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12. Creation Facing Forward

How the Irreversible Consequences of Climate Change Challenge and Inform Christian Conceptions of Creation

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Introduction

Anthropocene – the name given for the contemporary geological era by members of the scientific community. The term, now used for the better part of a decade, characterizes a time wherein human behavior has changed and continues to change the course of natural history (Crutzen). One of the most pressing questions of our anthropocenic era is how science might help humankind recover and reclaim the sacred. As scholars from myriad disciplines have begun to uncover, one way to do this is to reclaim the traditions from whence we came. That is the focus of this essay: to consider, in light of contemporary science, what the Christian concept of creation might look like facing forward.

Before delving into this urgent query, it is important to note two implicit assumptions: first, the legitimate role of religion in the study of ecological/environmental challenges, and second, an optimism surrounding the ethical potential of particular Christian themes and doctrinal concepts. Regarding the first, it is assumed that religion has a legitimate place at the table of ecological inquiry and discussion. Centuries of scholarship have dealt with the tenuous relations between religion and science. In seeking to address a small aspect of the religion and science conversation here, precautions regarding these respective magisterial are indeed heeded.¹ Nevertheless, despite religion's mythical and mystical nature as well as its reputation as science's longtime divorcee, this paper assumes the value-laden nature of any intellectual inquiry. As Bruno Latour has recently noted, there are no facts that are not human constructs (2010). John Polkinghorne and the late Ian Barbour have demonstrated through research on the intersection between science and religion that values are the foundation of any scientific method. Far from vacuous of the metaphysical, science seeks to supply the indicative in a grammar inclusive of both the speculative and imperative, but in so doing always undergoes a process of interpretation itself.²

It is at this junction, this ambiguous locale of value, that religion plays a critical role. Religion, and for the purposes of this paper, Christianity more specifically, provides values which promote the wellbeing of the natural world. The well-known ecological indictment of Christianity, launched by Lynn White, is not here negated out of ignorance or a foolish refusal of corporate responsibility. Rather, it is addressed head on by expanding the boundaries of theology to include the findings of science. Even White observed:

More science and more technology are not going to get us out of the present ecologic crisis until we find a new religion, or rethink our old one . . . Since the roots of our trouble are so largely religious, the remedy must also be essentially religious, whether we call it that or not. We must rethink and refuel our nature and destiny (1207).

Christianity in particular offers some helpful resources in the ecological conversation, and not only for Christians. Christian theological concepts like creation as truly good, the immanence of God as evidenced in incarnational Christology, and the redemptive promise of kenosis offer enough universal sentiment to be useful and practical for spiritual/religious persons, including those deeply spiritually connected to the well-being of our earth.

This essay will highlight how the science of climate change challenges some major premises in the Christian doctrine of creation. A particular focus will be Christian theology and its related ethical methodology. The discussion will fall into two major parts: the first, a brief overview of four disturbing aspects of climate change; the second, an exploration of

¹ I am using the terminology of the late eminent biologist Stephen Jay Gould, who was well-known for referring to science and religion as “non-overlapping magisteria.” Yet Gould also saw a need to “unite the patches built by our separate magisteria into a beautiful and coherent quilt called wisdom” (63-67).

² Another beautifully helpful illustration of this principle can be found in C. S. Lewis’ “Meditation in a Toolshed,” where Lewis argues that truth is found by looking at the light as well as along it. He illustrates how true wisdom can be found not only in observation, but also in the application of observation to human experience.

how these facets of climate change should impact three particular aspects of the Christian doctrine of creation.

