlier Christians thought, then we must have a different way of articulating our Christian belief. We have, in our new understanding of the universe, new ways of understanding the divine

> manifestation in the natural world. We have a new type of revelation (Berry et al. 1991, p. 54).

Early Christianity, he suggests, shaped a theology that went beyond the gospels, and we must do the same today. With nods to both Indian and Chinese indigenous spirituality, he notes that the deeper name of the game is *moksha*, liberation, and this is what an incarnational mystical Christianity points towards. In Europe, however, we lost that "cosmic dimension" (Berry et al. 1991, p. 71). Saint Paul had deepened the notion of original sin and redemption to a cosmic level, "extend[ing] the Christ reality not simply from the personal Christ story to the community story, but to the whole of civilization, even to the story of the universe itself" (Berry et al. 1991, p. 71). However, Berry suggests, the Black Death in the 14th century and later developments in Western thought pushed aside this earlier understanding of an implicit and integral benign ordering. In consequence, "the cosmic dimension of Christianity . . . began to disappear", and the emphasis on redemption of the individual human soul became so overwhelming, "that the natural world was ignored and the cosmic Christ became less prominent in Christian consciousness". The endpoint was that "even with theologians, the cosmic Christ became a very marginal concern" (Berry et al. 1991, pp. 71–72). The contemporary reader at this juncture might be tempted to suggest that the self-seeking privatization of salvation paved the way for the privatization of the planet, and, therefore, its extremes of exploitation.

However, he continues: "one of the best ways to discover the deep meaning of things is to give them up for awhile" (Berry et al. 1991, p. 76). I find it striking that liberation theology speaks of the experience of the Paraclete as an "irruption" (or breaking in) of the Holy Spirit.[9] Berry affirms the insights of other great faiths. All flowers are qualitatively different, but all relate to the lily, and while the Christian understanding of incarnation "fulfils a unique role . . . there are other incarnations" (Berry et al. 1991, pp. 78–79).

As Berry nods here to the Buddhist understanding of reality, I could not help but think (with a sideways tilt towards the Vedic mysticism) of the Canadian psychiatrist R.M. Bucke's pioneering study, *Cosmic Consciousness*, and its case studies not just from literature, but also, from his own spontaneous mystical experience whilst riding through London in a carriage at the end of the 19th century. Bucke described feeling uplifted in the bliss of "the Brahmic splendour" that poured spontaneously into his being with "the taste of heaven". It left him knowing, "that the Cosmos is not dead matter but a living Presence" (Bucke [1901] 1961, pp. 7–8). Yet, Berry's chapter is no feel-good platitude; it ends with a sharp warning. Yes, Christianity is about redemption, yet we have our part to play in "responsibility for the temporal and eternal processes. That is the paradox in Christianity. We can do temporal damage that is also, in a sense, eternal damage", and understanding this paradox "is an ultimate challenge to religious understanding" (Berry et al. 1991, p. 82).

In chapter 4, "The Conditions for the Ecozoic Age", Berry argues that to overcome the alienation between the human and the natural world we must move beyond the Cenozoic era. The Cenozoic is the geological age of mammalian evolution that has spanned the past 66 million years since the dinosaurs died out. We are now in a fresh wave of plant and animal extinctions. Some dub this "the Anthropocene" (because it is shaped by the *anthropo-*, the human), but Berry, originally in collaboration with the cosmologist Brian Swimme, suggested the name the Ecozoic. *Eco-* is from the Greek meaning "home", and *zoic-* meaning animal life, originally from a Proto-Indo-European root that meant "to live". The Ecozoic therefore implies the imperative to obtain and to sustain a home worth living in. This is why, towards the end of the previous chapter, he called for "a new story", a story that has a "numinous" or mystical aspect, that can provide us with "a feeling for this account of the universe" (Berry et al. 1991, p. 77).

