

Singing the Song of Creation: Calvin B. DeWitt's *Song of a Scientist*

by E. Calvin Beisner

Song of a Scientist is a lovely book by a lovely man. Calvin DeWitt, long-time professor of environmental studies at the University of Wisconsin, co-founder of the Evangelical Environmental Network, and director emeritus of the Au Sable Institute, gives us windows not only into the beauty of nature but also into the beauty of his own soul in this poetic, autobiographical reflection on the ethics, science, and praxis of environmentalism—or perhaps better, of an environmentalist, himself. The reflections of a knowledgeable biologist intertwine here with the meditations of a deeply committed Christian whose love for the Word of God shines through on every page.

Cal and I have much in common. We know each other personally, and I hope my using his given name here—which we share, though I imagine he was named after John Calvin, while I, my parents not being Reformed when I was born, was named for “Silent Cal” Coolidge—isn’t presumptuous. The book is far too warm and personal to review it in a detached and academic way. We’re both unabashedly Reformed in our theology, he blessed to have been brought up in it, I blessed to have been converted into it in my late teens. We both greatly appreciate not only the intellectual traditions of Switzerland, Holland, Scotland, and, yes, Grand Rapids, Michigan, but also the metrical Psalms from the Scottish Psalter, the singing of which has blessed his family and mine for many years. His frequent quotations from those and from many hymns add to the beauty of the book and remind us of the rich heritage of Christian song for teaching us not only theo-logy but also cosmo-logy.

Though in genuine reflection of life in this fallen world it has its sad moments, Cal’s *Song* is a mostly lilting tune by which he introduces readers to many marvels of God’s creation. It’s hard to imagine that anyone could finish it without a prayer of thanksgiving for spiritual refreshment. “Great are the works of the LORD; they are pondered by all who delight in them,” he quotes at the beginning. “This verse from Psalm 111 pretty much sums up my passion in life”—and a thorough reading of *Song of a Scientist* should convey that passion to many readers.

Like most works of poetry, *Song of a Scientist* is not systematic but organic—fitting fruit from a poet-scientist. Each chapter could stand on its own, but the collection still makes a unified whole. I shall review it by first sampling the individual chapters (prudence about length in a review prohibits thorough surveys) and then highlighting certain points that beget further reflection.

Samples Tracks from the Song

Chapter 1, “Three Songs: Wasps, Birds, and Wolves,” sets the tone for the book as stories, not lectures—every chapter teems with stories and artistic descriptions of natural beauty, large and small, some of which Cal is viewing as he writes. Here he writes of discovering a serious caterpillar infestation on a beloved birch tree, his initial response to which shocked him: “... here I was, teaching others to be responsible stewards and earthkeepers, and I was seriously considering spraying poison on my lawn” That would not do! Instead, he paid his young son Gary half a penny for the first thousand caterpillars he brought him, “two-and-a-half cents for the next two hundred, a nickel for each of the next two hundred, and a dime for every one after that.” The economic law of demand worked; little Gary stayed at the work, despite increasing difficulty because of diminishing returns, until he had earned \$18.50, and “every caterpillar was gone from the tree.” Or so Cal thought. A few days later he found one on it and marveled at its ability to imitate a twig when it sensed it was being observed. Then he watched as a wasp descended on it, implanted eggs in it, and assured the life of her young by the caterpillar’s death.

Cal drew the lesson, “every creature works within God’s provision of checks and balances in creation” (14–17).

Through this story Cal hints at an important Reformed theme that becomes explicit in chapter 4 and runs through the rest of his *Song*: the Christian must read two books, Scripture and creation. “We may study theology and know the Bible through and through, but unless we attend to the testimony of his billions of creatures, we may still not truly know our Creator” (19–20). The true theologian—student of God—must *pay attention* to God’s works, and that requires awareness (seeing, identifying, naming, locating), appreciation (tolerating, respecting, valuing, esteeming, cherishing), and stewardship (conserving, restoring, serving, keeping, entrusting) (22), each of which should characterize every person as an actor in what John Calvin called the “*theatrum gloriae Dei*” (26). And the ultimate Actor in that theater was the incarnate Lord, whose becoming flesh affirmed the goodness and value of the material world (30).