The Realities of Climate Change

While wading through the immense data on contemporary global climate change it can be easy to come down with a case of the green blues, and as a result become paralyzed by the enormity of our present challenge. It is especially important for religious communities to pay attention to two themes weaving throughout the surplus of data. First, the nature of the data is propelling; it builds upon itself and like an avalanche increases the wake of its devastation with time. This aspect of climate science challenges our conceptions of creation as an event at the beginning and leads us to consider moral agency in ingenuitive ways. Second, climate change data illustrates the interconnectedness or the ecology of involved systems; changes to the integrity of one system inevitably impact other systems. The interconnected and interrelated nature of our environmental life forms challenge classical conceptions of the Divine as well as our functional anthropologies as they relate to the doctrine of creation.³ It is necessary to consider four major areas: carbon and increased temperatures, issues related to water in its myriad forms, biodiversity, and the complexity of feedback loops.

Between 1750 and 1950, the CO₂ ppm increased from around 270 to 310 and is now thought to be at or just above 400.⁴ The 20 warmest years of the past 150 years have occurred since 1981, with the warmest 10 in the past dozen years (Steffen, Crutzen, and McNeill). At these trending rates, current predictions suggest that our globe will see an average temperature increase of 4-7 degrees Celsius by the year 2100 (World Bank). There is accumulating evidence that even two degrees of globally averaged warming, expected to come by 2040, undermines ecosystem services essential to human agriculture and habitation and is, therefore, potentially disastrous (Arnell, et al.; on the impact of the 2 degree Celsius warming, see Elkin, et al.; Knopf, et al.: 121-37). Scientists frequently resort to the language of catastrophe, indicating that those who follow the science most closely and understand its implications are more afraid than non-scientists.⁵

³ The data below comes from federal or international entities with appropriate quality control procedures. Such studies are decidedly apolitical. Rest assured there remain minority voices (about .3 percent of scientists in the area) who would balk at such a statement and who not only reject the claims of climate science, but would also point to climate change as a political ploy to limit free-market economic growth. As Michael Northcott has diligently uncovered, such proponents typically carry much stronger political connections than the aforementioned scientists and are nearly always financed by constituents with fossil-fuel connections. Among the 99.7% of scientists who do see climate change as real and urgent, many now speak about “global change” rather than “climate change” or “global warming.” Global change speaks more comprehensively, recognizing not only a rapidly changing climate, but also changes in land-use and increasing rates of introductions of invasive species.

⁴ Many climate scientists refer to this rapid change as “the great acceleration.”

⁵ Jim Yong Kim affirms such sentiments when he states that a 4 degree Celsius increase in global temperature likely equates to “the inundation of coastal cities, increasing risks for food production potentially leading to higher malnutrition rates; many dry regions becoming dryer, wet regions wetter; unprecedented heat waves in many regions, especially in the tropics; substantially exacerbated water scarcity in many regions; incrustrated

Equally catastrophic is the rise of global sea levels. Our earth's seas and oceans have risen approximately 6.5 inches in the last century and the rate of increase in the last decade is nearly double that of the last century.⁶ Many scientists believe that by the end of the present century our oceans will be a foot higher and that in no less than 150 years the coastline of the earth will move to a level 70 feet above present coastal lines (Tripathi).

As water levels rise, threatening to inundate thousands of coastal communities, the waters grow increasingly acidic. Current comparative studies suggest that the acidity of surface ocean waters has increased by 30 percent since the onset of the Industrial Revolution, with forecasted increases about 60% by the year 2050. Each year the ocean absorbs carbon dioxide into its upper waters; it is in essence a "carbon sink," or a place that receives and decreases the amount of CO² in the atmosphere. It is natural for the ocean to homeostatically receive and recycle CO², but the amount the ocean is receiving is increasing by an astounding 2 billion tons per year. What does this mean? Not only does it impact the health of oceanic waters and the myriad life forms those waters support, but it also means that the water itself is warming, an effect that only exacerbates the overall problem of global warming.

As waters warm along with the atmosphere, the earth's ice sheets shrink. With the warming of oceanic surface waters by about one-third of a degree Fahrenheit since 1969, global ice has been drastically reduced. Communities throughout the world are witnessing their glaciers retreating, which contributes to higher levels of oceanic waters and decreased availability of fresh, drinkable water for large populations.

