

Introduction

This grand show is eternal. It is always sunrise somewhere; the dew is never all dried at once; a shower is forever falling; vapor is ever rising. Eternal sunrise, eternal sunset, eternal dawn and gloaming, on sea and continents and islands, each in its turn, as the round earth rolls.

John Muir, *The Philosophy of John Muir in The Wilderness World of John Muir*

Earthrise

We might point to our contemporary society with its growing reinterest in community and in rediscovery of one's roots in the earth, on the one hand, and its fascination with space exploration, on the other.

Jonathan Z. Smith, *The Influence of Symbols on Social Change*

Christmas Eve, 1968. The upper right of the front page of the *New York Times* is dominated by a grainy, blurry photo beneath the headline “APOLLO NEARS MOON ON COURSE, TURNS AROUND TO GO INTO ORBIT; CREW SENDS PICTURES OF EARTH.” (Wilford 1968) Apollo 8 was a mission of firsts: the first entrance into the moon’s gravitational field by humans, the first lunar orbits, the first live transmissions of images from a manned space flight to an international television audience, as well as a host of other accomplishments surpassed by later programs (speed records, distances covered,

and so on). It was also the source of the first images of the earth from space taken by humans.

If there is a point around which the explorations of this thesis are tethered, it is these iconic images of an earth, partially shrouded in shadow, rising into the absolute and inky darkness of space. Apart from their purely aesthetic beauty, they provide a moment symbolic of a much larger series of global transformations. Part of their gravitational attraction is the complexity that lurks in their contemplation—not least from the role gravitational attraction itself plays in their existence. That complexity begins in the act of seeing them as a watershed moment at all: in doing so, I am clearly engaged in creating a fiction: the images that came from Apollo 8 (and future space missions) gained their cultural presence only in the future that unfolds following the actual events of 1968, and only as they participated in the ebb and flow of history.

The caption below the front page photo of that Christmas Eve's *New York Times* reads "Earth, as seen from the Apollo spacecraft during the astronauts' live television broadcast yesterday afternoon. Features on earth are obscured by a heavy cloud cover. The North Pole is at the lower left." This first image is an inverted earth, presented upside-down and off its axis. The *Times* is singularly unimpressed with Apollo's photographic prowess, noting that the earth "looked like a sort of large misshapen basketball," and paying more attention to the lunar craters that would be photographed subsequently during the ten orbits around the moon: "since the moon has no distorting atmosphere and will be only 69 miles or so away, the television pictures were expected to be much sharper and more detailed than the astronauts' earth pictures." Surpassed by later images, these pictures

of the moon—while vital to the planning of the lunar landings—remain consigned to the historical archive. This is the first part of the fiction: the creation of a false history of the moment itself, where what is later received is seen as present from the very beginning: far from being harbingers of a new age in any sense, these initial photographs were largely passed over with little impact.

The second set of fictions is more easily clarified: in what follows, I do not mean to imply a strongly causal relationship in either direction between the earthrise image and the various socio-cultural/religious movements I discuss. Initially coming from NASA, but later both emanating from and being incorporated into numerous sources, from the cover of *The Whole Earth Catalog* to the opening sequence of the 1970s PBS show *The Big Blue Marble*, these images did not cause globalization, although they are clearly entangled in that process in, I would claim, non-spurious, non-accidental ways. The wanderings of John Muir were only in the most loosely metaphorical way related to the romantic notion of exploring outer space, but the quick acceptance by various environmental groups of those images as providing supporting evidence for claims towards the earthly universality of nature firmly draws its roots through Muir's fertile soil.

While the space program itself, with its connections to global competition and its reliance on an ever-expanding industrial complex, was a key cog in the emerging global machine, the lunar missions may also be seen as a final triumph of older knowledge. There is a direct line between Newton's contributions to the blossoming of insights into the physical world and the calculations required in NASA's operations, and the latter may be seen in one sense as the zenith of the former. Clearly Newtonian physics isn't

“disappearing” or becoming less relevant; it has, however, been displaced from its position as the sole descriptor of reality recognized by “rational science.” As such, the images from Apollo 8 offer a useful moment, a historical pivot around which we can see conceptions shift. In short, my claim is that the view from space signifies a movement in cultural locations from the local to the global, from particularism to holism, and that this shift may be traced across many disciplines as a series of upheavals and struggles centered around this relationship.

Cartography

Absurd premises, in excluding nothing, do have the advantage of minimizing the chance of error.

Niklas Luhmann, *Essays on Self-Reference*

Three dominant concepts weave their way through this thesis: vitality, nature, and ecology. I will not be presenting an archeology of these concepts, although they are each well deserving of a own full-length treatment. Instead, I am using each of them, and often their points of intersection, as the vantage points from which I try to make some sense of a series of questions that have emerged as I have spent the better part of a decade working with, through, and around these dominant concepts. In this time, it has become clear to me that I have willfully and joyfully inherited two different modes of interpretation that are ever present in my academic work. What follows intentionally forages along an uneasy border, caught between *history of religions*, the umbrella concept given to the comparative

study of religious phenomenon (a discipline that will be discussed in more detail in chapter two), and *cultural anthropology*, a more philosophically inclined set of analyses rooted (for me) in a mix of postmodernism, feminist theory, and late-twentieth century movements in anthropology. The first two chapters attempt to ground each of these modes of thought in turn.

