



# Communication Design Quarterly

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Communication Design Quarterly  
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# Communication Design Quarterly

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# Deep Mapping for Environmental Communication Design

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## ABSTRACT

This article shares lessons from designing [EcoTour](#), a multimedia environmental advocacy project in a state park, and it describes theoretical, practical, and pedagogical connections between locative media and community-engaged design. While maps can help share information about places, people, and change, they also limit how we visualize complex stories. Using deep mapping, and blending augmented reality with digital maps, EcoTour helps people understand big problems like climate change within the context of their local community. This article demonstrates the rhetorical potential of community-engaged design strategies to affect users, prompt action, and create more democratic discourse in environmental communication.

## CCS Concepts

Human-centered computing → Collaborative and social computing

## Keywords

Deep mapping, Geo-visualization, Locative media, Mobile app, Localization, Place-based pedagogy

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“If we think of the Deep Map as an incipient genre of environmental writing, that genre is marked by attention to the ways in which the smallest, most closely circumscribed locale eventuates from the deepest recesses of time and is subject to attention in the most diverse, disparate terms from the widest array of perspectives.”

—Randall Roorda (2001, para. 5)

## INTRODUCTION

On September 11, 2017, Hurricane Irma reached Gainesville, Florida—dumping over 2.5 million gallons of water onto the Alachua wetland area. Although weather radar and storm centers tracked the hurricane’s progress, the digital maps and swirling visualizations could not fully depict the impact of the storm on local Florida communities. Overnight, highways flooded, rivers overflowed, and prairie land transformed from a droughted savannah to a massive lake. Visitors to Paynes Prairie State Park could see fish and alligators swimming along hiking paths while many natural areas closed down as levels rose and excess water seeped out of the karst topography and rewrote the local geography.

For many coastal regions, this is a familiar scene, one that recurs almost every year during storm seasons. With so-called 100-year hurricanes and floods predicted to rise as a result of climate change, the relationships between place-based histories and local communities are changing. In Gainesville, local residents tell stories of “the big one” while meteorologists interpret complex data readings and map projections. In both cases, communication designers attempt to move listeners to action, both physically and rhetorically, by communicating different attitudes toward the risks associated with inclement weather. Recommendations from meteorologists to evacuate the area meet with the lore of locals whose stories of resilience help them to negotiate the relationship between their place-based identities and these data-driven predictions. Yet, for all the tall tales and technologies, few communication tools connect the impact of climate change to the ways that global issues affect local residents.

Climate change is a big idea. Despite all the maps, data visualizations, and scientific studies, people have a hard time understanding what they can do at a local level to make an impact on their community.<sup>[1]</sup> Even with smartphone apps and other advances in digital technologies, scholars across disciplines have critiqued environmental communication designs for failing to rhetorically engage public audiences and ultimately affect change. As Sonia Stephens and Daniel Richards (2020) note, users can “*geolocate* their picture of a flooded neighborhood, *experience* a dramatic projected visualization, or *explore* open data sets, but the main if not sole rhetorical interaction—facilitated as it is through impressive technology—is still with data. The rhetorical encounter with the technology might still be siloed from the greater social situation of the risk at hand...the communities most affected and what might be done about it” (p. 6). Digital mapping technologies are important tools in environmental communication, facilitating early warning systems and “up to the minute” alert notifications. Yet, most digital maps limit how communicators can convey a location’s topography, history, and local action. The emphasis remains on “siloed” data delivered in “technocratic design structures reminiscent of information deficit models of old” (Stephens & Richards, 2020). Digital mapping methodologies need new, location-based design approaches that can better account for the many layers of meaning at work within any place.

As maps limit the scope of information, designs can also perpetuate long standing systems of violence and erasure. In his work on mapping environmental crisis and the Standing Rock Sioux Nation (2019), Ryan Eichberger discusses how maps strategically include or exclude information and often mimic colonial practices that erase Indigenous sovereignty and obscure social and environmental issues. Eichberger calls for new communication practices that visualize large-scale issues through ethical strategies, which engage both humans and nonhumans in design. The environmental crisis we face is so massively “dispersed across time and space” (Nixon, 2011) that we need more inclusive design approaches to address the complexity of environmental justice (Stephens & Richards, 2020). The climate crisis needs to be understood not only through data analysis but also through on-the-ground, experiential, embodied, and local action.

Drawing from a case study of a locative media app we designed for a state park in Alachua, Florida, this article presents deep mapping as a more inclusive design strategy, connecting place-based pedagogy, Indigenous knowledge, and digital technologies to engage local communities in the work of environmental communication. More than a topographical survey, deep maps describe the complex layers that convey a sense of place, drawing together science, folklore, census data, weather, history, stories, memories, archeology, interviews, images, and much more. There is no one way to create a deep map—the process (and resulting product) differs depending on the specific area and approach. In general, deep mapping combines geospatial data, qualitative research, and cultural information to communicate the many layers of meaning that form a sense of place. At the advent of the spatial turn, the concept of deep mapping helped writing studies scholars cultivate a place-conscious writing classroom (Brooke & McIntosh, 2007). However, the growing popularity of digital mapping requires new approaches to communication, which combine emerging technologies and place-based practices to address issues of environmental justice. Building from scholars connecting Indigenous knowledge and spatial theories (Larsen &

Johnson, 2017), as well as decolonial and Indigenous approaches to both science studies (Geniusz, 2009; Kimmerer, 2013; Ceccarelli, 2013) and posthumanism (Bignall & Rigney, 2018), this article deploys deep mapping as a place-based approach for designing digital projects.

Our case study presents [EcoTour](#), a mobile augmented reality (AR) walking tour we developed with students at the University of Florida as part of a grant-funded, public education initiative. Partnering with a local state park and nonprofit conservation organizations, this experiential learning project challenged undergraduate students across three digital writing and multimodal design courses to ‘deep map’ a location. Participants collaborated with local stakeholders to research a place, design and test digital tools, communicate environmental change, and act on issues of environmental justice. Using smartphones, an interactive map, and AR technology, visitors can scan signs within the park to access multimedia content, including archived audio-visual media related to specific physical locations. EcoTour creates a platform for ecological awareness that visitors can use while in the park space and reveals histories not documented by the official signage, such as Native American removal, slavery in the park, as well as contemporary environmental threats facing the preserve. The design approach and resulting visualizations acknowledge multiple, local perspectives in ways that weave together storytelling and science. Using EcoTour as a model, we show how decolonial design approaches can highlight the relationship between colonial histories and our climate crisis and map how slow violence emerges. Overall, this article describes how deep mapping can engage students in experiential communication practices and demonstrates the need for environmental advocates to design public projects that illustrate the complexity of place.