The conditions for this to unfold involve mustering the human energy, the "psychic energy", necessary to tackle the "deep cultural therapy" demanded by our "deep cultural pathology" (Berry et al. 1991, p. 94) He outlines six conditions: *(i)* the "universe is a communion of subjects, not a collection of objects"; *(ii)* the Earth must not be approached in a fragmentary manner, but in an "integral" or holistic manner, as "a *single* reality";

(iii) we only get one chance because "if we kill the earth, it is all over"; *(iv)* the human is derivative of the Earth, which is primary, and while "there is a difference between approaching the biosystems of the earth in terms of human ecology and in terms of nature ecology", eventually, "of course, they must be one"; *(v)* this demands a new ethics to circumvent ecocide "in the transition from the Cenozoic to the Ecozoic"; and finally, *(vi)* this reframing will entail the development of new ethical, legal, and educational systems with which to tackle "biocide or geocide", and this in ways that integrate "the religious dimension . . . into every phase" so as to "foster a definition of the universe as a community of subjects" (Berry et al. 1991, pp. 96–100). In moving on to unfold these six points, he especially emphasizes women's struggle against the patriarchy; this, to the point of describing "four great patriarchal establishments of the Western world [that have] led to the ruinous situation at the present . . . that women have had to endure as well as they were able", these being the ancient empires, the ecclesiastical establishment, the nation state, and the modern corporation (Berry et al. 1991, p. 104). He draws on Australian Aboriginal insights that every person has art, music, and poetry inside them, and part of the antidote to the condition of our times is that "all children should write poetry", and that "our glorification of specialization has led to an impossible situation" where these essentials have been neglected (Berry et al. 1991, p. 105). His ecological heroines include Charlene Sptetnak and Joanna Macy, leading to the ecofeminist proposition that "in the union of these two forces, ecology and feminism, lies much of the future" (Berry et al. 1991, p. 105).

Taking us back to the first chapter, we have become "locked up" in ourselves, "We are talking to ourselves. We are not talking to the river, we are not listening to the river. We have broken the great conversation [and] shattered the universe" (Berry et al. 1991, p. 20). However, for all the heaviness of the diagnosis, in all of this "a sense of joy in the world is primary. We cannot live without joy, and that is why I consider life, the universe and the planet earth, all as a single, multiform, celebratory event" (Berry et al. 1991, p. 110). For "the inner life of the divine is community". Such "community is at the heart of the ultimate simplicity" (Berry et al. 1991, p. 15), and in a word of practical advice that has strong Jungian undertones, he suggests that we might think back to our childhoods, "go back to the dreams that you had when you were excited by life", and "consider those dreams as your basic guide". This, so that "the great archetypal motivations come into being [and] we begin to think of ourselves in a more fulfilling role" (Berry et al. 1991, p. 110).

Finally, to chapter 5, "Sacrifice and Grace", a short chapter on great transition moments being great sacrificial moments, but these "in order that everything afterward could come into existence" (Berry et al. 1991, p. 132). So often our endeavors in life fail because of an inner emptiness, meaning that "there is no capacity to give or receive" (Berry et al. 1991, p. 137). As the previous chapter had it, "at the present time a new relationship between humans and the earth is being fashioned. The basic reality is that the earth exists and can survive only in its integral functioning" (Berry et al. 1991, p. 96). That capacity is *grace*, the complement of sacrifice. Grace requires Tillich's "courage to be", it requires us to become whole people in a whole world. We might say that "grace" is more than a pattern of words that might be said; grace, and the imperative to complete its cycles, is the mode of being to which the Cosmic Christ, incarnate in the universe, is calling us.

4. Widening the Context—Integral Human Development and the Encyclicals

Befriending's final chapter repeated the "integral" theme, its second sentence affirming, "This transition is an integral part of the great journey of the universe . . ." (Berry et al. 1991, p. 131). Note the resonance there with liberation theology's "integral human development", a concept that is seen as having been introduced by Pope Paul VI in *Populorum Progressio* in 1967, and brought into plain sight from out of specialist use as "collaboration in the development of the whole person and of every human being" in Pope John Paul II's 1987 encyclical, *Sollicitudo Rei Socialis* (Heinrich et al. 2008, p. 2). Again, Berry is explicit that we do not get a second chance. "If we kill the earth, it is all over", because the human

"is derivative, the earth is primary", therefore: "I include human ecology within nature ecology, rather than the other way around" (Berry et al. 1991, p. 97).

