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A Counter-History of Rhetorical Ecologies

Madison Jones, University of Rhode Island

Abstract

In this essay, I argue that the ecological turn in rhetorical studies has produced spatiotemporal problems and that these problems are directly tied to the material disciplinary history of ecosystems ecology and its connections to the Anthropocene violence of nuclear colonialism. These spatiotemporal concerns result from rhetoric's "ecological moment"—a kairotic framework that emphasizes flux but elides material histories. Building from rhetorical scholarship in decolonial historiography and place-based methods, I offer a counter-history of ecology to demonstrate how our field can better engage with the dynamic narrative pasts which shape contemporary rhetorical ecological inquiry. Through this counter-history, I provide a method for combatting rhetoric's spatiotemporal concerns, a framework I refer to as *field histories*, which aims to situate disciplinary practices in place and time by combining historiography and fieldwork.

Keywords

ecological turn, rhetorical ecology, decolonial historiography, spatiotemporal rhetorics, place-based methods

Prologue: Inventing Ecology

While today it is virtually impossible to imagine our relationship with the so-called nonhuman world without the structuring metaphors of environment, ecology, and the ecosystem, these concepts emerged from a dynamic set of historical moments. For instance, the neologism "environment" was coined by the historian Thomas Carlyle's 1828 loose translation (or arguably even mistranslation) of the word "Umgebung" in Goethe's work (Jessop). As a concept, *environment* opened radical possibilities for scientists to theorize and study the relations between biotic and abiotic communities.ⁱ The subsequent invention of the concepts of ecology (Haeckel, 1866) and then the ecosystem (Tansley, 1935) brought about what Thomas Kuhn terms a "paradigm shift" through successive rhetorical moves away from empirical naturalism toward theoretical, qualitative, and then quantitative approaches to studying environments. The ecosystem also has its own conceptual history. Arthur Tansley coined the term in 1935 in a paper describing the dynamic relationships between biotic and physical communities, drawing from mathematics and systems theory. This theoretical concept was then put into practice by Raymond Lindeman in a 1942 study mapping the trophic dynamics of Cedar Bog Lake, Minnesota. The

1953 publication of the textbook *Fundamentals of Ecology* by Eugene Odum further cemented the ecosystem as a central concept for ecological science. As historian Benjamin Golley points out, “the ecosystem story is largely an American tale” which began to rapidly unfold following WWII as “Europe and Japan were preoccupied with reconstruction” and scientists worldwide “repudiated aspects of ecological theory that had been used by the Nazis [...] to force conformity on the population and to base racist policy” (2). While theoretically, ecology presented dubious ideological grounds, ecosystems offered an appealing model of modern science, one grounded in the rhetoric of purity through data-driven methodologies and cutting-edge computer technologies.ⁱⁱ The “eco-system” metaphor also subverted Carlyle’s radical anti-mechanical rhetoric of environment as it provided methods to study complex systems (Hagen 80). Thus, the ecosystem metaphor introduced its own set of fraught rhetorical complexities.

Our contemporary ecological paradigm emerged from these varying rhetorical moves in response to the exigencies presented by what many scholars now refer to as the Anthropocene, the geological period in which humans are making large-scale impacts on the planet’s fossil record. In the age of the Anthropocene, human agency and the nonhuman world become deeply entangled, as do the past, present, and future. Although the Anthropocene has no agreed-upon start date (nor do other geological epochs) and remains a contested scientific term, it is proposed that “The Epoch of Man” refers to the period in which humans became a “force of nature,” altering the climate and making marks in the geological record. While the term has not been officially recognized as a geologic epoch by the International Commission on Stratigraphy (ICS), the Anthropocene Working Group of the ICS is proposing the golden spike (or start date) of 16 July 1945, with the Trinity test and the beginning of nuclear acceleration.

As I demonstrate, ecology as a disciplinary framework holds deep-seated conceptual and material connections to the Anthropocene violence of nuclear colonialism.ⁱⁱⁱ Contemporary ecology arose in the 1950’s and 60’s from what environmental historian Laura J. Martin refers to as a “history of nuclear colonialism and environmental destruction” (1). The twin concepts of ecology and the Anthropocene are like threads of a rhetorical knot. Together, they function as what Kenneth Burke called “god” and “devil terms,” master-concepts which abstractly structure our ethics. In this essay, I draw from decolonial historiography and place-based methods to examine ecology in relation to the Anthropocene not only to acknowledge its disciplinary history

of colonial violence but also to work through the spatiotemporal problems that ecology presents as a framework for rhetorical inquiry in a time of global environmental crisis.

The following essay proceeds in three recursive and cumulative parts. The first section situates the “ecological moment” within the history of ecology in connection with the Anthropocene violence of nuclear colonialism. The second section demonstrates how rhetorical ecology inherits spatiotemporal problems from this disciplinary history by examining the pivotal work of ecosystems ecologists Howard and Eugene Odum. This section maps these problems across two subsections: the displacement of time (*kairos*) and the derangement of place (scale). Through diachronic historical intervention, this section works through these rhetorical problems as part of the terrible inheritance of nuclear colonialism. The final section invites rhetoricians to further trace the conceptual and material histories that shape the frameworks of our discipline and forwards field histories as a method for situating ecologies in time and place.

Before embarking, a couple of clarifications are needed: in presenting the colonial history of ecology, it may appear that I am condemning either ecology or rhetorical ecologies. While what follows is certainly no hagiography of ecology, this essay is not an attempt to level criticism at science or rhetoric; nor do I aim to subvert or deny the laudable and crucial aims of these disciplines. Kuhn and Latour have both spent respective decades fighting against the ways their work in STS was mobilized by anti-science interests. I have no desire to revive the science wars. Rather, this essay follows Ryan Skinnell’s approach to historiography, which holds that “critique is not a rejection of historical research, nor a rejection of methodological assumptions—it is rigorous examination of the values historians advance, knowingly or not” (113). Historiography, in his model, is “fundamentally iconoclastic” (115). By examining ecosystem ecology’s ties to nuclear colonialism, I seek to understand the spatiotemporal problems of rhetorical ecologies, and to uncover potential solutions, by situating disciplinary practices within lived experiences of time and place.

