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Those Who See: Emily Dickinson’s and May Swenson’s Poetic Language of Spiritual and Scientific Possibility

by

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Emily Dickinson and May Swenson are major American poets who use scientific language in order to explore the productive tension developed when core spiritual beliefs are challenged by new scientific observations and theories. Rather than shrink from the uncertainty resulting from the challenge to faith posed by Darwin in nineteenth-century America, Dickinson and Swenson blend scientific and spiritual language to move beyond the binary opposition often seen as separating these discourses. Dickinson responds most immediately to the advent of Darwinian thought, while Swenson builds on the work of Dickinson as she examines twentieth-century scientific discoveries ranging from the microscopic (the discovery of DNA) to the macroscopic (discoveries due to space exploration). In their consideration of the implications posed by these scientific discoveries, Dickinson and Swenson provide a model of thinking that frames doubt not as a threat to belief but rather as a source of spiritual richness that is grounded in questions rather than answers. Central religious questions such as the possibility of life after death, the nature of the universe and the divine, and the relationship between man and the divine emerge in the writing of both poets as they address scientific discoveries that challenge traditional Christian theology. Largely due to this acceptance of doubt, Dickinson and Swenson have been described as agnostic or atheistic; they reject the finality of any specific religious doctrine. Looking at the entire body of their poetry, however, shows not a wholesale rejection of religious faith, but a syncretic approach to spirituality within which each poet insists on exploring the way scientific discoveries accommodate or influence human experience and understanding of the divine, to create an imaginative space where the implications of scientific theory can be considered.
One aspect of Dickinson’s and Swenson’s poetry that surfaces with particular force when considering their interest in the intersection of the sciences and religion is a characteristic interweaving of religious and scientific language. This interweaving is clear from the title of Dickinson’s poem “‘Faith’ is a fine invention” (Fr 202) where the scientific language of “invention” is used to describe spiritual “Faith.” Such language allows Dickinson to test the explanatory power of science and religion after Darwin’s theory of natural selection challenged previous understandings of Earth’s history, creation, and the presence of an omnipotent creator by introducing chance and a “struggle for existence” to describe the diversity of life on Earth. In “Four Trees – opon a solitary Acre –” (Fr 778) Dickinson uses this interweaving of language to overtly consider the issue of design and cosmic order by examining four trees that appear randomly on the landscape while entertaining the possibility that they may participate in a greater plan. Swenson addresses similar concerns in “The Universe” through her repetition of words such as “think,” “about,” and “cause” in order to question if there is a greater sentience in the universe that creates “cause” and the laws that science has observed. In “The DNA Molecule” Swenson challenges those laws that she questions in “The Universe” by using the poem to create new life that appears to violate the biological laws governing reproduction and DNA.

Darwin himself used poetic language in order to negotiate the tension between science and religion posed by his own theory of natural selection as expressed in his 1859 work *On the Origin of Species*. Darwin employs poetic techniques such as metaphor, personification, and analogy rather than limiting his focus to purely objective, scientific
observations as a way of engaging the imagination, as well as reason, when considering the implications of his theory. Darwin writes,

> It is interesting to contemplate an entangled bank, clothed with many plants of many kinds, with birds singing on the bushes . . . and to reflect that these elaborately constructed forms . . . have all been produced by laws acting around us . . . Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life . . . breathed by the Creator into a few forms or into one; and that whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

(489)

Darwin immediately situates his observations and their implications within the realm of the imagination through the use of “contemplat[ion],” and then uses spiritual and imaginative language expressed through terms such as “entangled bank” and “grandeur” that emphasize the beauty of nature despite the metaphors of war and struggle and the indifference of nature expressed elsewhere in *Origin of Species*. Darwin’s poetic language is paired with spiritual language expressed here and when he writes “the most exalted object” is man and life was “breathed by the Creator.” This spiritual language presents an attempt by Darwin to allow his theory to coexist with the spiritual and scientific beliefs that were central to natural theology, the dominant theological paradigm in the sciences when Darwin conducted his research and published *On the Origin of Species*.

Within the paradigm of natural theology, scientific experiments serve to prove universal laws that are governed by a creator so that “the consistency of result confirms and reconfirms the manifold laws of the created universe, and these in turn prove the existence of God” (Wolff 82). It is this understanding of the world, where the creator
plays a central role followed by the role of man, which is directly challenged by Darwin’s theoretical demonstration that nature no longer necessitated a creator. Darwin, in challenging this paradigm, even goes so far as to proclaim his hope that naturalists “will be able to view both sides of the question with impartiality” (489-490). By emphasizing the possibility of a creator and using poetic language to demonstrate how his theory of natural selection is part of the Creator’s plan, Darwin allows both theories to be considered simultaneously in an attempt to negotiate the implications of his theory for spiritual life and natural history. His work transcends the boundaries of analysis and creativity in order to create an imaginative space where his theory can be considered as legitimate despite the predominant belief in natural theology. Darwin uses poetic language to persuade his audience that the theory of natural selection is possible, despite the challenges that theory poses to their beliefs in God and natural theology. Dickinson and Swenson similarly use poetic language to help audiences consider the implications of Darwin’s theory by creating an imaginative space where the theory can be tested alongside spiritual beliefs; however, their work differs in that they do not hope to persuade readers to decide between spirituality and science. Instead, Dickinson and Swenson emphasize the value of remaining open-minded and considering a multitude of possibilities.

Dickinson’s poem “Four Trees” probes the questions about cosmic design sparked by Darwin’s theory by using descriptions of nature to demonstrate a failure of the existing religious and scientific language.

