Journal *of the* American Association
for the Advancement of Curriculum Studies

Narratives and the Anthropocene: Reflections on Place and Sustainability Education

NATHAN HENSLEY
Bowling Green State University

I recently was reminded of my first time in an academic job hunt. I had just defended my dissertation and had interviewed for a position in higher education. Following my research presentations, a hiring committee member stated: "You are too young to do autobiographical research…you don't have enough life experience to draw from." Another committee member was concerned that my research in curriculum theory "did not involve statistics." A few days after the interview, I was asked to talk with one of the departmental statisticians to see if my research could gain quantitative validity. The hiring committee chair even called my dissertation advisor to inquire about applying statistics to curriculum theory. This was my first taste of how academics in the traditional social and natural sciences might respond to research grounded in a life-writing approach. Now, more than 12 years later, I am still surrounded by questions of positivist "validity" as a humanistically grounded curriculum theorist in a school dominated by natural scientists. At least now I have "more life experience" from which I can draw!

In this paper, I address the role of storytelling in the Anthropocene—a proposed geological epoch in which human activity has become a dominant influence on the environment—and highlight multiple perspectives on how to tell sustainability-oriented stories within the context of lived experience. I argue that storytelling is fundamental to communicating the impacts of the Anthropocene and that efforts to link the humanities and the sciences must be woven within a narrative framework that is able to transcend, transgress (Bengtsson, 2019), and transform deficit-driven conversations. The science is clear that human activity is making a significant impact on the Earth's ecosystems, especially in the form of climate change, biodiversity loss, and water quality degradation. It is crucial that we find ways to communicate the science and to tell the story in a way that can be comprehended by the general public.

Loving the Questions

Most of the questions that I explore in my scholarship do not have objectively verifiable or measurable answers as these questions are not aligned with the mechanistic worldview. Instead, a majority of what I do involves interpretive work—exploring theory, lived experience, values, beliefs, root metaphors, emotions, and subjectivity. Accordingly, in the realm of sustainability studies, the bulk of my research necessitates getting comfortable with the unknown and developing, as Rachel Botsman (2017, n.p.) writes, "a confident relationship with the unknown." I suspect that what Botsman meant by developing a confident relationship with the unknown involves recognizing our vulnerability, ephemerality, and the autopoietic potential embedded in unexpected interactions. A confident relationship with the unknown involves not avoiding it or trying to explain it away but experiencing it and learning to "love the questions themselves" (Rilke, 1993, p. 25). The questions embedded in advancing sustainability in education sit at the intersections of multiple epistemologies. Accordingly, sustainability studies continuously traverses epistemological intersections. Considering the multiple factors associated with sustainability studies, curriculum theory, and the Anthropocene, we need to look at how theorists and practitioners can negotiate the terrain of the unknown. How do we educate the next generation to tackle the seemingly intractable sustainability issues of our time?

Reverend Serene Jones (as cited in Tippett, 2019) states that "...something is coming that [will] completely [rewrite] the story of who we are." Completely rewriting who we are is one product of the recent COVID-19 pandemic and is emblazoned in the statement "a crisis is a terrible thing to waste" (Romer as cited in Kumar et al., 2020, n.p.). These last couple of years have prompted a great deal of reflection and rewriting for many of us. The pandemic, political turmoil, war, the increase of the unhoused, biodiversity loss, and climate change are just a snapshot of the Anthropocene's impact. However, even in the most perilous of times, we still have our stories— "it is well researched and argued [that] our brains are hardwired to relate to and be engaged by storytelling" says educational theorist Andrew Bernier (2020, p. 431). In fact, "regions of the brain that process the sights, sounds, tastes, and movement of real life are activated when we're engrossed in a compelling narrative" (Cron as cited in Bernier, 2020, p. 431). However, sifting through the mountains of information pertaining to sustainability and education can be arduous. As biologist Edward O. Wilson (1999) notes, today "we are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely" (p. 294). The work of synthesizing what Wilson highlights here is integral to our work as curriculum theorists in the Anthropocene.