The third major aspect of climate change, the health of the air, is interrelated to matters pertaining to temperature and global waters. In order for temperatures to level off and remain neutral (not reduced – just stabilized), the CO² ppm number must not exceed 350. A token rule of sustainability remains clear here – carbon from beneath the earth's crust must be replaced at the same rate it is removed. And yet, according to a 2007 IPCC study, about 3.2 gigatons of CO² is lost to the air each year.⁷

Immense changes to the earth's waterways and air impact yet another variable in the climate change conversation, biodiversity. As habitats change, so do the lives dependent upon them, as evidenced most acutely in significant shifts in bird migration, the inundation of warm-water fish species among cold-water species, and vanishing coral reefs. According

frequency of high-intensity tropical cyclones; and irreversible loss of biodiversity, including coral reef systems" (ix).

⁶ The nation of Maldives, for example, with an average land height of 4.5 feet above sea level is due to see oceanic rise of around 23 inches by 2100. In light of this it is no wonder that former President Mohamed Nasheed began to look into purchasing land in surrounding areas like India, Sri Lanka, and Australia. When interviewed in 2008 he stated, "We do not want to leave Maldives, but we also do not want to be climate refugees living in tents for decades" (Ramesh).

⁷ Such large numbers can be abstruse and ultimately unhelpful. As my friend and University of Minnesota entomologist, Brian Aukema, likes to explain, that is roughly the size of 400,000 metrodomes, or equivalent professional sporting arenas. To put this into more accessible terms, carbon is given up to our air at a rate of about 1 professional football stadium every 25 seconds and, when added to the CO² coming from burned fossil fuels, it is 5 stadiums per minute.

to the fourth IPCC report, if current trajectories of global temperature warming occur, between 20 to 30% of plant and animal species will be at risk of extinction by 2100. Issues related to biodiversity speak not only to what will be lost, but also to the pestilence that will be gained. In Minnesota, for example, present ongoing studies indicate a prolonged lifespan of the Warren Root Collin Weevil (otherwise known as a destructive Pine Beetle). This insect's larvae once could not endure the cold Minnesota winters, but it is now not only surviving, but also adapting and infesting southern counties due to increased temperatures (Machial, et al.).

If all this information was not alarming enough, one of the most sobering aspects of climate change relates to formidable and unrelenting feedback loops. Like the trigger on a Rube Goldberg device, some of these climactic influences have now set a much larger force in motion, one that cannot be stopped (Solomon, et al.). In a sense, climate change is now feeding itself. Methane gas, for example, is almost twenty times more potent than CO² when it comes to atmospheric warming and is being released in increasing amounts from warming Arctic permafrost soils and waters. As the earth's temperature increases and the tundra thaws, methane is released from natural gas storehouses, glacier deposits, river taliks, and frozen ocean deposits. This results in sporadic, yet far more grave temperature increases, for despite methane gas having a shorter atmospheric lifespan than CO², its warming potential is 72 times that of carbon dioxide, and can wreak havoc for up to two decades after its release (Vaks, et al.).⁸ It is no wonder that the United States Department of Energy and the Climate Change Science Program have identified feedback loops as among the most serious scenarios for abrupt climate change (Myers).

What the Realities of Climate Change Mean for the Christian Doctrine of Creation

At the peak of the arms race, with nuclear war looming large over ordinary homes, Dorothee Soelle argued that any legitimate theology must be examined by the extent to which it seriously addresses our biological realities, or in her words, our lives as "people of the dust" (32). While the intimidating fear of nuclear warheads is now a fairly distant thought for the average citizen in the U.S., Soelle's attention to the practical embodiment of theology remains critical today since our dependence upon the fecundity and the resiliency of earth has never been so jeopardized. Climate change is impacting our weather, food, economics, and politics, redefining our healthcare, technology, familial relationships, and the reach of science. For the Christian, therefore, the question is not *whether* data and systems information on climate change should impact theology, but rather *how* it necessarily shapes Christian theology, notably the doctrine of creation.