Four Trees – opon a solitary Acre –
Without Design
Or Order, or Apparent Action –
Maintain –
The Sun – opon a Morning meets them –
The Wind –
No nearer Neighbor – have they –
But God –
The Acre gives them – Place –
They – Him – Attention of Passer by –
Of Shadow, or of Squirrel, haply –
Or Boy –
What Deed is Their’s unto the General Nature –
What Plan
They severally – retard – or further –
Unknown –
The poem begins with a description of four trees “Without Design” demonstrating the shift in belief that Darwinism required for many: if natural selection is accepted, the idea that every being was designed is no longer valid (2). However, the speaker does not allow the reader to choose one worldview over the other, but prefers to wonder, “What Plan / They severally – retard – or further –,” thus challenging the idea that there is no God to design the trees by implying there is a greater “Plan” (14-15). That Dickinson does not give either worldview primacy is essential for the process of “nimble believing” that James McIntosh presents as central to her poetics. Dickinson’s spirituality gains its richness because of its fluidity. This balancing of views is further emphasized when the speaker explains that for the four trees, “No nearer Neighbor – have they – / But God –” (7-8). With these words, Dickinson presents the possibility that even if there is no discernable design, this does not necessarily preclude the existence of God. Her poem pushes readers towards a more nuanced understanding of nature—despite providing no resolution—by keeping possibility alive in her consideration of nature’s design. The speaker’s goal is not to resolve these conflicting perspectives, nor is the goal to laud one
over the other, but rather to encourage contemplation of conflicting points of view simultaneously and equally in order to test their boundaries and arrive at a deeper understanding of reality which consists not of either/or propositions, but grey areas where multiplicity and contradiction abound. The “Plan” is “Unknown –” (16). “Unknown” is the last word of the poem and is given its own line, emphasizing the importance of the unknown. The use of “Unknown” demonstrates the lack of a clear way to interpret nature in light of the tensions between Darwinism and Christianity. Yet “unknown” does not necessarily mean “unknowable,” but rather not currently known as the speaker allows for the merits of both beliefs to be tested together to enrich our spiritual worldview. Through such poems we can imagine the four trees in relation to God, considering the alternative options in belief simultaneously so that as readers we may find our own paths to knowledge.

Poems such as “Four Trees” suggest Dickinson’s awareness of Darwinian language and ideas which she then incorporated into her poetry. In his book Nimble Believing, McIntosh asserts that “In all likelihood Dickinson read the series of excellent, informative articles by Asa Gray on Darwin’s Origin of the Species in the Atlantic . . . her familiarity with Darwin and her sense of his importance is clear from later letters” (McIntosh, Nimble Believing 174). While McIntosh argues that “She does not perhaps show effects from this reading immediately,” her poetry demonstrates familiarity with many of these ideas, as do her letters, and the intellectual turmoil surrounding Darwin’s publication of On the Origin of Species interestingly coincides with what is believed to be Dickinson’s most productive period (Nimble Believing 174).
Robin Peel’s *Emily Dickinson and the Hill of Science* (2010) usefully explores the frequency with which science enters Dickinson’s writing, identifying Dickinson as a poet-scientist. Peel asks, “What happens, then, if we consider the fascicles [Dickinson’s homemade poetry booklets] as laboratory or field notes and Dickinson’s writing as part of a continuing experiment to observe, evaluate, and make sense of the material and immaterial world?” (17). Peel discusses Dickinson’s engagement with Darwin: “As natural history developed into biology, ideas about evolution culminating in Darwin’s theory of natural selection threatened the received biblical version of creation. . . . Understanding exactly how Dickinson’s poems are informed by these debates helps explain their contrasting and conflicting tone, their frequent elisions, and their often-contradictory rhetoric” (17, 26). Peel relates the “contradictory rhetoric” (a key element of McIntosh’s “nimble believing”) in Dickinson’s poetry to new scientific discoveries. Dickinson’s poetry thus interrogates and tests multiple worldviews in an innovative way, blending the language of science and religion, juxtaposing natural theology and natural selection in order to allow for a critical consideration of both perspectives without demanding reconciliation of these inherent contradictions. Each theory can be tested, combined, and reconsidered in new ways in order to question the status quo rather than to reach a concrete solution to apparent contradictions. While Dickinson does not provide an answer for the contradictions she creates, she does provide a method for testing our beliefs in order to increase our spiritual awareness.

As a well-educated woman living in a predominantly Calvinist rural Massachusetts community during the nineteenth century’s Darwinian revolution,
Dickinson had to confront the challenge Darwin and his contemporaries presented to natural theology. Dickinson was well versed in natural theology. She attended Amherst Academy from 1840-1847 and “of the four subjects she reported—‘Mental philosophy, Geology, Latin, and Botany’—only Latin might not have had an explicitly theological import” (Wolff 82). Her formal education incorporated natural theology and “As Dickinson grew older, more complex religious questions would be raised, but the Argument from Design came first.” The importance of this argument is seen in poems such as “Four Trees” discussed above, where design and the possibility of creation “Without Design” are considered. Despite an education that emphasized Calvinist doctrine and theology, her willingness to embrace alternative theories of the origin of life stems from Dickinson’s early skepticism. Cynthia Griffin Wolff argues that “even from the beginning of her formal education, Emily Dickinson seems to have been uncomfortable with the implications of ‘Design’” (82). Dickinson was a skeptic who questioned and challenged core Calvinist doctrine, even prior to the publication of Darwin’s work.

Vivian R. Pollak and Marianne Noble also note that religion was part of Dickinson’s early education at Mount Holyoke, including discussions on how best to develop a relationship with Christ: “Miss Lyon [the founder of Mount Holyoke] held separate meetings for those who had ‘professed faith,’ those who had a ‘hope,’ and those who had ‘no hope.’” Despite the educational emphasis on faith, Dickinson remained skeptical; she was “one of eighty ‘No-hopers’ when she entered; by the end of the term, only twenty-nine remained, including herself. At one point, Miss Lyon asked all those
who wanted to be Christians . . . Emily was one of those who remained seated” (34).

Pollak and Noble go on to state that after one year, despite the social pressure to convert, Dickinson’s open-mindedness did not change and she “left the three-year course at Mount Holyoke without converting” (35). This early religious skepticism represents an openness to new ideas which helped her integrate Darwinian ideas once his work had been published.

Although Dickinson continued to question church doctrines, McIntosh points out in his essay “Religion” that “Dickinson included doubt in the experience of faith. . . . Her blending of faith and doubt may be her most daring and original experiment in her thinking about religion” (157). Her poem “This World is not conclusion” (Fr 373) is one of many examples of the way doubt performs an integral role in her experience of faith.

