

Contribution

The Religious Humanism of Rachel Carson: On the 50th Anniversary of the Publication of *Silent Spring*

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1. Introduction

THE year 2012 marks the fiftieth anniversary of the 1962 publication of a book which is widely acknowledged to have initiated the modern environmental movement. That book was *Silent Spring*,¹ and of its author, Rachel Carson, it has been said that “a few thousand words from her and the world took a new direction.”² Fifty years after *Silent Spring*, a book which appeared at the end of Carson’s life, there is renewed interest in comprehending the significance of her legacy. For, as Lisa Sideris and Kathleen Dean Moore note in the Introduction to their fine anthology, *Rachel Carson: Legacy and Challenge*, “Carson did not set out to be an ‘environmentalist’ or an ‘environmental writer’ in the modern sense. *Silent Spring*, with its detailed documentation of the dangers of pesticides and explicit warnings against their indiscriminate use, was in many ways a departure from the genre of writing Carson knew and loved best.”³ Indeed, those of us whose lives and work have been inspired by the legacy of this humble but valiant woman recognize, with Sideris and Moore, the importance of honoring “the whole person who was Rachel Carson, the whole of her work, the wholeness of her view of the earth.” It is this legacy of wholeness, in its historical, cultural, and religious context, which the present study seeks to convey.

However, is it appropriate to apply the term “religious humanism” to Carson’s life and worldview? It is, to be sure, not a term that she used to describe herself. In considering this question, we find an initial justification in the very premises of the *Journal of Oriental Studies* itself, and the thematic areas which determine its focus. These thematic areas have been delineated as: the universality of thought in the Lotus Sutra, comparative studies of Western and Eastern philosophies, the life sciences and religion, human rights and religion, women and religion, environmental issues and religion, and the role of religion in social ethics. The extent to which Rachel Carson’s legacy intersects with each

of these thematic areas is so remarkable as to offer a structure for our study's presentation. For we must remember:

She was an activist before there was a concept of environmental activism. She was an ethicist, although it took other ethicists a long time to admit her to the club. She was a woman at a time when science and public affairs were dominated by men. She was a scientist who, as she was dying of cancer, warned against the indiscriminate use of pesticides, one of the great 'scientific advancements' of her time. In the end, she was a human being, standing at the edge of the sea in wondering gratitude for the world's beauty and mystery.⁴

Although the term "religious humanism" is neither contrived nor inaccurate as a designation by which to summarize the spiritual worldview and personal philosophy which informed and integrated the breadth of her life's work, its appropriateness can only be apprehended through an examination of the dynamics of her own cultural background. Thus, we begin with an important, if necessarily limited, overview of her Western religious and philosophical context, including the complex matrix of American religious history into which she was born. From this, we may consider the significance of Carson's "religious humanism" in relation to the *Journal's* remaining themes, in a study which seeks to celebrate the heart and honor the life of that quiet woman who today is remembered throughout the world as the author of *Silent Spring*.

2. The Cultural Context of Carson's Religious Humanism

In what sense are we justified in using the term "religious humanism" to describe the life and legacy of Rachel Carson? Perhaps our most direct answer to this question can best be summarized by invoking names familiar to readers of this journal: Ralph Waldo Emerson and John Dewey. As we shall see, Rachel Carson's character and ethos were formed in an early cultural and educational context which was seminally and explicitly influenced by the American Transcendentalists and by the Progressive Movement in which Dewey's philosophy played a prominent role. However, neither Emerson nor Dewey can be properly appreciated without reference to the religious history of their own American context—a religious history into which Carson was also born, and which she encountered in her own family during her youth. Thus, Carson's "religious humanism" was "religious" not only in the manner of the Transcendentalists' legacy and Dewey's own religious humanism,⁵

but also “religious” by virtue of the proximity of both to the inheritance of Protestant Christianity’s complex development in the American tradition.