For the purpose of further examining how the Christian doctrine of creation relates to climate change, one observation is of particular importance. The challenge of climate change results from aggregate and cumulative environmental effects, its scope and complexity demonstrating the interrelatedness of life's systems. Not unlike the web of effects caused by

⁸ Other examples of feedback loops are: the rapid decomposition of the world's boreal (peat moss) forests, the increase in forest and bog fires throughout the northern hemisphere, as well as the increase of flooding near coastal waters, outputting silt into Deltas, resulting, for example, in the darkening oceanic waters and microbial runaway decomposition in Siberia's Yedoma region.

climate change, Christian theology, too, is the result of necessarily interrelated ideas and doctrines. In the Christian theological context, the doctrine of creation cannot be extrapolated from Christology, anthropology, eschatology, and the doctrine of God. Rather, it is intrinsic to these doctrines as they are to the doctrine of creation. God not only creates and sustains, but what is more God gives and communicates something about God's self and is present in the works of creation. With this in mind, let us consider three important aspects of creation in light of our observations about climate change.

First, creation must be seen primarily as an ongoing process as opposed to an event that happened only at the beginning. Second, the immanence of God within creation cannot be overlooked in a vain effort to preserve God's sovereignty. Finally, creation anthropologies highlighting humankind *creatio imago Dei* must more creatively attend to the dispersive and intragenerational nature of ethical responsibility and less to the maintenance of traditional models of relations found in concepts of dominion, management, and stewardship.

Divine Love and Creation as Ongoing

In most texts dealing with Christian systematic theology, and central to the doctrine of creation, is an account of an omnipotent Creator God who creates from nothing, that is *creatio ex nihilo*. For myriad reasons beyond which cannot be explained within the scope of this paper, *creatio ex nihilo* has been upheld as the historical orthodox view of creation, although notably not without significant debate and rich conversation about what exactly is meant by "nothing."

Yet as science has shown from the late eighteenth century onward, the earth has a history of its own. In the words of Cambridge theologian and physicist John Polkinghorne, "We live on a second-generation planet, encircling a second-generation star, which have both condensed from gas clouds and the debris of first-generation supernovae explosions" (94). In its very origin, our planet is evolutionary and therefore ought to be understood as a creation allowed by its Creator to make itself. This is perhaps why many of Darwin's Christian contemporaries (e.g., Charles Kingsley, Frederick Temple, Aubrey Moor, and Asa Gray) saw no discrepancy between theories of natural selection and the Biblical texts. Such Christians kept permeable lines between knowledge as science and knowledge as spiritual wisdom and remained open to the unfolding and becoming nature of the universe. Their quest for truth was multifaceted and dialogical in nature.

Contemporary thinkers such as Jürgen Moltmann have made the dialogue between science and Christian theology more explicit by articulating a spectrum of creation that includes *creatio originalis*, *creatio continua*, and *creatio nova* simultaneously (1985, 2001, 2007). In all three aspects Moltmann argues that creation ultimately occurs because God allows it. This by no means requires God to be the divine dictator over creation, nor does it make spiritual wisdom more valuable than material knowledge. Rather, by upholding a theocentric perspective over and above anthropocentric or biocentric views of creation and by broadening the term "create" to include what has occurred, is presently taking place, and will take place, Moltmann's doctrine of creation finds continuity with Christian concepts of redemption. Reading creation as fundamentally related to doctrines such as Christology, Pneumatology, and Eschatology, Moltmann demonstrates how creation in all three aspects is brought into being kenotically – from God's own giving of self – and, as such, is

fundamentally not a creation of rule, but of love; not a creation born of a tyrant, but of a servant (1974, 1985, 1990). This divine love of creation, which is purposeful, active, and ongoing, is reflected in Genesis 2:15, where human beings, *creatio imago Dei*, are implored to take on an intentional and continued attitude of service toward creation.⁹ It is God's love for creation that makes possible creation's own generative fecundity. So while creation is held in God in so far as God allows the creative act to occur, creation is also its own subject, invited to join in the creative act.