Chapter 2, “Tuning in with Hippos and Toads,” uses God’s celebration of Behemoth (hippopotamus) and Leviathan (crocodile) in the Book of Job as the foundation for a two-party model (man and other creatures at opposite ends of a horizontal line) with a three-party model for understanding God, man, and other creatures: an upward-pointing isosceles triangle with God at top, humans at one bottom angle, and other creatures at the other, “a relationship in which human beings and other creatures are coordinated with their Creator” (41). From this Cal infers that the value of created things is not utilitarian but intrinsic (44), based in the Creator, not in man’s use. Treating creatures’ value as solely utilitarian, he says, leads to abuse (45)—an abuse better cured by maintaining the Creator/creature distinction than by divinizing Earth as Gaia (46).

Stewardship of the earth impels us to deeply understand the complex systems of the planet and biosphere. In times of environmental degradation, it recognizes that the need for public understanding of science is greater than ever. It leads people to value the earth as a treasure held in trust. And it elicits practical strategies for relating people to the earth as responsible members who are obedient to the dictates of conscience. [47]

Cal derives this understanding from “the most fundamental and important biblical text” on Earth stewardship, Genesis 2:15, his preferred translation of which says God put Adam into Eden to *serve* and keep it: “... Genesis addresses *our* service to the garden. Service from the garden *to us* is implicit; service *from us* to the garden is explicit. What God expects of Adam, and of us, is returning the service of the garden with service of our own: a reciprocal service—a *con-service*, a *con-servancy*, a *con-servation*”—a verbal play that arises repeatedly through the rest of the book. Being “con-servers”, i.e., mutual servants, “of creation ... is the essence of stewardship” (48–49).

In chapter 3, “Andes Anthem,” Cal weaves out of a trip to the high Andes of Ecuador lessons about how thin and delicate is the biosphere (61). This biosphere, he says, is the cosmos that God so loved (John 3:16) (57–58), and indigenous peoples have special knowledge of it that the rest of us must preserve and honor (61–63). They know, as industrial man seems not to know, that God placed us here not to own but to keep, to “come to an understanding of ‘agroecology’ as gardening—deep down gardening, or *guard-ening*” (62). (Cal frequently plays on words, reflecting his still boyish delight not just with the world but also with words.) “[W]e often put a wall around a small place of the biosphere and make it beautiful. Our challenge in caring for creation, though, is not to build our own fine hacienda but to maintain the whole good world: preserving that which is unspotted, restoring that which has been degraded, and celebrating the integral beauty of the whole” (68).

In chapter 4, “Harmonizing Science, Ethics, and Praxis,” Cal tells of a time when students asked him, “How do you, as a scientist, as a student of the Scriptures, and as someone directly involved in town politics, put it all together?” He sketched out another triangle, this one with science (“How does the world work?”), ethics (“What is right?”), and practice (“What then must we do?”) at its angles (71–2, 77). “In order to live and act rightly in the world, we need to know how the world works” and “what we ought to do.” “Moving directly from the Science corner to the praxis corner, or from the ethics corner to the praxis corner, proves problematic, even disastrous” (79–80). He illustrates this by the first of several stories rooted in his experience in government in the Town of Dunn, Wisconsin, where people learned that religion is, as its etymology suggests, the ligaments that tie together a community.

Chapter 5, “Singing from Two Books,” expands on the theme of Scripture and world as books revealing God’s wisdom, beauty, and will. “[T]he scientist and the theologian share books by the same author” (96). Cal embraces “biologist E. O. Wilson’s call in his recent book for scientists to reinstate the term ‘the creation’ into their vocabulary.” Wilson’s book, Cal says, “encourages scientists and evangelical leaders to *speak the same language* of faith and science” (emphasis added). Scientists and evangelicals meeting in 2007 “engaged in several rounds of relationship building We agreed to be true to ourselves, to our science, and to our faith commitments, and to press on toward caring for the creation,” issued “An Urgent Call to Action,” and reached an “agreement to reinstate ‘the creation’ in our scientific and religious vocabularies” (92). For Cal, John Muir, a patron saint of environmentalism, is a paradigm of a “reader of the two books,” for Muir grew up in a Calvinist family, “learned his catechism, memorized most of the Bible, and sang from the Scottish Psalter ...” (97–98).