This World is not Conclusion.
A Species stands beyond –
Invisible, as Music –
But positive, as Sound –
It beckons, and it baffles –
Philosophy, dont know –
And through a Riddle, at the last –
Sagacity, must go –
To guess it, puzzles scholars –
To gain it, Men have borne
Contempt of Generations
And Crucifixion, shown –
Faith slips – and laughs, and rallies –
Blushes, if any see –
Plucks at a twig of Evidence –
And asks a Vane, the way –
Much Gesture, from the Pulpit –
Strong Hallelujahs roll –
Narcotics cannot still the Tooth
That nibbles at the soul –
This poem begins with the declaration, “This World is not conclusion,” as a clear assertion of life after death, but ends with “Narcotics cannot still the Tooth / That nibbles at the soul –,” language expressing doubt and uncertainty that challenges the initial assertion made by the speaker (1, 19-20). The shift from certain faith to doubt by the end of the poem shows Dickinson’s willingness to embrace doubt, and to see doubt as a central aspect of faith in attempts to understand whether or not this world “is conclusion.” The speaker is unable to come to a concrete resolution, but does not discount the possibility of life after death.

As a consequence, this poem transcends dichotomies by demonstrating that faith and doubt have an interconnected relationship where doubt is part of the search for faith. The “Species” that “stands beyond” “beckons” and “baffles,” faith “slips,” “laughs,” and “rallies.” The verbs highlight the search for faith, difficult and confusing at time, but ultimately rewarding when we “rally.” Dickinson’s search for faith is not without humor, faith “laughs.” Whether faith is laughing with us or at us, it seems that such light heartedness does not fit with the pulpit where “Strong Hallelujahs roll.” Dickinson therefore sees the search for faith as occurring outside of institutional religion. Doubt in this case does not lead to a complete rejection of religious beliefs, but rather a questioning of doctrine. “This World is not conclusion” models the use of doubt as a means to explore important spiritual questions such as the possibility of life after death and the nature of man’s relationship to the divine which are recurrent in Dickinson’s poems and stem from ideas such as natural selection. The poem even affirms that the search for the afterlife is undertaken by philosophers, scholars, and men seeking
“Evidence.” By deliberately referencing the scholarly and scientific search for an understanding of the nature of life after death in a poem that incorporates uncertainty in the experience of faith, Dickinson forces readers to remain open to new spiritual experiences by considering the way faith and doubt are provoked by scholars simultaneously.

Jed Deppman’s analysis of nineteenth-century thought exercises in “Trying to Think with Emily Dickinson” offers a useful framework for understanding Dickinson’s, and later Swenson’s, attempts to grapple with doubt and faith, science and religion, in their poetry. Deppman identifies three phases that characterize this pattern of thought in her poems: “the search for the contexts and manners in which a poet acquires words and ideas; the disappointment in the existing vocabulary to express or reshape one’s vision; and the poems that result from trying to think in these conditions” (74). “These conditions” in Deppman’s work can evoke the sublime as speakers try to understand what cannot be expressed with existing language or reason. The terror, confusion, and awe provoked by the sublime are similar to the sensations that often correspond to the challenges to worldview that new scientific discoveries present both to the culture at large and individuals.

While in “Four Trees” significant spiritual questions about the nature of the universe and design are approached, and the failure of language to provide answers to these questions begins to become clear, Dickinson’s “Further in Summer than the Birds — ” (Fr 895) demonstrates even more clearly the failure of the existing language that characterizes Deppman’s second stage of thought exercises and is indicative of the
challenge to spiritual beliefs. “Further in Summer” is a poem in which Dickinson’s speaker models a search for an adequate spiritual language to describe human observations of nature.

Further in Summer than the Birds –
Pathetic from the Grass –
A minor Nation celebrates
It’s unobtrusive Mass.

No Ordinance be seen –
So gradual the Grace
A gentle Custom it becomes –
Enlarging Loneliness –

Antiquest felt at Noon –
When August burning low
Arise this spectral Canticle
Repose to typify –

Remit as yet no Grace –
No Furrow on the Glow,
But a Druidic Difference
Enhances Nature now –

Dickinson’s speaker in “Further in Summer” systematically describes a summer day moving into evening. Each stanza considers a different time of day, and these observations on nature imply a scientifically minded speaker, despite the lack of scientific language in this poem. Rather than focusing on the implications of science for religion, or the tensions therein, this poem highlights the spiritual search that occurs when religious language fails to describe nature precisely. The first three stanzas in “Further in Summer” use religious language to describe the morning as an “unobtrusive Mass,” but “No Ordinance be seen – / So gradual the Grace” and as the day draws to a close a “spectral Canticle” arises (4-6, 11). In each stanza, the explanatory power of the language
of Christianity is tested. While the language holds for the beginning of the poem, by the last stanza it is clear that this language has proved inadequate. There is “as yet no Grace” and the speaker notes a “Druidic Difference” (13, 15). The sudden shift from Christian language, “Mass,” “Ordinance,” “Grace,” and “Canticle,” to a reference to Druids demonstrates the failure of Christian language and belief—though not all spiritual language and belief—to capture every observable aspect of nature. Spiritual depth is achieved in this poem by remaining open to spiritual experiences outside the dominant doctrine; pre-Christian belief here represents the mystery of the spiritual unknown as the day turns to twilight, also a time of mystery and enchantment. This opens the possibility of a spiritual framework that incorporates Christian and other beliefs into a new belief that embraces the contradictions the speaker of this poem observes.

It is important to note that there is “as yet no Grace,” not simply “no Grace.” The speaker does not disregard the possibility of a spiritual understanding, or even a Christian understanding, of nature, but merely acknowledges that such an understanding is not currently supported. Using Deppman’s phases, it becomes clear that in this poem Dickinson identifies a failure in the existing vocabulary, and tests the limits of Christian language in her description of nature. While scientific language is not used explicitly, the fact remains that the speaker makes repeated observations of nature which cannot be described using the existing vocabulary. Although the Christian vocabulary provides a strong foundation for understanding, the speaker finds that other spiritual terms enhance the descriptions of nature. The shift in language demonstrates the conflict between Darwinism and natural theology; the language of Christianity is still used to describe
nature, but cannot hold up throughout the poem and a different spiritual language must be used to explain the speaker’s observations. By finding and exploring the limits of the Christian language, this poem creates a thought experiment, a mental space where Christians can test the use of new language (such as the poetic language used by Darwin which departs from that of natural theology and Christianity) to describe the natural world.

In Dickinson’s “‘Faith’ is a fine invention,” the use of language is more overtly connected to the sciences, clearly demonstrating the conflicting but necessary relationship between science and religion in the quest for answers to spiritual questions.