Storytelling & Sustainability

During my doctoral studies, I worked as an environmental educator at the Georgia Southern University botanical garden. One part of the job was to lead field trips. I brought many groups to explore the longleaf pine stand—a species of tree that is endemic to the southeastern part of the United States. Longleaf pines once covered approximately 90 million acres but now cover less than a million acres (National Wildlife Federation, n.d.). They are a very common species of tree in and around Statesboro, Georgia. On one of the field trips, there was a group of fourth graders who were enthralled by the garden's longleaf pine stand. One student turned to me after first viewing the trees and enthused, "Wow! This is better than a video game!" This student was a local, but his lack of familiarity with one of the key ecosystems of the region crystalized my passion for outdoor and environmental education and inspired my goal to leverage the surrounding bioregion to cultivate student connectedness to their natural and cultural communities.

In terms of using the lens of storytelling and an autobiographical perspective in the Anthropocene, I am continually impressed with authors that merge scientific findings with their own lived experience. Scholarly work from thinkers such as Robin Wall Kimmerer, Gary Snyder, Terry Tempest Williams, and Wendell Berry are compelling, integrated, and timely. These authors bring inner and outer worlds of subjectivity and objectivity together. In my work, I seek to draw important connections between lived experience and tackling the perceived intractability of the sustainability challenges that "we" as the human species (and the more than human species) continue to face. I draw from the intersections of ecology, sustainability studies, place studies, and curriculum theory while also integrating the Environmental Humanities. My work involves the study of the multi-layered relationships tied to human-Earth interactions while looking at the impact of education upon these relationships. Additionally, in my work, I draw from narrative inquiry to explore the complexities of lived experience tied to wicked problems—problems that appear to be intractable and "by their nature defy complete and clear solutions" (Holm et al., 2015, p. 982) —associated with the Anthropocene. These complex socio-ecological issues range from biodiversity loss, climate change, water quality degradation and their human-driven antecedents such as placelessness, mechanistic thinking, loss of community, scientific-industrial decision making, Cartesian thinking, etcetera. It can be a struggle to effectively tell the story of the Anthropocene to my students in a way that is compelling and engaging without being overwhelming and provoking doom and gloom aversion.

In terms of attempting to communicate the urgency of the Anthropocene and the sustainability movement, I am sympathetic to Annie Dillard's story (1974) of when she was obsessed with various phenomena in nature. She recounts a time when she shared with a random stranger that the goat moth's head has 228 separate muscles

and "the poor wretch fle[d]" (p. 135). Dillard had intended to change the stranger's life, not to scare the person away. I am similarly fascinated with environmental trivia such as how quickly a sycamore tree can grow (~60 feet in 20 years) or how much a young longleaf pine tree can grow in one season (up to three feet) (The Longleaf Alliance, 2021). I share this information with strangers and students, and sometimes I receive blank stares (though thankfully the students don't usually flee). In sustainability education settings, students must be prepared for the transformations that take place when thinking transgressively and in transdisciplinary terms.