Insight related to God's love for creation and God's empowerment of it is especially important in light of climate change. We have a tremendous capacity to not only abdicate our responsibility of protection and service, but also to prohibit, undo, and de-create. Were our Christian communities more mindful of God's kenotic creative act in the here and now, perhaps stronger connections between ecological responsibilities, habits, and the spiritual act of worship would emerge. As Moltmann helps us to see, emphasis on God's agency in all aspects of creation focuses our attention on the binary connection between divine power and freedom on the one hand, and kenotic love on the other. It can inform our conception of power and lead us to further consider how we might wield such power in light of responsibility and service toward the earth and its life forms.

In holding near a tenet of creation as ongoing, Christian theology must correspondingly address views of the Divine. For if divine creation is just as much about what is unfolding and is yet to come than about what has occurred, God remains ever near to creation.

Emphasizing the Immanence of God

God's transcendence, that is God's otherness, omnipotence, and total freedom is stated perhaps nowhere more clearly than by Irenaeus. Considered to be the first Christian thinker to articulate a doctrine of *creatio ex nihilo*, Irenaeus went to great lengths to ward off pantheism. In *Against Heresies* he writes:

I . . . begin with God the Creator, who made the heaven and the earth, and all things that are therein . . . and demonstrate that there is nothing either above him or after him; nor that, influenced by any one, but of his own free will, he created all things, since he is the only God, the only Lord, the only Creator, the only Father (2.1.1).

For Irenaeus, the power and the freedom of God are paramount, as they were for later Christian thinkers as well. Thomas Aquinas, for example, makes a careful distinction between the persons of the Trinity emerging from one another (*procession*; see ST 1a 2ae.27.1-5) and the emergence of creation from God (*emanation*; see ST 1a 2ae.44.1-4; ST 1a2ae.45:1-8). Later still, Karl Barth affirmed the power of God by emphasizing Christology as the recapitulation (*anakephalaioisis*) of creation, namely, that while the world develops God

⁹ In Genesis 2:15 where it says, "The Lord God took man and put him in the Garden of Eden to work it (*abad*) and keep it (*shamar*)," the word *abad* most closely resembles the verb "to serve," while *shamar* most accurately depicts an active caring preservation of or for. Far from connoting ownership or a call to management, this passage intimates responsibility. This passage suggests that human work and productivity ultimately seek to get under and lift up the wellbeing of surrounding life. This is what might be meant by co-creation.

overcomes all evil.¹⁰ Central for these thinkers is the orthodox doctrine of creation as God's deliberate or purposeful and meaningful expression of God's will.

Yet, suffering and death only seems to be increasing in our current climate crisis, challenging God's beneficence on the one hand, and God's sovereignty on the other. The World Health Organization (WHO), for example, has already noted significant increases in water-borne diseases and malaria as a result of rising global temperatures. The WHO estimates an increase of 250,000 deaths per year between 2030 and 2050 as a result climatic changes. A 2012 study published in the *Proceedings of the National Academy of the Sciences* found over half of the Great Barrier Reef to be lost in the past three decades (De'ath, et al.). Recent work on migration has also demonstrated widespread loss of normative habitat as a result of heat stress and climate shock.¹¹ These examples, among others, indicate why God's transcendence over creation must be qualified by the incarnation and the cross. As Sallie McFague rightly notes in her work *The Body of God* (196), when Christians begin discussions on creation from the perspective of the immanent Jesus, with the incarnation and the cross functioning as the environment for the doctrine of creation, very different queries surface and new theological solutions emerge. Like Moltmann, McFague espouses a radical incarnationalism in which the world is created and sustained not only by (read: through) Christ, but also in him. Interestingly, Moltmann and McFague come to this shared perspective via different means. Whereas Moltmann calls upon *Shekinah*, the mystical Hebrew concept of the Spirit's earthly indwelling, to explain the sustenance of the world (1985), McFague unpacks Stoic references to the cosmic body and notes how in the hypostatic union of Christ connections between the physical and the spiritual are made explicit. For both, Christ is present within the suffering planet not only because the world itself is held in the Triune God, but more so because God in Godself is characterized by Christ's kenotic love. Far from distantly reigning on high, God in Christ takes on the weight of species lost, waters poisoned, and air made gray.