(I) The Calvinist-Puritan Context in America: “Wilderness Mysticism”

Rachel Carson was born into a family with strong ties to the Presbyterian denomination, a form of Protestantism descended directly from the European reformer John Calvin. Her grandfather was an ordained Presbyterian minister, and her mother was educated in a rigorous classical curriculum at the (Presbyterian) Washington Female Seminary.⁶ Calvinism represents a form of Christian theism which encompasses the often stark paradoxes of the Protestant Reformation: It is known for its characteristic emphasis on the “sovereignty” (absolute transcendence) of God, the “depravity” (sin) of the human condition—but perhaps surprisingly, it also maintained a significant theological understanding of the presence and immediacy (immanence) of the divine, both in nature and within the individual Christian believer (through a doctrine known as the “internal testimony of the Holy Spirit”).⁷ It is this latter characteristic which presents an important dimension of the Christian theism which Carson experienced as a child. As we shall see, the understanding of natural theology in the Calvinist tradition, and its diverse streams of development in the American context, represented a theistic orientation which preserved a certain validity for the human encounter with the divine through communion with the natural world.

The socio-religious history of Protestantism in America that encompasses the Puritan era (17th century) through the advent of Transcendentalism (19th century) is vast and complex, but a Calvinist theological current unites these two apparently opposite poles in often unexpected ways. Perhaps the most surprising aspect is the role of nature, specifically, the cultural significance of “wilderness” in the theological developments which originated in the New England context. Ralph Waldo Emerson, in his letters and journals, acknowledges the powerful impressions that Calvinism made during his youth, and in fact, the wilderness tradition within Calvinism profoundly impacted and modified Emerson’s reception of both European romantic-idealist thought and Eastern religious influences. This is documented by the Harvard scholar of New England Puritanism and Transcendentalism, Perry Miller, in his classic study, *Errand into the Wilderness*, in which he traces the continuity of the religious significance of nature. In a chapter entitled “From Edwards to Emerson,” Miller asserts: “What is persistent, from the covenant theology (and from the heretics against the

covenant [i.e., Quakers]) to Edwards and to Emerson is the Puritan effort to confront, face to face, the image of a blinding divinity in the physical universe, and to look upon that universe without the intermediacy of ritual [and] ceremony.... [There is] the incessant drive of the Puritan to learn how, and how most ecstatically, he can hold any sort of communion with the environing wilderness."⁸

The Calvinist-Puritan theological understanding of God's immanence, the sense of God's overwhelming presence, of divine emanation in the soul and in nature, evolved from its doctrinally orthodox expression in Edwards to the intentional heterodoxy of Emerson's Transcendentalism. However, Emerson and his contemporaries who would initiate the American Renaissance grew up in a society which Miller insists "still bore the cultural impress of Calvinism: the theological break had come but not the cultural." Thus, Emerson could write wistfully about a time when "Calvinism was still robust and effective on life and character in all the people who surrounded my childhood, and gave a deep religious tinge to manners and conversation."⁹ No one in Emerson's life represented that vital Calvinism more than his aunt Mary Moody Emerson who, in her devout orthodoxy, encouraged her young nephew to contemplate "the Author of nature and revelation" in the majesty and beauty of nature.¹⁰ In his essay, "The Wilderness Rapture of Mary Moody Emerson: One Calvinist Link to Transcendentalism," David R. Williams describes the mysticism of nature which Emerson's aunt experienced most intensely on her farm in Maine, and her persistent advice "urging [Emerson] to leave the city for the solitude of nature and to lose his ego in the psychic wilderness for the hope of divine perception."¹¹ Emerson "understood that there was something sacred to be discovered in nature,"¹² and by the time of his proclamations in *Nature* (1836) and the Divinity School Address (1838), it became evident that the nature mysticism he had experienced in Calvinism had evolved into an original intellectual synthesis which his aunt would in the end rebuke as "pantheism."¹³