As a scholar with a longstanding interest in rhetorical ecologies, I am less interested in leveling criticism as I am in using this essay to do better myself, to answer Jennifer Clary-Lemon’s (2019) call for rhetorical scholarship combining decolonial politics and new materialism, asking for “projects that engage differing temporalities (the gifts of past to present, present to future), or terrible inheritances, such as those left in the wake of the Anthropocene” (Clary-Lemon). Likewise, as a white, settler-descended scholar, I am directly implicated in

scholarly dynamics that credit settler academics with dispossessed peoples' thinking and insights. For example, in "Indigeneity, Posthumanism and Nomad Thought Transforming Colonial Ecologies," Simone Bignall and Daryle Rigney argue that "Continental posthumanism appears to ignore the prior existence of Indigenous knowledge of this kind" (159) which threatens "the elision of Indigenous cultural and intellectual authority" (160). Yet, the recent work of scholars like Clary-Lemon, who are calling for new materialist rhetoricians to "examine the move to disassociate from cultural rhetorics and Indigenous knowledges," has convinced me that such a project is needed. In undertaking this work, I follow the example of rhetoricians such as Kristin Arola, Donnie Sackey, and David Grant who seek to decolonize "new" materialist rhetorics. As Clary-Lemon argues, "it is critical for rhetoric and compositionists to imagine the work of new (Indigenous) materialism as equally concerned with decolonization, not only to engage in more ethical and just scholarship, but to better address the knowledge problems of our time." With these caveats and goals in mind, I now turn to rhetoric's ecological moment.

Rhetoric's Ecological Moment

"[W]hen we note that one thinker uses 'God' as his term for the ultimate ground or scene of human action, another uses 'nature,' a third uses 'environment,' or 'history,' or 'means of production,' etc. And whereas a statement about the grammatical principles of motivation might lay claim to a universal validity, or complete certainty, the choice of any one philosophic idiom embodying these principles is much more open to question"—Kenneth Burke (xvi–xvii).

As a god term, ecology has influenced a growing meta-discipline in rhetoric. Beginning with Richard Coe's "Eco-Logic for the Composition Classroom" (Coe, 1975), and gaining traction with Marilyn Cooper's "The Ecology of Writing" (Cooper, 1986), ecology began to solidify as a disciplinary focus in rhetoric. Jenny Edbauer's work with public discourse and rhetorical ecologies further cemented ecology as a rhetorical framework (Edbauer, 2005). Around this time, writing studies began what many now characterize as an "ecological turn" (McGreavy, et al. 2018; Ehrenfeld 2020) toward places (Dobrin, 2001; Reynolds, 2004), relations (Syverson, 1999; Spinuzzi, 2003; Druschke, 2019), collaboration (Phelps, 1988), resilience (Stormer and McGreavy, 2007), complexity (Hawk, 2007), ambience (Rickert, 2013), interfaces (Brooke, 2009), situations (Rule, 2019), assessment (Inoue, 2015), public pedagogies (Rivers and Weber, 2011), systems (Mays, 2017), and circulations (Gries and Brooke, 2018) to understand their role in networked communication (Eyman 2015; Brown, Jr.). In 2012, Noah

Roderick proposed that, for writing studies, “complexity and ecology are rapidly becoming dominant metaphors” (Roderick, par. 1). Since then, the scholarship on rhetorical ecologies has become as capacious and expansive as the concept itself.

Today, ecology is a threshold concept, offering a rhetorical framework which indexes the study of networked discourse, new materialism, and systems thinking. However, as Dan Ehrenfeld notes in his recent critique of rhetorical ecologies, “ecological models have emphasized flux” but in doing so “they have deemphasized historical specificity” (4). While Ehrenfeld turns away from ecology as a framework and toward infrastructural models, this essay follows Donna Haraway’s notion of “staying with the trouble” of ecology and offers a method for rhetorical inquiry to further emphasize the historical elements of any framework, not only as a corrective to the ahistorical problems Ehrenfeld identifies, but also to challenge the colonial ideology and disciplinary narratives upon which rhetorical ecologies rest. This method, which I elaborate on further in the final section, draws upon Linda Tuhiwai Smith’s notion of “counter stories,” which she demonstrates to be “powerful forms of resistance which are repeated and shared across diverse indigenous communities” (2). Studying the colonial history of Anthropocene ecology helps to situate ecology’s spatiotemporal concerns within the violent displacements and derangements of Eurocentric timescales.^{iv}

Whether referring to energy moving through a biological community or information circulating in a digital network, the term “ecology” now connotes many types of relational systems. These systems cross the biological, technological, and ideological with the virtual and material in what Felix Guattari terms the “three ecologies.” To invoke ecology is to gesture toward a host of ambiguous associations: complexity, scale, dynamics, boundaries, systems, emergence, and flux to name but a few. While ecology as we know it today is regarded as a master-discipline, structuring the way we see the world, its emergence in public discourse is a distinctly modern development. Contemporary ecology first arose in the 1950’s and 60’s from the nuclear tests initiated in the 1940’s. Leading up to this, ecology began to solidify as a hard science when Eugene and his brother H. T. Odum borrowed structuring metaphors from economics and cybernetics to theorize a systems approach to the emerging field. At the end of WWII, with generous support from the US Atomic Energy Commission (AEC), this state-of-the-art ecological research was fueled, in large part by the interests of nuclear colonialism (Martin, 3).

Thus, the paradigm shift towards contemporary ecology, what Carolyn R. Miller terms a kairotic “opening” of intellectual terrain, is directly linked to the 105 nuclear bombs exploded in the Marshall Islands where the Odum brothers conducted their groundbreaking fieldwork (fig 1). This rhetorical moment, this “ecological turn,” pivoted on the nuclear colonial violence perpetrated against the Marshall Islanders by the United States Army. While fears of nuclear annihilation spurred US funding for ecological studies like those the Odums conducted at the Enewetak Atoll, the Marshall Islanders lived through actual nuclear violence, suffering “forced relocations, destruction of ancestral lands, and radiation sickness” (Martin 579). By engaging with this history, this essay places the “spectacular violence and mundane resistance” of what Megan Eatman (2020) terms “violent rhetorical ecologies” (2) within the nuclear colonial event of the Anthropocene as it continues to unfold at the Pacific Proving Grounds.

