Journal of Markets & Morality
Volume 22, Number 2 (Fall 2019): 355–371

The Modernistic Roots of Our Ecological Crisis: The Lynn White Thesis at Fifty

Andrew J. Spencer
Senior Research Fellow
Institute for Faith, Work and Economics

This article reviews the history of Lynn White's influential essay "The Historical Roots of Our Ecological Crisis" and its evaluation of Christianity as a cause of modern ecological degradation in particular. Both White's essay and various responses to it are critiqued for proposing the substitution of a traditional Christian perspective on God, humanity, and the natural world. Instead, this article insists that environmental ethics needs a robust and traditional Christian theology to undergird it.

Introduction

Sometimes in a flash of brilliance, someone uncovers an idea whose time has come, which forever alters human understanding and without which subsequent history cannot be understood. This is true of Luther's "95 Theses," which he published in response to corruption in the Roman Catholic Church. It is also true of the Declaration of Independence of the United States, which informed the American Revolution and inspired other colonies to seek their freedom. Based on the voluminous discussion of its main ideas over the past fifty years, Lynn White, Jr.'s essay "The Historical Roots of Our Ecological Crisis" may seem similarly significant to those studying recent trends in environmental ethics.

A close reading of White's essay reveals that the level of attention given to it may exceed the value of its arguments. In fact, White's basic thesis that Christianity is at fault for ecological degradation is questionable even within the context of his own essay. This article outlines White's argument and summarizes various categories of response to the popular essay. Then it seeks to demonstrate

that modernity—not orthodox Christianity with its common belief in a Creator who is distinct from the creation—forms the root of our ecological crisis and outlines several common responses to a rejection of modernity's influence on the environment. For Christians, a rejuvenated interest in the doctrine of creation, in rejection of modernity's anthropocentrism, rises as a superior option to a selective attempt to make Christianity great again by abandoning its doctrinal core. It is time to shift the dialogue in Christian environmental ethics away from White's essay toward showing how faithful Christian theology undergirds a robust, balanced concern for the welfare of all of creation.

White's Assessment of Historical Roots

In March 1967, Lynn White, Jr. published an article that has been discussed for the past fifty years. "The Historical Roots of Our Ecological Crisis," originally delivered as an address at the American Association for the Advancement of Science, took the pressing question of the obvious ecological degradation of much of the industrialized world and pinned the blame on Christianity. The essay was published in *Science* magazine, which ensured its ongoing popular availability and also seemed to allow too little editorial attention to the plausibility of his arguments.

When White's essay hit the press, Christianity seemed to be reeling in society. On April 8, 1966, *Time* magazine ran a cover story asking, "Is God Dead?"[1] The rejection of Christian sexual morality was well underway in popular culture, with 1967 being labeled the "summer of love." The future of the Christian religion in American culture seemed to be on the margins.

Meanwhile rivers were dirty, trash could be found floating in the oceans, and Rachel Carson had everyone worried about the toxicity of pesticides.[2] The *zeitgeist* was so focused on the environment that Paul Ehrlich's *Population Bomb* was just about to burst onto bookstore shelves, becoming a *New York Times* bestseller.[3] People were deeply concerned about the environment and looking for someone to pillory.

White's essay sang a sweet melody for many, given the mood of the day. He began by noting that humans have always impacted their environments, but that until recently they have been limited by the constraints of technology. That changed when science and technology merged in the mid-twentieth century in a synthesis that "is surely related to the slightly prior and contemporary democratic revolutions which, by reducing social barriers, tended to assert a functional unity of brain and hand. Our ecologic crisis is the product of an emerging, entirely novel, democratic culture."[4]

He spends more of his essay tracing the evolution of technology through history, with a focus on how science flourished in the West in contrast to all other civilizations. He points toward changes in plow technology that helped liberate peasants from bare subsistence to the ability to produce surpluses during the Middle Ages. He notes, "Man's relation to the soil was profoundly changed. Formerly man had been part of nature; now he was the exploiter of nature."[5] The focus on technology in medieval history makes sense for White, since he specialized in the topic, having published *Medieval Technology and Social Change* just five years earlier.[6] White accurately argues that Western civilization came to improperly view humans as unconnected to nature and place humans as masters over nature.