THIS VITAL LIFE

Chapter one, *This Vital Life*, focuses on the concept of vitalism, using Georges Canguilhem's writings as its primary focus. Philosopher, doctor, and longtime director of the Institut d'histoire des sciences at the Sorbonne, Canguilhem (1904-1995) joins together a sophisticated presentation of vitalism with another core focus of this thesis, science, or more properly, scientific discourse. In a stance not always echoed by proponents of vitalism, Canguilhem always writes with a specific horizon in mind, that of identifying what it means to be alive in a sense that will pass scientific muster. That, to this day, no such definition exists is more a tribute to the complexity of the question than to any underlying accuracy of vitalism itself, which remains more compelling as a metaphysical explanation than a medical one. Even Canguilhem is forced to admit that, in spite of his conviction of there being a truth to vitalist phenomenon, the identification of that truth remains firmly in the province of theory, not experimentally confirmable fact.

This opens up the second doorway: if to the left we find science; to the right, religion. The searchings for meaning about the relationship between the structures through which we understand the world and the world itself that will be examined over the next

five chapters are, when seen through the combination of lenses that reveal the world to me, religious searchings. For the most part, they are not churched, and many of them are cloaked implicitly or explicitly in anti-religious language. To open up this question, we turn in *This Vital Life* briefly, and not for the last time, to both Georges Bataille and Mircea Eliade. Here, I use Bataille and Eliade as warning signs: each of them has a particular understanding of what could be called religious time, and in the material we encounter, questions of temporality, those moments when a discourse seems to separate itself from history and enter some isolated, theoretical zone that exists before all else, will often serve to raise a flag, a symbolic indicator that that we have moved towards, if not into, a zone that is best understood as containing religious behavior.

This provides the first moment where I am able to emphasize that, just because the phenomenon under consideration does not appear to be congruent with notions of traditional religious expression does not mean it is not religious in nature or in form. Perhaps even more importantly, this holds true even when the subjects under consideration themselves would protest loudly against such a category being applied to their behavior or thoughts or writings. In one sense, this is the anthropological turn: your subjects always remains experts on their own experience. That does not make them accurate judges of the same, especially if the question (and here we veer away from the anthropological back towards the history of religions) is comparative in nature. This debate about the relative merits of the emic and the etic, of the insider and the outsider, of the practitioner and the observer, the believer and the critic, is a long-standing debate on both sides of my academic work, and one that is likely never to be satisfactorily resolved. The important

thing, I would claim, is the tension between the two sets of perspectives, a hermeneutics that is in no way original, but that I hope to demonstrate with both integrity and empathy.

This Vital Life returns to the question of contextualizing Canguilhem within a longer view of scientific discourse by turning to both Jean-François Lyotard and Michel Foucault, Lyotard for his help in unpacking what we mean by discourse and Foucault for his more specific work on situating Western knowledge as a practice with a particular form as it moved into and through modernity. This is not at all a steady, stable progression: scientific understanding (and while our focus is often more tightly restricted to medical concerns, we will regularly move back and forth between that specific realm and the structure of science as a whole) must be seen as a three-dimensional shape, a river that flows slower at points and faster at others, that rushes forwards in great leaps only to sit suddenly stagnant until something breaks further upstream, allowing the current to pick up momentum once again. The metaphor as conceived lacks a key component: as both the collaborations between Gilles Deleuze and Félix Guattari, as well as the work of Luce Irigaray, show, scientific progress is not merely the result of a momentum that carries forward arbitrarily. There is, if not control, influence: dams are built, tributaries blocked off, paths of understanding declared forbidden despite the presence of crystal clear water and dependable tides. The question then becomes what it means to swim in those waters: what is contained within the practice of “doing science,” by which I refer more to the cultural practice than specific activities in (for example) a laboratory? Perhaps unsurprising, given my claims above with regard to the particular interpretive lenses through which I perceive the world, it turns out that, especially in its margins, doing

science remains suspiciously similar to doing religion, especially as both move into the late twentieth and early twenty-first century.

Thus grounded, we are able to dive more deeply into vitalism itself, encountering what I see as two forms although, of course, nothing is ever truly isolated, and there are overlaps and blurred zones in any analysis. I dub these “Bodily” and “Worldly” vitalism, and their differentium lies in where the vital force, that which animates us and that which is seen as being essential to life, is ultimately located. Bodily vitalism points to something internal, something contained within each individual, something that for centuries of Christianity was neatly captured in the notion of a soul (and, of course, for centuries of other religious structures in other loosely cognate notions). We are, however, focused both temporally and in terms of the specific manifestations under consideration at a point where such a notion proves unsatisfactory, and are forced to spend some time considering the notion of secularism, both definitionally and in terms of what transformations it may hold for bodily vitalism. This is an important moment: any comparative discussion of contemporary religion must grapple with secularism, and the conclusions drawn from that encounter will dictate much of what follows from that point. If the world is seen as literally less religious—that is, if secularism refers to a disappearance of religious content from the world—much of this thesis (and much of the field of study) is increasingly irrelevant outside of quaint notions of how foolishly we all used to spend our time. If instead secularism refers to a formal transformation, a morphological alteration in cultural behavior where prior classifications into religious and non-religious categories no longer hold true, then what we have to say continues to have meaning, and even potential impact

beyond the ivory walls.

The idea of worldly vitalism provides a bridge to chapter two and beyond. Here, the focus is external, with a belief that there is a substance that exists *out there* of which we partake, and by doing so, remain vibrantly alive. While the specific permutations of this are almost infinite in their variety, the general movement takes us, well, outside and into the natural world. But, what exactly is that? When we wander across the world, what is that we wander in, and how is that space constructed both through our perceptions and our cultural behavior? The palace is clearly unnatural, but what about the wagon track or the planted field? Building largely on Roderick Frazier Nash's work, we are able to draw a distinction between the natural, which only exists at the margins of the culturally created, at the intersection of garden and jungle, settlement and wilderness, and the wild itself.