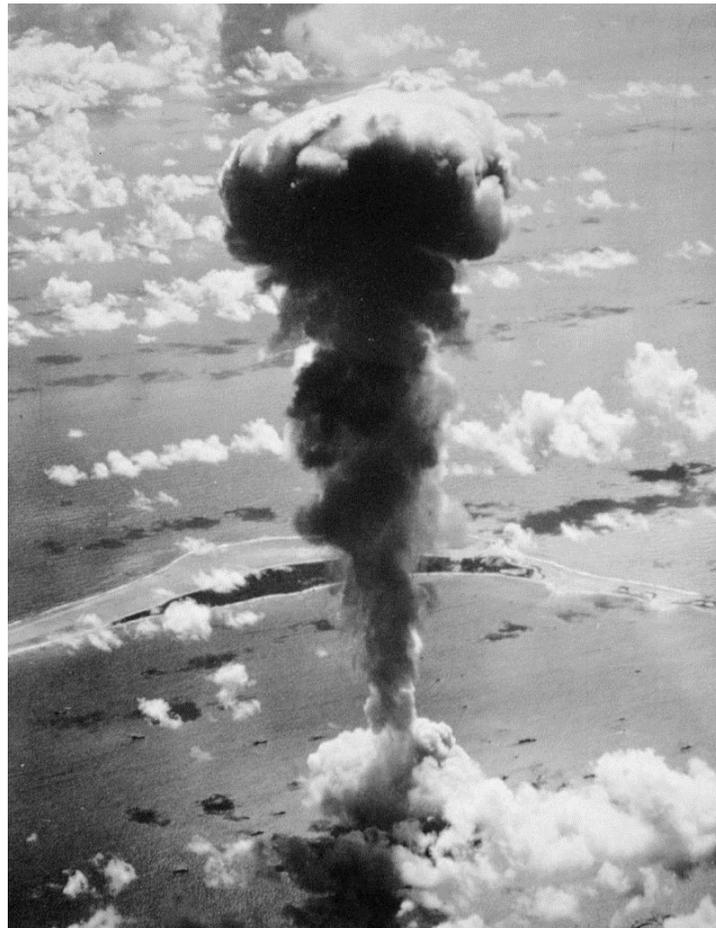


Figure 1: Ariel image of the July 1, 1946 *Able* detonation at the Bikini Atoll (USAAF, 2010). This was the first detonation of Operation Crossroads (consisting of *Able*, *Barker*, and *Charlie*).

Operation Crossroads resulted in both material and theoretical violence against the people and the place which continues to this day. In the Castle Bravo detonation, which turned out to be hundreds of times more powerful than estimated, the people of Enewetak were exposed to radioactive fallout and stranded for days on the islands where they had been relocated. When the U.S. military selected Bikini Atoll as a site for their tests, the people of Bikini were forced to relocate to the desolate Rongerik Atoll, where resource scarcity brought starvation and dehydration. After two years, they were again relocated to Kwajalein and then to Kili Atoll. As other historians of science have pointed out, these relocations created numerous immediate hardships for the people of Bikini, but the loss of their homeland also caused “the loss of skills required for self-sustenance” (Niedenthal 28). The immediate violence of displacement resulted in ongoing cultural violence as the islanders found that their place-based fishing practices would no longer adequately support their life on Kili as well as the ongoing material effects of radioactive exposure and the obliteration of their traditional homelands.

As Martin demonstrates, a theoretical violence also emerged from this material history as it became entwined with the Odums’ ecological field work at Enewetak. As I develop in the following sections, these events helped shape ecological science by providing a place to study ecosystems through extractive field-research practices. This violence is directly connected to the exploitative “frontier of science” metaphor that Leah Ceccarelli (2013) critiques in contemporary American science. As Enewetak participates in the “discovery” or “invention” of the ecosystem, the conditions of nuclear colonialism, and direct military funding, become part of the ecological paradigm shift. In turn, I argue that rhetorical ecologies have inherited this conceptual history of Anthropocene violence from the influence of nuclear colonialism on ecosystems ecology. My aims in recognizing and reckoning with this violent history of ecology are twofold: 1) to acknowledge and emphasize the ways that the ecological framework has marginalized both the spectacle of nuclear violence and the stories and lived experiences of communities that were subjected to, and continue to resist, the violence of nuclear colonialism, and 2) to come to terms with the theoretical, material, and practical constraints that this spatiotemporal inheritance places on contemporary rhetorical ecological inquiry.

The Trouble with Ecology

“[T]he trouble with *wilderness* is that it quietly expresses and reproduces the very values its devotees seek to reject. The flight from history that is very nearly the core of wilderness represents the false hope of an escape from responsibility, the illusion that we can somehow wipe clean the slate of our past and return to the tabula rasa that supposedly existed before we began to leave our marks on the world.” —William Cronon (80, emphasis added)

In his pivotal essay, “The Trouble with Wilderness; or Getting Back to the Wrong Nature,” environmental historian William Cronon interrogates the concept of wilderness as a cultural construct for environmentalist thinking. Through history, Cronon is able to situate the problems that nature presents as a signifier for American cultural values and environmental ethics. He demonstrates how pristine nature functioned as a concept that supported frontier colonialism, erasing Indigenous peoples by supporting the myth of unmanned wilderness. His analysis was part of a paradigm shift for ecocriticism, moving away from accepting the construction of nature as a Burkean god term and toward more careful engagement with the complex ways that language structures relations with the natural world and/or the nonhuman. In this essay, I share with Cronon what he calls common ground, or what rhetoricians call a commonplace. Were we to replace “wilderness” with “ecology” in the quote above, we would start to get at the trouble with modern ecology. By troubling ecology, I seek other ways to remap the conceptual history of rhetorical ecologies.