## VISUALIZING COMPLEXITY WITH STORY MAPPING

Increasingly, technical communication scholars interested in the intersections of digital technologies and social justice are seeking out place-based storytelling techniques to reframe the practice of communication design. For instance, Sonia Stephens and Daniel Richards (2020) describe the use of story maps to achieve better community engagement with interactive risk maps. Risk maps visualize potential large-scale environmental problems (like wildfires, flood-zones, the spread of disease, and sea-rise). A recent example of a risk map is the New York Times’s “Coronavirus in the U.S.: Latest Map and Case Count” web visualization (Figure 1).

However, Stephens and Richards identify a major problem with interactive risk maps: these visualizations often fail to engage local residents with the abstract information they convey. Likewise, attitudes towards visualizations differ across local, regional, and national scales. As public response to the global COVID-19 pandemic has shown, this is an urgent and pressing problem. In the United States, risk maps often present local and individual scales of viral spread, whereas in countries like China, the government used large-scale data collection to help identify and contain viral spread. These differences suggest the wide array of attitudes regarding visualizations, especially affecting their use in crisis communication. However, in both examples, these maps represent a top-down, deficit model for science communication. As Lynda Olman and Danielle DeVasto (2020) argue, these risk communication methods support “the old Modern barricades between technical and public ‘spheres’ of argumentation” (p. 15).

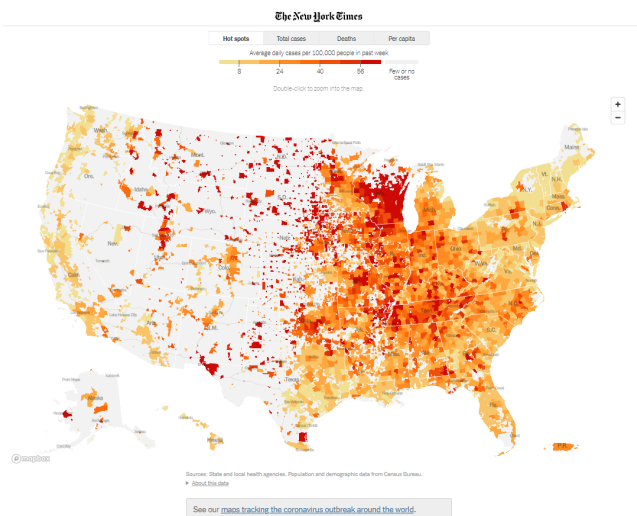


**Figure 1. Example of an interactive risk map. Screenshot taken October 27, 2020 from the New York Times's "Coronavirus in the U.S.: Latest Map and Case Count," showing the number of cases of COVID-19 reported per day by county in the U.S.A. Retrieved October 27, 2020.**

So, how can we communicate risk to local communities in a rhetorically effective way? Stephens and Richards's solution to the problem is "story mapping," which "combines the data exploration capabilities of an interactive risk map with visual stories of residents located on the map" (p. 6). For example, their story map of Hampton Roads, Virginia features video interviews of coastal residents alongside NOAA's Sea Level Rise Viewer to emphasize how changes to coastal waters are directly affecting locals. Similarly, digital rhetoricians have been using interactive maps, locative media, and AR to design environmental advocacy projects (Morey, 2017; Jones & Greene, 2017). These studies suggest both the importance of, and the massive potential for, using maps to localize complex information in geo-visualizations. Drawing from critical geography, Stephens and Richards propose the use of story mapping as a way for technical communicators to "capture complexity in ways that linear narratives cannot" (p. 8). In other words, story maps allow local users to meaningfully interface with the large-scale, abstract information presented by geo-visualizations.

Yet, mapping and the ways that we communicate our histories are already inherently colonial. Storytelling is a knowledge-making practice, but whose stories get told? How can we create maps that highlight historical inequities and amplify the voices of marginalized communities? Following Stephens and Richards, this project extends the work of story maps through mobile technologies and deep mapping approaches to communication design. Story maps incorporate firsthand accounts of locals, and often focus on current situations and contemporary issues. Deep mapping offers one way to counter institutionalized approaches and instead experiment with how we can articulate the complexity of places through a sense of deep time.

We know that most issues arise from a confluence of events that aggregate over time, such as the structures and social forces that create poverty, pandemics, or environmental crises. These forces are usually invisible—part of what Rob Nixon (2011) calls "slow violence" that "occurs gradually and out of sight, a violence of

delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all" (p. 2) but that nonetheless contributes to the shifting baselines from which new generations imagine environmental degradation and cultural norms. As such, EcoTour draws attention to slow violence in order to promote environmental justice, a movement that is working holistically to broaden the aims of environmentalism beyond traditional approaches to natural resource management, specifically to include the need for equitable solutions that address issues of race, gender, sexual orientation, national origin, disability, and income level. Environmental justice suggests that people are an integral part of the environment and that to address environmental injustice requires that we also address its intersections with other forms of social inequity.

In this project, we produced a platform which visualized the ecology and amplified the history of Paynes Prairie to promote environmental justice through a decolonial design ethic. Decolonial efforts like the Landback movement are promoting Indigenous sovereignty through coalitional work that seeks to restore Indigenous lands. As part of our aims to promote environmental justice, our project attempts to amplify decolonial perspectives and extend them into augmented space. While park signage obscures the histories of colonial violence at Paynes Prairie, EcoTour sought to place this history back in the park. In doing so, our design methods directly engage what Kristin Arola (2018) terms a "land-based digital design rhetoric" (p. 201), which offers "a way of understanding how our experiences in digital spaces are shaped by our embodied interactions in the biosphere itself" (p. 204). In engaging with counter-narratives of the park, EcoTour challenges visitors to reckon with the slow violence of colonialism as it persists in shaping Paynes Prairie State Park.

Deep mapping is one method that can help communicators address issues of environmental justice, making visible the long-term change that alters environments by weaving together science and story in ways that counter the violence of erasure and express the multiplicity of places. As the Polis Center at Indiana University describes, "where traditional maps serve as statements, deep maps serve as conversations" ("Deep maps," 2020). To fully understand how to create change, we need to create deep maps that consider the larger history of slow violence alongside the local stories of those most affected. We need to develop conversations that engage multiple perspectives and move people to action. Deep maps acknowledge the local and also the historical—seeking out voices that have been obscured or silenced.