Extending this argument a bit further, might it be possible that Luther's hidden God, the God who is revealed only by his back and in the suffering of the Son, has never been more real to us than now in the complexity of our global ecological crisis? Luther's move away from philosophical categories as the beginning place for theology and alternative embrace of God as revealed in the flesh and glorified on the cross can perhaps help us consider traditional attributes of God, namely transcendence and omnipotence, in an important new light. As Moltmann observes, omnipotence itself is a meaningless term without an object; it must be power over or on something. God's power is fundamentally relational, even within the life of the Trinity itself (2001). This relational power is not juxtaposed by love, but rather, embodies love itself. When power is understood as love, then God's otherworldly transcendence over creation can become reified and begin to more

¹⁰ In *Church Dogmatics*, Barth speaks to the *simul* of the past, present, and future and claims that Jesus is the "genuine and real yesterday of God's eternity, which is anterior to all other yesterdays, including the yesterday of creation" (III/2, 484).

¹¹ A recent study in *Nature Climate Change* shows Pakistan to be one of the hardest-hit places to this end. Flooding, as a result of heat stress, has negatively impacted farming income in rural areas. This has led to major movements of rural persons to urban centers and across national borders.

practically affect our daily lives. As attention to God's immanence in creation is renewed, it is more likely that the sorely-needed sacramental approach to our relations with the world around us can be recovered.

On a very deep level, we humans can love, cherish, and protect the created world in an embodied way not because God calls it good as external to Godself, but because God is good and creation is present within God. Our affections turn, to use Wendell Berry's adopted phrase, to the beauty and wonder of creation itself, with no risk of idolatrous worship. Rising above and beyond dichotomies between God's transcendence and immanence, gift of free will vs. omnipotence, is the virtue of love. In the beginning there was love and in the beginning was the end; that is, God's willingness to wait for the response of those God has created with vulnerable openness to their future yet to come (Moltmann 2001). Augustine rightly noted in his allegorical distinction between the earthly and the spiritual city the difference of one's citizenship lies not so much in space or time, but rather in love. To believe the science of climate change and to enact personal and public environmental transformation is not to have little faith in God, with some idea that God can only be worshipped in the spiritual realm or that our earthly state will someday be annihilated for some larger spiritual purpose. No, rather, to understand the gravity of our ecological situation and to seek change is to have great faith in God, the God in whom the world finds its being.

And yet this faith is hard to come by, not necessarily because we feel so abandoned by the God of the incarnation and the cross, but perhaps more so because of the nature of our own moral agency. Not only is our human activity changing the global ecology, but it is also shaping our ideas about humanity, which are in turn used to interpret these changes. How we think of ourselves in relation to creation matters a great deal.