In this section, I set out the twin rhetorical problems of ecology: the displacement of time through *kairos* and the derangement of place through scale. These two moves are foundational to ecosystems ecology—as well as systems thinking more broadly—and operate by reducing complexity through spatiotemporal slices. *Kairos* breaks from ordinary time while scale divides place into hierarchical dimensions. This phenomenon is what N. Katherine Hayles (1995) refers to as “making the cut” or later (2008) as “the Platonic backhand and forehand”:

The Platonic backhand works by inferring from the world's noisy multiplicity a simplified abstraction. So far so good: this is what theorizing should do. The problem comes when the move circles around to constitute the abstraction as the originary form from which the world's multiplicity derives. Then complexity appears as a “fuzzing up” of an essential reality rather than as a manifestation of the world's holistic nature. Whereas the platonic backhand has a history dating back to the Greeks, the Platonic forehand is more recent (12).

Along these lines, we may hear echoes of V.F. Cordova's (2007) critique of settler colonial metaphysics which produces a "strange definition ... of man" in which "man is, at the same time, a pawn of the universe and its guardian" (51). Through temporal slice (*kairos*) and spatial slice (scale), ecosystems ecology studies the world as situated within these cuts, as if suspended between two pieces of glass in a microscope slide. As Ehrenfeld argues, "ecological models have emphasized change" but in doing so "they have deemphasized the distinct dynamics that animate the public sphere in particular times and places" (4). Within this frame, ecology relies on a particular space/time to reduce complexity in order to make holistic modeling possible. As a metaphor, rhetorical ecology inherits this methodology for organizing relations. These cuts allow ecologists to study systems, but they also displace and derange our sense of place and time. By decentering synchronic *kairos* along the same lines as Rachel Wolford's diachronic-synchronic (DS) model of agency, the following two subsections demonstrate how these problems (time and scale) are both situated within the disciplinary history of ecosystems ecology and serve to displace the connections between ecology and nuclear colonial violence in rhetorical ecologies.

Ecology out of Time

"We believe, fatalistically, that the ecosphere is on a straight path into catastrophe, when in some ways even the apocalypse is cyclical. ... We speak of sustainable living even as we face the spectre of the Anthropocene. Our cultural vision of time is a heap of broken clocks." —Paul Huebener (3)

The ecological crisis of the Anthropocene is, in part, a rhetorical crisis of colonial time. Smith demonstrates how important the different timescales of colonized and pre-colonized time are for Indigenous critique (24). History is an important element of her decolonial work because it allows scholars to interrupt totalizing imperial narratives. In an overlapping manner, discussions surrounding the Anthropocene epoch tend to focus on the question of *chronos* (i.e.—"When did climate change begin, and when will it end?") In geology, boundary events are large-scale climatic changes which separate epochs by leaving distinctive marks in the sedimentary record. These events are transitional moments between two boundaries—traces in the earth's record which define the geologic timescale. Sometimes these marks are definitive, but many boundary events remain disputed. While some scholars agree on 16 July 1945 (the Trinity

nuclear test) as the starting point of the Anthropocene, other dates vary widely—from the beginning of the Industrial Revolution as far back as the Agricultural Revolution. While the moment of nuclear acceleration might be the point of greatest human impact on the planet’s geological record, other points might offer better boundary events. For instance, geographers Heather Davis and Zoe Todd argue that the Anthropocene began during colonization,^v while posthumanists like Donna Haraway and Anna Tsing argue that the Anthropocene is *itself* the boundary event, a mere blip on the geologic timeline.^{vi} The trouble here is that Anthropocene ecologies don’t fit neatly into chronologies or totalizing narratives. As recent cultural rhetorics scholars have pointed out, colonial violence rhetorically interrupts indigenous time (Clary-Lemon 2019, Grant 2020), further complicating the relations between ecology and the Anthropocene.

To understand this trouble, I turn here to the interdisciplinary histories that ecosystems ecology and rhetorical ecologies share with a different framework of time: *kairos*. The rhetorical concept of *kairos* is often defined as “opportunity” (i.e.—“the right place at the right time”), the moment a rhetor may seize in order to persuade an audience. Yet, a survey of the last few decades reveals the concept is much more elusive, complex, and convoluted than “opportunity” suggests. For instance, the difference between “opportunity” and “opportunism” (Miller, 1994) might rely on how an audience perceives a rhetor and their discourse at any given moment which is well beyond the capacity of an individual to control. Numerous recent scholars (such as Hawhee, Brown, Trapani and Maldonado) have argued that in the ambiguity of *kairos* lies its power: the term disrupts traditional Bitzerian notions of the “situation” as something which can be mastered and instead moves scholars toward studying the kairotic nature of ecologies (Edbauer), environments (Rickert), rhetorical circulation (Gries), and the queer affect of networked bodies (Hatfield). These theories situate rhetoric’s movements within the complex flux of systems.

While this recent emphasis on *kairos* has opened productive and important directions for rhetorical scholarship, it can also serve to lock rhetoric into a presentist timescale, where rhetoricians are always engaging with the emergent moment. John R. Gallagher (2021) identifies the problem of separating *kairos* and *chronos* because “neither [term] fully describes the situation” (522). His resolution is “machine time,” which he defines as a “mutually constitutive elements of a unified model of rhetorical time that emphasizes quantitative and qualitative

perspectives together” (523). Working from the same problem Gallagher identifies, this essay disrupts unified narratives of time through disciplinary counter-history. As Carolyn R. Miller demonstrates, *kairos* is “central to the rhetoric of the scientific article” because it both interrupts time (in seeking reproducible results) and opens space (by identifying gaps in scholarship) for scientific work (313). Building from Kuhn, Miller (1992) demonstrates how the concept participates in paradigm shifts by producing a “tension [...] between novelty and tradition” which “opens up a ‘problem space,’ a kairotic opportunity for scientific work” (320). By intervening in an intellectual gap, scientific knowledge develops by locating social/professional space and then inventing new intellectual space.