In "Nature and the National Ego," Miller argues that the popular ascendancy of Emerson's ideas in *Nature*, and his cultural "apotheosis" in the decade of 1850–1860, marked a turning point in America's self-understanding; indeed, "Emerson bespoke the inarticulate preoccupation of the entire community [nation]," the quintessential American theme: Nature versus Civilization.¹⁴ As the vast American wilderness was overtaken by westward expansion, urbanization, industrialization, and an increasingly utilitarian ethos, there arose a national dilemma: Nature had deep cultural associations with the sacred, with redemption and

spiritual regeneration, with inspiration, virtue, goodness, beauty, innocence. Indeed, America's self-understanding as "Nature's nation" identified the moral health of the nation with the very same wilderness which "progress" and the inexorable march of civilization seemed destined to vanquish. By the time that Rachel Carson was born (1907), this cultural dynamic had continued to develop in both intensity and complexity, and she inherited directly both her family's Calvinist religious attitudes toward nature, as well as the great philosophical and literary achievements of the American Renaissance (as an adult, she kept a copy of Thoreau's *Walden Pond* at her bedside). In fact, it was Maria Carson, Rachel's mother, who would transmit this cultural legacy to her daughter through her own devotion to a popular movement which not only harvested this cultural-religious inheritance, but established it in a manner which cannot be overlooked in its significance for both the historical development of the American environmental movement and the religious humanism of Rachel Carson.

(II) The American Nature Study Movement

America in the late 19th century and early 20th century experienced an intensification of the moral dilemmas presented in the national theme of Nature versus Civilization. The second industrial revolution compounded the social problems of industrial capitalism and urbanization, as "the union of science and technological rationality in the workplace" brought about not only increased labor efficiency, but also the stress of "the loss of autonomy and the flattening of experience that accompanied industrial regimentation." Americans "turned to nature to regain the unmediated experiences that, unlike so much of bureaucratic culture, enhanced the joy of living."¹⁵ The Nature Study Movement emerged within the context of Progressive Era social reforms, as a fundamental feature of the progressive focus on education:

Nature study advocates wished to impart to their young charges the ... worldview of modern science while simultaneously using the object of scientific investigation—nature—to nurture [children's] spiritual and ethical development. Part of education was recognizing the limits of scientific endeavor. At the heart of the nature study worldview, then, was a faith in the redemptive possibilities of nature itself.¹⁶

By 1907, the year of Rachel Carson's birth, "nature study proved so popular that it was being taught in schools throughout the country; the movement also enjoyed the support of many prominent intellectuals and

boasted an established professional society and scholarly journal.”¹⁷ Prominent among those intellectuals whose thought was integral to the nature study movement we find not only the religious humanist John Dewey, but moreover, the Swiss educator Johann Pestalozzi. The significance of Pestalozzi for the thought of Tsunesaburo Makiguchi and the young Daisaku Ikeda is well known; but the transformational power of this watershed era in humanistic education places the “religious humanism” of Rachel Carson—instilled through her early educational formation—in noteworthy convergence with the educational history and philosophy of the Soka Gakkai.¹⁸

This is so largely due to her mother, Maria Carson, who has been described by Rachel Carson’s biographer as “the perfect nature study teacher.”¹⁹ She effectively mediated the confluence of religious and philosophical worldviews which flowed, like separate streams in a great watershed, only to merge into a coherent, progressive educational vision of an integrated, holistic curriculum designed to shape character and direct the moral development of the nation’s children. These streams of religiosity included prominently the Christian, theistic “natural theology” themes, which were explicitly cultivated and expressed in the nature study educational materials. Of course, as the original diagnosticians of the ills of industrialization and urbanization, the intellectual and literary heritage of the American transcendentalists was also integral to the nature study movement, as was the general ethos of subsequent American romanticism.²⁰ And the role of John Dewey as a public intellectual cannot be overstated in its importance to the nature study movement, including his philosophy of “the religious” and “natural piety,” his philosophy of experience, aesthetic experience, and his holistic vision of science. In fact, for Dewey, nature study *was* holistic science, and as such, it conveyed not only a holistic view of knowledge, but the full moral import of relational wholeness in the development of the person.²¹