However, White quickly steps beyond history into theology in the few remaining pages of the infamous essay. His opinions have been potent in forming the dialogue about Christian environmental ethics, which is only more unfortunate because they are poorly founded and framed. White moves from observing the separation of humans and the created order to declaring that attitude was a direct result of "[t]he victory of Christianity over paganism."[7] More explicitly, he argues, "Christianity, in absolute contrast to ancient paganism and Asia's religions (except, perhaps, Zoroastrianism), not only established a dualism of man and nature but also insisted it is God's will that man exploit nature for his proper ends."[8] Furthermore, "By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects."[9]

Even given the original form of White's essay as a conference lecture, he makes these dramatic generalizations without adequate substantiation. This may be more forgivable for those topics upon which White is a recognized expert, such as the development of technology in the Middle Ages. However, the thrust of his accusation against Christianity relies upon the argument that human control over the environment seems to be more prevalent in the West, the West is dominated by Latin Christianity, and therefore Latin Christianity is to blame for the negative consequences of human control over the environment. This syllogism is dubious. The spread of Latin Christianity may correlate with the rise of modernistic domination of the created order, but that does not necessarily imply a causal relationship.

The remainder of the essay outlines the revisions White sees as necessary to salvage Christianity and nature from the brink of disaster. White calls for reformulating Christianity based on the theology of Saint Francis of Assisi, whose "view of nature and of man rested on a unique sort of pan-psychism of all things animate and inanimate, designed for the glorification of their transcendent Creator,

who, in the ultimate gesture of cosmic humility, assumed flesh, lay helpless in a manger, and hung dying on a scaffold."[10] As he winds down his essay, he concludes, "[W]e shall continue to have a worsening ecological crisis until we reject the Christian axiom that nature has no reason for existence save to serve man."[11] The boldness of White's thesis has made it popular in some circles, but it also makes his assertions vulnerable to justified criticism.

By the end of the essay, White reformulates his previously limited hypothesis as something more aggressive, but less substantiated. After noting the particularly Western nature of the human domination of nature and placing the blame on Latin Christianity, White subtly shifts his critique from the Roman Catholic and Protestant traditions to all Christianity. Thus, his argument can be restated to say that the ecological crisis is due to human domination of nature; Christianity encourages human domination of nature; therefore Christianity caused the ecological crisis. Or, in his own words, "Christianity bears a huge burden of guilt."[12]

"The Historical Roots of Our Ecological Crisis" should never have become the touchstone for the dialogue about Christian ethics because its argument is insufficient for its claims. Mere paragraphs before laying the blame for ecological destruction at the feet of all of Christianity he extols the virtues of Greek Orthodoxy, which he claims did not lead to human domination of nature.[13] By the end of the essay, White appears to have discarded this praise in lieu of ascribing a dualistic ontology to all Christians, except his proposed patron saint. The essay is suitable for a conference banquet lecture, but it lacks the intellectual rigor and nuance appropriate for the position it has taken within the debate over Christian environmental ethics. There are times when it seems that the essay is referenced by those who may not have made it beyond the title and a conversational summary of the argument.

Responses to White

Despite the weaknesses in the essay, it has loomed over the conversation about Christian environmental ethics for the past fifty years.[14] Responses to White's argument from Christians can be grouped into four basic categories, which tend to align with distinct streams of Christian theology.[15] The most radical, Christian response to White's accusations in light of the ecological crisis has been from liberation theology, which seeks to "resist the Bible in the interests of ecology."[16] This movement, which is called ecotheology, attempts to reconstruct Christianity so that the voice of the oppressed earth can be heard from within the text of Scripture and in the life of the church.[17] Within ecotheology, "the approach is not one of rediscovering the positive value of texts hidden beneath a history

of misinterpretation but of facing, resisting and escaping intrinsically negative texts."[18] Such readings of resistance are intended to answer White's criticism of orthodox Christianity and eliminate alleged anthropocentrism.

Ecotheology significantly deviates from traditional understandings of Christianity.[19] The basic assumption of ecotheology is that White is fundamentally correct and that Christianity is deeply culpable for human damage to the environment. Thus, ecotheologians argue, the so-called cultural mandate of Genesis 1:28, which includes the word "dominion" in some translations (e.g., ASV, ESV, KJV, NKJV, and RSV), must not simply be reinterpreted, it must be rejected. In sum, ecotheologians call for Christian doctrine to be rejected except where it supports ecofriendly actions that match modern science and cultural norms; it is a form of ethics that uses religion as a sociological tool to effect change, rather than as a means to approach truth about God.[20]