The Anthropocene and the Unknown

While exploring the narratives that chronicle the ongoing sustainability challenges, I continue to see the importance of sense of place, sense of self, and sense of community in building resilience, robustness, and credibility. Although the pathway to rekindling, re-story-ing, and regenerating these essential relationships may appear to be filled with complexities and contradictions, it is important to "stay with the trouble" (Haraway, 2016) embedded in these extremely tough times. Instead of emphasizing quick fixes, there is value in the unknown associated with sustainability discourse in the Anthropocene. Donna Haraway (2016) observes that a focus on 'solutions' can lead away from the trouble, while staying with the trouble allows scholars and practitioners to navigate cognitive dissonance instead of avoiding it, minimizing it, or trying to otherwise dismiss it. Ariel Berger (as cited in Tippett, 2021) insists that we must hold open the place and space for not knowing. The place and space of not knowing is simultaneously filled with opportunity, complexity, and—sometimes—fear. However, being able to navigate the landscape of uncertainty can enable us to find new place-specific pathways towards understanding. In a recent article (Hensley, 2020a), I note that mindfulness and creativity help build tolerance with the unknown and "promote clear-eyed-solution-thinking in the midst of chaos" (p. 3). In fact, mindfulness has transformative capacities that "can turn discomfort into inquiry" (Barbezat & Bush, 2014, p. 99). Sometimes being in the space and place of not knowing can feel like a major interruption. Though interruptions are often viewed as negative and inefficient, they may not always be. The poet Jane Hirshfield (2015) notes that the conversations she "remember[s] most are the ones that were interrupted" (n.p.).

What might it mean that interrupted conversations can be so memorable? Paul Gilding (n.d) describes our current situation in his book *The Great Disruption* as a once-in-an-epoch chance to build a better world. Attentive readers might now be thinking forward and be faced with questions like: How can we return to the power of story in the Anthropocene? How can stories provide the necessary wisdom to navigate interruptions and disintegrating environmental trends? What can the humanities contribute to the conversation associated with the great disruption? I will take a look at these questions in the next section.

The researchers affiliated with the Humanities for the Environment (HfE) Project, which was founded in 2013 to network universities and researchers through a system of "observatories" emphasizing environment and culture to illuminate how the humanities may contribute to pro-environmental behavior (HfE, 2022; Holm et al., 2015), further explicate the importance of the humanities in sustainability studies:

We recognize that science is able to monitor, measure and to some extent predict the biogeophysics of global change. However, its analytical power stops short of investigating the main driver of planetary change—the human factor. What humans believe and value, how we organize ourselves, and what we invest to achieve our goals are factors that lie largely outside scientific calculation. (Holm et al., 2015, p. 979)

The factors that lie outside of scientific calculation are the ones that remain undermentioned in the Intergovernmental Panel on Climate Change research and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services . In 2018, the American Association for the Advancement of Science (AAAS) emphasized the importance of "shifting from a 'deficit' approach to a 'dialogue' approach" noting that this will "help develop better ways to communicate about science as well as form common ground and trust" (as cited in Burke, 2019, n.p.). The "deficit approach" to science communication implies that the public lacks the necessary knowledge or understanding to appreciate scientific findings and therefore it is the responsibility of scientists to educate the public. In contrast, the approach recognizes that the public brings their own experiences, perspectives, and values to scientific discussions and seeks to engage in a mutual exchange of ideas to build understanding and trust. The AAAS emphasized the importance of shifting from a "deficit" to a "dialogue" approach to science communication to promote effective communication and build trust and common ground between scientists and the public. The effort to form common ground and trust between and across disciplines cannot be overlooked. As we face contemporary socio-environmental problems, it becomes more urgent to create transdisciplinary partnerships that transform outdated deficit approaches into dialogue-driven approaches. We need new stories to guide our sustainability-oriented work.

Crafting a New Story

The importance of crafting new stories is one thread that weaves much of the contemporary humanities-driven sustainability dialogue (Bernier, 2020; Hensley, 2020b). Trabian Shorters maintains that "if we're going to change our culture, we're going to have to change our narrative" (as cited in Tippett, 2022). Similarly, Matt Nisbet (as cited in Burke, 2019) insists that we "need new stories about the problem [of climate change] instead of decades-old narratives that have crippled action and polarized [citizens] as well as new voices and groups to tell those stories in credible ways that motivate action among elites for different reasons on behalf of the same goals" (n.p.). Identifying the new voices and new groups that need to tell these stories