Though Eugene and H.T. Odum did not coin the term ecology, their work helped bring the field from a subdivision of biology to its own discipline by borrowing metaphors from economics and cybernetics (Martin). Their research was central to the move from ecology as a technical term to that of a paradigm (Golley). Yet as historians of science demonstrate, it was not just metaphors which afforded these novel innovations, but nuclear technology and direct funding from the AEC through studies of radioisotopes in laboratories (Creager), as well as field work conducted at nuclear production sites (Bocking), and at nuclear weapons test sites such as the Pacific Proving Grounds (Martin). This funding stream was both cause and effect of ecosystems ecology’s reliance on a synchronic timescale. Ecosystems ecology’s emphasis on trophic mapping fundamentally requires a displacement of time which is evident in the early criticism of ecosystems ecology by evolutionary ecology (Golley 5). Evolutionary ecologists argued that ecosystems were a presentist model that was unable to explain the diachronic factors of evolution.

Accounting for evolution was simply beyond the scope of a discipline already mired in dealing with vast complexity. The discipline’s inability to account for diachronic time—the accumulation of rhetorical agency in evolution—proved too taxing a complexity for researchers to justify in a time of tight university budgets (Golley 6). Studying ecosystems through synchronic time reduced complexity through spatiotemporal slice. Understanding the emergence of this method from such a socio-historical moment suggests ways that *kairos* can help disciplinary histories to account for the emergence of rhetorical fundamentals which shape contemporary practices. Put differently, the concept of *kairos* allows us to see how spatiotemporal concerns are not only part of the theory but also the material history of

ecosystems ecology. By retracing such a counter-history, this essay works to make visible the connections between colonial Anthropocene violence and the limits of ecologies as a framework for rhetorical inquiry.

As Rice explains in her definition of rhetorical ecologies, “life-as-network also means that the social field is not comprised of discrete sites but from events that are shifting and moving, grafted onto and connected with other events” (Edbauer 10). Though she does not explicitly refer to *kairos* in the essay, Rice’s description of networks directly reflects this perspective. She goes on to suggest that “these sites (the *situs*) are sustained by the amalgam of processes, which can be described in ecological terms of varying intensities of encounters and interactions-much like a weather system” (12). Given this metaphor, it is important to note that *kairos* refers in both ancient and modern Greek to weather, which suggests the rich connections between the “flux” of networked ecologies and kairotic timescales.

The increasing reliance on Bruno Latour’s actor-network-theory by rhetoricians interested in new materialism, posthumanism, and networks has exacerbated ecology as a *kairotic* framework. *Kairos* is a central component of the concept of *transformation* in the contingent performance of an actor network (Latour 2005, 35). In her introduction to an interview with Bruno Latour for *Rhetoric Society Quarterly*, Linda Walsh describes the codification of Actor Network Theory (or ANT) as a quasi-rhetoric which was codified as a direct response to the kairotic time of contingent performance (Walsh, et al., 406). In response to a question from Walsh about the use of *kairos* in a passage from *On the Modern Cult of the Factish Gods* (102), Latour claims he is influenced by the theological concept (through Deleuze and Charles Péguy):

Physical time, isochronic time, is an important scientific and technical instrumentation, but it has nothing to do with the way we live. The time in which we are, all of us, all sorts of life forms, has a different rhythm, a different way of passing [...]. So, we don’t live in physical time, we are all in a different time, and inside those *times*, in the plural, there is one which has been largely taken up by theology for which the name *kairos* is well adjusted, which is this time where the notion of end, the notion of definitive occurrence and rupture in the passage of the ordinary customs and habits, is highlighted (410).

Kairotic time is deeply part of rhetorical ecologies, because as Edbauer (2005) argues, “rhetorical situations operate within a network of lived practical consciousness” (5). As such

“place becomes decoupled from the notion of *situs*, or fixed (series of) locations, and linked instead to the in-between en/action of events and encounters. Place becomes a space of contacts, which are always changing and never discrete” (10). This synchronic temporal displacement emphasizes embodiment and event in productive ways for rhetorical theory, but it also reinforces and erases the ideological inheritance of nuclear colonialism and abstracts the violent history of its “invention” and “discovery” at the Pacific Proving Grounds.

Ecology out of Place

“[P]lace convenes our being together, bringing human and nonhuman communities into the shared predicaments of life, livelihood, and land. Place calls us to the challenge of living together. ... Place calls us to the struggles of coexistence”—Jay T. Johnson and Soren C. Larsen (1)

The ecological crisis of the Anthropocene is also a crisis of colonial displacement. The environmental problems we face are of such a magnitude that they overwhelm our ability as individuals to rhetorically situate or locate it. In their groundbreaking book, *Being Together in Place: Indigenous Coexistence in a More Than Human World*, Jay T. Johnson and Soren C. Larsen draw from Western phenomenology and Indigenous knowledges to understand place as an agential force. They demonstrate how “Beginning in earnest with the Enlightenment, European political discourse began to construct autonomy as an abstract, exclusive right vested in a singular, secular political subject—citizen and public—creating a new scale of state authority” (4). Through Indigenous knowledge practices, they resist the “hegemonic, hierarchical, and oppressive scale” of “state sovereignty” (4) to define “an active agency of place” (17). This agency binds humans and nonhumans in “a way of being and knowing” which they refer to as “scales of coexistence” (3). Building from Vine Deloria Jr. and Daniel Wildcat, they resist the derangement of place through scale, arguing that “To be Indigenous means ‘to be of a place’” (Larsen and Johnson 3; Deloria and Wildcat, 31). Following their claims about scale and sovereignty, this section seeks to critique scale as a colonial method for mapping relations.

In an overlapping fashion, the environmental crisis is, on the one hand, a global phenomenon, and on the other, made up of mundane, individual actions. In the face of such massive environmental problems, our very sense of individual agency seems to vanish. This is an example of the *problem of scale*, an issue pored over by posthumanists, ecocritics, and

philosophers of science (Zylinska, 2014; Clark, 2015; Morton, 2013 and 2016; Latour, 2018; Woods, 2019) which has recently garnered interest from rhetoricians (Pilsch, 2017; Mueller, 2018; Jones, 2019). Rhetorically, scale invokes Aristotle's concept of magnitude (*megethos*), which as Jenny Rice (2017) demonstrates, describes the ways that "abundant information accumulates in ways that expand beyond epistemic registers, creating a sense of coherence" (27). Through these orders of magnitude, scale shapes our experience with place. While mapping technologies like Google Maps reinforce the impression that we can neatly zoom from one scale to another, such changes in scale produce ontological rifts which necessitate changes in subjectivity, agency, and ethics that don't necessarily fit within human(istic) models (Latour 2017).