This Vital Life serves two purposes simultaneously. In terms of content, it introduces several areas that will recur later (science, medicine, time, life); in terms of form, it provides an exemplar of a certain mode of analysis and critique, one that attempts to draw disparate strands of conversation into engagement with each other, one that looks for areas of congruence and overlap, that listens as much to the echo as to the initial roar in trying to unpack meaning and draw conclusions. The chapter ends, appropriately enough, outside, gazing at the spaces marked by cultural settlement—colonialism, even—in contrast to those seen as natural or wild.

RELIGION, NATURAL AND OTHERWISE

The second chapter extends that gaze across the early history of the United States,

drawing extraordinarily heavily upon the magisterial work of Catherine Albanese, who has for decades studied what she first terms “nature religion” and later “American metaphysics.” Her work is critical to this dissertation: without it, what I am doing is not possible. I say that not only in terms of the voluminous nature of her scholarship, but also because her work allows us to move much more quickly and much more flittingly across the landscape she has already mapped: it is no longer necessary to demonstrate that nature religion has existed and has been an important part of almost every significant manifestation of North American religion, on both sides of the colonial encounter.

Religion, Natural and Otherwise opens, however, not with Albanese, but with the tradition in which she was trained and continues to work. The notion of comparative religion is not an easy one, and the field itself remains conflicted about what it means to work within its boundaries. If I am going to examine what “doing science” entails, it seems reasonable to also spend some time looking at what “doing comparative religious studies” might mean. The answer for me is bound up in the aforementioned history of religions, an academic tradition with its roots in the University of Chicago in the first part of the twentieth century and its branches, well, everywhere, including Albanese’s department at the University of California at Santa Barbara. The history of religions is highly problematized as an area of study. Questions of authority loom large, as do issues related to how, and on what basis, objects (behaviors, truth-claims, accounts of experience, cultural products) from dramatically different contexts can be joined together. While the history of religions itself provides some answers, and we look to both its “founding fathers” in Eliade and Joseph Kitagawa as well as to generations of their academic

descendants represented by Wendy Doniger and David Gordon White, these questions seem to me ultimately to be anthropologically based. This leaves us with a point of interaction between perhaps the pre-eminent emic examiner of the field, Jonathan Z. Smith, and Clifford Geertz, whose oft-cited and admittedly slightly dated notion of “thick engagement” offers a path forward through the morass. In the end, for both Smith and Geertz—and for the history of religions as a whole—comparison remains valid and integral; albeit with serious concerns about competency, about integrity, and about the care with which such academic explorations must be undertaken.

With that, we turn more directly to Albanese’s work and especially to 2007’s *A Republic of Mind and Spirit*, which I use in two ways. First, Albanese’s notion of an American metaphysic gives us something to push against, something against which to gain traction in our own understanding of American religion—a question complicated by the very real possibility that, in fact, there is no such thing, that instead there are just American religions in the plural, and that no amount of creative abstraction can provide a common ground amongst them. Indeed, writ large, this is likely the case. However, if—as both I and Albanese do—we limit our scope considerably, patterns and themes do emerge and while my understanding of the religious notions we will examine in more depth in the rest of the thesis differs from Albanese’s, she provides a very nuanced and intriguing starting point. Second, I use her work as a set of exemplars from which I select a few for more detailed focus. So, the aboriginal tribes of the states bordering the North Atlantic; so, Thomas Jefferson staring at the vast expanse of Virginia from atop the Natural Bridge; so, Emerson.

Our discussion of the aboriginal people of North America becomes, very quickly, quite complicated and allows a diversion into the twin notions of authority and authenticity that are core to my understanding of religion. At stake is the question of what actually constitutes an authentic religious tradition—if the term has any meaning at all—and what relevance historical truth has on the matter. The specifics under consideration concern Sam Gill's work with the idea of an Earth Mother or Corn Mother in native American traditions, a concept so endemic to many understandings as to be unquestioned, located within religious traditions that are often almost reflexively assumed to be exemplars of sacred interactions with nature. The difficulty is that the notion of an Earth Mother or any of its close cognates—at least in terms of the commonly held contemporary associations—seems, as far as Gill is able to ascertain, to be incredibly recent, growing quite rapidly from the bare seeds of a small handful of statements, some apocryphal, made within the last two centuries and made, exclusively, as a product of interactions between native and white communities. This is dangerous, threatening scholarship: what does it mean to claim that religious truth is invented? Especially when that truth has been embraced and imbued with meaning by both emic and etic communities? These questions will plague us again in our considerations of Wicca and neopaganism in the fifth chapter, with a very different twist to them.

Religion, Natural and Otherwise also allows me to foreshadow two other ideas that will return: first, Albanese's treatment of the figure of Davy Crockett opens the door to explorations of race and racism in America. I meet these topics at a very specific angle, attempting to extend their role in this story well beyond the brutalities of slavery and the

contributions of Afro-Caribbean practices to the religious melting pot, to pick two highly available tropes among many. Race in America is not the focus of this thesis, but nor can it be—as it is all too often—wholly ignored, allowing North American cultural behavior to collapse into an assumed whiteness. Second, many of the practices we will encounter later, especially as we dive more fully into the New Age itself (whatever, at the end of the day, that may be), include within them a concept of magic and magical practice, and our discussion of both aboriginal religion and the metaphysical traditions that are carried into the New World from the Old offer an opening to consider what these terms mean.