“Faith” is a fine invention
For Gentlemen who see!
But Microscopes are prudent
In an Emergency!

The first line labels “Faith” as an invention, immediately relegating belief to the realm of human creation. Faith is then seemingly dismissed for the majority of people, as being acceptable only for those who already “see” (2). For the rest, “Microscopes are prudent” (3). The word “prudent,” though, is evocative of Christian virtues, making the call for microscopes, and an incorporation of scientific observations, a call for Christians to understand the current crisis and expand their language to include that of scientific discoveries. Observations—what we see—are called into question through the juxtaposition of religious and scientific language throughout the poem. Christians and natural theologians are called upon to expand what they “see,” and believers are asked not to reject faith, the “fine invention,” but to “see” not only through the eyes of religion, but through the lens of the microscope, the eyes of science. This dual seeing indicates
that Dickinson pushes her audience not to come to a set resolution or choose a specific perspective after the “emergency” or scientific crisis, but to think from both perspectives in order to understand the world more clearly.

At the same time, this poem uses humor and brevity which calls less for readers to reflect on nature as her previous poems have done. The result is a poem which challenges the “gentlemen” of faith who are closed-minded while encouraging readers to see from a new perspective. The lightheartedness of this poem again contrasts with the stern approach to spiritual reverence that we associate with the pulpit. Thus, in this poem, attempting to “see” from both Christian and scientific perspectives can provide the reader with a spiritual richness and stronger faith because the reader’s understanding of faith and nature has been tested and informed by these two ways of seeing. By remaining open-minded and considering alternatives, the reader will not automatically dismiss new ideas, but rather take time to give them validity even if they challenge faith or specific doctrines. When faith has been challenged and overcomes the challenge, the reader’s faith expands and is stronger as a result of that expansion. The reader becomes a critical thinker and spiritual seeker, rather than one so entrenched in ideology they cannot see anything contradictory to their beliefs. In this way, Dickinson’s poetry confirms core beliefs of natural theology, despite simultaneously challenging many of its tenants, by providing a space where observations of the natural world lead to an understanding of the unknown.

The rejection of specific doctrine, the emphasis of the unknown, and the importance of bringing contradictions to light that are characteristic of Dickinson’s work
are also significant elements of Swenson’s work. Although living after Darwin’s theories
had been widely accepted, at least in the scientific community, Swenson used science in a
way similar to Dickinson. In Swenson’s poetry spiritual doubt results not only from the
continued study of evolution, but also from contemporary discoveries including DNA and
new advances in space exploration. Swenson understood all scientific knowledge as a
way to enhance her understanding of spirituality. She made science central to her inquiry
into questions of the nature of the universe and human experience. Swenson’s poetry
presents a twentieth-century attempt to grapple with the cultural implications of
Darwinism. While there is extensive scholarship on Dickinson’s engagement in spiritual
and scientific concerns, the scholarship on Swenson is unfortunately less voluminous. As
of now there is no authoritative scholarly biography of Swenson and therefore
understanding her relationship to these concerns must be gleaned from the existing
scholarship by Paul Crumbley, Cynthia Hogue, Susan Howe, and Swenson herself, who
wrote essays about her poetic project.

That Swenson embraced Darwinism and viewed herself as a descendent of
Dickinson is made especially clear in poems such as “Daffodildo,” where Swenson uses
evolutionary language to link herself both intimately and biologically to Dickinson. In
this poem describing a visit to Dickinson’s home, the speaker picks a daffodil, a
metonymic link to Dickinson, and “threaded through my buttonhole, the spawn / of
ancestor she planted / where, today, / I trod her lawn” (5-9). The connection of Daffodil
to buttonhole (a somewhat sexual image implying reproduction) then linked to Dickinson
through the act of planting and the use of the word “ancestor” serves to connect Swenson
to Dickinson in an evolutionary sense. Throughout the poem their poetic voices merge as Swenson quotes Dickinson’s poetry extensively in this work; for example, when looking at Dickinson’s chair, Swenson ponders, “and retrieved / an answer, / ‘I dwell / in Possibility – / a fairer / house than Prose.’ Yellow bells in the still / air of their green room / out there” (72-80). “Daffodildo” ends with lines from a different Dickinson poem when Swenson “make[s] / this vow, Emily, to ‘take / vaster / attitudes- and strut upon my stem’” (124-127). By ending the poem with Dickinson’s voice it might almost seem that Swenson has been overtaken by Dickinson, yet Swenson re-arranges Dickinson’s poems, selects specific lines, changes the line breaks, and re-contextualizes these poems demonstrating clearly her view of her relationship to Dickinson. She is inspired by Dickinson’s poetic voice, but modifies that style and voice to serve her own poetic project.

As a descendant of Dickinson, Swenson follows the pattern of skepticism Dickinson established and uses language in similarly innovative ways. Therefore, comparing Dickinson and Swenson allows for a better understanding of Swenson’s poetic approach to scientific and spiritual concerns. Viewed from this perspective, Swenson’s poems retain their originality while still being reminiscent of Dickinson’s work. As already discussed, the daffodil in “Daffodildo” provides a symbolic connection to Dickinson. This is emphasized when Swenson asks “(What if one white bulb still sups / sun-time that Emily’s show passed / over?)” finally seeing “her sunny ghost passed down the rows” (7, 47-49). The use of the word “passed” not only indicates movement, but the “passing” of genetic material from ancestor to descendant, and the “passing” of ideas or
methods from one poet to another. As Crumbley states, “through a process closely resembling natural selection, Swenson pragmatically built on the past by diligently searching for what works in language” (144). In this poem, Swenson views herself as building on the legacy of Dickinson, and using the language of evolution to show her relationship to Dickinson and how her poetry participates in this evolutionary act of descent that progresses by means of modification.