involves drawing from marginalized groups and drawing from the *village council of all living beings* (Snyder, 1995). That is, we must draw from a diverse set of storytellers, especially the ones that historically have been silenced (such as the voices of marginalized populations). Hulme (2011) observes that the "importance of story-making and story-telling around climate change needs elevating alongside that of fact-finding. Stories are the way that humans make sense of change, and the humanities understand the practices of storytelling very well" (p. 178). Both fact-finding and storytelling have value in the time of the Anthropocene. Fact and evidence-based decision making are central to advancing sustainability knowledge as they combat climate change denial and mis/disinformation campaigns. However, Marshall and Richardson (2021) maintain that telling stories will be more effective than citing facts and figures alone to change people's minds. Engaging the imagination of our students and other scholars is one role of storytelling. Dickerson and O'Hara (2008) observe that "telling stories is sometimes more important than telling facts because of the way it provokes the imagination" (p. 4). Provoking the imagination is one outcome of storytelling and the humanities that has transformative capacity. One approach that promotes the telling of new stories is climate art.

To promote an optimal balance between fact and figure-based scientific communication, it is helpful to look at climate art. Climate art is a form of artistic expression that makes climate-related information visually engaging. It is "intended to overcome humans' hardwired tendency to value personal experience over data" by making the data "vivid and accessible" (The Economist, 2019, n.p.). The intention is to "make an emotional connection…through the power of art." Advocating for climate art, Hulme (2017) argues that: "Good climate art will engage human faculties to provoke reflection on the profound questions prompted by a change in climate" (n.p.). These reflections include thinking about "the good life to be admired, the future to be aspired to, and the responsibilities [people] have to others, both human and nonhuman." This is the dialogue that can advance the sustainability movement by embracing the data provided by climate science while simultaneously weaving in various layers of the environmental humanities. Hulme (2011) adds that stories function to "shed new light on the multiple meanings of climate change in diverse cultures, and to create new entry points for policy innovation, the interpretive social sciences, arts and humanities need new spaces for meeting as equals with the positivist sciences" (p. 179).

In sustainability studies, the humanities must not only be seen as an equally credible field of inquiry as the positivist sciences, but should be viewed as a lens that provides a whole different set of insights. Allison and Miller (2019) explain that "scholars in the humanities interpret human history, literature and imagery to figure out how people make sense of their world" and add that "scientists need to respect humanists as scholars in their own right, not just clever translators [and/or communicators] of hard science" (n.p.). The humanities offer forms of inquiry not accessible within the

sciences. These are the forms of inquiry that address the values, emotions, imaginations, and perceptions of an audience. It is important to transcend modes of inquiry that are overly specialized for transdisciplinary work. As Rose and Robin (2004) observe, the "ecological humanities work across the great binaries of western thought" and "engage with connectivity and commitment in a time of crisis and concern" (p. 31). Connectivity is essential at multiple levels in this time of ecological crisis. Connecting to one's unique story is part of this connectivity paradigm.

The humanities provide a framework to explore questions such as, "How shall I live this one wild and precious life?" (Oliver, 2016, n.p.). Existential questions are interpretive and go beyond the positivist questions addressed in science texts such as field guides. For example, when stargazing, the environmental humanities provide space to explore the "heart of a star" (or aesthetic dimensions) as opposed to the observable shape and size of a star. Going beyond what can be repeatedly observed, counted, and mapped, the environmental humanities create space for interpretive scholarship. Mary Oliver (as cited in Tippett, 2015) insists that we need disciplines that create space for "something quite mysterious to happen." The multiple forms of inquiry essential to sustainability research mandate epistemological flexibility.

Multiple Parts Comprise the Whole

When exploring sustainability issues, it is essential that practitioners and theorists understand the multiple parts that make up complex sustainability challenges, or wicked problems, such as climate change. Advancing the understanding of the multiple components in a system is an inherent aspect of systems thinking. Systems thinking is a holistic approach to analyzing the constituent parts of a system while studying how these systems work over time within the framework of larger and smaller nested systems (Senge, 2007). As communicated in an Arizona State University curriculum document, "Graduates, who are competent in systems thinking, are able to analyze sustainability problems cutting across different domains (or sectors) and scales (i.e., from local to global), thereby applying systems concepts including systems ontologies, cause-effect structures, cascading effects, inertia, feedback loops, structuration…" (ASU, 2018). By cutting across different domains, systems thinking allows students, theorists, and practitioners to reimagine sustainability. Peter Senge (2007) points out that "systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing 'patterns of change' rather than static 'snapshots'" (p. 68). Seeing holistically involves preserving each piece within a system and recognizing their inherent interconnectivity.