## DEEP MAPPING AND PLACE-BASED DESIGN

At the risk of being over-simplistic, deep mapping can be defined as a storytelling practice that combines geospatial data with cultural and historical data to produce 'maps' which resist the totalizing and homogenizing spatial effects of traditional cartography. In his introduction to the *Humanities* special issue on "Deep Mapping," Les Roberts (2016) discusses the complex and convoluted conceptual history of the term and outlines various practices which have coalesced in recent years around deep mapping. He traces the connections between deep mapping and psychogeography as part of the Situationist International, an international organization of artists, writers, and critics formed in 1957 and dissolved in 1972. In their manifesto, they describe the liberatory potential that situations hold for escaping capitalist alienation (Debord).

Roberts carefully articulates reasons why these traditions lead contemporary scholars toward “questioning the coherence and validity of deep mapping on the one hand and maintaining a loose, plural and open application of the term on the other” (2016). However, he does offer a broad definition of deep mapping as “an embodied and reflexive immersion in a life that is lived and performed spatially. A cartography of depth. A *diving within*” (2016, emphasis original). Some early examples explicitly referred to as deep maps include Wallace Stegner’s *Wolf Willow* (1962) and William Least Heat-Moon’s *PrairieErth* (1991). However, scholars like Ian Marshall (1998) and Randall Roorda (2001) have persuasively argued that the term be extended to much earlier works in the American nature and travel writing traditions.

In conjunction, diverse cultures and people groups across the globe have long practiced place-based storytelling as a method for making and communicating knowledge (Basso, 1996; Goeman, 2008). In particular, Mishuana Goeman highlights methods of Indigenous mapping that resist colonial geographies by focusing on “storied land” as “living and layered memory” that connects people across space and time (pp. 24–25). Based on this large and diverse body of scholarship, we employ deep mapping as a practice that layers stories within places to create complex and embodied spatial and textual experiences.

Over the past few decades, scholars working from the traditions of critical geographic information system (GIS) and human/cultural geography have laid the groundwork for using deep mapping as a spatial method for environmental communication design. As geographer David Harvey (1996) argues, “maps are typically totalizing, usually two-dimensional, Cartesian, and very undialectical devices” (p. 18). In contrast, artist-scholars like Ian Biggs (2011) are using deep mapping to engage “a multidimensional understanding of place” that challenges traditional approaches “through our engagement with a second, specifically cultural, space-between” (p. 5). At the same time, critical geographers like Juliana Maantay (2002) have discussed the use of GIS to trace environmental health and equity. Others have used mapping to redefine networks of spatial socio-geography, such as Frampton et al.’s work with Hong Kong as “a city without ground” (2012). The work of geographic psychogeography (Wood, 2020) has also played a role in the work of digital rhetoric scholar Gregory Ulmer, who has been influential for scholars interested in the spatial rhetorics of augmented reality (such as Greene, 2017 and Tinnell, 2017). Furthermore, as we describe below, this project also directly drew methods from the rich historical and emplaced relationship formed between the traditions of deep mapping, place-based storytelling, psychogeography, and digital rhetoric as they take place at Paynes Prairie.

## Deep Mapping Paynes Prairie

In our approach to place-based design, we sought to engage with the ways that contemporary deep-mapping approaches are directly built on experiences between settlers and Indigenous peoples at Paynes Prairie. The American naturalist William Bartram visited Paynes Prairie in spring of 1774 as part of an expedition he would later describe in his most famous work, referred to in shorthand as *Travels*.<sup>[2]</sup> There, Bartram met with Creek mico (or chief) Ahaya, who Bartram refers to by the name Cowkeeper, and who bestowed on him the guest name Puc Puggy, or “the flower hunter.” According to Bartram’s account, this nickname also gave him permission to conduct fieldwork throughout the Creek territories in north-central Florida. *Travels* presents a recounting of Bartram’s experiences

throughout the American southeast, arguably producing one of the earliest American examples of what we now refer to as deep mapping (according to scholars like Marshall and Roorda). The text layers meaning and place together to create a rich narrative tapestry that powerfully depicts the natural and cultural history of the region at a time of violent colonial change. Bartram’s deep map captivated a wide range of audiences in America and Great Britain and profoundly influenced both the British Romantic and American nature writing traditions.<sup>[3]</sup>

Such a literary inheritance leaves deep mapping on shaky ethical ground. Put reductively, which is all that the scope of this section permits, the attitude of contemporary ecocritics and environmental communication scholars toward *Travels* falls into two basic camps: those who interpret the book as having sown the seeds of an American environmental consciousness (such as Branch, 1996; Sivils, 2004; Porter, 2010) and those who argue the work perpetuated violence toward Indigenous peoples through a narrative of colonial scientific exploitation (such as Looby, 1987; Regis, 1999; Pratt, 1992). Between these basic viewpoints, other scholars have taken a more nuanced, if not ambivalent, position between standard readings of Bartram as either colonist or proto-ecologist (Bellin, 1995; Hallock, 2001; Sturges, 2014). As these scholars demonstrate, deep mapping is a practice which is imbricated within both the colonial traditions of travel writing and the ecological traditions of American environmental writing. Yet, more recently, Mark Sturges persuasively argues that Bartram’s narrative engages with deep time in *Travels* precisely to avoid removing “the Indians from time [or] from the land, as U.S. policy would later do,” and instead “saw them as agents in a natural-cultural history of colonial contact” and through his deep map “envisioned a political geography of pluralism, a kind of multicultural federalism and accommodation” (p. 59). In this way, Bartram worked to amplify Indigenous knowledge in *Travels* and models a more collaborative approach to mapping design. Bartram’s influence on the deep mapping tradition might likewise offer a methodology for environmental communication design, which directly confronts and engages with the colonial histories of place.

However, mapping history by itself is not enough. While Bartram’s writings document the fight for Indigenous sovereignty, he often played the role of observer rather than activist. To activate the rhetorical potential of deep mapping, we need to combine digital communication technologies with decolonial methodologies to produce more collaborative, democratic design approaches. Decolonial methods analyze the violence and erasure of settler-colonialism and work to make visible knowledge that has been pushed aside, forgotten, buried, or discredited. Such knowledge is not merely historical, but also a living, contemporary network of relationships that continues to inform how we engage with place (Haas, 2012; Legg, 2014).