I find it especially noteworthy that *Befriending the Earth* was published in December 1991. It was in May of that eventful year that John Paul II issued his encyclical *Centesimus Annus*. Was there a direct connection, or was just something in the air, a sign of the times? Either way, in discussing "the ecological question" and the spiritual harm of consumerism John Paul II called for safeguarding "the moral conditions for an authentic 'human ecology'". However, as a conservative pope he stopped short of the Cosmic Christ, and instead put to bed his discussion of human ecology by situating it firmly within the anthropocentric realm of "the family founded on marriage" (Pope John Paul II 1991, sec. 36–39).

His successor Pope Benedict, though more conservative, ironically came closer to Berry's position. In a passage that has been seen as prefiguring *Laudato Si*, his 2009 encyclical *Caritas In Veritate* recognized that (and the italics are his): "*The Church has a responsibility towards creation and . . . when 'human ecology' is respected within society, environmental ecology also benefits*" (Pope Benedict XVI 2009, sec. 51). However, it is to Pope Francis and his papal signature piece, the ecological encyclical *Laudato Si* ("Praise be to You") of 2015, that Thomas Berry would have had to wait to see the blossoming of so many of the principles to which he bore witness. For here:

> The universe unfolds in God, who fills it completely. Hence, there is a mystical meaning to be found in a leaf, in a mountain trail, in a dewdrop, in a poor person's face. . . . In the Eucharist, fullness is already achieved; it is the living centre of the universe, the overflowing core of love and of inexhaustible life. Joined to the incarnate Son, present in the Eucharist, the whole cosmos gives thanks to God. Indeed the Eucharist is itself an act of cosmic love: 'Yes, cosmic! . . .' (Pope Francis 2015, sec. 233 & 236)[10]

An indication of Berry's influence on Pope Francis is given in a detailed commentary on *Laudoto Si* and its Vatican antecedents by his biographers, the wife-and-husband team Mary Evelyn Tucker and John Grim, who also serve as the Managing Trustees of the Thomas Berry Foundation that maintains the legacy website, "Thomas Berry and the Great Work" (Thomas Berry Foundation 2023). Notably, too, Dr Tucker currently sits on the Ecology Working Group of the Vatican Covid-19 Commission of the Dicastery for Promoting Integral Human Development (Tucker 2023, p. 7). Tucker's and Grim's commentary concludes:

> "It is this evolutionary understanding of Earth's systems, so central to Teilhard de Chardin and Berry, that provides a broad context for the pope's own revolutionary thinking. . . . This integration resituates the human as part of the vast unfolding universe, and [is] thus responsible for the continuity of the life systems on the planet" (Tucker and Grim 2016, p. 269).

As this paper was going to press, Pope Francis (on 4 October 2023) issued *Laudate Deum* ("Praise God"). As an "apostolic exhortation", a personal teaching statement, it carries less authority than an encyclical, which expresses the Church's formal position on matters. Nevertheless, and orientated explicitly towards the IPCC's COP 28 gathering of heads of state scheduled to take place in Dubai at the end of the following month, it upacks his concern that, "with the passage of time" eight years on from *Laudato Si*, "I have realized that our responses have not been adequate". In forthright language it warns that "the world in which we live is collapsing and may be nearing the breaking point"; that "what happens in one part of the world has repercussions on the entire planet [because as] I repeat over and over again: 'Everything is connected' and 'No one is saved alone'"; that "the greater problem is the ideology underlying an obsession: to increase human power beyond anything imaginable, before which nonhuman reality is a mere resource at its disposal"; and that we must therefore tackle "the ethical decadence of real power" that perpetuates itself through such means as marketing, false information, unequal meritocracy and weak multilateral capacity between nation states. However, to "'say there is nothing to hope for

. . . would mean exposing humanity, especially the poorest, to the worst impacts of climate change" (Pope Francis 2023, sec. 2, 19, 22, 29, 54).