Aldo Leopold (as cited in Shelton, 1999) observes that "the first rule of intelligent tinkering is to keep all the parts" (p. 135). One way to "keep all of the parts" is to preserve the stories that emerge from the ecologies of cultures in place. In the realm of preserving stories, environmental historical accounts are integral. Also, it is

important to draw from our lived experiences in the natural world to understand how our unique perspectives have been shaped over time. In this sense it is valuable to recognize that, as David Orr (1992) states, "[l]andscape, in other words, shapes mindscape" (p. 130). We are better poised to protect our places when we learn the stories of the landscapes that we inhabit. Learning the stories of our place, including natural and cultural histories can guide the reinhabitory practices necessary to live well in our places. One way to do so is by learning from our ancestors in the form of acquiring traditional ecological knowledge, which has emerged from over hundreds or thousands of years of direct experience between indigenous peoples and the environment.

The stories acquired through traditional ecological knowledge illustrate the value of holistic points of view when addressing local environmental issues. Also, the centrality of place is woven through virtually all ecological experiences. Accordingly, we find that one common theme of good stories is the integration of people with the landscape. As Thomas Berry (Berry & Tucker, 2015) argues, we must view nature as "a community of subjects, not a collection of objects" (pp. 17-18).

The Anthropocene presents a great deal of complexity and T-learning is a response that provides a fresh perspective to address this complexity. T-learning refers to transformative, transgressive learning in times of climate change (T-Learning, 2022). According to Lotz-Sisitka, Wals, Kronlid, & McGarry (2015), the "dominant pedagogies and forms of learning that characterize higher education need to be reconsidered to enable students and staff to deal with accelerating change, increasing complexity, contested knowledge claims and inevitable uncertainty" (p. 73). Reconsidering the dominant pedagogies and forms of learning, in the context of sustainability, necessitates transdisciplinary thinking. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2016) defines transdisciplinary work as an approach which "dissolves the boundaries between the conventional disciplines and organizes teaching and learning around the construction of meaning in the context of real-world problems or themes" (n.p.). Importantly, we start to recognize that the "sustainability sciences are turning to transdisciplinarity as a means of transformatively engaging the world, involving co-engaged forms of knowledge production and pedagogy" (Lotz-Sisitka, Wals, Kronlid, & McGarry, 2015, p. 75).

Application to HESD

I recently co-taught a new interdisciplinary course called *Reimagining Sustainability*. The course explored ways to re-imagine sustainability through the interdisciplinary lenses of the Environmental Humanities and Environmental Sociology, co-engaged forms of knowledge production and pedagogy, and emphasized T-learning. Through multiple field trips, readings of environmental literature, and seminar-style discussions, the course centered on developing a sense of place and building

ecological literacy. Practical application of sustainability principles were emphasized through field experiences, learning exercises, and course projects. The students participated in twelve field trips throughout the semester that showcased the Western Lake Erie Basin (WLEB) and the Great Black Swamp region of northwestern Ohio. Students were encouraged to reimagine sustainability through multiple lenses and develop a holistic understanding of sustainability principles and practices to enable applied analyses of social and environmental issues.