One way Swenson modified her poetic project is through the innovative use of language, questions, and form (which included a series of iconographs, poems intended to look like the subject matter such as a poem about a sunset printed in the shape of the sun). Crumbley’s essay “May Swenson and Other Animals: Her Poetics of Natural Selection” describes Swenson’s use of language and interest in scientific questions. According to Crumbley, her “reference to natural selection is a response to Swenson’s hard-minded view of life and poetry. . . . She took great delight in breaking down conceptual barriers of all sorts” (138). Swenson’s poetry represents attempts to understand the self and the universe by reaching the limits of current understanding and then pushing past those limits and entering the state of the sublime. Crumbley goes on to note that “as a poet, she discovered language in the full range of her experience: her participation in the natural world, her fascination with science, her many loves . . . her obsession with philosophical questions, her engagement with the political issues of her moment” (144). Swenson’s discovery of language, her experimentation with language and form, provides her with a means of considering philosophical questions regarding spirituality while incorporating her interest in science.
Building off of Dickinson’s experimental poems, Swenson engages in her own experiments. In poems such as “The DNA Molecule” Swenson explores the implications of the discovery of DNA on evolution, providing a mechanism for descent that gave Darwin’s theories additional support in the twentieth century. “The DNA Molecule” uses an experimental form, iconographic visual, that Swenson utilized to structure her poems as images that exist alongside her blending of scientific language with the language of religion to show that the way we see the world is connected to the way we think about it. The iconography allows the poem to have an immediate visual presence, changing how the poem is conveyed to the reader, and uses language innovatively as the foundation for visual as well as literary art. “The DNA Molecule” is shaped as a double helix showing that as a poet Swenson has literally created a “DNA molecule” in addition to the discussion of creating such a molecule that is the central action in the poem. Swenson presents the reader with what has become an iconic image of scientific discovery, the double helix, to explore how this discovery offers a new way to consider human participation in the act of creation. This is not just a poem about evolution, but a poem about the role of art in human evolution through the poet’s act of creation. The same “experiments” Swenson and Dickinson engage in can be seen in “The DNA Molecule” as resulting in a successful mutation, an evolved species.
After the initial visual impression, the poem begins by connecting DNA to art: “The DNA Molecule is The Nude Descending a Staircase” (1). Crumbley asserts that “Here we also have Swenson clearly writing in a manner that draws on Duchamp (though changing the gender of the nude) to establish at the outset the poem’s concern with the way artistic creation enters into conversation with biological reproduction” (154). Crumbley acknowledges that this poem allows for the speaker to deviate from the norm; in this case, artistic creation is not merely reproduction.

The norm in the poem includes the biological laws which the speaker describes within the poem. Constructing the DNA molecule requires following specific rules, “Red
can only be opposite Green, and Blue / opposite Yellow” (42-43). However, immediately after explaining the rules, the speaker “fixed a Blue match opposite a Red match of the same / length” (47-48). The speaker, connected to poet or artist through the visual impact of the iconograph and the reference to “The Nude Descending a Staircase,” has used this space to create something that tests and redraws the biological laws ordering the universe. Unlike the experiment Swenson describes in “The Cross Spider,” the experiment in “The DNA Molecule” is successful. Although it deviates from the laws previously established by science, the experiment succeeds, and Swenson communicates the emergence of new life through her speaker, who

saw plushy, iridescent wings push moistly out of the pouch. At first glued together, they began to part. On each wing I saw a large blue eye, open forever in the expression of resurrection. The new Nude released the flanges of her wings, stretching herself to touch at all points the outermost rim of the noösphere (57-63).

The reference to the Pierre Teilhard de Chardin’s “noösphere” is an important point in considering Swenson’s view of art as participating in evolution. Hogue explains that “The expansion that Swenson had in mind was a kind of Teilhardian vision of hope for earth through the evolution of thinking . . . Teilhard . . . termed his notion of cerebral evolution *noögenesis* (a neologism based on the Greek word for mind, *noos*), to contrast it with *biogenesis* (the evolution of organisms of increasing complexity and adaptability on earth)” (135). The speaker then uses art as a way of participating in this cerebral evolution where poetry and visual art become part of human cognitive development and creativity becomes a form of reproduction, both in the sense of creation and in the sense
of recreating what has already been made. In the speaker’s observation of the new creation, despite the previously scientific instructions, the new DNA molecule results in “the expression of resurrection.” This sudden appearance of religious language is reminiscent of numerous poems which challenge the effectiveness of either religious or scientific language to describe human experience. In order for the noösphere to be reached, the speaker must be willing to challenge existing modes of thinking, both religious and scientific, in order to participate in the ongoing act of creation and deepen her understanding of the spiritual dimension of human experience. The noösphere in this poem is not only indicative of cognitive, but also spiritual evolution.

Swenson challenges scientific instructions in order to achieve a greater spiritual depth while participating in the act of creation based on scientific building blocks. Poems such as “The DNA Molecule” shift the relationship between poet and scientist, where the poet becomes scientific, engaging in experiments and documenting her findings. In “The Poet as Antispecialist” Swenson explains that “The impulses of the scientist and the poet, it seems to me, are parallel, although their instruments, methods, and effects are quite divergent . . . A point of continuity between them, however, is that poet and scientist both use language to communicate their findings” (680). Just as Peel sees Dickinson as a poet-scientist, Swenson sees herself as embarking on a quest with goals similar to the scientist’s. Swenson finds that “the experience of poetry is animated with the insatiable curiosity of science. The universe, inside and out, is properly its laboratory” (688). Nowhere is Swenson’s view of the universe as a laboratory for this poet clearer than in
the poem “The Universe” where she poses scientific and religious questions about the relationship between man and the universe.

What is it about, the universe, the universe about us stretching out? We, within our brains, within it, think we must unspin the laws that spin it. We think why because we think because. Because we think, we think the universe about us.

But does it think, the universe? Then what about? About us? If not, must there be cause in the universe? Must it have laws? And what if the universe
is not about us?
Then what?
What
is it about?
And what
about us?

Swenson’s speaker here models a method of sorts for considering what the universe is “about.” Swenson begins the poem by asking, “What / is it about, / the universe, / the universe about us stretching out?” (1-4). She questions what the nature of the universe and life outside of human existence is. If there were a worldview in place that was not being challenged, this question would have a simple answer; however, post-Darwin America still struggles with the questions of what the universe is about despite the fact that the scientific community has accepted Darwinism. In the Christian worldview, that answer is “God” as the universe is about God. However, Swenson refuses to provide a simple answer. Instead her speaker proposes that “We within our brains / within it / think / we must unspin / the laws that spin it” (5-9). This language acknowledges the desire to understand the laws of the universe through thinking and reason, but also reflects the ongoing shift in worldview sparked by Darwin’s theories that has left many with no way to understand the laws of the universe. Swenson embraces the unknown, using the questions in this poem to challenge the “think[ing]” or reasoning that leads to a simple understanding of the laws of the universe where the universe is “about us,” pushing the reader to embrace the space where that reason fails as a way of reconsidering the assumptions we make about the role of humans in the universe. Even the layout of the poem on the page speaks to the assumptions we make about the role of humans in the
universe. The first half of the poem places “we think” down the center, while the rest of the poem “revolves” around that point as we assume the universe to revolve around what we think. This allows for a visual representation of how we relate to the universe. The importance of what we “see” carries into Swenson’s project as Swenson emphasizes literally what we see by changing the layout of the poem on the page.