As white, cis-gendered scholars working with a land-grant university, we came to the complexity of fieldwork at Paynes Prairie with ethical concerns. In the years following the publication of *Travels*, the colonial violence towards Creeks and other Indigenous peoples erased much of their presence in the North Florida landscape. Today, this erasure is evident in places like Paynes Prairie, where park signage tends to focus on the area’s contemporary ecology, with the complex history of peoples, cultures, and conflict relegated to anecdotes and the dusty pages of archives. As outsiders to the place, we wanted to develop strategies for place-based research and pedagogy that highlight historic erasure and prioritize collaboration

and respect. To be clear, no design or communication strategy can undo the damage done to the people or ecology of Paynes Prairie. However, it is our hope that deep mapping approaches can draw attention to the ways that communication designs and mapping technologies have a rhetorical effect—shaping how people interact and understand land, people, and power structures. EcoTour works to educate users while also connecting them to action groups that can author sustainable change, thus demonstrating how more inclusive, evolving designs can work to counter colonial practices and have a material impact on structures of power.

Like Bartram's *Travels*, we drew upon deep time as a strategy to tell the story of place through both natural and cultural history. In doing so, we followed Nedra Reynolds (2004) who argues that we must develop new maps of writing and uncover new ways to articulate “the sense of place and space that readers and writers bring with them to the intellectual work of writing, navigating, remembering, and composing” (p. 176). “New maps of writing,” according to Reynolds, “will devote a layer to the where of writing” because “writing can be studied or understood only in a cultural context—and only through the thin, smudged layer of a palimpsest” (p. 176). Deep mapping approaches dig deeper into the complexity of places and use the map as a communication tool to explore cultural issues that shaped an area, changes to the ecology over time, geographic data, political associations, and the many narratives that develop a sense of place. Developing new maps of writing means working on the ground and focusing on locative storytelling experiences that help users connect to environmental justice issues on site. EcoTour explores the “where” of writing by positioning users on location, mapping the effects of climate change, and making visible the historic violence done to people and places to create communication designs that users can connect to *in situ*.

While a “spatial turn” has been taking place across the humanities over the past few decades, place-based storytelling is far older than Google Maps and is deeply rooted in questions of social justice. With this in mind, our project builds on the work established by scholars exploring on-the-ground, participatory design approaches that engage local communities (Grabill & Simmons, 1998; Covi & Kain, 2016; Stephens & Richards, 2020). In undertaking this project, we sought to design and enact what John Tinnell (2017) theorizes as an “actionable archive” (p. 108). Tinnell argues that ubiquitous technologies like mobile smartphone apps are capable of disrupting the “differed time” that characterize most traditional archives or museums, what he refers to as the “deferred archive.” Deferred archives collect and house materials *ex situ*, outside of their place of origin, siloed in repositories, and often using a standardized system for cataloging. In contrast, actionable archives present “texts and audiovisuals [that] are encountered amid the proximate present, often while we are doing something else” (p. 82).

Actionable archives organize information already present on site, engaging users by contextualizing media or detailing points of interest. The disruptive elements of ubiquitous media like augmented reality, Tinnell believes, offer a means to change the ways that we encounter, and act on, media. Through EcoTour, we sought to put Tinnell's theory into practice, effectively bringing together conversations in cultural and multimodal rhetoric (Haas, 2007; Riley-Mukavetz & Powell, 2015; Rios, 2015; Arola, 2018;), cultural and material approaches to technical communication (Slotkin, 2020), place-based ethnography (Rai & Druschke, 2018; McKinnon et al., 2016), rhetorical fieldwork (Senda-Cook et al.,

2019; Middleton et al., 2015), participatory design (Endres et al., 2016), and localization (Gonzales & Zantger, 2015; Shivers-McNair & San Diego, 2017) into a community-engaged digital project. Deep mapping as a methodology allowed us to amplify the complexities, layers, and constellations of stories that shape place and to disrupt dominant and fixed narratives of place, which focus strictly on the present and threaten to elide the history of place as sites of erasure, violence, and change.

## Augmented Experiences

In recent years, writing studies scholars have turned to emerging technologies to address issues of environmental justice. By visualizing connections between sites of local change and global environmental crises, digital maps help make large-scale environmental problems meaningful on human scales. However, while interactive maps help users visualize change, few designs work with/in an environment to directly engage the user with the specific location. People often learn about environmental issues out of context, or at least off site. Pollution, flooding, and a host of other environmental issues become a set of communicated facts rather than relatable actions. The emergence of locative media such as GIS-mapping and augmented reality have helped scholars build location-based projects that move beyond the traditional boundaries of the classroom and prompt public engagement (Morey & Tinnell, 2017; Greene, 2017; Boyle & Rivers, 2018; Blevins, 2018). Building from this body of research, EcoTour uses an interactive augmented reality platform to engage users directly with their environment (Figure 2).

Augmented reality (AR) technologies overlay digital content in a physical environment. Through AR apps, users can position a mobile device in a physical location to trigger a digital ‘pop-up’



**Figure 2: Designer tests how augmented reality overlays will work with the Paynes Prairie map at the beginning of the EcoTour Trail.**

of information on a screen— similar to an audio tour or GPS that guides users through a place. Designing with augmented reality apps layers information on site so users can interact with environments and experience the multiplicity of place. AR enables communicators to build location-based projects that connect users to local action, creating opportunities for more emplaced, democratic writing practices attuned to the ways in which the relationships between a text and the material environment co-construct meaning. Walking through the state park, participants can scan a sign, hear

about invasive algae growth and see the algae growing directly in front of them. More than merely interacting with a screen, users get to interact with their environment. Instead of merely incorporating lived experiences, EcoTour prompts one.

By (re)connecting to specific locations and real-time information, we can design new media for environmental communication, media that prompts civic action and local engagement. AR technologies offer mobile platforms for education, art, and activism that invite users to *be active*, to participate in a media ecology that teaches “us about the way things move, transform, effect change, and become rhetorical” (Gries, 2015, p. xvii ). For example, through AR overlays, EcoTour traces the historical movements of people, and changes to the composition of flora and fauna, showing how these shifts transformed the ecology of the area. Users can see how historical forces shaped the physical space and conditioned how people talk about the Prairie, how the space evolved rhetorically. In addition, the AR prompts link visitors to additional resources, funding sites, community action groups, and nonprofits working on social and ecological justice issues related to climate change, #landback initiatives, and human development on the Prairie. The EcoTour app not only drove traffic to these sites, but also authored new partnerships in the community: numerous students joined local action groups and are now working to teach others about Paynes Prairie’s history and ecology. In addition, the EcoTour website invites community members to propose new AR points of interest and continue telling the stories of Paynes Prairie. In creating and following AR prompts, users not only move through a site, but also participate in a “writing in situ” that revises public spaces and creates new opportunities for participatory media. As a hybrid practice that writes “through, with, and alongside” (Hayles, 2012) technology and materiality, augmented reality offers a framework for understanding the complexity of composing across diverse networks and environments—both as a design approach and a communication practice.