The chapter closes with an extended consideration of Ralph Waldo Emerson, whose *Nature* is taken as a key moment, joining together the concepts under consideration at the end of the first chapter with what has immediately preceded here. Emerson's writing is looked at through the lens of Émile Durkheim, something that, in the end, does the poet few favors: we are left with Emerson having ceded authority away from the natural world and back into culturally constructed domains, having settled for a sense of being “in touch” with nature as sufficing as a proxy for direct and unmediated contact with it.

WALKING THE WORLD

This position would be anathema to John Muir, who serves as the primary subject of the third chapter, *Walking the World*. The nuanced and sophisticated biographical treatment of a single subject is something I admire, but at which I am not skilled. Still, Muir remains deeply compelling and, as such, receives the most in-depth biographical treatment of any of the subjects of this thesis. This seems appropriate not only for his

historical role—part of the founding group of The Sierra Club, a highly recognizable public figure in the early moments of American environmentalism, a prolific and widely-read writer—but also for the ways in which many of the things that interest me most about the questions related to religion and nature in America emerge in his life. Foremost among these is his demand for direct experience, his unfettered exuberance at being in the wild, and his lifelong use of encounters with the natural world as a healing balm. While this can be traced to boyhood romps along the Scottish coast, the key moment instead finds Muir in his early 30s, on the verge of settling into a career somewhere between academia and mechanical engineering, nearly losing his sight in a workshop accident. Convalescing in a darkened room, he has an epiphany and realizes that he cannot bear the thought of never again being able to gaze upon the natural world.

Once able, he decides he will travel to South America to see the Amazon, a journey he begins with a three thousand mile walk, from central Indiana to the Florida panhandle. Three thousand miles—no real provisions, no itinerary, a map, a couple of books. Muir's walk to Florida takes him through much of emerging rural America, but he didn't reach the Brazilian jungles until an around the world voyage much later in his life. At this time, coming out of the woods and swamps of southern Georgia, he contracts malaria, recovers in Florida, and finds his way to northern California, which would serve as his home base for the rest of his life. This is the most outwardly dramatic of several such moments in Muir's life: wracked with guilt over the proper response to the Civil War, he vanishes into the Canadian wilderness; later in life, suffering from a weary depression spawned by over-extending himself in the social and political realms, he voyages to Alaska for several

months, traipsing over the glacier eventually named in his honor.

After arriving in California, Muir would spend many years in the Yosemite valley and the Sierra Nevada mountains and would become a primary figure in two heavily entwined activities. The first was the nascent movement encouraging the government of the United States to form national parks. Depending on how you count, Yosemite was either the second or third, but certainly in the top ten: the formal designation of “national park” took a while to settle, and distinctions between Yosemite, Yellowstone, and the Adirondacks of upstate New York can be made in various ways, depending on who is angling for the top spots on the list. The second was the growing role that geology began to play in our understanding of the world around us. Here, Muir’s contributions were those of the skilled amateur, enhanced by his wide ranging explorations where theories born of his observations of Yosemite were confirmed by what he saw of Alaskan glaciers. In many ways, geology provides a model for various other instances of secularization: what emerged as a series of explanations for that which God hath wrought gradually turned to a vast field of inquiry that provided direct evidence against religiously-based cosmological explanations.

This movement—while clearly relevant to this thesis—was not Muir’s direct concern at all: he had shrugged off the somewhat brutal Protestantism enforced by his father throughout his youth and replaced it with what could be termed a hyper-expansive panentheism, where God’s grandeur is expressed precisely through the majesty of glacial movements, regardless of their impact on a strictly interpreted biblical timeline. Muir’s God was a god of science, and both scientific data and the wonder of direct observation of

his works both big and small, from the mountains to detailed field work on butterflies and birds, trumped any written legacy.

There is a tendency in working with Muir to become slightly untethered: his prose is soaring, often well beyond the point of excess, and his life put him in moments of such severe isolation that, surrounded by the blinking lights and digital hum of the early twenty-first century, he seems to be almost a mythic figure, John of the Woods come to preach the Redwood Gospel. Certainly, that is a large part of how he has been received through the past century or so.

Partially as a counterweight to this, partially as a continuation of the brief discussion of race in America in *Religion, Natural and Otherwise*, and partially as foreshadowing for some of our discussion of Aldo Leopold, I use the encounters on his long walk between Muir and African-Americans, largely poor farmers, as a way to ground his writings. Muir was no more a racist than a huge number of other well-intentioned early-generation European settlers in the United States but also no less, and the effacement of those inheritances marks a blind spot not only in the work of Muir's biographers, but in many of the environmental and New Age movements that draw occasional inspiration from his life and work.

This notion of inheritance proves thorny as we look at Aldo Leopold, whose *Sand County Almanac* is often hailed as an exemplar of early American environmentalism, and the "land ethic" it proposes is probably the most cited initial expression of a truly ecological concern by European descendants on these shores. For the page and a half or so that is usually quoted, this is all quite fine, but it ignores the rest of the text, which presents

an ideological framework that is troubling at the very least. That these things can be ignored is, I argue, a product of their *whiteness*, a cultural attribute that allows them to fade, unnoticed, into the background. This critique becomes clearest through an engagement with Carl Anthony, who provides a wonderfully cogent analysis of the social and human cost of these blind spots in an ecological narrative.