Rachel Carson was from her earliest years raised as a child of the nature study movement; Maria Carson taught Rachel from the classics of the movement’s literature: Liberty Hyde Bailey (*The Nature-Study Idea, Being An Interpretation of the New School Movement to Put the Child in Sympathy with Nature*, 1903), Anna Botsford Comstock (*Handbook of Nature Study*, 1911), and the great wealth of popular nature study literature, including the writings of Gene Stratton Porter, “an apostle of the nature study movement who believed that through nature a child was led to God.”²² Her childhood was spent in nature with her mother, joyfully exploring and earnestly studying the life of the

forests, fields, and waterways surrounding their Pennsylvania home. These were also years in which Rachel Carson fell in love with literature, with the life-shaping power of writing to convey the marvelous world of nature which she herself experienced so intensely. For the goals of nature study also included a new approach to science education which, as a reform of the established educational system, sought to engage the child's senses, to foster wonder before imparting "facts," and to instill "a living sympathy with everything that is."²³ This, in turn, served a moral purpose, expanding the child's range of ethical relations from the immediacy of non-human life forms in nature, through the local community understood as both nature and culture, and beyond to the life of the nation. Regarding this progressive belief in the development of healthy citizenry and civic responsibility through holistic moral education, the critical relation between nature study, educational reform, and democracy, one proponent averred: "Democracy is a nature study on a grand scale."²⁴ The extent to which this bold vision would find verification in the life of Rachel Carson comprises the subject of our study's next consideration.

3. The Legacy of Carson's Religious Humanism

The "religious humanism" of Rachel Carson had its essential beginning in her childhood. From the nature study movement, imparted through the love and devotion of her mother, Rachel Carson would, at the end of her life, reaffirm the sense of wonder as her spiritual worldview and humanistic ethos. Carson's biographer, Linda Lear, affirms this "spiritual legacy" which Maria Carson bequeathed to Rachel; grieving her mother's death, Rachel wrote to a friend: "Her love of life and of all living things was her outstanding quality.... More than anyone else I know, she embodied Albert Schweitzer's 'reverence for life'. And while gentle and compassionate, she could fight fiercely against anything she believed wrong, as in our present Crusade! Knowing how she felt about that will help me ...to carry it through to completion."²⁵ The "Crusade" to which Carson refers is, of course, the manuscript of *Silent Spring*, which she struggled to finish while battling the cancer that would claim her life within a few short years. It was to Albert Schweitzer that she would dedicate *Silent Spring*, and after its publication, the handwritten letter of thanks she received from Schweitzer became "her most cherished possession."²⁶

When Rachel Carson was subsequently awarded the Albert Schweitzer Medal of the Animal Welfare Institute, she reflected on the

significance of “reverence for life,” saying: “Dr. Schweitzer has told us that we are not being truly civilized if we concern ourselves only with the relation of man to man. What is important is the relation of man to all life.”²⁷ When Carson decided to change her major from English to Biology during college, she embarked upon a professional journey in which the holistic formation she received during her youth enabled her to celebrate the mysteries of “all life” as she carried out her scientific research. As a scientist, she never considered her religious formation or spiritual worldview to be in conflict with her vocation as a biologist. True to the legacy of John Dewey’s philosophical influence, her work as a scientist was never partitioned from the aesthetic experience of the wholeness of “all life.” In fact, it was her profound integration of the aesthetic and the scientific that made her nature writing distinctive, and gave *Silent Spring* the compelling immediacy of a truly humanistic religious conviction.

Here we encounter the confluence of Carson’s religious humanism with her identity as a woman and the journey she experienced as a woman in science during a male-dominated era in the profession. Rachel Carson was blessed by the presence of women in her life who served as role models of strength, character, conviction, and professional competence. As a young girl, she read the works of famous and highly regarded women scientists of the nature study movement; indeed, the nature study movement and the Progressive era remain an underappreciated historical testament to the role of women in religion and the formative influence these women had on culture. As an undergraduate at what is now Chatham College in Pennsylvania, she was mentored and encouraged by a few women whose assistance would change the course of her life forever.²⁸ We must not underestimate the self-confidence and spiritual resilience Carson developed through the women in her life, for the publication of *Silent Spring* would propel her into the midst of a heated national controversy and a virulently misogynist indictment of her professional competence and character by organized forces within the petrochemical industry, US government, research universities, and their public supporters.²⁹ The anguish, outrage, and absolute moral resolve that Carson experienced during this period was borne as she suffered increasing debilitation from her advancing metastatic breast cancer. Her heroic personal battle with cancer remained invisible to the public, at her insistence, “lest the chemical industry use her illness to discredit her scientific objectivity. In the hope of achieving a greater good, she kept silent” and kept her illness a secret from all but a few close friends.³⁰ For her magnificent biography of Carson, Linda Lear