Our Anthropologies of Creation and Today's Perfect Moral Storm

Long-standing anthropologies of the creation narrative have been embodied by concepts like dominion, management, stewardship, and the like. Many biblical scholars, such as Richard Bauckham, have demonstrated how these working concepts, stewardship included, easily exemplify human hubris and do not adequately reflect the biblical texts on creation. In *The Bible and Ecology*, Bauckham works from James Lovelock's famous Gaia hypothesis and suggests that we see the earth as a unified system, one that is regulating itself rather than being regulated by human beings. Insisting on human stewardship, he argues, "neglects God's own continuing involvement with his creation" and sets humans over creation rather than within it (7). Moreover, dominion and stewardship models tend to isolate Genesis 1:26 and 28 without giving proper attention to the verses' place and purpose in the overall creation narrative. What is highlighted throughout the early chapters of Genesis is humans' shared origin with creaturely life and human responsibility for thoughtful participation in creation *vis-à-vis creatio imago Dei*. A focus on participating in creation lends itself to alternative approaches, which to Bauckham's eye must combine science and good theology for a more modest and more limited understanding of human presence than the inflated and dangerously exaggerated notions that have plagued humanity since Francis Bacon and the birth of the Enlightenment. Heeding the two points discussed above, namely God's immanent presence in the ongoing act of creation, Bauckham's participatory approach

helps direct our attention to being but members of the community of creation and leads us to consider the ways in which Christian anthropologies can work to reclaim postures of service implicit in the biblical texts.

Beyond hermeneutics lies the fact that Christian anthropologies endorsing humankind's use of power over the earth do not take seriously the dispersive and intergenerational implications of climate change. As we have seen, climate change is a complex and interrelated set of variables resulting from countless actions and reactions spanning the course of decades. As Stephen Gardiner observes, the global, intergenerational, and theoretical storms that distort our interpretation of the problem also corrupt our abilities to take responsibility, and thus constitute a "perfect moral storm." Building upon Gardiner, Willis Jenkins calls our current ethical storm "perfect" in the sense that our ethical challenges result from indirect, cumulative, and aggregate outcomes of injustice (34).¹² For example, traditional anthropologies of dominion and management have failed to help us see and appreciate the magnitude of intergenerational debt as manifested in structural evils like radical inequality and theoretical ineptitude (see Moe-Lobeda). Beyond their failure to promote the keeping and serving of the earth, these anthropologies have offered little to no pragmatic "teeth" by which Christian concepts of creation might actually address our biological and environmental realities. Even if one supposes dominion anthropologies represent accurate readings of creation texts, how can our contemporary Christian communities claim to have any semblance of control over a world that now autonomously spins in declining feedback devoid of human behavior or intervention? To this end, exhortations to exhibit more responsible control over the earth simply ring hollow. Likewise, anthropologies that emphasize better management of the earth seem to skirt around the uncomfortable reality that not only did poor human management contribute to the present problem, but more to the point that human life will itself likely be increasingly "managed" by environmental constraint and limitation.¹³ Practically speaking, we are at a point in history where we must ask: other than ourselves what is there for us to manage? As we can see from these examples, attempts to explain away our complacency and complicit involvement in the problem by calling for a more sanctified version of the same anthropologies is to live in a separatist realm, a move that frankly none of us can afford to make in our contemporary ecological context. As Dietrich Bonhoeffer prophetically suggested, the ultimate question for responsible people "is not how to extricate [ourselves] heroically from the affair, but how the coming generation is to live" (7).

¹² It is important to note, however, that Jenkins ultimately does ascribe to a managerial perspective on ecological ethics, largely because that is the metaphorical model humans have espoused in the past, and so since the mess is largely ours, it is better to "call us what we are – poor managers" (3).

¹³ For example, as mentioned above with reference to Maldives, many island nations face radical infrastructural and lifestyle changes as a result of rising oceanic levels. Another example of this shift relates to food and its accessibility. David Lobell, the Deputy Director of the Center for Food Security and the Environment at Stanford University, has produced numerous studies noting the impact of climate change on some key crops, such as corn, coffee, myriad fruit and nut trees, and wine grapes. His research suggests that as a result of such climate-related agricultural changes, U.S. citizens will need to considerably modify their diets in the next 10-20 years should current projections of climate change stay the course (<http://fse.fsi.stanford.edu>).