Bowling Green State University and its campuses are situated in the Great Black Swamp and the Lower Great Lakes region. This landscape has been significantly altered over the last 150 years. Historically, the Great Black Swamp was about 25 miles wide and 100 miles long and covered an estimated 1,500 square miles of marshland and forested swamps (Mitsch & Gosselink, 2007, p. 65). Since the early 1900s, the Great Black Swamp has been drained and is now some of the most fertile farmland in the United States. With a focus on investigating the unique ecological and cultural features of the area and analyzing Northwest Ohio's environmental and ecological challenges, the *Reimagining Sustainability* course studied the socio-ecological impacts of altering this landscape. One example of the impact is the excessive nutrients flowing from agricultural fields into our local rivers and ultimately into western Lake Erie, which lead to algal blooms in the lake.

Through exploring issues such as water quality in the WLEB, students were able to develop a sense of place that is vital for understanding the unique features of the local ecosystem and for grounding the practical elements of sustainability education. For example, on one field trip, the students and professors trudged through a mile of a Great Black Swamp remnant where there was calf-deep mud and muck. Students experienced the sulfuric smell of the swamp water and engaged in the immersive challenge of traveling through it. During this field trip, we discussed the challenges that people experienced traveling through the swamp before it was drained (including malaria, impossible transport (wheeled or otherwise), getting lost, etc.). Rich discussion emerged from field experiences such as these.

Other parts of this course involved readings related to the Environmental Humanities and Environmental Sociology, discussion (online and in person), written reading reflections, and written field trip reflections. The culminating assignment was a digital storytelling project which involved using computer-based tools to tell a story. Students created a series of images accompanied with audio or a video that told a "story" relevant to the group's experience of the course and a particular site visited while tying it into the course themes. The goal of the project was to revisit course material and to reflect on key points of learning. Students learned to tell stories about the course, the readings, the discussions, and the field experiences through their unique lenses and perspectives.

Storytelling was central to the *Reimagining Sustainability* course and occurred at multiple levels in and beyond the storytelling project itself. Students learned to tell their reflective stories through the midterm reflection assignment, they told their analytical and evocative stories through the assigned reading reflections, and they conversed about various perspectives during in-class and online discussion. The importance of reflecting on field experiences through writing and through discussion was also emphasized in the course. For example, students submitted weekly field experience journals that tied the readings and the field experience together; drawing from specific parts of assigned texts, students integrated their understandings from the field and the reading. Additionally, students were required to take a photograph during each field experience and write a brief photo essay as a snapshot of their experience.

Courses like *Reimagining Sustainability* embody the principles of transdisciplinary thinking and transformative experiential learning while illustrating the pluralistic character of sustainability studies. By providing students with direct encounters with the environment and the built environment in which they inhabit, they can see sustainability in practice and directly participate in it. Perhaps even more importantly, the course helped students learn complexities associated with sustainability-related decision making and illustrated that there are not silver bullet answers to sustainability challenges because such problems have "multiple causes, no single answers, and no quick technological fixes, and they often result from the actions of those who must solve them" (HfE, 2022). Thus, students not only gain practical experience in sustainability but also develop a nuanced understanding of the multifaceted nature of environmental and social challenges by taking courses like *Reimagining Sustainability*, which embody transdisciplinary thinking and transformative experiential learning while demonstrating the pluralistic character of sustainability studies. This course exemplifies a way to incorporate place-based experiences while empowering students to approach seemingly intractable sustainability problems with pluralistic and pragmatic positionality. For me, this course operationalizes a great deal of theory by putting it into practice in (and beyond) a university classroom setting.

Conclusion

Storytelling that embraces and integrates the sciences, the arts, and the humanities is an approach to the Anthropocene that provides a framework for undertaking necessary transdisciplinary work. Through storytelling, we can develop a "confident relationship with the unknown" (Botsman, 2017, n.p.) and we can transcend the current disciplinary boundaries in ways that allow us to further mobilize the sustainability movement—especially in higher education—for sustainable development.