In words that would have delighted Thomas Berry, Francis concludes:

> The Judeo-Christian vision of the cosmos defends the unique and central value of the human being amid the marvellous concert of all God's creatures. . .. I ask everyone to accompany this pilgrimage of reconciliation with the world that is our home and to help make it more beautiful, because that commitment has to do with our personal dignity and highest values. At the same time, I cannot deny that it is necessary to be honest and recognize that the most effective solutions will not come from individual efforts alone, but above all from major political decisions on the national and international level (Pope Francis 2023, sec. 67, 69).

What we see in these recent Vatican documents is that the writings of such prophetic if sometimes turbulent priests for our time, as Pierre Teilhard de Chardin, Thomas Berry, Matthew Fox, and Seán McDonagh (of the Columban Irish missionary order) have come of age. Even such a former practicing Roman Catholic feminist theologian as the late Mary Daly, the author of such a denouncing denouement as *Gyn/Ecology* with its "Positively Revolting" (her capitalization) "New Intergalactic Introduction" to the 1991 edition (Daly [1978] 1991, p. xiii), might have found satisfaction in parts of Fr Berry's recognition that "the terminal Cenozoic has been characterized by patriarchal oppression [and] that in the union of these two forces, ecology and feminism, lies much of the future" (Berry et al. 1991, pp. 96–100). As the Easter hymn has it, "Now the green shoot rises".

Today, as we stand where evolution brings us to in this stage of its journey, we might contemplate Maxim Gorky's phrase in *The Lower Depths*: "All of us are pilgrims on this earth, I have even heard people say that the earth itself is a pilgrim in the heavens". As such, Berry concludes that we have entered into a phase of midwifery, by which "we ourselves need to be reborn [and] the earth needs to be reborn" (Berry et al. 1991, p. 136).

Befriending the Earth is not a perfect book. It is a late-life convocation, a drawing together, at the age of 77, of a life's penetrating work. Sometimes his arguments are less crisp than in his earlier writings. Notwithstanding its heading, in the final chapter Berry does not mention "grace", except in a lengthy quotation; but in mitigation, this book is itself the charism, the gift of grace. Thomas Clarke, whose rich insights are threaded through the volume (though not our focus here), suitably rounds it off. He reflects on three stories about grace, ending with Gustavo Gutiérez's study *On Job* and the movie "Babette's Feast". We imagine divine grace to be finite. In fact, it is infinite. Our times are an invitation in our lives for truth and grace to join hands (Berry et al. 1991, pp. 140–41).

5. The Passionist Charism and the Future of Christianity

Berry prefigured many of the themes developed in *Befriending the Earth* in a concise paragraph in his 1978 essay, "The New Story", in *Teilhard Studies*:

> The third determining theme of the New Story is the intercommunion of the universe within itself and of each part with the whole. Each atomic particle is in communion with every other atom in the vast web of the universe. This web of relationships throughout the universe is what first impinges on the waking consciousness of the human from the beginning. If the larger story of the world process is the account of differentiation and subjectivity it is also the account of deepening communion at every level of reality. It is a more intense communion within the material world that enables life to emerge into being. The living form is more differentiated, with greater subjectivity and more intensive communion within itself and within its environment. All these factors are multiplied on a new scale of magnitude in the realm of consciousness. There a supreme mode of communion exists within the individual, within the human community, within the Earth-human complex. Increased capacity for differentiation is inseparable from this capacity for communion. Together this distance and this intimacy establish the basic norms of being, of life, of value. It is the destiny of our present

> and all future generations to develop this capacity for communion on new and more comprehensive levels (Berry 1978).