As Morey and Tinnell (2017) point out, mobile AR technologies “support new writing and design spaces, which, in turn, *demand new aesthetic and rhetorical principles* to help orient acts of production and interpretation amid this emerging dimension of digital culture” (p. 9, emphasis added). Deep mapping approaches help communicators develop new aesthetic and rhetorical principles in ways that prioritize intersectional, decolonial approaches to communication design. Combining augmented reality tools with deep mapping creates opportunities to collaborate with local stakeholders and design location-based projects that more ethically engage communicators in the work of environmental action. Through a deep mapping approach, environmental communicators can combine mapping technologies with place-based storytelling approaches to illuminate hidden histories, amplify marginalized voices, and connect geographical and cultural information. Thus, communicators can develop not only for diverse users but also blend scientific information with storytelling to build a rhetorically persuasive platform that has the potential to be more accessible and more “affective.” EcoTour uses a deep mapping methodology for designing augmented reality experiences in order to foster more equitable approaches to environmental communication by acknowledging a greater range of voices and affective histories in engaging with place (Figure 3).

## PEDAGOGY IN PLACE (METHODOLOGY)

The EcoTour project began as a grant-funded education initiative



**Figure 3: Ecotour, Visualizing the Environment of Paynes Prairie, an introductory image in the EcoTour app**

that was both pedagogical and public-facing: a mobile app, designed and built by students at the University of Florida, that would educate users about their surrounding environment as they walked along the LaChua Trail in Paynes Prairie State Park. Working with colleagues at the University of Florida (Jason Crider and Jacob Greene), we designed EcoTour as a communication project that would unite story and science to engage the rhetorical potential of digital mapping technologies and deep mapping methods. To explore the pedagogical opportunities of deep mapping approaches, we decided to build the app with students in our digital rhetoric, technical writing, and environmental communication courses. Since the project involved making a mobile app while teaching others how to make a mobile app, EcoTour offers a unique example of communication design as well as pedagogical approaches to communication design. The following section describes how we built prototypes of EcoTour as part of three university courses.

The EcoTour app developed in three phases—1) Research and Analysis on site, 2) Disrupting design for a deep mapping, and 3) Building the EcoTour app through a deep mapping methodology and rhetorically informed design perspective. Together, we designed, taught, and prototyped EcoTour over the course of six weeks.

### 1) Research and Analysis on site

Deep mapping begins by exploring a specific area and gathering both qualitative and quantitative data. We began the initial research by consulting with local biologists, park rangers, hydrologists, and archives. We reviewed historic and ecological data of the area alongside oral histories from local residents and Indigenous peoples. To understand Paynes Prairie as a place, we conducted numerous site visits, interviewed people within the park, and analyzed the current signage and available resources. As a team, we collected drone footage of the area to compare geospatial data with our on-the-ground experiences. We then evaluated information featured at the park compared to other nature preserves or sanctuary areas. A deep mapping approach encourages designers to document the full context of a place or event. David J. Bodenhamer (2015) describes this process as “a pastiche of everything that could be discovered about a place-topography, climate, folklore, symbols, literature, and the like” (para. 3). To contextualize the area and detail our pastiche, we also documented key terms and phrases people used to describe the area and the associated emotions and personal meanings. The result was a complex network of discoveries that created a multifaceted sense of place.

In the classroom, we evaluated existing maps of Paynes Prairie and

discussed keywords in design thinking to create learning goals for our project. We began to work with students, showing them how to research, conduct site visits, analyze data, determine knowledge gaps, and draft designs for a mobile app. Students collected images (both current and historic) and used Google drive to sort information by specific location in the park. The main goal of EcoTour is to help learners define climate change within the context of their local environment and to evaluate how to take action. However, the deep mapping methodology challenged communicators to reframe the design process and explore how digital technologies shape user experiences. The goal was not merely the communication, but the experience. Our design process centered around the following questions:

1. How can we use digital mapping technologies to communicate the complexity of climate change?
2. How can we rhetorically engage users and illustrate how local threats connect to larger environmental and social justice issues?
3. How can we engage participatory design practices to create more democratic platforms for environmental communication?

The challenge was to engage complexity without creating overly complex maps. In creating EcoTour (and with it a deep mapping methodology) we wanted to establish design principles that work pedagogically, both in the classroom and in the community. Our approach pushes back against deficit driven models for environmental communication design, following Druschke and McGreavy's (2016) call for science communication to move "from a deficit model to a contextual model" (p. 47). While a deficit model assumes that the audience lacks information, a contextual model works to interface with the community in communication. EcoTour designs were collaborative and crowd-sourced as students worked from the specifics of the site, exploring the area, interviewing visitors, and building the design from a ground-up, local perspective. As Stephens and Richards note, interactive risk maps "are often designed by experts for experts" and fail to consider how "the public" might engage map data. In contrast, our design process prioritized public audiences and created a rhetorical framework that considers how diverse users can interact with the space.

## 2) *Disrupting design for a deep mapping*

Deep mapping disrupts the linear narratives and reductive focus of cartesian approaches to mapping. Similarly, decolonial approaches recognize the many, pluralistic ways of producing knowledge. Following recent composition scholars using AR to "disrupt normative writing instruction practices, we cultivate here dis-orientation, dis-census, and dis-obedience as necessary dispositions for unlearning and unmaking hegemony in the classroom" (West-Puckett & Shepley, 2020, para. 1). The EcoTour design process decentralized power in the classroom as students worked across classes and with members of the community. Throughout the project, students drove the design and development—not merely responding to assignments but instead creating the workflow, designs, and deliverables progressively. The making process authored opportunities to reframe communication design pedagogically and challenged students to reevaluate common techniques or principles. Design principles such as *Emphasis*, *Balance*, *Hierarchy*, *Contrast*, *Movement*, and *White Space* became opportunities to learn more about communication design, as well as opportunities to disobey or reinterpret. For example, rather

than creating one emphasis for the project, we discussed how to communicate the multifaceted history and diversity of the area. Instead of crafting a clear hierarchy or linear progression, we identified "points of interest" and created media that users could experience in any order. When considering contrast, we looked at how designs might look on a screen as well as how alternate points of view could change or contrast overarching narratives.

Analyzing balance and white space became a way to evaluate cognitive load and design aesthetics while also considering the slow violence of erasure that often occurs through conflict and the removal of Indigenous peoples and animals. In de-constructing and dis-mantling design principles, students participated in a deep mapping approach that turned the pedagogical process towards social justice and repositioned students as design advocates. "Design advocacy," according to Jialei Jiang and Jason Tham (2019), encourages students to "broaden their rhetorical understanding of design beyond reductive and functional terms, and to cultivate their critical awareness of social equity issues through guided processes of research and design" (para. 4). The deep mapping approach encouraged students to reevaluate how we could use digital technologies to rhetorically engage users and discover new, more decolonial approaches to emplaced design.