A working Christian anthropology in relation to creation is better recast in the shape of becoming theocentric listeners of the land and creative imaginers. The listening begins with the realization that our role as co-creative beings is not more valuable than the unfolding creative nature of other life forms, but is grounded rather in an embodied realization of our dependent nature. It is we humans who need the air, earth, and water, not the other way around. Science has now shown that at the cellular level less than 10% of our bodies are uniquely human, the rest merely a home and host for other forms of life.¹⁴ Augustine's fifth-century wisdom still proves true: our bodies are the earth we carry.

Related to this humility found in dependency lies a call to be people of a place. Just as we find ourselves living in a particular point in history, so too we all inhabit particular locales and spaces. The vocational nature of a Christian anthropology, which in short seeks to responsibly situate one's love of self in relationship to God and others, must attend to these particulars and respond accordingly. For example, in the Twin Cities salty winter runoff from interstates and highways has reduced the presence of ditch clover, thereby undermining systems of pollination throughout the entire state of Minnesota. In addition to driving less and reducing the use of ice salts, this localized problem can be partially addressed in persons' very own front yards, for when natural clover, often viewed as petulance and thereby sprayed or cut away, is left to grow, regional birds and bees, and the ecosystems they collaboratively support, thrive.¹⁵ The moral nature of our anthropologies must adopt an adaptive ethic that begins with local experience while not being limited to it. As Wendell Berry argues, "we must hear what our place has to say, and then respond in the most considerate and conserving manner" (52).

By growing more acquainted with our space and place, we are also more likely to grow in imagination, for when we are in touch with actuality we can more easily see the ascendancy and superiority of potentiality.¹⁶ Even on the most localized level, we are unable to escape our responsibility for the earth's poor health. Therefore, any honest and relevant Christian anthropology must orient both personal and corporate responsibility toward what could be, toward hope. This need not be pie-in-the-sky idealism, but rather the intentional gatherings of persons who seek to become "skilled participants in moral culture, capable of recognizing and stimulating the inventive processes by which agents make culture capable of meeting new problems" (Jenkins: 172). Larry Rasmussen calls such communities "anticipatory" because rather than looking merely to what is and running long on critique (a tune all too familiar in religious ethics contexts), such communities re-imagine worlds and reorder possibilities. They give way to new or renewed practices and can easily become "sacred strangers in a secular society," rather than religious adversaries (264-65, 364).¹⁷ This

¹⁴ Larry Rasmussen gives a good overview of the evolutionary science that lends itself to a more modest (and even shrunken) view of the human (18-23).

¹⁵ Minnesota Public Radio has been covering this issue in recent years. See the reports by Gunderson (2014a, 2014b).

¹⁶ I am calling upon Søren Kierkegaard's terminology from *Either/Or: A Fragment of Life*, in which he speaks to the power of potential within life's religious realm, over and above the aesthetic or the ethical.

¹⁷ Rasmussen is calling upon Howard Becker's work on personality types undergoing transition: "sacred strangers in a secular society" is Becker's term.

is what theology, including Christian theology, can offer – namely, a valuable endorsement of science and a devoted companionship to the earth herself.

Conclusion

Working from the assumptions that religion plays a critical role in any conversation about environmental decline and that Christianity in particular offers many helpful resources, we have surveyed the damage of climate change. In so doing, we have noted that challenges pertaining therein are particularly complex because of the cumulative and interrelated nature of climate science. Related to this we have also established that commonly employed ethical repertoires, and the theology from whence they came, now prove inadequate due to the aggregate, dispersive, and intergenerational nature of human agency in the present-day Anthropocene. Finally, I have suggested that from within the Christian context an appropriate response to all of these challenges can and must begin with the reclamation of three important aspects of the doctrine of creation: creation as ongoing, God as immanent, and humankind as anticipatory servant. Perhaps, if cultural change among Christians can commence from the embodiment of these theological riches, then the human element of the Anthropocene can at the very least be abated and at best be employed to transform today for the sake of tomorrow.

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