Swenson’s poetic project asserts that the role of the poet is to explore “the limitations of our minds and sensory equipment” and that “man is conscious of the vastness of the unknown beyond his consciousness. The poet, tracing the edge of a great shadow whose outline shifts and varies, proving there is an invisible moving source of light behind . . . only to be faced with a more distant, even less accessible mystery. Because all is movement . . . all is breathing change” (Swenson, “The Poet as Antispecialist” 679). As this passage makes clear, Swenson uses scientific language—in this case of optics—in order to delve into the role of the poet as artist and scientific inquirer, where the role of art is to pursue scientific questions and explore the limits of the scientific method in providing answers that accurately explain human experience and reality. The poem “The Universe” embraces the search for the limits of language and human reasoning that is characteristic of Deppman’s thought exercises by challenging fundamental spiritual assumptions to allow for growth and a greater understanding of humanity’s relationship to the universe. Swenson’s world is one of “movement” and “change,” which requires the individual to constantly re-evaluate their understanding of the universe and their place in it. Like Dickinson, Swenson provides models of thought
that lead the reader to encounter the sublime and to discover expanded spiritual possibilities as a result.

One of the most provocative moves Swenson makes in “The Universe” is her speaker’s introduction of an alternative to the dominant view that the universe is “about us.” She asks, “does it think, / the universe? / Then what about? / . . . must there be cause / in the universe? / Must it have laws? / And what / if the universe / is not about us?” (16-18, 21-26). Without ever mentioning the divine, Swenson still points to the human quest for the divine by asking if the universe can think, implying the sentience associated with God, and further asking about cause connected to theories of intelligent design and scientific reason (where what occurs must have cause and effect). In these lines Swenson demonstrates the shifting perspectives due to Darwinism by pointing to both God and reason, but being satisfied with neither, ultimately challenging the notion that we can find laws to the universe through traditional reasoning because our thinking is limited, anthropocentric, and the universe may not conform to that logic; as Darwin’s theory demonstrates, humans may not be the center of the universe, but merely another animal.

Darwin’s theory, in challenging prevailing views of scientific and spiritual reality, demonstrates that occasionally changes in scientific theory require a change in worldview for those outside of the scientific community, as in the case of natural selection when new scientific discoveries challenged core spiritual beliefs by undermining the notion of a divine creator. The result is uncertainty and crisis, but in poems such as “The Universe” Swenson demonstrates that there are still “laws that spin it,” even if our attempts to “unspin” the laws, to attempt to understand them, have not yet yielded accurate results (8-
9). In this imaginative space we expand our understanding of the universe by entering the realm of chaos and finding a place where we can explore a universe whose laws are currently incomprehensible or unknown. Our attempts at logic fail, but by engaging in questions and challenging our assumptions about what we actually know we are able to recognize where our assumptions have failed. The result is not a set answer, but a greater awareness and the opening of new possibilities for interpreting the universe. She ends the poem by asking: “And what / about us?” (30-31). Swenson provides no answer to this question. Despite the lack of resolution, the fact that existing ways of thinking have been questioned and alternative views have been considered is in itself beneficial by providing a way to consider alternate possibilities and configurations of reality and therefore expand the spiritual self through the embrace of doubt and uncertainty that allows for a more critical consideration of reality.

Swenson’s questioning in “The Universe” mimics the “search for the contexts and manners in which a poet acquires words and ideas” described by Deppman. In “The Universe,” however, this search is broadened to the way “we” acquire ideas, by thinking, by posing questions, and by seeking answers. The speaker in Swenson’s “The Universe” is unable to provide an answer, in part due to a “disappointment in the existing vocabulary.” The speaker finds that we constantly think “about us” and ask “about us” and if, as the poem poses at the end, the universe is “not about us” then our words and thinking have failed to express the true nature of the universe. Even without resolution, the speaker has achieved an enhanced worldview that allows for the consideration of these questions through the process of acknowledging the chaos and uncertainty outside
our world, and contradictions in our understanding of our relationship to space. Space exploration and the universe provide an area for new exploration where we may no longer be the center and where concrete answers are not yet available. While the lack of answers could be seen as a failure of the thought experiment, the fact that the speaker has been able to consider a reality outside of traditional explanations demonstrates that the speaker’s understanding of the universe is developing.

In “Sunday in the Country” the “disappointment in the existing vocabulary” marked by a lack of answers is more clearly explored through the juxtaposition of religious and secular language exploring the power of existing worldviews to shape the speaker’s experience.

No wind-wakeness here. A cricket’s creed intoned to the attentive wood all day. The sun’s incessant blessing. Too much gold weighs on my head where I lay it in light. Angels climb through my lashes, their wings so white, every color clings there. Sky, deep and accusing in its blue, scrapes my conscience like a nail. I’m glad for the gray spider who, with torpid menace, mounts my shoe; for the skittish fly with his green ass and orange eyes, who wades in hairs of my arm to tickle his belly. Long grass, silky as a monk’s beard, the blades all yellow-beamed. Corporeal self’s too shapeful for this manger. I’m mesmerized by trumpet sun funneling hallelujah to my veins.