Scales separate places into nested dimensions which seem to zoom neatly between micro and macro, but as numerous scholars demonstrate, different levels of scale require ways of thinking which subvert basic tenets of humanism (such as agency). Yet, as ecocritic Zach Horton demonstrates, scale is a fundamental tenet of ecology. Horton argues that the "scales we isolate [are] a matter of narrative framing" (13). In ecological science, scale is a fundamental structure which defines what kinds of relations constitute objects of study. Scale determines where a study takes place, producing the necessary dimensional boundaries to study ecosystems. Eugene Odum (1984) coined the term "mesocosm" to refer to field research which controls variables similarly to that of a laboratory but which stand to "bridge the gap between the laboratory and the real world" (E. Odum, 558). Mesocosms mediate micro and macro scales between parts and holes. Scale allows ecologists to understand the nested dimensions that separate micro-, meso-, and macro-levels, from a handful of dirt to an entire planet. Essentially, just as synchronic/kairotic time allows ecosystems ecologists to study a cross-section of time, so does scale allow scientists to study a cross-section of space. For example, Howard T. Odum's dissertation research on the global circulation of strontium was arguably an early scientific contribution to ecological perspectives which would go on to view the entire planet as a single ecosystem.

Scale helps produce systems rhetorically through spatiotemporal divisions, but in doing so, it also organizes dimensional levels into a hierarchical topology. For example, scientists might compare data taken at one scale, such as of an individual fish species, to data at a larger scale, such as a population of a certain riverbank or even riparian zones more generally. When referring to the "scale of species," scale abstracts the spatiotemporal dimensions of place to

produce a topological hierarchy. These abstractions allow ecologists to study vastly complex models, but these cuts also produce paradoxes for ecology. One such problem is known as Simpson’s paradox, which refers to a statistical phenomenon in which a trend appears one way across multiple data sets but changes or disappears completely when those sets are combined. Recently, ecologists have suggested that this paradox (as it specifically occurs in ecology) is a direct result of assumptions made by limnologists involving spatiotemporal scale (Qian, et al). Essentially, by relying on a large data set of sample averages, these studies often lose sight of some important factors that define and influence individual lake ecosystems, what ecologists refer to as “confounders.”

To address issues like these, contemporary ecologists employ a cross-scalar approach to ecosystem modeling which builds models from large data sets but also attempts to resolve confounders by taking region-specific factors into account. Yet, even with these emerging methods, scalar abstraction remains an essential component of ecosystems ecology, dating back at least to Howard T. Odum’s influential “Silver Springs Model” (fig. 2), developed from the first-ever comprehensive study of energy moving through a closed system (Odum, 1957). Through trophic mapping, Odum created what he would later refer to as a “macroscopic” methodology for studying ecosystems holistically (Odum, 1976). Macroscopic models are tools that “cut through the plethora of detail” and reduce complexity and render a holistic perspective, which Odum compares to the impressions of an artist.

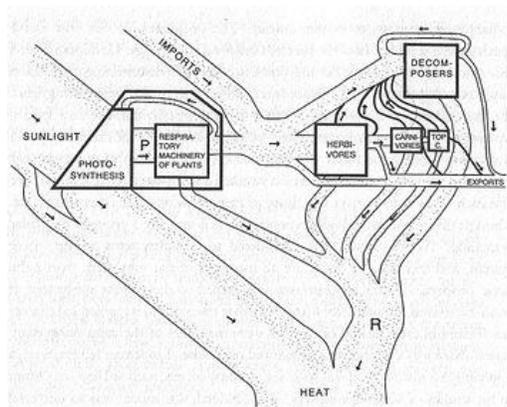


Figure 2: “Silver Springs Model” from Odum’s (1970) *Environment, Power and Society*

Odum's macroscope functions as a "detail eliminator," (fig. 3) a tool for producing the spatial cut which allows ecologists to scale above the complex individual parts of a system (1971, 10). The macroscope allowed ecology to advance from a discipline which relied primarily on simplistic models of ecosystems to one which could model complex systems based on *in-situ* (or place-based) data.

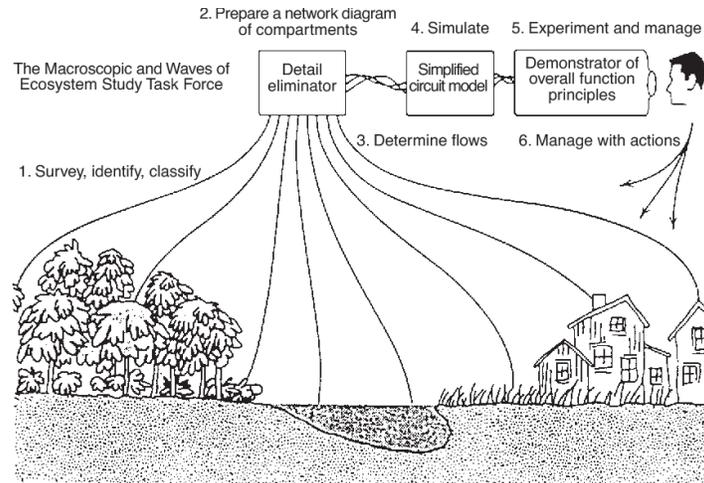


Figure 3: Illustration of the macroscopic perspective from Odum's (1970) *Environment, Power and Society*

This method is directly implicated within ecosystem ecologies' ties to nuclear colonialism, but just as this approach builds from this inheritance, it also obscures these connections. As previously discussed, macroscopic methodologies impose an abstract systems model onto the places they study, obscuring the autochthonous "confounding" factors which define specific places. One of the first examples of this process was in the research that the Odum brothers conducted at the Enewetak Atoll. As Martin demonstrates, their studies reversed the traditional conception of field work, where data collected is later used to build an abstract model. Rather, Martin argues the "Odums did not 'discover' evidence of ecosystems at Enewetak; rather, they theorized Enewetak's coral reefs as ecosystems years before they arrived" and in conducting their research, the pair "struggled to match the species and situations they encountered to their preconceived frameworks" (575). This method helped to transform Enewetak's environment into a mesocosm, a system which the Odums studied to discover their

ecosystem model. In other words, their fieldwork was, in part, conducted to match place to model, rather than to produce the model based on the local data.