GIS and AR technologies enable designers to layer information on site and use the environment as an interface. As such, our classes discussed experiential learning and how emplaced communication technologies can move the user: digitally, physically, and rhetorically. The rhetorical considerations of design are key here—a focus on how the specific design choices made within the application connect the users to our larger learning goals. How could we help users relate local experiences to the slow violence of climate change? As part of our design approach, we created a list of rhetorical goals that would shape the making process:

1. Reframe the map-making process as layered
2. Create a lived experience
3. Engage users with the hidden histories of Paynes Prairie State Park
4. Amplify marginalized voices
5. Illustrate the slow violence of climate change
6. Make users aware of their own position/orientation in the space (bodies/boundaries)
7. Prompt users to action—propose a POI, join in sustainable change, share the project—create a more democratic map making method in general

Our rhetorical goals informed our fieldwork and through the EcoTour design/making process, we developed a set of deep mapping design principles. These principles, as discussed in the EcoTour sections below, engage the complexity of places and model the rhetorical potential of digital map making technologies in environmental communication.

## 3) *Building the EcoTour App*

After analyzing the area, curating content with the local community, disrupting design principles, and developing rhetorical goals, we put together the augmented reality prototype using HP Reveal. HP Reveal is a free, AR visualization tool that lets users link trigger images with digital overlays. By using a ready-made, plug and

play AR tool, we were able to focus on communication design and content in the classroom. However, because HP Reveal is not an open-source platform (and is no longer active), we also developed our own standalone AR application in Unity, using the workflow developed by Jacob Greene (2018). We used our existing research to write content and design the look and feel of the mobile app—including how the app would use augmented reality technologies to respond to signs within the park (Figure 4). Students drafted proposals and created storyboards that detailed how the AR interface would instigate popups to visualize information at specific locations and move users (digitally, physically, and rhetorically). The final tour was broken down into 15 modules, each a specific augmentation or “point of interest” that users would walk to and access in the park space (Figure 5). Points of interest include information about animals, plants, water runoff, Indigenous peoples, human development, and current conservation efforts. Communication methods include audio, video, and still images. Users access the tour through the Google play store or HP Reveal app. In addition, we used grant funding to purchase six smart tablets that users can check out at the visitor’s center. The Unity version of EcoTour is downloaded on each tablet. The full tour is also published at [ecotourapp.com](http://ecotourapp.com), a website we created to explain the project and detail our engagement with Paynes Prairie. In what follows, we materialize the connections between place and method, presenting materials from our work as teachers, designers, and community advocates.

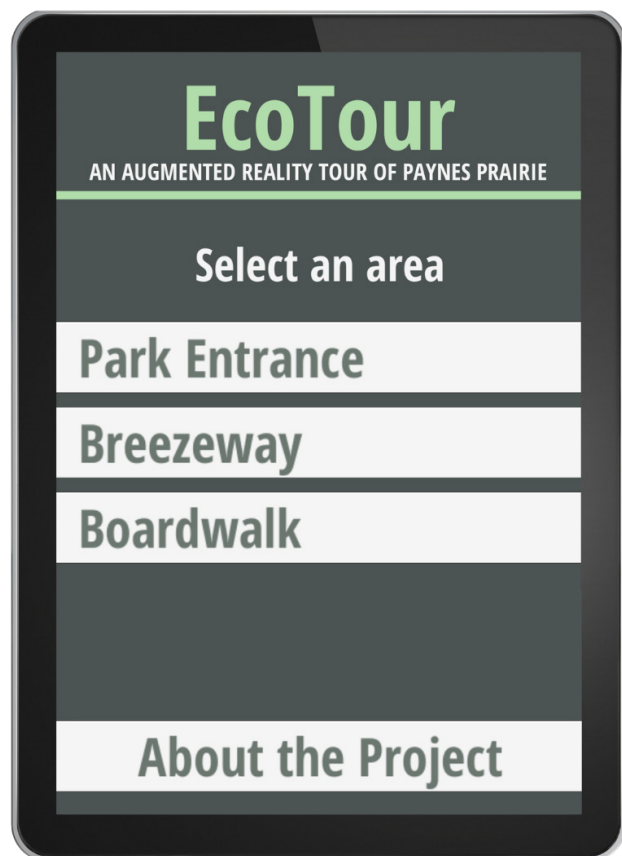


Figure 4: Home page of the EcoTour app.

## TOUR MAP

CLICK ON THE ICONS BELOW TO LOCATE AUGMENTED REALITY POINTS OF INTEREST

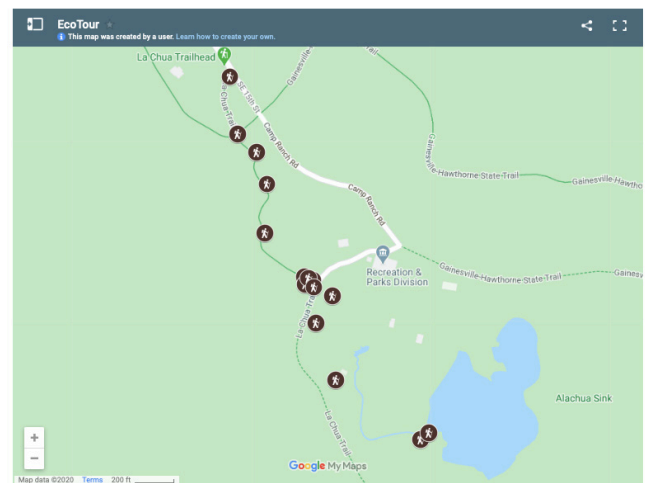


Figure 5: Map of Augmented Reality points of interest

## ECOTOUR: YOU ARE HERE

EcoTour is a rhetorical approach to environmental storytelling. Our goal in this case study is to model a deep mapping approach to digital mapping—a way to rhetorically engage users and explore the possibilities of emerging technologies. The following sections introduce Paynes Prairie as a place and highlight deep mapping, decolonial design principles that our students discovered during the making process. Each principle discusses how designers mapped the area, crafted content, designed media, and created augmented reality points of interest to communicate the complexity of the environment. To watch the EcoTour introduction video, visit [ecotourapp.com](http://ecotourapp.com).