Until, at the tabernacle’s back, a blurt guffaw is heard. An atheistic stranger calls a shocking word. That wakes the insurrection! Wind starts in the wood, and strips the pompous cassocks from the pines. A black and impudent Voltairean crow has spoiled
Swenson uses language associated with her Mormon upbringing to describe the countryside, but this religious language fails to completely describe the speaker’s experience of nature, demonstrating an evolving search for fuller understanding beyond the belief that nature was divinely created. The speaker begins hearing a “cricket’s creed / intoned” (1). The “cricket’s creed” is reminiscent of the miracle of seagulls and crickets, part of Mormon belief. The sun provides “incessant blessing,” and the speaker notes, “Angels climb through my lashes, their wings / so white” again invoking images with Mormon associations to blessings, the afterlife, and angelic figures to describe nature in the countryside (3, 5-6). However, the religious experience in the country is not all positive, the speaker asserts, “Sky, / deep and accusing in its blue, scrapes / my conscience like a nail” where the nail is symbolic of Christ’s sacrifice. Unlike Christ, the speaker is imperfect and the cloudless blue sky, unmarked by turmoil, presents a contrasts to the speakers flawed condition. When the speaker finds the use of religious language to describe nature leading to a sense of guilt, the religious language is replaced by more secular, even antagonistic, language (6-8). The speaker is “glad / for the gray spider . . . for the skittish / fly with his green ass and orange eyes” (8-11). While religious language was capable of describing the sun and the music of the cricket, not all creatures in this poem can be entirely described by the speaker through religious terms.

The speaker uses humor to dispel the power of the dominant belief system, allowing language to provide an escape from the oppressive religious setting where her conscience is “scrape[d].” The spider and fly serve to provide examples in nature that are
not as “flawless” as the sky. These animals then become a projection of the speaker within the church, representing insignificance due to their size, but also highlighting their disruption (the fly tickles the speaker, distracting the speaker’s attention from more spiritual reflections. The speaker is struggling against this oppressive atmosphere, refusing to conform and overlook the secular aspects of reality, evidenced by the language used to describe the spider and fly. The use of secular, and even profane, language results in a shift in tone that is simultaneously shocking and humorous. This shift not only reflects the failure of religious language to describe all of nature for this speaker, but more importantly demonstrates the sudden discomfort that the readers experience from this sudden shift in worldview.

The conflict seems to pass when the speaker then returns to spiritual language, noting that the grass is “silky as a monk’s / beard . . .” and that the “Corporeal self’s too shapeful for this manger” implying that the nature described is intended for the spiritual self (13-15). The speaker’s physical experience, the body with all of its natural drives, does not have a place in the spiritual manger and by extension, Christian belief. However, it is important to note that the “monk” would not be part of Mormon culture and perhaps the speaker is searching for a new spiritual language that can more accurately describe nature. The speaker, despite the brief, though impactful, shift has returned to religious language and is “mesmerized by the trumpet sun / funneling hallelujah to my veins,” again using terminology associated with the Mormon church, the trumpet sun, and the phrase “hallelujah” (associated with Christianity in general) (16-17). The existing Mormon worldview has a strong hold on the speaker and the speaker is unable to
completely disregard the possibility that the sun is capable of “funneling hallelujah” from a divine creator to the speaker. The return to this “mesmerizing” view of nature shows the speaker’s difficulty in replacing the dominant view exclusively with an alternative. Instead, the speaker straddles opposing views, drawing on both to construct meaning. Thus, after the return to the mesmerizing view of nature, the speaker is inevitably forced to consider alternative views more seriously. The speaker’s religious experience in the country is ended by a “guffaw” and an “atheistic stranger” (19). This interruption serves to more forcefully present the alternative worldview of atheism, where the divinity of nature is dismissed with a “guffaw.”

Again humor is used to dispel the power of the dominant culture on the speaker. While the tickling of the fly’s ass may be ignored or easily brushed away, the “guffaw” and “atheistic stranger” are not so easily dismissed. This disrupts the Mormon line of thought and, as though the speaker had been trapped in the previous worldview until the end of the poem, the speaker finds that with this shift he or she “can rise and go” (24). Prior to this point, the speaker has been “mesmerized” and only able to use secular language momentarily before being drawn back to the Mormon point of view not because it is correct, but because of its power as the dominant cultural perspective and, as “mesmerized” indicates, its power over reason. The speaker here thus demonstrates a consistent shift between alternate points of view, Mormon, other Christian perspectives, and atheism, where reason is occasionally superseded by the dominant worldview only to be finally reinstated when the “mesmerism” and hold of the dominant group is broken.
In “Sunday in the Country” the speaker’s observations occur in a religious setting, a Sunday service in the tabernacle, and while there are frequent observations made that cannot be completely expressed through religious language, the observations are not scientific. “The Cross Spider” delves into similar concerns in the context of scientific experiments rather than a romantic religious experience in nature. In doing so, this poem examines the role of the artist in crafting a new language in order to communicate and make sense of ongoing scientific experiments and discoveries contemporary to Swenson. “The Cross Spider” documents an experiment to observe a cross spider, Araneus diadematus, in space. It is clear that language and expression are central to this poem, but why language is challenged in this poem has multiple explanations. Cynthia Hogue, in “Material Girl: May Swenson’s Logopoetic Materialism,” argues that this poem is largely about gender and “when the center doesn’t hold, she [the spider] gamely tells herself to pretend it was never there. The weaving of the web—revealed syntactically to be aligned with the web of grammar (and its warp of gendered symmetry) is wittily disrupted” while simultaneously observing that the poem explores the complex relationship between poetry and science by making “a trenchant analogy between New Criticism’s aspiration to aesthetic autonomy from social context and science’s drive for pure inquiry, free of consequential considerations” (124). “The Cross Spider” therefore clearly explores the importance of considering the social implications of scientific and poetic work despite efforts to assume an elevated objectivity in these fields.

THE 1ST NIGHT
A spider, put outside the world,
given the Hole of Space for her design,
herself a hub all hollow, having no weight,
tumbled counterclockwise, paralytically slow into the Coalsack. Free where no wind was, no floor, or wall, afloat eccentric on immaculate black, she tossed a strand straight as light, hoping to snag on perihelion and invent the Edge, the Corner and the Knot. In an orbit’s turn, in glint and floss of the crossbeam, Arabella caught the first extraterrestrial Fly of Thought. She ate it, and the web.

THE 2\textsuperscript{ND} NIGHT

“Act as if no center exists,” Arabella advised herself. Thus inverted was deformed the labyrinth of grammar. Angles melted, circles unraveled, ladders lost their rungs and nothing clinched. At which the pattern of chaos became plain. She found on the second night her vertigo so jelled she used it for a nail to hang the first strand on. Falling without let, and either up nor down, how could she fail? No possible rim, no opposable middle, geometry as yet unborn, as many nodes and navels as wishes—or as few—could be spun. Falling began the crazy web. Dizziness completed it. A half-made, half-mad asymmetric unnameable jumble, the New became the Wen. On Witch it sit wirligiggly. No other thing or Fly alive. Afloat in the Black Whole, Arabella crumple-died. Experiment frittered.