These issues seem to expand theoretically the more I think on them, providing an opportunity to leave the realm of biographical interpretation for an exploration of some of the key surrounding issues. The first is the sheer complexity of the landscape that stretches before us: an ecology is, almost by definition, overwhelming. Ecologies emerge out of the multiplicities of interactions between already significant zones of behavior: they lack internal boundaries, and attempts to simply control them almost always crash upon the reefs of unpredictable outcomes and unexpected results. The challenge to engage with them, in Donna Haraway's words, to "become worldly," is a significant, difficult one and one that is worth attention at both the theoretical and physical level. This is a key moment of disclosure: in my thinking, ecologies exist out there in the natural world, in the marshes and swamps, the mountains and the open plains, but also in the narrative world: the overlapping, changing world of theory may also be seen as an ecology, and when I write of one of these planes, I am also always already writing about and of the other.

The question is how can we cross between these? What is the relationship between the mountain itself and Leopold's call to think like such a thing, even with Anthony's sophisticated critique? What could that possibly *mean*, to think like a mountain? Zones, planes, boundaries, moments of interaction. These are the tropes that lead me towards

Haraway and, immediately, to her prolonged meditation on human/canine interaction, *When Species Meet*. This may seem an odd part of Haraway's corpus to focus on—and we will return in a later chapter to her own considerations of humanity in relation with technology—but her prescient and probing questioning of what it means to reach across a chasm beyond true understanding, what is actually required of us to engage deeply with another species, another way of communicating, seems to speak to the heart of the issue. It also allows an opportunity to push back against some of the excesses of Deleuze and Guattari, who—in an odd sense, like Muir—seem at times to be so caught up in the narrative momentum of their own writing that they end up in unexpected locales with perhaps unintended consequences: Muir, clinging quite comfortably to branches at the top of a pine tree during a massive storm; Deleuze and Guattari insisting that only the exceptional animal is worthy of attention and all others, explicitly including humans who find themselves with domesticated companions, are deserving of mocking scorn and dismissal. Haraway insists otherwise, and while her conclusions remain muffled, her demand for the possibility and her willingness to engage fully with the broad demands of the question remain a guide.

Walking the World closes with the third member of its triumvirate of subjects, Norwegian philosopher and activist Arne Næss, best known for being the originator of what came to be termed *deep ecology*. Næss is joined to Muir in his general engagement with nature (including the notes of isolation and of finding solace through direct experience) and to Leopold in his concern for a land ethic, a concern that Næss is able to formulate with less additional baggage than Leopold's oddly nostalgic masculinity allows.

Less, but not none. Næss is a highly trained and rigorous philosopher, and his notion of *ecosophies* as individual philosophical frameworks that allow for disparate groups to combine their efforts on issues (for him, environmental, but in no way is the application of an ecosophy limited to matters of the environment) remains both useful and wide-ranging. His influence on contemporary ecological movements cannot be underestimated and my assumption is that, with his death in early 2009, we will see more and more academic work devoted to his archives. While the introduction of rigor is a welcome corrective to Muir's more ethereally connected musings, Næss also carries with him a very large helping of anthropocentrism, a tension which continues to plague environmental activism and policy-making.

AS ABOVE, SO BELOW

We leave *Walking the World* having considered half of our equation: in Muir, Leopold, and Næss we find figures deeply engaged in questions of what our relationship is, could be, and should be towards our natural surroundings, considerations that have been enhanced by the contributions of other thinkers as well (Anthony, Haraway, Deleuze and Guattari). The other half requires a return to the notion of science: what is this world of which we speak? This is really only ever a half-turn, of course, as we cannot discuss the earth from the perspective of the earth, but are left with either the all-too-human voices of science on the one hand, or thinkers thinking about science on the other. Chapter four, *As Above, So Below*, traces a voyage from the former to the latter, beginning with James Lovelock and Lynn Margulis' Gaia Theory and ending with Mary Midgley's musings on

the relationship between scientists and science, specifically evolution. In between, we spend quite some time in the company of *complexity*, used both in its usual sense but also referring to a specific mode of analysis developed in the latter third of the twentieth century. The title of the chapter is consciously heavy-handed, not only foreshadowing chapter five's treatment of Wicca and neopaganism, but also reflecting both the voyage from Gaia Theory to Margulis' later work on bacterial lives and the larger sense that this has all happened before, that for all the apocalyptic trappings, the cultural movements we are tracing are all echoes of interactions in the past and hints of what is yet to come.

As Above, So Below opens with a brief biography of James Lovelock with the hope of providing some insight into the iconoclastic career of this self-described "independent scientist." The greatest influence on Lovelock's career was his invention of a small device that came to be known as the *ECD*, or Electron Capture Device. The ECD could fit in the palm of your hand, and could determine—with a level of sensitivity and precision that was deemed physically impossible at first—the presence of various forms of chemicals in the atmosphere. In a turn of events that echoes some of Muir's brushes with prosperity, Lovelock did not become rich off the invention: the rights were ceded to the government of the United States long before the value of the device was apparent. Without the ECD, much of the research that fueled the early environmental research movement would have been delayed at least a decade: it made it possible not only to prove that chemical contaminants were present in the atmosphere, but to track their spread across the globe.

It also formed both the practical relationships and the theoretical leanings that would position Lovelock for his later work. The notion of Gaia grew out of consulting

done with NASA in preparation for the Viking mission to Mars, and here emerges the true zone of overlap between Lovelock's work and other thinkers we have encountered.

Lovelock realized there was no purpose in looking for life on Mars because of the extreme stability, the utter inertness, of its atmosphere. Mars was dead, and we could tell that because entropy had won: nothing was generating change at the chemical level in the Martian "air." This formed an absolute contrast to the earth, where the atmosphere is riotously alive, where a constant state of chemical imbalance exists, an incredibly complex cycle of transformations that seem to never end, flowing into each other in ways only dimly understood. Lovelock realized that the cause of this difference was, ultimately, *life*. Living things, by virtue of their very existence, take in a wide variety of inputs and transform them into an equally wide variety of products. We're not talking about tools but rather chemical compositions: the transformation of oxygen into carbon dioxide, the slow movement of sunlight into waste.