chose the title, *Witness for Nature*; when we recall that in early Christianity the word “witness” was rendered from the Greek into the ecclesial Latin term, “*martyr*,” the religious humanism of Rachel Carson becomes all the more cogent.

It is so because, as a truly humanistic religious orientation, her integrated, holistic worldview bore implications for considerations in human rights and social ethics that are only beginning to be developed in their full scope and importance.³¹ In keeping with our study’s focus, we shall note only two aspects which recall the nature study formation of Carson’s youth. First, the inseparability of education for civic responsibility, citizen’s rights, and the significance of the human relation to nature is today receiving renewed attention, and in the United States, Carson’s legacy resounds in the call for the revitalization of democracy voiced by public intellectuals such as poet and social critic, Wendell Berry, and the work of the Orion Society.³² Second, the religious humanism of Rachel Carson challenges us to consider the intersection of the sense of wonder and the question of human rights: What is the spiritual, developmental, and moral significance of the childhood experience of the natural world? The manifesto she left to us was the unfinished manuscript for a small book which was published posthumously and based upon the 1957 essay entitled “Help Your Child to Wonder.”³³ But in a 1954 invited address to the Sorority of Women Journalists, Carson felt compelled to speak her convictions before this audience of nearly a thousand women: “I believe that whenever we destroy beauty, or whenever we substitute something man-made and artificial for a natural feature of the earth, we have retarded some part of man’s spiritual growth....[T]here is in us a deeply seated response to the natural universe, which is part of our humanity.”³⁴ In the final years of her life, she expressed her concerns more pointedly: “Only as a child’s awareness and reverence for the wholeness of life are developed can his humanity to his own kind reach its full development.”³⁵

Here the religious humanism of Rachel Carson takes its place at the leading edge of explorations of religion and the environment, as a legacy rich in inspiration and affirmations which resonate with a universal validity. This *Journal* exemplifies the crucial role that religion now plays in the global response to the ecological crisis. Moreover, it is the humanistic integration offered by renewals in the world’s most vital religious traditions that can truly offer the sources of strength and courage needed to engage the future with hope. For, as the great American conservationist Aldo Leopold once wrote, ecological literacy and a life attuned to the wonders of nature necessarily mean that one is

acutely conscious of living “in a world of wounds.”³⁶ Just as the wholeness of nature is integral to human wholeness and flourishing, the destruction of nature carries with it developmental consequences for the spiritual, psychological, and physical health of children,³⁷ as well as the contributive life of adults in society. Rachel Carson passionately believed that it is in “the real world around us” that humans encounter “universal truth” and “the ultimate mystery of Life itself.”³⁸ Although her religious formation was essentially theistic, through her affinity with Schweitzer perhaps she grasped a little of what he meant when, recalling the flash of insight that brought him the idea of reverence for life, he wrote, “when the idea and the words had come to me, it was of Buddha I thought....”³⁹

4. Conclusion

“The truth (true entity) of things is not found in some far distant realm removed from reality. In this unwavering focus on the true form (true entity) of everyday reality, never moving away from real things and events (all phenomena) we can discern the true brilliance of the Buddha’s wisdom.”⁴⁰ Daisaku Ikeda’s lifelong dedication to the universality of thought in the Lotus Sutra has sought to celebrate convergences of religious and philosophical sensibilities. He would not be surprised to learn of the letter Rachel Carson received from the beloved Catholic monk and writer, Thomas Merton, about the same time she received her cherished letter from Schweitzer, both lauding *Silent Spring*. Nor would he disdain the esteem toward Carson’s nature writing expressed by a prominent Catholic theologian in Europe, whose own mentor once wrote words that she would have found inspiring:

“What is the formula for the journey to the ultimate meaning of reality? Living the real. There is an experience, hidden yet implied, of that arcane, mysterious presence to be found within the opening of the eye, within the attraction reawakened by things, within the beauty of things, within an amazement, full of gratitude, comfort, and hope.... The only condition for being truly and faithfully religious, the formula for the journey to the meaning of reality is to live always the real intensely....The more one lives this level of consciousness in the relationship with things, the more intense the impact with reality, and the more one begins to know mystery.”⁴¹

Rachel Carson was not a Buddhist, and in later life she was at best

reticent in her identification with the Christian church of her youth; but she surely was “religious” in the sense of Dewey’s religious humanism. His words offer fitting tribute on the 50th anniversary of the publication of *Silent Spring*:

Any activity pursued in behalf of an ideal end against obstacles and in spite of threats of personal loss because of conviction of its general and enduring value is religious in quality. Many a person, inquirer, artist, philanthropist, citizen, men and women in the humblest walks of life, have achieved, without presumption and without display, such unification of themselves and of their relations to the conditions of existence. It remains to extend their spirit and inspiration to ever wider numbers.⁴²

Rachel Carson’s gift to the world was in returning us to “the real,” to the poetry of the sea and the simple joy of a birdsong. As her death approached, she found comfort and meaning in the ephemeral loveliness of butterflies in migration, and once wrote to E.B. White, upon the publication of *Silent Spring*, “I can think of no lovelier memorial than the song of a thrush.”

NOTES

¹ Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin Company, 1962).

² Paul Brooks, *Speaking for Nature: How Literary Naturalists from Henry Thoreau to Rachel Carson Have Shaped America* (Boston: Houghton Mifflin Company, 1980), xvi.

³ Lisa Sideris and Kathleen Dean Moore, eds., *Rachel Carson: Legacy and Challenge* (Albany, NY: State University of New York Press, 2008), 2.

⁴ *Ibid.*, 3.

⁵ Jim Garrison establishes the meaning of Dewey’s “religious humanism” as “preserv[ing] a role for *the religious* in daily life while seeking a ‘third way’ between the dogmas of secular humanism on the one side and dogmatic *religion* on the other” [italics added]. See his helpful discussion of Dewey’s philosophy in its profound convergence with Daisaku Ikeda’s articulation of the “middle way” of the Mahayana Buddhism of the Lotus Sutra. Jim Garrison, “Daisaku Ikeda and John Dewey: A Religious Dialogue,” *Journal of Oriental Studies* 19 (2009): 147–157, 147. However, Dewey’s articulation of a “*natural piety*” [italics mine] toward “the universe that sustains us” (Garrison, 151), expresses his original philosophical synthesis, even as the terminology discloses its proximity to the larger context of modern theology in its European origins, romantic-idealist development, and American assimilation. See, in this regard, Steven C. Rockefeller, *John Dewey: Religious Faith and Democratic Humanism* (New York: Columbia University Press, 1991).

⁶ Linda Lear, *Rachel Carson: Witness for Nature* (New York: Henry Holt and Company, 1997), 10.

⁷ For a helpful and concise overview of this complex aspect of Calvinism, see Lisa H.

Sideris, "The Secular and Religious Sources of Rachel Carson's Sense of Wonder," in *Rachel Carson: Legacy and Challenge*, 233–235. For a more comprehensive treatment, see Susan Schreiner, *The Theater of His Glory: Nature and the Natural Order in the Thought of John Calvin* (Durham, NC: Labyrinth Press, 1991).

⁸ Perry Miller, *Errand into the Wilderness* (Cambridge, MA: The Belknap Press of Harvard University Press, 1956), 184–185. The reference in this chapter is to Jonathan Edwards (1703–1758), widely regarded as the greatest American theologian; his philosophical theology is noted for its emphases on the spiritual experience of beauty in nature. Edwards was a theologian in the Puritan heritage of New England, and is associated with the renewal movement known as "The Great Awakening."

⁹ *Ibid.*, 200.