A unique system of uplands and freshwater wetlands, Alachua County’s Paynes Prairie became Florida’s first state preserve in 1971 and is home to more than 20 biological communities and over 400 species of wildlife. Visitors come from around the world to walk the La Chua Trail in hopes of seeing alligators, bison, wild horses or a vast array of birds. However, while Paynes Prairie offers many spaces for viewing the natural world in its splendor, the preserve lacks on-site educational spaces that make visible the environmental threats to the Prairie. In conjunction, the existing signage emphasizes current ecology with little mention of the historic people and events that shaped this place. EcoTour connects the ecological history of Paynes Prairie to the physical environment through augmented reality technologies that layer information on site. As a result, the open access digital walking tour helps users engage the complex ecology of the prairie’s natural environment, human development, and community interaction.

## Embodied

Our first step in creating local, rhetorically effective maps was to physically experience the area we were mapping. In addition to studying existing visualizations and historic documents, we chose to visit the area, talk with local people, and participate in “bodystorming” Paynes Prairie State Park. “Bodystorming” is an invention method that helps designers physically test how environments might affect user experiences. Much like brainstorming, bodystorming is a combination of role-play and



**Figures 6 and 7: Students practice bodystorming to test how augmented reality designs would work with plaques and signs along a boardwalk, planning and testing communication design within the context of specific environmental conditions.**

simulation that imagines how a product might work. However, bodystorming creates a lived experience so that designers can go through the motions of using a product, analyze potential problems, and develop empathy for the anticipated users. Brian K. Smith (2014) describes the process of bodystorming through three categories: design in place, prototype in place, and embodied performance (Figure 6). By physically engaging a place, the embodied process of bodystorming helps designers refine communication design and evaluate how environmental factors might affect performance (Figure 7).

For us, bodystorming helped introduce students to the area and created a lived experience so that designers would better understand how EcoTour might work “in the wild” (Oulasvirta et al., 2003). And the wildness of the area became part of the design. In composing EcoTour, communicators not only considered the arrangement of content or layout and design on a page, but how the entire tour would interface with the surrounding environment. As an actionable text in a dynamic space, the augmented content would be viewed in situ, where too much sun might obscure a screen or noises from the wildlife might create a secondary soundtrack. When creating overlays, students worked to integrate content as part of the larger whole—as a piece of the natural composition scene of Paynes Prairie. Designers considered the size of device screens, how people would listen to audio outside, where sunlight might create screen glare, how visitors would move along the walkways, where people might stop, the sequencing of activities (both in the app and in the physical space), how people might orient the screen, and the most accessible colors and fonts. Instead of “siloeing” data, each point of interest situates the user within the surrounding environment, making participants part of the story of Paynes Prairie.

Bodystorming also encouraged communicators to consider the diverse bodies that frequent Paynes Prairie. Visitors use elevated boardwalks and well-trodden paths for morning runs, family outings, and picturesque hikes. Many of the boardwalks are paved, wheelchair accessible, and designed to move people and animals safely through the space. Occasionally pathways are even blocked by large, sunning alligators stretched across the trail. When researching the area and developing user profiles, students listed a variety of characteristics such as everyday visitors, international

tourists, children, birdwatchers, families, people in wheelchairs, runners, cyclists, and more. But they also noted the frequency of birds, the movements of alligators, and the position of the sun as it moved throughout the day. These non-human and celestial bodies also affect user experience and become key factors in rhetorically affective design.

Bodystorming challenged students to consider the sensory experiences of emplaced communication designs—the sights, sounds, smells, and physical interactions of the Prairie. The embodied experience highlighted how digital technologies could compliment the environment or purposefully disrupt the scenes and sounds of nature. Prioritizing the embodied experience of following a map also challenged designers to account for the limitations of digital design. While walking through a nature preserve, people might not have access to data services or want to listen to long videos. As a result, each EcoTour point of interest limits content to simple images, audio clips, and short videos that are two minutes or less. In addition, the augmented locations consider how the surrounding environment might affect users as well as communication. Points of interest are spaced out along the La Chua trail and located under pavilions, along covered walkways, and under shade trees to ensure that viewers can physically see the augmented reality content and are sheltered from any sun or rain. To understand how the movement of human and non-human bodies shaped Paynes Prairie State Park students needed to walk the trails, document signage, and experience the layout of the area firsthand.

## Local

To go deeper than simple topography, students needed to analyze local action and community discourse. In technical communication, localization is the process of adapting media or technology to a specific place and culture. Localization pays attention to how people think, feel, and act so that designers can create rhetorically effective media that easily integrates within an area and moves users to action. However, a deep mapping, decolonial approach to localization should consider not only contemporary culture or dominant viewpoints but seek out perspectives that have been obscured by settler-colonialism and modern structures of power. To create a deep map of the Alachua area, we had to understand the local community through a sense of deep time.

What we consider “local” changes as places change. Before Paynes Prairie became a state park in 1972, the Alachua area hosted riverboats, rail lines, Spanish cattle ranchers, British occupiers, enslaved people, French buccaneers, and the Seminole, Creek, Potano, and Timucua people. The Alachua savannah frequently served as grazing land, but also flooded enough to create a lake deep enough for steamboats. In the 1920s and 30s, canal systems cut through the Alachua Savannah and rerouted water coming into the Prairie Basin and the Alachua Sink. Construction of US Route 441 and later I-75 divided sections of the land and further altered the ecological balance. Subsequent urbanization in the nearby city of Gainesville increased water pollution and sewage runoff. Non-native species such as Chinese tallow and wild taro threaten to choke out Indigenous marsh plants while growing colonies of feral cats encroach upon endangered bird habitats. Additionally, hundreds of years of wood treatments and illegal dumping at the Cabot/Koppers superfund site leached creosote, chromated copper arsenate and other harmful toxins into the soil, contaminating the Floridan Aquifer, the source of 90% of Florida’s drinking water and the source of much of the prairie’s water flow. Even today, overpumping of the Floridan Aquifer by bottled water companies and corporate farming interests has placed additional strain on these connected ecosystems.

However, current signs within the park barely mention the historic cultures or human development that shaped the land. Using a deep mapping approach to localization, students investigated the multiplicity of cultures connected to Paynes Prairie—from the Timucua people to the current tourists. Working with local archives, preservation groups, and oral history initiatives, students researched the hidden histories of the park and created digital overlays to illustrate the cultural and ecological diversity of the area. Through their research, students were able to identify numerous points of erasure and analyze the social forces that altered the area—tracing a history of slow violence (Figure 8).