Ultimately, this was the insight from which Gaia Theory—the notion that the earth could be seen as a giant, self-regulating system that preserved a certain set of almost overwhelmingly complex environmental conditions—was born. By now, Margulis had joined Lovelock as an academic partner (each of them make slightly puzzled references to their never being entwined romantically, with a notion that for their friendship and collaboration to survive, their relationship would have to remain platonic), and the two of them began writing about Gaia in the late 1960s and early 1970s, positing that the earth contains a complex network of interrelated, self-regulating systems. This much was relatively uncontroversial although, of course, there was both the predictable resistance to a

new, big idea and, as always, the serious potential for heated dispute in the scientific details. The real question, and the one that made Gaia so unpalatable for the first few decades of its existence, was *why*? The answer seems to be—and here Gaia is finally joined, albeit in a hidden way, to notions of worldly vitalism—in order to preserve the conditions (chemical, bacterial, geological) necessary for a flourishing of life. This is problematic within the world of secular science (that concept, again) for many reasons, most of all because of the dramatic opening it allows for a return of an ultimate being, in this case a Goddess, that has set it all up *just so*.

This interpretation of Gaia is both overly simplistic and the one that dominated its initial reception by the wider public (and continues to be found throughout large swathes of the New Age). The actual claims are much more difficult to grasp, and invoke a much more sophisticated understanding of evolution and complexity itself than is usually found. Evolutionary scientists, led by Richard Dawkins, then at the height of his influence, provided the initial bulwark of the resistance to Gaia, heaping scorn upon it and claiming that Lovelock (and Margulis, but at this point Lovelock was really the “face” of the theory) was operating under a romanticized and naïve understanding of evolution. There is an irony here: in the end, Gaia was accepted not because of its simplicity, but for its comfort with, indeed, its dependence upon, complexity.

To understand complexity better, especially in its more recent theoretical usages, we turn to Fritjof Capra and, through him, to the work of Francisco Varela and Humberto Maturana. There are many possible guides to complexity, and the choice of Capra is quite intentional: *The Tao of Physics* places Capra both as a scientist and a major contributor to

the early American New Age; the controversies surrounding that text problematize both of those positions; and his later writings provide a wonderfully lucid path through often difficult terrain. Capra's work helps us understand what is meant when we speak of interrelated systems, and how we can trace something as seemingly incomprehensible as the evolution of single cells into the human (or canine or feline or bovine) eye back through reproducible, mathematical models. As part of this, several notions that are held dear begin to show signs of tension, most notably through the emergence of a scientific middle ground that sits somewhere between some variant on intelligent design and a cold, lifeless universe, devoid of purpose. But, whose purpose? *Cui bono?*

With that question, Lynn Margulis, heretofore an acknowledged partner in the creation of Gaia, but a figure largely obscured by Lovelock's shadow, steps into the light. Margulis is a hugely influential biologist, a figure whose work on bacteria and its varieties of form and function was largely (although certainly not at all single-handedly) responsible for a total rewrite of biology textbooks across the world. When a twelve year old insists that there are six animal kingdoms, stretching their mouths around terms like "archaebacteria" and "eukaryote," Margulis is partially responsible.

For our purposes, Margulis' greatest contribution (often made in collaboration with her son, Dorion Sagan—her first husband was the astronomer Carl Sagan, to whom we shall turn at the beginning of chapter five) is to batter at our notion of a biological self until we are forced to admit its total defeat. This ties directly into the notion of evolution: if animals cannot be said to be whole selves, what is it that evolves? What is the appropriate unit between the gene (already proven as being far too limited in scope) and the furry

beast? Margulis insists that we are asking the wrong question, and that as long as we remain fixated on ideas that revolve around the individual, the singular, we will never arrive at an acceptable destination. Life—literally—for Margulis (and, I would argue, for Haraway, for Joan Roughgarden who we also meet briefly in this chapter, and for many others) depends on large communities acting together, which is quite distinct from acting in harmony, or acting in a coordinated, mutually beneficial way.

Margulis' professional career (she died in 2011) was one of twin paths of rejection, dogged persistence, and ultimate acceptance, a situation certainly hardened by her being a woman in a scientific field that was (and, many would claim, remains) unused to powerful women advocating major changes to well-established modes of thought. Both her work on Gaia and her bacterial-focused theories of evolution were ridiculed, and yet both are currently accepted, at least in their wider formulations. In both cases, the most virulent resistance came from scientists whose primary domain was evolution itself, regardless of the specifics of their specialties. The question of why the scientists in this field—presumably a domain focused explicitly on the naturalness and ubiquitous nature of change—would be so resistant plagued me until I encountered Mary Midgley's work, which offers a useful way to think through the issues.

Midgley writes in a different key than any of the philosophers we have worked with so far: her sentences are often declarative and efficient, even simple. Her thinking, however, is nuanced and deep, and it is a tribute to her skills as a writer that her work remains so accessible. What Midgley offers are thoughts on the relationship between science and religion that help to clarify what is at stake in these discussions. In doing so,

she is able to clearly highlight just how the boundaries between claims of science and claims of ultimate meaning and purpose are effaced beyond the point of recognition, trodden over in both directions time and time again, usually in service of a larger, ideological project that remains obscured behind appeals to scientific impartiality. Life lurks behind every turn of this chapter: it is life that fuels the chaotic systems of Gaia, life that drives Margulis to her microbial explorations, and life in the end that Midgley posits as being the contemporary replacement for any sort of deity that might lurk behind the systems under examination. She leave us once again in conversation with Canguilhem, but several turns of the spiral further along.