In this poem, the spider, spinning a web, attempting creation, is an artist similar to the poet. In space, the spider has abandoned the laws governing Earth, and “The Cross Spider” explores the uncertainty and the associated failure of existing language within these extreme conditions when science delves into the unknown. The spider is “given the Hole of Space” and “caught / the first extraterrestrial Fly / of Thought” (3, 13-15).
Considering Deppman’s interpretation of Dickinson’s poems as “thinking about thinking” gives the word “thought” significance, demonstrating the beginning of the phases. It takes the entire first stanza to form the first thought clearly, demonstrating that the attempts to test the limitations of current understanding and form thoughts outside of the existing laws of reason and the world are not easily achieved.

Once the thought is formed, it must be articulated, and the speaker finds that the existing vocabulary has failed to provide a way of articulating the thought “caught” in the first stanza, entering Deppman’s second phase in the second stanza. “Thus inverted / was deformed the labyrinth of grammar / . . .  the pattern of chaos became plain” (18-19, 22). Here the failure of vocabulary hinted at in the previous poems discussed is stated explicitly. The spider has been cast into space as part of the development of science, leaving its proper domain and attempting to function outside of the laws of the Earth. These new scientific attempts at discovery result in a failure of grammar and language. While grammar and language are insufficient, through this challenge chaos and the limits of experience are no longer disordered, but patterned. At this limit, the speaker asks “how could she fail?” (27). While the scientist’s rational search expects to find answers, in poetry there need not be a clear answer. Despite the chaos, uncertainty, and terror associated with the unknown and the inexpressible experience of the spider, the thought experiments carried out in the poems of Dickinson and Swenson cannot “fail” because there is no law to be discovered. The spider may be successful just for being part of the experiment and not daunted by dramatically altered circumstances, creating the opportunity to understand something that was previously left unexplored.
The process of exploring something new, even without resolution, becomes a way to find an expanded self through the consideration of contradictory points of view and the discovery of a new language. By the end of the poem, Arabella is no longer in the “Hole” but instead is in the “Whole” (3, 36). Through the process of experiencing the failure of the existing pattern of logic or worldview, the chaos developed a new pattern, and Arabella and the speaker reached a new, expanded, more “Whole” self. While the fact that “Arabella / crumple-died” could be taken as a literal death, and certainly was literal in the scientific experiment the poem describes, this could also be a figurative demonstration that when one encounters a shift in worldview, an aspect of the former self must die to give way to a new, expanded self (36-37).

Swenson uses poetry as a way of enacting transformation where the old self dies and a new self is born, expanding the mind and developing human faculties and understanding through rebirth. Her poems provide a testing space for experiments, such as the one described in “DNA Molecule,” where the speaker was able to achieve a successful mutation and participate not only in re-creation, but also the creation of a new species. She sees herself participating in experiments which began with what Deppman describes as Dickinson’s thought exercises. Both Dickinson and Swenson use religious language in their descriptions of nature and scientific thought in order to negotiate the debate between science and religion that became most pronounced in the nineteenth century, and that continued with new scientific and technological discoveries in the twentieth century, by exploring the productive tension at the limits of scientific and religious explanations of nature.
Despite previous scholars’ views that Dickinson and Swenson were agnostic or atheistic poets, seemingly substantiated by their poetry which highlights the failure of religious language to describe experience, they never reject religion as a means of understanding human thought. Instead, religious language is used to reframe and attempt to understand the cultural challenges presented by Darwinian, and, in the case of Swenson, to understand new discoveries in space exploration and genetics. When the work of these poets is studied together, the persistent nature of spiritual questions and the lasting value of the search for understanding, even when resolution is not possible, becomes clear.

For both poets, religion and science represent two different ways of approaching questions about the unknown. Crisis occurred when science threatened to displace religious thought (and conversely when religion pushed back and threatened to displace scientific thought). For Dickinson and Swenson, the displacement of either science or religion in favor of the other would have been unacceptably limiting to humanity’s pursuit for an ever growing understanding of reality. In their poetry, combining scientific and religious language represents the need for readers to incorporate both science and religion in dynamic worldviews. In his preface to the third edition of Against Method, Paul Feyerabend writes, “It is clear that the new situation [in the sciences; when Feyerabend was writing philosophers were arguing about the nature of science, namely Kuhn, Popper, and Lakatos] requires a new philosophy and, above all, new terms. . . . Shall we continue using outmoded terms to describe novel insight or would it not be better to start using a new language? And wouldn’t poets and journalists be of great help
in finding such a language?” (xxvi). In light of these new theories of science, the way that information about the natural world is understood must be reconsidered, and Feyerabend suggests that poets could play a key role in this reconsideration by providing scientists and laymen alike with a new vocabulary for discussing a newly altered understanding of reality. Dickinson and Swenson, through experimental poetry, answer this call by demonstrating the use of vocabulary from a multiplicity of perspectives. The poems of Dickinson and Swenson are not therefore merely representative of thought experiments, but also represent ways to reimagine language when the existing vocabulary has failed as a result of the very real social and moral struggle sparked by changes in scientific knowledge. By modeling a way to reimagine our position in the universe through language in light of scientific change, these poems represent a microcosm of the cultural effects of scientific crisis that can be embraced as a source of spiritual discovery.

The implications of Darwin’s theory are still debated in American culture. Poetry, such as that by Dickinson and Swenson, can be used to help individuals make sense of the confrontation between such scientific discoveries and ingrained religious convictions by encouraging open-mindedness and critical thinking, enabling readers to consider conflicting points of view simultaneously. Philosophers of science have already noted that when a paradigm shift occurs in the sciences, the use of language which inevitably shapes our understanding of the world must shift (Kuhn 149). I intend this paper to serve as a starting point for further research into the unique integration of spiritual and scientific language within poetry. Further research could focus on the use of poetic language in the sciences, as in Darwin’s *On the Origin of Species* or on other American
poets who use poetry to consider scientific ideas. Dickinson and Swenson both strive to overcome the science/spiritual dichotomy that is prevalent in American culture and in doing so create unique works of poetry worth study independently and in conversation with each other.
Works Cited

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