While the mesocosm concept has since received criticism in ecology for its reliance on abstract simplicity (Carpenter, 1996), it was this very quality that made mesocosms appealing for early field studies of ecosystems. In fact, this research led the pair to develop the trophic pyramid which is still a basic generalized model of ecosystems today (Martin 578). In turn, these models inform a sense of place that is scalable, one which zooms neatly from “the global” to “the local” in abstract terms. In doing so, their field work rendered the Enewetak ecosystem into a pristine place akin to Cronon’s critique of the wilderness concept. And yet, as Martin brilliantly demonstrates, “the atolls were neither isolated nor pristine” (579). With a methodology that is out of place and out of time, ecologies become a framework which elide the direct connections between Anthropocene presents and colonial futures. Field histories (re)place those connections by attending to the ways that colonialism persists in shaping and limiting our contemporary disciplinary practices. While many rhetoricians discuss *kairos* as a place-based concept (such as Onians; Race; and Rickert), the prevailing tendency is to treat place abstractly. In this way, rhetorical ecologies are traditionally limited by a reliance on the frameworks of ecosystems ecology. As this initial foray into a counter-history of ecology demonstrates, to theorize rhetoric using an ecological framework is to work within specific places. In this case, that place is the Marshall Islands and the nuclear colonial violence that the people and environment continue to survive and resist today.

(Re)Placing Ecology: Toward Field Histories

Thus far, I have focused on tracing the conceptual and material connections between ecology and the nuclear colonial violence of the Anthropocene, and I have examined some of the ways that the spatiotemporal problems of rhetorical ecologies are rooted in these connections. While this discussion of the limitations of rhetorical ecologies may lead some to conclude that we should replace the concept with another framework, I want to conclude by suggesting how what I am calling *field histories* allow scholars to (re)place the concept back into a rhetorical framework which is, as scholars like Malea Powell and Kristin Arola suggest, “*relational and constellated*” (Powell, et al., para. 28). Field histories are the study of disciplinary histories as they overlap, intersect, and influence rhetoric. As rhetoricians interested in ecology are

participating in the social justice paradigm taking place across writing studies, a growing number of scholars have begun to discuss the value of using place-based and community-engaged approaches under the banner of rhetorical field work.^{vii} Alongside this work, field histories combine rhetorical field methods and other place-based rhetorical practices with historiography to deeply engage with the ways that disciplinary genealogies shape “the field” of rhetoric. Through field histories, scholars can acknowledge conceptual inheritances, confront relational practices, and overcome spatiotemporal problems. As Powell (2011) argues, “[e]ven harmful, frightening or negative relatives are important and must be understood and honored if we are to survive together in the same spaces” (Powell). Through field histories, scholars can locate rhetoric within a more dynamic sense of spatial and temporal relationality.

In the case of rhetorical ecologies, field histories open new places for rhetoric to consider the divide between new materialism and cultural rhetorics. And far from iconoclasm for its own sake, I believe that these moves lead us to be better ecologists. As Caroline Druschke (2019) writes in her definition of trophic ecologies, “The task of the rhetorical ecologist [...] becomes that of co-laboring or equivocating across species, worlds, and registers to take seriously the physicality of relationality.” As such, field histories stand to deepen this sense of co-laboring to better include and emphasize the agential inheritance of our disciplinary past(s). Field histories are intellectual counter-histories which use historiographic methods to place moments of disciplinary change within the context of their paradigms in order to understand how place-times rhetorically shape and influence our contemporary practices and lived experiences within the field. That is, field histories use place-based methods to study synchronic moments of discipline formation and transformation within, but especially against, the narratives through which a discipline makes sense of its fragmented, and often contradictory, past. My aims here deliberately echo Natasha N. Jones, Kristen R. Moore, and Rebecca Walton’s use of antenarrative which “allows the work of the field [of TPC] to be reseen, forges new paths forward, and emboldens the field’s objectives to unabashedly embrace social justice and inclusivity as part of its core narrative” (212).

In practice, field histories follow Linda Tuhiwai Smith’s concept of history which resists or undercuts Eurocentric narratives, emphasizing “the history of Western research through the eyes of the colonized” (2). Along similar lines, Aja Y. Martinez’s recent book *Counterstory: The Rhetoric and Writing of Critical Race Theory* builds from work in CRT to create a method for

scholars to undercut master narratives which have abstracted, excluded, and invalidated the perspectives and experiences of minoritized peoples (5). Counterstory, as Martinez demonstrates, “effectively turns a reflective mirror on the academy’s inherently and institutionally racist histories and environments, which have marginalized and continue marginalizing people of color (58). As such, this project directly engages Malea Powell’s (2004) call for writing studies to “investigate rhetorical history on this continent” to perform the “difficult work of reconciling responsibility for the meaner events within those histories, not with guilt, but with a larger, more honest sense of who and what ‘we’ are” (58). Field histories deepen our understanding of rhetoric, providing a richer sense of the events that shape our contemporary practices. Following Skinnell’s argument, that “contemporary revisionary histories are often pitched toward reinforcing the field’s beliefs instead of critically examining them” (113), field histories use a place-based perspective to help us better understand the disciplinary processes of marginalization within both their historic context and their contemporary practice.

This initial foray into field histories has brought me to projects which engage with place-based histories to understand how they shape the relational ecologies of rhetoric. Field histories help rhetoricians to situate relationality in terms of geological (or “deep”) time, revealing important ways of understanding rhetoric as well as the fields that shape it as relations. Working within a framework of deep time can be difficult, requiring research which crosses numerous disciplinary boundaries and within a sometimes overwhelming spatiotemporal scope. However, I have also found the research richly rewarding. In our recent article, “Deep Mapping for Environmental Communication Design,” Shannon Butts and I describe how we used deep time as part of a methodology in a recent digital mapping project, EcoTour, to situate the environmental crisis within ecologies of colonial violence (Butts and Jones). The project visualizes the relationships between colonial history and the exigency of the environmental crisis in Paynes Prairie, a Florida State Park. By understanding the Anthropocene as part of colonial violence, this project resists the ways that the spatiotemporal concerns discussed above elide and dissociate ecology and history. This project helped me to understand the importance of communicating massive problems like climate change through methods which are embodied, entimed, and emplaced.