This points to an understanding or a reminder that the "God-human" hypostasis—the underlying unity of divinity and humanity that Jesus Christ embodies—finds articulation in relationship with the creation, our world. It resonates with what the Spanish-Indian theologian, Raimon Panikkar, who came at it from the richness of a Hindu–Catholic position, called the *cosmotheandric* mystery, or intuition, or reality. This "trailokya" (as he described it, from the Sanskrit) is the triple interweave of *kosmos* (world), *anthrōos* (humanity), and *theos* (God), "with one Spirit seeing and recreating all hearts and renewing the face of the earth" (Panikkar [1964] 1981, p. 20; 2010, pp. 276–318). This is not God in the abstract. This is transcendence hand-in-hand with immanence, at the nexus of time and eternity, where "I am with you always" in "a very flesh-and-blood love" (as a 1980s sermon in Iona Abbey had it).[11]

In one of the most important passages in *Befriending the Earth*, right at the beginning, Berry speaks of rising to our destiny in these times and understanding that our lives are held within a greater hand. For:

> Even as we reflect on what is happening, we need to reflect also on who we are and why we are faced with such a momentous issue [as the ruination of the Earth]. All indications suggest that we are, in a sense, a chosen group, a chosen generation, or a chosen human community. We did not ask to be here at this time. We were destined to be here at this time in the sense that the time of our lives is determined for us. Some of the prophets, when asked to undertake certain missions, said, "Don't choose me; that's too much for me". God says: "You are going anyway". We are not asked whether we wish to live at this particular time. We are here. The inescapable is before us (Berry et al. 1991, p. 5).

If we do not "honor our incarnation", as the late Jewish–Hindu teacher Ram Dass put it; if we do not heed our destiny, as Carl Jung saw it; then we succumb to fate. Spiritually, we become a victim of the times and lost in meaninglessness. In contrast, the "irruption" or breaking in of the Holy Spirit that stirs the soul to destiny provides a wellspring even in adversity of meaning, and so the antidote to despair. Therefore, it is not "*my* kingdom come (or *community*, as we might better hear it today)", but "*thy* community come". The prophets and true poets know the urgency of such a way of seeing and being. Adrienne Rich, of Southern Protestant and Jewish heritage, therefore recognized a world in which "so much has been destroyed", and yet, "I have to cast my lot with those/who age after age, perversely/with no extraordinary power/reconstitute the world" (Rich 1978, p. 67).

At this juncture, let me conclude with the significance of Thomas Berry having been a *Passionist* religious and priest, a member of The Congregation of the Passion of Jesus Christ (CP). "Passion" in the Christian sense is precisely that "very flesh-and-blood love" that refuses to avert its gaze or experience from suffering as that which must be endured. The "passion" of Christ was the suffering of Christ from in and out of love. Accordingly, the Passionist religious order was founded as a worldwide community in the 18th century by the Italian mystic, St. Paul of the Cross, who is said to have seen "the name of Jesus written on the forehead of the poor". Those who work in solidarity with the poor learn how to read that alphabet. So it is that Passionists in England and Wales state that their charism, or "gift" of calling, is "the crucified God in the crucified people of this age, and the crucified Earth".[12]

Why is this, in all its seeming "perversity" relative to the ways of the world, so important in our times? It is important because, if our actions for change are not spiritually based activism, we will so easily burn out, sell out, or wallow in the despair of compassion fatigue: for as Rich wrote elsewhere, "It's possible that our national despair is by now too intricate and interwoven for disentangling". Therefore, surrounded by "devastating levels of superficiality and self-trivialization", we see despair even "in the political activist who doggedly goes on and on, turning in the ashes of the same burnt-out rhetoric, the same

gestures, all imagination spent" (Rich 1993, pp. 16–17). Yet, while such will always be specific to the contexts of a given place and time, and while ecocide and climate change are global, there is nothing new in this experience. Jesus in his age addressed an "unbelieving and perverse generation", of which, "because of the increase of wickedness, the love of most will grow cold" (Matthew 17:17; 24:12 NIV). Without spiritual passion, the birthright oil in the lamps of our lives runs dry. When this happened, the five wise virgins who waited on the bridegroom in the parable knew that they could not just donate some oil to their five foolish companions. You can help another to do their spiritual work, but you cannot do it for them. (Matthew 25:1–13; McIntosh 2022) As an old Quaker woman told me, "It is perilous to neglect your spiritual work". To respond to destiny's calling is a discipline, a discipleship, a lifelong following, and hence the "order" of a religious order.