A second response to the accusations in "The Historical Roots of Our Ecological Crisis" has come from revisionists who generally accept White's critiques and seek to reformulate Christian doctrines, but with a much stronger interest in orthodoxy than seen among ecotheologians. Such attempts at ecofriendly, revisionist Christianity often come from liberal Protestantism. It is also evident among some Roman Catholic thinkers, though revisionist efforts within Roman Catholicism tend to be less overt.[21] In fact, revisionist responses make up the bulk of Christian literature on the topic of environmental ethics.[22] Such Christians interpret the word "dominion" in Genesis 1:28 to "suggest service, servanthood, and caring as modeled by Christ."[23]

One revisionist theologian, H. Paul Santmire, describes the value of White's essay as "the disclosure of a new paradigm for theological thought about nature, extending our understanding of the love of God for nature. According to this new paradigm, nature is now a fundamental datum for theological reflection, along with God and humanity, no longer a matter of secondary or merely instrumental importance."[24] Such revisionists claim continuity with the orthodox Christian tradition, but seek to modify its tenets to support the culturally approved responses to contemporary concerns.[25]

A third response to White's essay has come in the form of passivity. A large swath of fundamentalist and evangelical Christians has largely ignored White's essay and the fervor that surrounds it. There is, of course, little documentation of this attitude since it is characterized by silence. What response there is often comes in the form of rejecting the attempts to consolidate political power and adulterate Christianity by revisionists seeking to align their doctrine to support the whole gamut of environmental activism.[26]

Horrell, Hunt, and Southgate describe this position as one of active resistance to ecology and align E. Calvin Beisner with those advocating for thoughtless use of the environment.[27] However, Horrell and company fail to note that Beisner is not actively opposed to caring for the environment; he merely sees creation care as consisting of better human activity in the world not the rejection of Christianity and adoption of misanthropic ethics.[28] If the voice of groups such as the Cornwall Alliance, which Beisner represents, are categorized as opposing proper concern for the environment, this is likely because critics have narrowly defined an appropriate interest in ecology such that it excludes entities such as the Cornwall Alliance, and that critics perceive that such groups focus more on combating unhealthy versions of environmentalism than on offering a positive vision for environmental stewardship.

Even those Christians that are most belligerent toward calls for environmental activism are, more charitably, simply failing to apply the generally earth-positive call to stewardship in Scripture to environmental ethics.[29] They are rarely actively advocating for misuse of creation. Some who resist environmentalism also see a more limited view of the role of the Church than many Christian environmentalists, so that activism is a private concern.[30] Most often, those Christians that are nonresponsive to the question of ecology tend to be so because they are focused on stewarding the core doctrines of the faith.

A fourth Christian response to White's infamous essay comes from those who seek to recover the biblical texts from readings that have led to ecological abuse. Such individuals argue that the Christian tradition "can be a significant source for an ecological ethics: that [biblical texts] do *not* sanction an exploitative form of human dominion over the earth, *do* inculcate a sense of the goodness of the whole created order, and *do* convey a picture of redemption as encompassing 'all things' and not just human beings."[31] One proponent of reading Scripture with integrity, but recovering a positive ecological message was Francis Schaeffer.

Pollution and the Death of Man was the first major response to White's essay. In it, Schaeffer challenged evangelical Christians to respond to the ecological crisis by being more consistently Christian, which means by being better stewards of God's creation.[32] Schaeffer called for respecting nature, because God made it. Even the fungus on a tree should be permitted to live, unless there is a reason to kill it. Schaeffer's response accepted the possibility and appropriateness of human intervention in the created order but focused on the Christian hope of the restoration of all things and thus the contemporary believer's responsibility to live in light of that future renewal.[33]

Pope Francis recently offered an orthodox vision of environmental renewal in the encyclical, *Laudato Si'*, where he commends Roman Catholics to a greater

concern for the environment.[34] There has been some debate about the discussion of climate change in that document, but the overall thrust of the encyclical recognizes the dignity of humanity and the value of creation, and is firmly connected to the historic tenets of the Christian faith as presented through the Bible and prior Church teaching.

Contrary to the criticism of Hunt, Horrell, and Southgate, Beisner's efforts at promoting a Christian environmental ethics that preserves doctrinal orthodoxy falls within this category. His approach sees stewardship as a holistic concern for Christians that cannot neglect the importance of development in alleviating poverty. Thus, he offers a defense of the free market as both compatible with a healthy environment and a better alternative than centrally planned economic systems.[35] Similar efforts are underway through the work of Christian economist P. J. Hill at the Property and Environment Research Center.[36] Whether or not other environmentalists agree with the approach taken by individuals and organizations like these, it is unfair to deny that they are active in promoting a stewardship of the environment based on the implications they see in Scripture.