Still in chapter 5, Cal introduces four principles:

1. The Earthkeeping Principle. “God is the single cause and origin ... God declares good everything he creates. ... neither the creation nor any of its creatures are gods,” and human dominion over the earth, granted in Genesis 1:28, receives definition in 2:15 (“serve” and “keep”) as meaning “to care for the earth as God the Creator does” (99–101).
2. The Fruitfulness Principle. In Genesis 1 “God gives the blessing of fruitfulness to all creation.” On this principle God saved two of every species in the Flood, and “The Endangered Species Act is OUR Noah’s ark. ... Fruitfulness means that biotic species, biotic communities, land, water, and more, must be safeguarded, not degraded or destroyed” (102–104).
3. The Sabbath Principle. “Nothing in creation must be relentlessly pressed. ‘For six years you are to sow your fields and harvest the crops, but during the seventh year let the land lie unplowed and unused. Then the poor among your people may get food from it, and the wild animals may eat what is left ...’ (Exodus 23:10–11).” Cal says a Neerlandia farm family’s practice of letting land lie fallow every second year, because it had too few nutrients to be cultivated more, illustrates that principle (105).
4. The Con-Servancy Principle. Building on his discovery that the Hebrew *abad* in Genesis 2:15, commonly translated *work*, *till*, or *dress*, really means *serve*, Cal argues that words like *conservation* and *conservancy* have that concept built right into them. Citing his earlier book *Earthwise*, he concludes that this requires “... never taking from Creation without returning service of our own” (106–108).

Chapter 6, “Community Singing in Lives and Landscape,” relates how Cal came to be a member of the council of the Town of Dunn. The town government had been largely reactive rather than proactive, responding to applications for development permits without having a clear vision for what the town

should be. Seeing the inadequacy, and being encouraged to run for town council, Cal did so, won, and led an effort to develop such a vision, beginning with a careful survey of all of the town's natural and human resources. "We liked what we found. And we decided to care for it and keep it." This led to restrictions on growth, especially the determination to prevent conversion of farmland to residential or commercial. They pioneered agricultural conservancy zoning, conservation assessments and easements, and other measures to compensate landowners for forgoing the income they might have gained by selling land to developers. By those means "[we] ensured years of integrity for the land we con-served [sic], helped our farmers, and even kept our taxes down" (115–124). In the process, they discovered that community could be communion.

In chapter 7, "Landscape Symphony," rooted in Psalm 127, "Unless the LORD builds the house ...," Cal writes of *oikoumene*, housekeeping: "Whatever we do within the economy of the human household, we do within the economy of God's household—within God's *oikonomia*. ... If our *oikos* [house] and *oikonomia* [economy] are to work at all, they must work within the Lord's *oikos* and the Lord's *oikonomia*" (129). Here he addresses "development" by analogy with organic growth.

Proportioned growth and balance is the rule in human development. ... Development involves simultaneous building up and breaking down—positive growth and negative growth, up-building and down-sizing. Sometimes it involves no growth in size whatsoever, but only in quality ... growth always subserves development. ... In creating a land ethic for the Town of Dunn, we came to understand development as getting the right things in the right amounts in the right places at the right times within the right relationships. ... growth is never a goal in itself; it is only one of many means for achieving a particular goal. [131–134]

Real earth stewardship requires us "to achieve and sustain the dynamic integrity of the land and its creatures, great and small, human and nonhuman" (139). But this requires freedom: "people who live under oppressive regimes that refuse to allow them to make their own decisions about development" can hardly achieve this, and the "rule of law" is necessary to protect "our freedom to be stewards of God's kingdom" (143).

Chapter 8, "Economic Antiphony: Creation's Ecological Intonation," challenges the view of the earth as a "bag of resources" and "a sink for our 'wastes'" (155). Cal cites the poet William Blake's protest against industrialism:

I turn my eyes to the schools and universities of Europe. And there behold the Loom of Locke, whose Woof rages dire, Wash'd by the Water-wheels of Newton: black the cloth in heavy wreaths folds over every nation: cruel works Of many Wheels I view, wheel without wheel, with cogs tyrannic Moving by compulsion each other, not as those in Eden, which, Wheel within wheel, in freedom revolve in harmony and peace. [157]

He relates his chagrin on hearing an oil executive say, shortsightedly, that his company will offset carbon emissions produced in removing oil from tar sands—but not addressing the carbon emissions that will come from burning the oil in cars. "We have created a divide between ourselves and the world around us that reduces creation into two parts: us and the rest of creation" (161). A true land ethic, therefore, doesn't see the world as a bag of resources and a sink for wastes, and, as Aldo Leopold puts it, "changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it" (166–167). "A creation ethic becomes a land ethic by embracing the Bible's most basic message: 'God loves *the world*'" (168).