As practitioners and curriculum scholars, it is crucial to ask: How do we educate the next generation to tackle the seemingly intractable sustainability issues of our time? Part of this educational process involves helping our students become comfortable with navigating uncertainty and the unknown inherent to sustainability efforts. For example, we need to find ways to help equip our students with a capacity to think in systems and apply systems thinking to sustainability challenges. More particularly, it is key to draw from the bioregions in which we teach and learn to forge new place-specific pathways towards holistic educational experiences. These experiences emerge from a constellation of sustainability sensitivity, awareness, and knowledge inherent to sustainability studies in and beyond higher education.

When asking the question, "How might stories help navigate the complexities of the Anthropocene?" it behooves us to draw from existing courses that integrate storytelling within the context of sustainability. The course *Reimagining Sustainability* (described above) provides insight about approaches to weaving transformative experiences and transdisciplinary narratives into higher education. The course is an example of using story to teach about the unique place-specific ecological features of one's bioregion.

The humanities should not be seen solely as a means to convey scientific ideas. The emerging field of the environmental humanities is clarifying this position. As curriculum theorists, we must promote inclusive dialogues and break down disciplinary barriers to support the sustainability movement and democratize these conversations while transforming, transgressing, and transcending current disciplinary boundaries.

References

Allison, S. D., & Miller, T. (2019). Why science needs the humanities to solve climate change. *The Conversation*. Retrieved from http://theconversation.com/why-science-needs-the-humanities-to-solve-climate-change-113832

Arizona State University (ASU). (2018). Key competencies in sustainability. Retrieved from https://static.sustainability.asu.edu/schoolMS/sites/4/2018/04/Key_Competencies_Overview_Final.pdf

Barbezat, D.P., Bush, M. (2014). *Contemplative practices in Higher Education: Powerful methods to transform teaching and learning*. Jossey-Bass: San Francisco, CA. Retrieved from http://site.ebrary.com/id/10799633

Bengtsson, S. (2019). Engaging with the beyond—Diffracting conceptions of T-Learning. *Sustainability*, *11*(12), 3430. https://doi.org/10.3390/su11123430

Bernier, A. (2020). Sustainability storytelling is not just telling stories about sustainability. In M. I. Goldstein & D. A. DellaSala (Eds.), Encyclopedia of the World's Biomes (pp. 430–437). Elsevier. https://doi.org/10.1016/B978-0-12-409548-9.12133-5

Berry T. & Tucker M. E. (2015). *Evening thoughts: Reflecting on earth as sacred community*. Oakland, CA: Sierra Club Books.

Botsman, R. (2017). *Who can you trust?: How technology brought us together and why it might drive us apart*. New York: Public Affairs.

Burke, K. (2019). *Here be dragons: Narratives, metaphors, & climate change communication*. The Understory: The Life and Times of Ecology and Ecologists. https://ecologists75.rssing.com/chan-30241428/article7.html

Dickerson M. T. & O'Hara D. (2009). *Narnia and the fields of arbol: The environmental vision of C.S. Lewis*. Lexington, KY: University Press of Kentucky.

Dillard, A. (1974). *Pilgrim at Tinker Creek*. New York: Harper Collins.

The Economist. (2019). Climate change is a challenge for artists. *The Economist*. https://www.economist.com/books-and-arts/2019/09/21/climate-change-is-a-challenge-for-artists

Gilding, P. (n.d.). *The great disruption*. Paul Gilding. Retrieved from https://www.paulgilding.com/the-great-disruption

Haraway, D. J. (2016). *Staying with the trouble*. Durham, NC: Duke University Press.

Hensley, N. (2020a). Educating for sustainable development: Cultivating creativity through mindfulness. *Journal of Cleaner Production, 243*, 1–7.

Hensley, N. (2020b). Re-storying the landscape: The humanities and higher education for sustainable development. *Högre Utbildning, 10*(1), 25–42. https://doi.org/10.23865/hu.v10.1946

Hirshfield, J. (2015). *The beauty*. New York: Knopf.