The Roots of Anti-Environmentalism in Modernity

There is little doubt that many ecological problems are caused by incautious human domination of nature. However, looking at White's own evidence, it appears human domination of the environment arose along with modernity.[37] Therefore, it is quite possible that the historical roots of our ecological crisis may be found in modernism's anthropocentric dualism rather than Christianity. That such dualism seems to have arisen within the Western Christian context does not necessarily implicate Christianity. Rather, it is to the credit of Christians where they have resisted modernity's influence on core doctrines of orthodoxy, including the rise of naturalistic dualism. In fact, it may be that the liberal wing of Christianity has responded so self-deprecatingly to White's accusation because, as advocates of modernism within Christianity, they feel the weight of guilt for their adoption of a modernistic view of creation.[38]

The guilt of modern Christians over the role of modernity in environmental crises is likely appropriate. Accepting that modernity and modern Christianity tend to support matter-spirit dualism, that still does not prove White's thesis that Western Christianity is at fault for ecological domination. Despite the accusations of some theologians, the early church was not particularly dualistic.[39] In fact, Santmire finds a source for environmental ethics in the creation theology of Irenaeus.[40]

Additionally, Bradley Green's excellent dissertation demonstrates that claims of hard dualism in Augustine are incorrect. Instead, Augustine is a hierarchical dualist, which means he recognizes the difference between God and his creation and between the human body and soul.[41] This is the pattern that emerges from historical theology: God is different than his creation, but he relates to it; spirit and flesh are different, but the body is not without value for being less permanent than the soul.[42] Humans are part of the created order, albeit a special part. Certainly, there are cases where the difference between matter and spirit is exaggerated and inappropriate valuations made, but the main thrust of Christianity ought not to be judged based on the errors that arose from its periphery. Moreover, it is less just to accuse Christianity of the crisis of modernity simply because modernity arose from the primordial soup of the culture that also contained Western Christianity.

Tracing out the influence of the various streams of Enlightenment thought in modernity, Louis Dupré explains the movement from the mechanistic explanations of the universe to the materialistic assumptions of modernity. It began with Newton's attempts to explain motion in the natural world apart from direct external influences. That gave foothold to a train of natural philosophers who moved progressively away from supernatural explanations to Kant's denial of the immanence of divine actions.[43] The early movements in this shift began through the natural philosophy of faithful Christians, but the final stages are distant from any expression of orthodox Christianity. The evolution Dupré describes is much different than the causal link between a disenchantment of nature and Christianity.

In contrast to Christianity, modernism directly sets humans to the task of dominance over the created order. According to Michael Allen Gillespie, modernity is largely an outcome of the nominalist revolution, which ascribed a radical particularity to creation and thus removed the teleology of nature. Once purpose was removed from the created order and human existence by nominalism, thinkers began to develop two main responses: modernity and the Reformation. This created a metaphysical crisis, which accentuated the distinction between God and his creation. Through the Reformation, Christianity responded by giving ontological priority to God. Modernity ascribed ontological priority to nature.[44] For Christianity, the high point of creation history is God's identification with his creation in the Incarnation.[45] For modernity, humanity's highest purpose becomes transcending nature through mastery of it.

There are variations in modernity's approach to seeking the domination of nature. For example, to Descartes the "scientific project was to make man master and possessor of nature and in this way to prolong human life (perhaps infinitely), to eliminate want, and to provide security."[46] His intent was to use nature for the benefit of humans. Another father of modernity, Thomas Hobbes, had a distinct

view of nature that "denies that human beings have any special status."[47] Thus, the Hobbesian view encompasses the possibility that humans will be masters and possessors of other humans. Although Descartes and Hobbes were in many ways self-conscious revolutionaries against scholasticism, Gillespie highlights the ways in which their roots lay in the older philosophical tradition. He further ties modernity to Christianity by arguing that there "can be no doubt that Protestantism disenchants the world.… The modern world certainly arises out of the Reformation and has a strongly Protestant character even when it seems most secular."[48]

The explanations of Descartes and Hobbes make sense, but Gillespie does little to show causal connection between the Reformation and modernity; he merely shows their contemporaneousness and asserts a common root.[49] In any case, it is not Christianity as a whole, or even Western Christianity in general, to which Gillespie attributes human domination, but fallout from application of an evolved nominalism. The solution for Gillespie, like White, is to either reject or reformulate Christianity. There is, however, another alternative.