In chapter 9, “A Cloud of Witnesses,” Cal confronts head-on the frequent claim by environmentalists—epitomized by Lynn White Jr.’s “The Historical Roots of Our Ecologic Crisis”—that Christians learn the “bag of resources” and “sink for our wastes” view of the earth from the Bible. “To a Christian a tree can be no more than a physical fact,” White wrote—an assertion Cal demolishes by quotations from the Psalms, Isaiah, and 1 Chronicles (172). Quite the contrary, Cal argues that, out of “five key environmentalists whose life and work I considered among the most effective and influential”—George Perkins Marsh (1801–1882), John Muir (1838–1914), Theodore Roosevelt (1858–1919), Aldo Leopold (1887–1948), and Rachel Carson (1907–1964)—four “had deep Christian roots ... in the Reformed and Presbyterian churches of my own heritage” (177). He focuses on Carson (178–179), raised in a Presbyterian home and sent to a Presbyterian women’s college, and Muir (179–188), raised likewise and whose “Presbyterian heritage not only empowered his prophetic passion and teaching of creation’s wonders but was expressed throughout his life in outbursts of praise to God” (179). Muir, like Roosevelt, carried a copy of John Milton’s *Paradise Lost* in his backpack wherever he went (184–185).

The final chapter, 10, “The Bible and the Biosphere,” is truly the book’s climax—logically, morally, and emotionally. Here Cal addresses the questions, “Who am I?” and “Am I an environmentalist?” Noting that none of the five model environmentalists named in chapter 9 lived until 1979, when the term *environmentalist* “began its ascent as a common word in our vocabulary” (190), Cal writes,

Simply put, I behold and care for God’s creation. I describe the present prophetically, engage with the community of my Town of Dunn, help care for Waubesa Marsh, teach environmental science courses at the university, and tell the good news of creation care across the land and around the world. [191]

The doxology—“Praise God from whom all blessings flow. Praise Him all creatures here below. Praise Him above, ye heavenly host. Praise Father, Son, and Holy Ghost.”—goes through his mind as he writes, looking out in late November on “a score of black-eyed juncos [that] have just descended on my drumlin in the great marsh, following their flight from the far northern forests of Canada to spend their winter with us in southern Wisconsin” (192). He sees what ecologists call “ecosystem services” as “God’s provisions” (193).

But Cal knows this world suffers, too. He cites a metrical version of Psalm 137:

Not songs but sighs to us belong
When Zions walls in ruin lie;
How shall we sing Jehovah’s song
While in an alien land we die?

“Its mournful harmony evokes our present exile from a God-enchanted creation,” he writes. “The world that so beautifully glorifies God has its spoilers.” Such “songs mournfully recognize the despoliation of creation. They recognize the reality of sin—apart from God and God’s grace we each go our own way, neglecting, abusing, and destroying God’s great gifts and provisions” (194). I think I sense his combined grief and anger as he quotes Aldo Leopold’s “Axe-in-Hand”: “When some remote ancestor of ours invented the shovel, he became a giver: he could plant a tree. And when the axe was invented, he became a taker: he could chop it down” and tells of receiving a new book in the mail, Bill McKibben’s *Fool Me Twice: Fighting the Assault on Science in America*, in which McKibben writes, “We’re seeing

right now a titanic battle between the power of science and the power of money—and money is winning” (195–196).

Returning to the questions, “Am I an environmentalist?” and “Who am I?” Cal thinks “back to the science-ethics-praxis diagram” of chapter 4 and crafts a “joint statement” that he thinks could apply to himself, McKibben, and his five model environmentalists:

This is a beautiful earth; it sustains us and all life through a remarkable system of vital provisions; we are degrading the earth and threatening the continuation of these vital provisions by pursuing self at the expense of the whole; we must prevent and reverse actions and lifestyle in order to restore the world we have degraded to full vitality; and we must confront and master our destructive tendencies as individuals and human society. [196]

Then he offers twelve statements that “distill [his] God-glorifying vocation ... within this great tradition”:

1. The Bible and the biosphere are the two great books that must be read—coherently within each and coherently between each.
2. There is only one Authority; don’t trust any other, neither trust nay who claim to speak for the one Authority.
3. Beyond a mere reading of the two books, both must be deeply understood, not one to the exclusion of or diminishing of the other, but together.
4. All life has intrinsic value that makes the survival of the lineages of living things priceless and not for sale.
5. Beyond reading and understanding the two books, their texts and testimonies must not be degraded or destroyed, but must be preserved at any cost.
6. Beyond reading, understanding, and preserving the two books, their testimony must be made clear to everyone.
7. Human beings must live fully in accord with the life-sustaining provisions of the biosphere, correcting themselves continually.
8. Human beings must have the freedom and authority to describe the present without reprisal—prophetically to correct themselves toward the integrity of life and the biosphere.
9. Human beings are prone to seek their self-interest destructively, even to the sacrifice of their own habitat, their own lives, and to the sacrifice of the two books.
10. Human beings are prone to practice false witness, misrepresent reality, engage deception, and propagate name calling to hide their degradation and destruction of others and the earth.
11. Destroyers of the earth must be countered by efforts and actions that stop degradation of the earth and its creatures.
12. Everyone must recognize the difference between belief and practice; belief without practice does absolutely no good. [197–199]

After quoting Revelation 11:15–18, which ends, “The time has come ... for destroying those who destroy the earth” [201], he cites one of his five environmentalist heroes, George Perkins Marsh, affirming “the necessity of caution in all operations which, on a large scale, interfere with the spontaneous arrangements of the organic or the inorganic world.” Marsh decried the tendency he saw in America to complain of “too much government” and that “taxes are too high!” “Too much government! Too many taxes!” Cal echoes. “But what is government for? What are taxes for? What are people for?” (201–202) Curious questions, those—questions Cal leaves unanswered.

Instead, he concludes the chapter with another story—a story that reads like a great crescendo leading to an urgent, *fortissimo* cry of anguish. The story is of a time when Cal was asked to speak on the same platform with Bill McKibben, one of the world’s leading crusaders against anthropogenic global warming, founder of 350.org, who would later write the foreword to *Song of a Scientist*.

I went to bed in deep prayer, without a clue about what to say. ... I woke up thinking about how often I had written the word “misnomer” in my notes whenever any of the speakers referred to “fossil fuels.”

The result was a talk he titled “Fossil Fuels—the Disastrous Misnomer of Our Time.” One can sense his frustration, grief, maybe even anger with those so blind they *will not* see, who fail to read what is so clear in the book of creation that he who runs may read:

My presentation pictured my wetland as it gradually filled in the basin of Lake Waubesa with peat during its 10,000 years of development—peat being the partially decomposed plant life that had sequestered carbon gleaned from the atmosphere over the millennia. I presented this kind of reading of the book of creation. Layer after layer, for a thousand years and yet another thousand years, great peat deposits were formed by the photosynthetic transformation of atmospheric carbon dioxide by wetland plants and lake algae—deposits now 95 feet thick. In my presentation I described how one can read many pages of the book of creation in the peat deposits of my wetland and the wetlands of the world.

After my “reading” of the peat in my wetland and the coal formed from the peat in others around the world, I suggested a more profound understanding of peat, coal, petroleum, and natural gas as the great system whereby carbon is removed from the atmosphere to maintain atmospheric carbon in concentrations that sustain our biosphere as habitable by ourselves and all other living creatures. ... [C]arbon sequestration is not a human invention, nor is it recent. Instead it describes a process whereby carbon dioxide is removed from the atmosphere in ways that sustain the earth as a habitable abode. Therefore, I said, burning the sequestered carbon of the biosphere is directly contrary to a major life-sustaining service earth receives from its great carbon stores.

We are all readers of the great book of creation, I reminded my audience. But it is also possible for us to ignore or to misread the great book of the peats, coal, petroleum, and natural gas that lie beneath us. The greater reading of these great stores of carbon in the earth goes beyond learning about vegetation and climates past. ... What is peat? What are coal, natural gas, and petroleum? Fossil fuels they are not. Instead, this fossil carbon is a provision God makes for a habitable earth. [204–206]

Cal concludes his book with an “Appendix: Matrix of Story, Song, and Exposition,” but, this review already being lengthy, I will refrain from sampling it. I will refrain from sampling it. In an accompanying article I sketch some points of concern about an otherwise admirable book that should be read and seriously considered by everyone committed to Biblical Earth stewardship.

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