Speaking of spirals ...

PAGANISMS, NEO AND NEW

Paganisms, Neo and New opens by attempting to retrace our steps so far, with a stress on the notion of ecology itself. This is followed by a fairly lengthy engagement with Carl Sagan, who is used as a stand-in for hundreds of scientific books that do odd things with religious content, often in service of discrediting religion entirely. In Sagan's case, we examine *The Demon-Haunted-World: Science As A Candle in the Dark* and, more specifically, Sagan's invoking of two seventeenth century figures, Thomas Ady of England and the German Friedrich Spee, both of whom are recast as arguing against what Sagan sees as the irrational intrusion of faith into matters of scientific law. Sagan is unapologetically looking for allies in his fight against the use of religion as a weapon against humanity—the specifics here are the persecution of suspected witches in Europe.

The difficulty is that both Ady and Spee believe firmly and fervently in witches: they just think the wrong people are being imprisoned, tortured, hung, or burned at the stake. For Ady especially, this is explicitly a matter of theological consideration and import. In his literal reading of the Bible, God has already provided clear instructions on how to identify and punish witches, and if we use any other metric whatsoever, it is an affront to the Holy word and writ. I have no quibble with Sagan: like many of my generation, part of my fascination with the stars stems from the enthusiasm that drove his PBS series *Cosmos*, but I am drawn to the constant overlapping of science and religion, and to the remarkable levels of misunderstanding and misuse that all too often ensues, and Sagan's example allows us to consider the roots of these issues in a bit more depth.

The religious content that interests me most emerges through, out of, and in reaction against that amorphous and ill-understood construct of the New Age. Albanese leaves us with a clear methodology to trace its roots throughout the religious history of post-colonial North America, but its current manifestations aggregate to form far more than a contemporary American metaphysic, combining questions of authenticity, of engagements and complicity with post-capital globalization, and of how to evaluate the value of individual claims of experience within a society whose appetite for increased narcissism seems endless. It is here—in the New Age—that, for my purposes, we encounter the most interesting examples of these contested boundaries between domains of knowledge and domains of faith.

The definition of the New Age is a well-argued subject, and—much like the definition of religion treated earlier—while I try to provide some of the more influential

perspectives, the act of rigorously defining a sphere of understanding has never seemed, for a variety of reasons ranging from the personal to the political to the theoretical, particularly compelling. Still, some consistent themes do emerge, and some of these are quite problematic, most notably the narcissism and the relationship to the engines of marketing and commodification mentioned above. The problem is ultimately unresolvable: the New Age refers to multiplicities, and out of that many there are always movements that are more or less aligned with various positions, more or less easily dismissed on a variety of grounds. That also means that there should be—and I would say there clearly *are*—locations within the New Age that are both aware of the complexity of their own position and are struggling to find a coherent response and consistent path forward.

This may be seen quite clearly in, as a single example, neopaganism's tangled relationship with appropriation and authenticity. Here we find a movement with a voracious appetite, a seeming unending tolerance, for swallowing anything attractive into its belly, a movement whose founding claims are, again and again, proven to be more myth than fact. We also find a movement—or, more accurately, significant sections of a movement—that is acutely aware of these truths, and that is actively engaged with trying to build an ontological space where more than one thing can be true at the same time. Wiccan practitioners can both know that Gerald Gardner essentially invented their religious practice under a century ago *and* feel a deep connection to an image of pre-technological Britain that leads them to insist they are carrying forth an ancient tradition into the digital world, using iPhones to capture century-old rites performed with a mixture of implements uniquely hand-crafted and mass produced in the factories of the Far East.

This is not easy to do, and a deeper engagement with how such tolerance for both/and can be created is worthwhile.

For that, we turn to Starhawk, whose *The Spiral Dance* is, to borrow a term from Olav Hammer (whose impact is explicitly felt multiple times throughout this thesis), a primary “movement text” for neopaganism in the United States. After examining the structure of the religious system Starhawk offers (first as witchcraft, later as Wicca), I attempt to present a sense of Starhawk’s progression, from the romantic notions of the late 1970s through decades spent on the front lines of protest movements against globalization to her attempts to distill those social engagements into methodologies for group performance within more secular cultural spaces. Throughout all of that, she remains, without reservation, a witch, and her struggles to integrate these different components—artifacts from the New Age, an ever-changing sense of what Wicca is and should be, a deep commitment to social justice that leads her into dangerous situations and moments of witnessing great violence, a similar dedication to local activism and to the inevitable organizational instability that accompanies it—into a coherent practice are what draw most of my focus.

The thesis closes with two thoughts, less conclusions than momentary reflections caught on the surface as I look back over the work so far. The first is a claim that nature itself is the secret ingredient added by the New World as the syncretic process unfolded, bringing together strands of early European occult movements, the transformed versions of mystery cults that survived the crossing, the bloodied contributions of Africans forced westwards, and the violently uprooted offerings of the indigenous people of this land. The

natural world—seen differently, seen through a variety of theoretical and practical lenses, but always seen—was added to the mix, shaken and stirred, and poured back out into the increasingly global trade in religious notions that emerged at the end of the nineteenth century and exploded throughout the twentieth.