C. S. Lewis wrestled with the shift in attitude toward nature, which he saw arising from the same philosophical soup Gillespie describes. He described this as "man's conquest of nature."[50] Lewis mourned the devaluation of creation that has taken place as a result of modernity, which has resulted in the categorization and cataloging of observable things. Such categorization has demythologized nature, leading to its devaluation. He writes, "We do not look at trees either as Dryads or as beautiful objects while we cut them into beams."[51] What began as a conquest of nature, however, has turned into nature's conquest of humanity.

Within modernity, nature is the category of things "out there" that can be understood empirically. In subduing nature, it has become apparent to many that humanity is part of nature and can also be studied and manipulated.[52] The result is a subhuman humanity, or, to use Lewis's phrase, "men without chests." Humans who no longer relate properly to creation as valuable will inevitably abuse it. Thus, for Lewis, the proper response is to become more Christian, not less, and return to the premodern, Christian idea that nature was imbued with objective value by the creator.[53] Thus, the solution to modernistic abuse of nature is to return to true Christianity, not to revise the basic tenets of the Christian faith. For those committed to Christian orthodoxy, this is the only valid option.

There are certainly additional subtleties in the relationship between Western Christianity and modernity, especially given that both systems of belief are variegated and sometimes cross-contaminated. However, there is good evidence that the anthropocentric failures of Western culture are better assigned to the excesses of modernity than to Christian orthodoxy. So White's argument that

"by destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects"[54] should be revised. Instead, a better argument would be that by denying the Christian doctrine of the immanence of God in creation, modernity made it possible to exploit nature in a mood of indifference to the value of natural objects.[55] The next order of business is to determine how to respond.

Responses to Modernity's Influence on Christianity

Recognizing the dangerous and harmful nature of the domination viewpoint that has emerged from modernity, there are three common solutions. The first option is to seek to dominate nature benevolently apart from a theistic foundation. Environmentalists who argue for this perspective tend to start out by arguing for the absolute value of nature, but quickly devolve into arguments based on human self-interest: People deserve to see the beauty of untrammeled nature; a healthy ecosystem is necessary to preserve human wellbeing; global warming is going to harm the poor more significantly.[56] These provide motivation for many, but apart from some sort of theistic framework to provide overarching value, it remains unclear why the good of others in the species is a value to be pursued at all.

A second response is the one promoted by many environmentalists, namely adoption of pantheism.[57] It should not be surprising that this solution has become popular, since White and others attribute ecological problems to the shift away from pagan deification of nature; logically, the solution would be to restore the belief in the value of the created order by restoring the belief in its close connection to the divine.[58] In fact, there has been a consistent movement toward restoring the sense of the divine character of nature even within primarily Christian contexts since the industrial revolution.[59]

As Mark Stoll shows, many of the most active environmentalists in the history of the United States have been one generation removed from orthodox Christianity.[60] This category includes Henry David Thoreau and John Muir. Each of them moved away from orthodoxy toward a generally pantheistic vision of creation.[61] Additionally, in explaining why some conservative Christians do not believe in climate change, several engineers argue that the pantheistic thrust of contemporary liberalization is the best hope for the environment.[62] The urge to reimagine Christianity along pantheistic lines may provide a solution to the environmental degradation caused by Christians. However, it threatens to degrade Christianity instead. As a solution to the influence of modernity on Christian belief, paganism is just as deadly.[63]

A third response is to restore a robust doctrine of creation to Christianity. Such is the central thesis in Norman Wirzba's recent volume, *From Nature to Creation*. He argues that "the teaching of creation provides a moral and spiritual map that enables us to see the significance of things and then move faithfully through the world."[64] Restoration of an emphasis on creation—rather than the apologetic argument for creationism—is unquestionably necessary, since some conservative Christian systematic theologies ignore the doctrine apart from a discussion of origins.[65] A movement to enhance the doctrine of creation within Christianity is not a revision of tradition. As Alister McGrath notes, "The Christian tradition is replete with a deep respect for nature as God's creation."[66]

Francis Schaeffer makes this point well in *Pollution and the Death of Man*. He writes, "It is the biblical view of nature that gives nature a value *in itself:* not to be used merely as an argument in apologetics, but of value in itself because God made it."[67] One historic example of such a proper valuation of creation is Augustine's differentiation between the enjoyment, use, and abuse of nature.[68] Humans are supposed to utilize the gifts God has given within creation, but always with an attitude of thankfulness, which prevents overuse and misuse.[69] Schaeffer's call is to an attitude that respects creation, because humans, too, are created.[70] Purging the negative influence of modernism from the doctrine of creation thus enables Christianity to lead the world in restorative ecology, with a hope of renewal that arises from the resurrection of Christ.[71]

Contra White, then, the appropriate response to the ongoing ecological crisis—whatever form it takes in a reader's region and generation—is not to revise or abandon Christianity. Rather, it is to reject the leaven of modernity that eliminates the immanence of God from creation and to restore a sense of theistic wonder.[72] This will occur by reinvigorating a historical, orthodox understanding of creation as valuable because of its relationship to the creator.