¹⁰ Mary Kupiec Cayton, *Emerson's Emergence: Self and Society in the Transformation of New England, 1800–1845* (Chapel Hill, NC: University of North Carolina Press, 1989), 58.

¹¹ David R. Williams, "The Wilderness Rapture of Mary Moody Emerson: One Calvinist Link to Transcendentalism," *Studies in the American Renaissance* (1986): 1–16, 7.

¹² *Ibid.*, 11.

¹³ *Ibid.*, 12.

¹⁴ Perry Miller, "Nature and the National Ego," in *Errand into the Wilderness*, 204.

¹⁵ Kevin C. Armitage, *The Nature Study Movement: The Forgotten Popularizer of America's Conservation Ethic* (Lawrence, KS: University Press of Kansas, 2009), 2–3.

¹⁶ *Ibid.*, 12.

¹⁷ *Ibid.*, 4.

¹⁸ See, for example, Takao Ito, "Readings from Daisaku Ikeda's Youth–Johann Heinrich Pestalozzi in the Early Development of Daisaku Ikeda's Educational Thought," *Soka Education* 1 (March 2008): 141–147; Jason Goulah and Andrew Gebert, "Tsunesaburo Makiguchi: Introduction to the Man, His Ideas, and the Special Issue," *Educational Studies* 45 (2009): 115–132, 119.

¹⁹ Lear, 14.

²⁰ For a discussion of this relation, see Armitage, *The Nature Study Movement*, 45–51.

²¹ *Ibid.*, 57.

²² *Ibid.*, 17.

²³ See, for example, Armitage, 42–70.

²⁴ *Ibid.*, 65. The quotation is taken from an essay by Stanford University president David Starr Jordan, "Nature Study and Moral Culture," *Science* 4, no. 84 (7 August 1896): 153.

²⁵ Lear, 337–338.

²⁶ *Ibid.*, 438.

²⁷ Frank Stewart, "Small Winged Forms Above the Sea: The Life of Rachel Carson," *Orion* 14 (Winter 1995): 14–18, 18.

²⁸ See, in this regard, Lear's biography, chapters 2 and 3.

²⁹ See, for example, Michael Smith, "Silence, Miss Carson!": Science, Gender, and the Reception of *Silent Spring*," in *Rachel Carson: Legacy and Challenge*, 168–187; Lear, *Witness for Nature*, chapters 17 and 18.

³⁰ *Lost Woods: The Discovered Writing of Rachel Carson*, edited and with an Introduction by Linda Lear (Boston: Beacon Press, 1998), 224.

³¹ Again, the anthology by Sideris and Moore, *Rachel Carson: Legacy and Challenge*,

includes notable contributions in this regard.

³² See, for example, Richard Nelson, Barry Lopez, Terry Tempest Williams, *Patriotism and the American Land*, The New Patriotism Series, Volume 2 (The Orion Society, 2002).

³³ Rachel Carson, *The Sense of Wonder* (New York: Harper & Row, 1965).

³⁴ Rachel Carson, "The Real World Around Us," in *Lost Woods*, 160.

³⁵ *Ibid.*, 194.

³⁶ Aldo Leopold, *Round River: From the Journals of Aldo Leopold* (New York: Oxford university Press, 1993), 165, quoted in Armitage, 209.

³⁷ See the discussion in Armitage, 209–215; see also David Sobel, *Beyond Ecophobia: Reclaiming the Heart in Nature Education* (The Orion Society, 1996).

³⁸ Rachel Carson, *The Edge of the Sea* (Boston: Houghton Mifflin Company, 1955/1998), 250.

³⁹ Quoted in A.G. Rud, *Albert Schweitzer's Legacy for Education: Reverence for Life* (New York: Palgrave Macmillan, 2011), 16.

⁴⁰ Daisaku Ikeda, *The Wisdom of the Lotus Sutra*, Volume I, quoted in Garrison, 148.

⁴¹ Luigi Giussani, *The Religious Sense* (Montreal: McGill-Queen's University Press, 1997), 108–109.

⁴² Quoted in Garrison, 154.