Holm, P. et al. (2015). Humanities for the environment—A manifesto for research and action. *Humanities 4*(4), 977–992. https://doi.org/10.3390/h4040977

Hulme, M. (2011). Meet the humanities. *Nature Climate Change, 1*(4), 177–179. https://doi.org/10.1038/nclimate1150

Hulme, M. (2017). *Weathered: Cultures of climate*. New York: SAGE.

Humanities for the Environment (HfE). (2022). *Common threads – About humanities for the environment*. Humanities for the Environment. https://hfe-observatories.org/about/common-threads/

Kumar, A., Patel, D. R., Nissen, S. E., & Desai, M. Y. (2020). Never let a crisis go to waste. *JACC Case Reports, 2*(9), 1376–1378. https://doi.org/10.1016/j.jaccas.2020.05.014

The Longleaf Alliance. (2021). Life stages of the tree. *The Longleaf Alliance*. https://longleafalliance.org/what-is-longleaf/the-tree/life-stages/

Lotz-Sisitka, H., Wals, A. E., Kronlid, D., & McGarry, D. (2015). Transformative, transgressive social learning: Rethinking higher education pedagogy in times of systemic global dysfunction. *Current Opinion in Environmental Sustainability, 16*, 73–80. https://doi.org/10.1016/j.cosust.2015.07.018

Marshall, G. & Richardson, L. (2021, April 11). *Using storytelling and narratives to communicate about climate change*. The Sustainability and Education Policy Network (SEPN). Retrieved from https://mecce.ca/library_videos/webinar-using-storytelling-and-narratives-to-communicate-about-climate-change/

Mitsch, W. J., & Gosselink, J. G. (2007). *Wetlands*. New York: John Wiley & Sons.

National Wildlife Federation (NWF). (n.d.). *Longleaf Pine*. National Wildlife Federation. Retrieved from https://www.nwf.org/Home/Educational-Resources/Wildlife-Guide/Plants-and-Fungi/Longleaf-Pine

Oliver, M. (2016). *House of light*. Boston: Beacon Press.

Orr, D. W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany, NY: State University of New York Press.

Rilke, R. (1993). *Rilke on love and other difficulties: Translations and considerations of Rainer Maria Rilke* (J. Mood, Trans.). New York: Norton.

Rose, D. B., & Robin, L. (2004). The Ecological Humanities in action: An invitation. *Australian Humanities Review*, 31–32.

http://australianhumanitiesreview.org/2004/04/01/the-ecological-humanities-in-action-an-invitation/

Senge P. M. (2007). *The fifth discipline: The art and practice of the learning organization* (Rev and updated). New York: Random House Business.

Shelton, N. (1999). Huron: *The seasons of a great lake*. Wayne State University Press.

Snyder, G. (1995). *A place in space: Ethics, aesthetics, and watersheds new and selected prose*. Counterpoint.

T-Learning. (n.d.). *Home*. Transgressive Learning. Retrieved from https://transgressivelearning.org/

Tippett, K. (2015). *Mary Oliver: "I got saved by the beauty of the world."* Retrieved April 25, 2022, from https://onbeing.org/programs/mary-oliver-i-got-saved-by-the-beauty-of-the-world/

Tippett, K. (2019). *Serene Jones: Grace in a fractured world*. Retrieved from https://onbeing.org/programs/serene-jones-grace-in-a-fractured-world/

Tippett, K. (2021). *Ariel Burger: Be a blessing*. Retrieved from https://onbeing.org/programs/ariel-burger-be-a-blessing/

Tippett, K. (2022). *Trabian Shorters: A cognitive skill to magnify humanity*. Retrieved https://onbeing.org/programs/trabian-shorters-a-cognitive-skill-to-magnify-humanity/

UNESCO. (2016). *Transdisciplinary approach* [Text]. International Bureau of Education. http://www.ibe.unesco.org/en/glossary-curriculum-terminology/t/transdisciplinary-approach

Wilson E. O. (1999). *Consilience: The unity of knowledge*. New York: Vintage Books/Random House.