Conclusion

There is no question of the influence of White's lecture. Nevertheless, Santmire exaggerates when he writes that White's article "calls to mind the influence of Martin Luther's '95 theses,' posted in 1517."[73] Five-hundred years after Luther's call for change the Protestant Reformation is still going strong and his theology is still being discussed. Fifty years after White's essay was published, it is still the subject of intense debate. However, the energy of White's essay has been spent.[74] It is much more often cited than read, as evidenced by the general acceptance by so many of White's self-refuting critique. The popularity of White's thesis

has as much to do with a cultural milieu that longs to reject traditional forms of Christianity as the strength of its argument.

The popularity of White's essay is something like the ongoing use of William Clifford's essay, "The Ethics of Belief."[75] Both essays remain a part of the canon of literature for their respective disciplines, because they provide conclusions that are useful positions to debate despite their inherent weaknesses. However, in the case of Clifford's work, significant scholars have responded to the essay, effectively neutralizing the argument's force.[76] In contrast, White's thesis has been more generally accepted as valid in defining the relationship between Christianity and environmental ethics. This essay has showed some of the significant problems with White's argument. In the end, both essays have value for the classroom even if their arguments are weak, but neither deserve their place in the canon on the merits of their argument alone.

"The Historical Roots of Our Ecological Crisis" will never disappear from the record, but hopefully the dependence on White's essay outside the classroom will fade in the future. Although this article contributes to the problem by addressing the main thesis head on, the intent is to dissuade future scholars from relying upon White's arguments quite so heavily or using the anti-Christian thesis as a starting point. "The Historical Roots of Our Ecological Crisis" has not aged well. At fifty years, it should be retired from the spotlight and a new line of argument taken up that focuses less on who is to blame for ecological problems and more on the ways that a faithful, traditionally orthodox Christian theology undergirds a robust environmental ethics.

Notes

1. "Is God Dead?" *Time* 87:15 (1966): 21–23.
2. Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 2002).
3. Paul R. Ehrlich, *The Population Bomb* (New York: Ballantine Books, 1968).
4. Lynn White, "The Historical Roots of Our Ecological Crisis," *Science* (1967): 1204. J. Douma rebuts this in his recently translated volume on environmental stewardship. His response to White, however, was not available in English until 2015. Jochem Douma, *Environmental Stewardship*, ed. Albert H. Oosterhoff, trans. Nelson D. Kloosterman (Eugene: Wipf & Stock, 2015), 11–13.
5. White, "The Historical Roots," 1205.
6. Lynn White, *Medieval Technology and Social Change* (New York: Oxford University Press, 1962).
7. White, "The Historical Roots," 1205.
8. White, "The Historical Roots," 1205.
9. White, "The Historical Roots," 1205.
10. White, "The Historical Roots," 1207
11. White, "The Historical Roots," 1207.
12. White, "The Historical Roots," 1206.
13. White, "The Historical Roots," 1205.
14. No significant work on Christian environmental ethics fails to cite White's essay. Typically, it is used as a starting place for volumes with responses in the four basic categories this section outlines. See, for example, Steven Bouma-Prediger, *For the Beauty of the Earth: A Christian Vision for Creation Care, Engaging Culture* (Grand Rapids: Baker Academic, 2001), 72–79; Willis Jenkins, *Ecologies of Grace: Environmental Ethics and Christian Theology* (New York: Oxford University Press, 2008), 10–17; Dan Story, *Should Christians Be Environmentalists?: Helping Christians See Why Caring for the Earth Matters, Helping Environmentalists See Why Christianity Matters* (Grand Rapids: Kregel, 2012), 31–38.
15. Grouping responses by theological stream instead of denomination is beneficial because sociological research shows that denominations tend to have significant divergences in theological streams within them. Michelle Wolkomir et al., "Denominational Subcultures of Environmentalism," *Review of Religious Research* 38, no. 4 (1997): 325–43.