The spirituality that our lives and times invite cannot be lived only at the level of bells and smells and all things bright and beautiful. A theology that faces up to cosmotheandric crucifixion can only find its realization from the depth of the second day on the cross, when, as it is expressed in the Apostles' Creed: "He descended into hell". Ergo, Rich's "perversely/with no extraordinary power".

We might be mindful that, as Orthodox tradition has it, Christ said to the staretz (holy man) Silvanus of Mount Athos: "Keep your spirit in hell and despair not" (Clément 1993, p. 302). As activists, as "passionists" if not fully signed-up Passionists, we work on a long front with many positions. None of us has a God's-eye-view. Again, "We are here. The inescapable is before us" (Berry et al. 1991, p. 5). And yet, as George Fox the Quaker recommended: "Walk cheerfully over the world, answering that of God in every one" (Religious Society of Friends 1994, sec. 19:32).

"Cheerfully"! How is good cheer possible, if we survey the Passionists' "crucified God in the crucified people of this age, and the crucified Earth"? How is it possible to not despair if our spirit attends the gates of hell? Because, suggests the French-exiled Russian Orthodox Paul Evdokimov in an astonishing denouement: "The only message which could reach atheism today is that of Christ descending into hell. As deep as the hell in which we find ourselves, it is even more profound to find Christ already there waiting for us" (Evdokimov 2001, p. 191). Moreover, he nods to the patristic tradition that even Judas went to hell with the crust from the Last Supper still in his pocket. Therefore: "Hell holds in its very heart a fragment of the light, thus comes true the saying: 'The light shone in the darkness'". Moreover (and the italics are his own): we glimpse the cosmic paradox that "*the doors of hell have again become the doors of the Church*" (Evdokimov 2001, pp. 32–33).

Such is the passion; such is the Cosmic Christ—*Pantocrator*—"almighty". So it is that Orthodox churches have a tradition of painting a large icon of Christ Pantocrator inside the dome of their houses of worship. It reminds that "God is with us". At such a level of real presence, the English community activist and teacher Helena Kettleborough sums up the influence of Berry's cosmology in her life by emphasizing *faithfulness*. This, she says, is the key to "the constant challenge and messiness in managing service delivery, staff . . . together with juggling home and family life" (Kettleborough 2023, p. 375).

It is "very flesh-and-blood", this love. That is what I hear in *Befriending the Earth*. That would seem to be the charism of the Passionists, the Congregation of the Passion of Jesus Christ.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The author declares no conflict of interest.

Notes

1 I am grateful to Chis Donald, the Media and Communications officer of the Passionists in England for encouraging me in writing this piece.

2 Although it was written with Thomas Clarke S.J., my spotlight is primarily on Berry's passages as the book's main focus.

3 From online publishing data, it appears that the date of first publication was 1 December 1991. My "33 years" was based on having expected this article to appear in 2024. Its faster appearance is why I have caveated the abstract, "counted inclusively". Sometimes, in the name of angels, might we be allowed to "wing it"?

4 Science Festivals: https://jcom.sissa.it/archive/20/07/JCOM_2007_2021_A01 (accessed on 11 October 2023).

5 Reported in The Scotsman, 12 December 1990, as cited in Loening and McIntosh, 1991, p. 7.

6 Matthew 6:10, MOT (My Own Translation).

7 Luke 16:19–31.

8 See (Kandinsky 2012). This is Hilla Rebay's translation. Michael Sadler's renders it, less powerfully, as "inner need".

9 See Gutiérrez (Gutiérrez [1971] 1974, p. xxix), and specifically, "the important role played in Christian consciousness by the irruption of the poor into our history"

10 The quoted emphasis cites an Encyclical Letter of John Paul II in 2003.

11 Matthew 28:20; and a phrase used in a 1980s sermon delivered by the Rev Ron Ferguson in Iona Abbey, Scotland.

12 What is a Passionist? Available online: https://passionists.org.uk/explained/2021/05/what-is-a-passionist/ (accessed on 11 October 2023).

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4052 Basel
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ISBN 978-3-7258-5318-2