Through field histories, I ask, “how can we, as teachers and scholars, foster experiences with places that account for the dynamic networks of histories and futures which together weave

our Anthropocene present?” Field histories can lead us to study disciplinary histories as they overlap, intersect, and influence rhetorical practices. Combining place-based field work with historiography allows us to more deeply engage with the ways that disciplinary inheritance shapes our contemporary scholarly landscape. Using historical field research to understand rhetoric’s disciplinary relations may seem, as Druschke claims “an overwhelming move [but] an ethical one.” However, it offers an important means to situate our knowledge practices within deep time and place. As a researcher with deep-seated interests in ecology, I take this history as an imperative that compels me towards future projects that work to situate socio-historiographic research within the ecologies of places and relations. Historiography offers an important lens to view one dimension of rhetorical ecologies—the past—but it is important that this work also connects with the dimensions of the lived experiences of communities (and the humans and nonhumans that form them) as well as the futures that we are working together to forge.

Conclusion

Beyond this initial engagement with the spatiotemporal problems that ecology inherits from a colonial framework, I want to suggest some of the limits of socio-historiographic research and emphasize how important place-based and community-engaged methods are for field histories to accomplish real decolonial work. It is telling that Burke mentions “nature,” “environment,” and “history” together as examples of god terms. In setting out to engage with a counter-history of ecology, my aim is not to replace one god term with another. Rather, I extend Eatman’s framing question in *Ecologies of Harm*—“How can rhetoricians study rhetoric from within violent rhetorical ecologies?”—to ask how rhetorical ecologists might study colonial violence within the ecologies of or own discipline (138). As I have argued, placing the spatiotemporal problems that concern rhetorical ecologies within counter-histories suggests ways to become better ecologists. Just as the contemporary science of ecology has brought together ecosystems and evolutionary perspectives (to enhance a sense of time) as well as trans-scalar and community-centered approaches (to enrich a sense of place), so must rhetorical ecologies seek methods to address these methodological concerns within the context of its discipline. While rhetorical field histories suggest one way to study these disciplinary ecologies from within, this framework is by no means exhaustive, and I count myself lucky that I am far from alone in seeking new ways to engage with these complex issues.

To my mind, it is as unlikely that this work will lead us to escape the ecologies of our discipline as it will allow us to transcend time and space. However, developing a richer understanding of the histories which shape our disciplinary practices will allow us to apprehend, and hopefully, to work purposively towards building better worlds within those ecologies. By locating a counter history of ecology within places of “violent spectacle and mundane resistance,” we can renew the ways that rhetoric participates with/in those ecologies (Eatman 84). The next step for this project is to bring this work into conversation with the communities that endured and continue to live and survive this ecology of nuclear violence. What lies ahead of the work that field histories sets out here is to move from engaging with disciplinary counter-histories through theoretical, methodological, archival, and self-reflective approaches to bringing those findings into rich conversation with the lived experiences of communities in the present with the aims of building coalitions that will lead to a more equitable and just future.

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Endnotes

ⁱ As Ralph Jessop demonstrates, the coinage of the term environment occurs “within a broader narrative of the transmission of organicist, anti-mechanical, counter-Enlightenment discourses, bringing the notion of environment into relation with a much more extensive story of later attempts to undermine the authority or prevalence of mechanism by writers, thinkers, composers, artists, and campaigners throughout the 19th and 20th centuries” (710).

ⁱⁱ For more information on the complex historical relationship between environmental theory and fascism, see Greg Garrard’s “Heidegger Nazism Ecocriticism.”

ⁱⁱⁱ For more information on nuclear colonialism in the American West, specifically as it pertains to more-than-human rhetorics in the Anthropocene, see Danielle Endres’ “The Most Nuclear-Bombed Place: Ecological Implications of the US Nuclear Testing Program.”

^{iv} In demonstrating this spatiotemporal violence, I build from Anibal Quijano’s argument that “Europeans generated a new temporal perspective of history and relocated the colonized

population, along with their respective histories and cultures, in the past of a historical trajectory whose culmination was Europe” (Quijano 541, qtd. in Clary-Lemon 2019).

^v Recent studies suggest that colonial genocide “resulted in a human-driven global impact on the Earth System in the two centuries prior to the Industrial Revolution” (Koch et al, 13). The extreme regrowth of plants “that is thought to have occurred following the arrival of epidemics in the Americas” which resulted in “carbon uptake [...] may have reduced atmospheric CO₂ levels and led to a decline in radiative forcing that may then have contributed to the coldest part of the Little Ice Age” (14).

^{vi} Haraway argues that “our job is to make the Anthropocene as short/thin as possible and to cultivate with each other in every way imaginable epochs to come that can replenish refuge” (100).

^{vii} Following Jenny Edbauer’s essay on public rhetoric and ecology, featuring a study of the “Keep Austin Weird” slogan, rhetorical ecologies have led to many studies focusing on place-based methods for conducting place-based research (Edbauer). Numerous recent articles, special issues of journals, and edited collections have drawn from ecology to suggest the importance of field work in rhetorical criticism (Senda-Cook, et al, 2019; Middleton, et al, 2011; Middleton, et al, 2015) rhetorical ecologies (McGreavy, et al, 2018) and “Contextual Fields of Rhetoric” (Ono) for cultivating participatory rhetorical scholarship and pedagogy (Endres, et al, 2016), conducting ethnographic research (Rai and Druschke, 2018; McKinnon, et al, 2017), developing interdisciplinary research methods (Druschke, 2019), and responding to global environmental destruction (Pezzullo and de Onís, 2017). Taken together, these studies demonstrate the potential and the growing popularity of in situ (or place-based) work influenced by ecological science.

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