16. David G. Horrell, Cherryl Hunt, and Christopher Southgate, "Appeals to the Bible in Ecotheology and Environmental Ethics: A Typology of Hermeneutical Stances," *Studies in Christian Ethics* 21, no. 2 (2008): 225.
17. Norman Habel, "Introduction," in *Exploring Ecological Hermeneutics*, ed. Norman C. Habel and Peter L. Trudinger (Atlanta: Society of Biblical Literature, 2008), 5.
18. Horrell, Hunt, and Southgate, "Appeals to the Bible," 225.
19. Andrew J. Spencer, "Beyond Christian Environmentalism: Ecotheology as an over-Contextualized Theology," *Themelios* 40, no. 3 (December 2015): 414–28.
20. Horrell, Hunt, and Southgate, "Appeals to the Bible," 227–28.
21. Joshtrom Kureethadam, *Creation in Crisis: Science, Ethics, Theology* (Maryknoll, NY: Orbis, 2014).
22. Robert Booth Fowler, *The Greening of Protestant Thought* (Chapel Hill: University of North Carolina Press, 1995), 31–32.
23. Fowler, *The Greening of Protestant Thought*, 33.
24. H. Paul Santmire, *Nature Reborn: The Ecological and Cosmic Promise of Christian Theology* (Minneapolis: Fortress Press, 2000), 15.
25. Santmire, *Nature Reborn*, 7–9.
26. James Wanliss, *Resisting the Green Dragon: Dominion, Not Death* (Burke, VA: Cornwall Alliance for the Stewardship of Creation, 2010).
27. Horrell, Hunt, and Southgate, "Appeals to the Bible," 228–31.
28. E. Calvin Beisner, *Where Garden Meets Wilderness: Evangelical Entry into the Environmental Debate* (Grand Rapids: Eerdmans, 1997).
29. Wolkomir et al., "Denominational Subcultures of Environmentalism," 325–43.
30. See, for example, Kevin DeYoung and Greg Gilbert, *What Is the Mission of the Church? Making Sense of Social Justice, Shalom, and the Great Commission* (Wheaton: Crossway, 2011), 29–63.
31. Horrell, Hunt, and Southgate, "Appeals to the Bible," 222.
32. The ecological crisis in Schaeffer's day was more readily apparent and unquestionable. It consisted of poisoned rivers, the dying Great Lakes, and trash in the oceans. Francis A. Schaeffer, "Pollution and the Death of Man," in *The Complete Works of Francis A. Schaeffer: A Christian Worldview* (Westchester, IL: Crossway Books, 1985), 5:3–7. These were all clearly observable and unquestionably negative. It is not clear how Schaeffer would have responded to a nebulous and somewhat contentious problem such as climate destabilization, but the principles of being better stewards would still apply.

33. Schaeffer, "Pollution and the Death of Man," 5:47–55.

34. Pope Francis, encyclical letter *Laudato Si'* (May 24, 2015), http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.

35. E. Calvin Beisner, "Is Capitalism Bad for the Environment?" in *Counting the Cost: Christian Perspectives on Capitalism*, ed. Art Lindsley et al. (Abilene: ACU Press, 2017), 305–329.

36. See PERC: The Property and Environment Research Center, https://www.perc.org/.

37. Despite the obvious heterogeneity of the overarching modernist movement, there is sufficient similarity between the variations to describe it as a movement for the sake of this argument. See Louis Dupré, *The Enlightenment and the Intellectual Foundations of Modern Culture* (New Haven: Yale University Press, 2007), 1–17.

38. See J. Gresham Machen, *Christianity and Liberalism* (Grand Rapids: Eerdmans, 1923), 1–16; Roger E. Olson, *The Journey of Modern Theology: From Reconstruction to Deconstruction* (Downers Grove: IVP Academic, 2013), 31–211.

39. Rosemary Radford Ruether, "Religious Ecofeminism: Healing the Ecological Crisis," in *The Oxford Handbook of Religion and Ecology*, ed. Roger S. Gottlieb (New York: Oxford University Press, 2006), 363–67.

40. H. Paul Santmire, *The Travail of Nature: The Ambiguous Ecological Promise of Christian Theology* (Philadelphia: Fortress Press, 1985), 35–44.

41. Bradley G. Green, *Colin Gunton and the Failure of Augustine: The Theology of Colin Gunton in Light of Augustine* (Eugene, OR: Pickwick, 2011), 132–33.

42. Gregg R. Allison, *Historical Theology: An Introduction to Christian Doctrine* (Grand Rapids: Zondervan, 2011), 254–60.