The second is an insistence on the importance of the notion of ecology as a cultural metaphor. Ecologies of thought, ecologies of action, ecologies of belief: none of these can exist independently, and their interdependence is fractal: no matter at what scale they are examined, ecologies are plural things, compositions of multitudes locked in complex interactions and occasionally springing free in innovative ways. Not only do they offer a corrective to our treasured and destructive notions of individuality and exceptionalism, they have the advantage of, if we are to learn anything from the subjects examined in the five following chapters, being true as well.

Technical Notes

Jazz ... has progressed in its fits and starts of sudden discoveries and startled reactions. New principles, new sounds, new rhythms and harmonies have been advanced with unusual frequency. Not surprisingly, many of the younger musicians have been quietly digesting this information almost as quickly as it has appeared. As a result, they've acquired a degree of musical sophistication which supersedes many of the previous standards of excellence. So it's no longer especially relevant to ask the young saxophone player, for example, to demonstrate his ability by running through all the Charlie Parker licks.

Digable Planets, *Appointment at the Fat Clinic*

There are, as always, a series of clarifications that are required surrounding certain

choices of form within the text. The most immediately obvious to academic readers is probably the absence throughout of footnotes, an intentional choice to enforce a sense that, if something is worth saying, it is worth disclaiming in the body of the work and not in a labyrinthine and covert series of comments. This has several implications: first, there some detours that are probably better suited to the marginalia that remain in the main text, for which I can only ask indulgence; second, I have in general refrained from long lists of citations, preferring to let direct quotations speak more fully. This has an additional effect of creating some very long block quotes. My concern for context and my sensitivity to the potential harm that comes from its loss has led me to err on the side of expansiveness here. I want the authors voices that I bring into conversation to be full and present, not subsumed beneath or into my own. If successful, this will allow an even greater differentiation to emerge between theirs and mine; if unsuccessful, it will give the appearance of relying too heavily on the material of others at the expense of my own incorporative critique.

As part of this I have, as much as possible, left the quotes alone: British spellings remain, as do whatever guiding light was followed in the original regarding capitalization, placement of quotation marks vis-à-vis punctuation, and the like. Any added emphases have been explicitly noted. In my own text, I have strived for consistency, and to land on the side of caution. The temptation to turn everything into a proper noun seems one born of a desire to isolate and elevate, and in a paper fascinated with zones of ecology and overlap, counter-intuitive. Hence, earth is used more than Earth, neopagan is preferred to Neo-Pagan, etc. There are exceptions of course, the largest of which being the term New Age, which I capitalize mostly as an aid to clarification: the confusion entailed by asking the

reader to constantly decipher whether what is intended refers to a generic adjective or a proper noun seemed unfair. Other retentions of capitalization are mostly a product of accepted usage in the communities to which the terms belong (Wiccan instead of wiccan, as an example). When the same citation would be repeated consecutively within a single paragraph, I have only included it once.

Finally, a note on the epigraphical quotes. Not all of the sections have them, but many do, and their purpose is twofold. First, they serve as a way to extend the conversation between the subjects of the thesis itself, allowing me, for example, to place words by Starhawk—who is not dealt with in depth until the final chapter—into the exploration of vitalism with which I open. They also allow a way for the dissertation to break free in a limited way, bringing in various bits of inspiration that have over the past decade felt relevant as moments of insight or interesting commentary on these topics, whether the source qualifies as suitably academic or, in many cases, falls into the nebulous realm of somewhat popular culture.

Giving Thanks

It takes a village.

Apocryphal “African” Proverb

When I first walked into the office of the Department of Religious Studies at Rice University, I was equally parts naïve and lucky. Naïve to the intricacies and seriousness of graduate school, and lucky that, despite that, I was taken seriously enough to be

considered. And rejected. And then, gloriously and after a year's hard effort, accepted. Doubly lucky perhaps in that Rice, chosen because of its geography, proved to be a department that aligned very neatly with my own academic leanings. I thought this would be common, but the more I learned of the academic landscape, the clearer my good fortune became.

There are many people who deeply influenced my work over the past decade who will never read this thesis; still, I am thankful for my interactions with David Cook, Claire Fanger, David Gray, Cathy Gutierrez, Hugh Urban, and Philip Wood. And, one person who I never thought would read the dissertation, but did: my immense thanks to Julia Hardy for her proofreading and encouragement. It was unexpected, and all the more valuable and appreciated for that.

The warmth and generosity of spirit shown by James Faubion were surpassed only (and barely) by his willingness to share his brilliance. At several key points—more than, I am positive, he knows—a discussion proved invaluable in helping me along this path, often revealing a way forward that I had missed entirely. During one of those discussions, my daughter asked him, “Why do you always use such complicated words?” I am thankful he does: much of this world deserves more complexity than it is given.

Jeffrey Kripal has proven to be the most supportive mentor imaginable, from encouraging me to (re)apply to the department all those years ago through gently shepherding me away from several intriguing but ultimately impossible thesis topics to patiently trusting that progress on this manuscript was, indeed, continuing apace. His willingness to invite me into his own work and his innate kindness have been consistent

and dependable, and for that he will always have my gratitude.

My wife was asked by a family member what one says when someone completes a doctoral thesis. Her answer was, “Thank God!” The arc of the last decade, from understanding why I felt the need to go to graduate school to my changing sense of what it means to have done so to the sacrifices made along the way in terms of time and availability have at times caused difficulties for a wide range of people. A few stand out in need of special recognition: David and Judith, for their unflagging commitment to lovingly helping us lead the lives we want; Nancy, for a yeoman’s effort in proofreading an oft-times incomprehensible draft; and, most of all, Marian, for trust, for partnership, for love.