43. Dupré, *Intellectual Foundations of Modern Culture*, 18–44.

44. Michael Allen Gillespie, *The Theological Origins of Modernity* (Chicago: University of Chicago Press, 2009), 14–18.

45. Gillespie, *Theological Origins of Modernity*, 126.

46. Gillespie, *Theological Origins of Modernity*, 190.

47. Gillespie, *Theological Origins of Modernity*, 222.

48. Gillespie, *Theological Origins of Modernity*, 226–27.

49. Gillespie, *Theological Origins of Modernity*, 222–34.

50. C. S. Lewis, *The Abolition of Man* (San Francisco: HarperSanFrancisco, 2001), 68.

51. Lewis, *The Abolition of Man*, 70.

52. Lewis, *The Abolition of Man*, 72.

53. Lewis, *The Abolition of Man*, 73–76.

54. White, "The Historical Roots of Our Ecological Crisis," 1204.

55. McGrath observes the negative influence the rejection of God has had on environmental ethics since the Enlightenment. Alister E. McGrath, *The Reenchantment of Nature: The Denial of Religion and the Ecological Crisis* (New York: Doubleday/Galilee, 2003), 61–71.

56. Sarkar discusses this shift when the pantheistic idea of intrinsic value is emphasized. Sahotra Sarkar, *Biodiversity and Environmental Philosophy: An Introduction* (New York: Cambridge University Press, 2005), 52–58.

57. I will speak here of pantheism and neglect panentheism for simplicity. However, many of the same critiques apply and panentheism should also be rejected.

58. See, for example, Richard Means, "Why Worry about Nature?" in *The Complete Works of Francis A. Schaeffer: A Christian Worldview* (Westchester, IL: Crossway Books, 1985), 5:76.

59. John Gatta explores these themes, which particularly appeared after the American revolution through the transcendentalists and their philosophical descendants. John Gatta, *Making Nature Sacred: Literature, Religion, and Environment in America from the Puritans to the Present* (New York: Oxford University Press, 2004).

60. Mark Stoll, *Inherit the Holy Mountain: Religion and the Rise of American Environmentalism* (New York: Oxford University Press, 2015), 2.

61. Stoll, *Inherit the Holy Mountain*, 2–9.

62. Bernard Daley Zaleha and Andrew Szasz, "Why Conservative Christians Don't Believe in Climate Change," *Bulletin of the Atomic Scientists* 71, no. 5 (2015): 27–28.

63. Rowan Williams, "'Good for Nothing'? Augustine on Creation," *Augustinian Studies* 25 (1994): 9–24.

64. Norman Wirzba, *From Nature to Creation: A Christian Vision for Understanding and Loving Our World* (Grand Rapids: Baker Academic, 2015), 20–21.

65. Multiple conservative systematic theologies have no major discussions of the doctrine of creation apart from cosmology. They tend to discuss the doctrine as a part of the doctrine of humanity. For example, Lewis Sperry Chafer, *Systematic Theology*, 8 vols. (Dallas: Dallas Seminary Press, 1947), 2:130–43; Charles Caldwell Ryrie, *Basic Theology* (Wheaton, IL: Victor Books, 1986), 180–88; Elmer L. Towns, *Theology for Today* (Mason, Ohio: Cengage Learning, 2008), 555–622.

66. McGrath, *Reenchantment of Nature*, 31.

67. Schaeffer, "Pollution and the Death of Man," 5:27.

68. Augustine, *On Christian Teaching*, trans. R. P. H. Green (New York: Oxford University Press, 2008), 4.4–5.5.

69. Oliver O'Donovan, "Usus and Fruitio in Augustine, *De Doctrina Christiana* I," *Journal of Theological Studies* 33, no. 2 (1982): 131.

70. Schaeffer, "Pollution and the Death of Man," 5:42–45.

71. Schaeffer, "Pollution and the Death of Man," 5:47–55.

72. McGrath, *Reenchantment of Nature*, 184–185.

73. Santmire, *Nature Reborn*, 11.

74. Sabrina Danielsen, "Fracturing over Creation Care? Shifting Environmental Beliefs among Evangelicals, 1984–2010," *Journal for the Scientific Study of Religion* 52, no. 1 (2013): 201–2.

75. William B. Clifford, "The Ethics of Belief," in *Philosophy of Religion: Selected Readings*, ed. M. Peterson et al. (New York: Oxford University Press, 2009), 99–103.

76. See, for example, William James, "The Will to Believe," in *Philosophy of Religion: Selected Readings*, ed. M. Peterson et al. (New York: Oxford University Press, 2009), 104–10.