**Figure 8: AR Overlay of Holata Micco, also known as Bolek or Chief Billy Bowlegs, was a son of Ahaya “Cowkeeper,” and fought to preserve Indigenous lands in the Seminole Wars. Paynes Prairie is named after his older brother, King Payne. [4] Students chose to create an overlay with the “Authorized Personnel Only” sign to emphasize “authorized” structures of removal.**

A deep mapping approach to localization reminds users that information is not merely data, but discourse connected to specific communities. To ensure a respectful localization process, students needed to engage in what Kimberly Christine calls “collaborative curation,” a relational process that works with local stakeholders to decide how best to present information. Collaborating with locals helped students step outside their roles as designers and consider how technologies position users, bringing attention back to the relationships and living practices that continually shape how people participate in environmental communication and develop ecological literacies. Mindful not to reiterate colonial practices, our deep mapping approach advocates for many ways of making and communicating knowledge, drawing from Indigenous and Western practices. A decolonial ethic emphasizes the collaborative work of knowledge-making that structures how we communicate ecological ideas, especially environmental crisis (Gonzales, 2018; Clary-Lemon, 2019). Building on this approach, our process of localization pulled together diverse perspectives and scholarship to present the multiplicity of Paynes Prairie.

Localization also pays attention to how specific communities produce and share knowledge (Sun, 2006; Gonzales & Zantger, 2015). For early Indigenous peoples, the stories of place and culture were often orally passed down. However, like many national and state parks across the country, Indigenous people have not lived on Paynes Prairie for some time. As settlers moved into the area, the local Timucua, Creek, and (Oconee) Seminole people were driven out—either through the Seminole Wars or by official “Indian Removal” efforts and missionization. To document the movement and erasure of people groups, students worked with a variety of sources including tax documents, archival reports, oral histories from the Samuel Proctor Oral History Program, and contacts from the Seminole Nation. How to share and what to share became ethical considerations that shaped student designs. For example, part of the hidden history of Paynes Prairie includes an unmarked slave graveyard, unearthed by University of Florida professor Ntozake Shange. To honor the sanctity of the space, EcoTour does not identify the specific coordinates of the graveyard, but instead includes a point of interest that amplifies the all too quiet history of slavery in the area. By paying attention to the diverse history of local culture, communicators were able to respectfully put into place some of the stories of Indigenous peoples, marginalized cultures, and oppressed groups, and in turn highlight some of the structural forces of slow violence that so often remain invisible.

The process of localization reoriented the designers as well, repositioning them as part of the local action of Paynes Prairie. Students were not just researchers working to communicate or developers looking to build a product, but design advocates rewriting public spaces to create more accessible, equitable platforms for environmental communication. As students designed content, they practiced user localization strategies and drew on their own experience as local residents to adapt information and connect with their audience. The lived experience of designing on location, collaborating with locals, and reflecting on their own positions helped students craft rhetorically engaging, respectful content that communicates the diversity of the area, articulating multiple stories while also drawing attention to whose stories get told.

## Layered

Layered communication designs emphasize the ecology of communication, highlighting how environments, information,



**Figure 9: EcoTour app instructs users how to position their phone camera to trigger the AR overlay**

tools, and users work together to create meaning. Layered design approaches organize information in ways that illustrate the multiplicity of places, shaping new, innovative designs that deviate from linear organization, rewrite public spaces, and engage users with the surrounding environment. Instead of a one-dimensional map, AR enables designers to create multiple augmentation points that directly connect users to the surrounding environment, initiating more rhetorically engaging communication experiences (Figure 9).

AR is an inherently layered technology, which allows designers to draw upon place-based strategies to organize information. AR layers information on site, creating experiences that directly connect users to the land and to a multiplicity of perspectives and ways of inhabiting that space. These features allow for a more ecological (as opposed to linear) experience with the digital tour, both in design and participation. By emphasizing these relational rhetorics on-location, communicators can illustrate connections over time, linking disparate problems like the slow violence of settler-colonialism to contemporary issues of water quality in central Florida. Localization helped students discover stories to connect data and discourse, but layered communication practices help them design media to illustrate those connections. These layers help to bring the slow violence of colonial ecocide to the surface, to make these problems visible through an experiential counter-narrative. EcoTour presents a counter-story map that resists cartesian approaches to mapping relations, allowing for an affective approach to communication design which activates users as part of the experience.

A layered approach to communication design resists cartesian mapping structures or top-down topologies, but instead works on the ground to foster decolonial methods that promote pluralism. As

students worked to design points of interest, they considered how each physical location and digital overlay would work together to communicate meaning. For example, along the raised boardwalk, several informative signs educate visitors on the unique wetland ecology of Paynes Prairie. Walking viewers through the seasonal water cycle as well as the native plants and animals, each sign communicates general details about the site. Employing a layered design approach, students crafted digital overlays that interact with each sign and link changes in the local ecology to historic damage done over time. Overlays detail how settlers relocated Indigenous people groups, canal systems disrupted the natural hydrology, roads and fences altered animal movements, and how excess sewage and fertilizer runoff have created algae growths that threaten to choke out marsh life below the surface. The digital layers present multiple viewpoints and offer information that counters the reductive signage on site, connecting the history of slow violence to modern environmental issues.

Mobile writing technologies not only write on a space, creating new layers of meaning, they can also articulate existing relationships in situ by communicating specific events, experiences, and affects working within an environment. By ‘environment’ we mean more than a static situation or site, but a dynamic understanding of place, what Nedra Reynolds (2004) defines as “made up of affective encounters, experiences, and moods that cohere around material spaces” (p. 147). The experience of a space is not static or uniform, but layer upon layer of affective encounters, experiences, and moods that constantly change as “active, historical, and lived processes” (Phelps, 1988). AR technologies visualize the multiplicity of environments by weaving in layers that add to or articulate the rhetorical structures already present. Mobile devices act as a medium that can reveal the relationships already at work within a specific location. According to Reynolds, “places evoke

powerful human emotions because they become layered, like sediment or a palimpsest, with histories and stories and memories” (p. 2). How we define a place depends on how we access and experience the layers of meaning. Augmented reality technologies help articulate a sense of place by identifying hidden layers and making them apparent to the public. As a result, augmented reality communication designs can weave together layers of science and story to evoke powerful human emotions and create meaningful interactions with environmental data.

## Portable

EcoTour lays the groundwork for using AR as a novel approach for communication design in the classroom, but also demonstrates the potential for location-based media to be a portable research tool for practitioners to localize large-scale issues of social and environmental justice like climate change. In their introduction to the special issue on “Durable and Portable Research in Technical and Scientific Communication,” Kirk St. Amant and Scott Graham (2019) describe portable research as a set of knowledge practices which are able to cross disciplinary fields and “spheres of resonance” (p. 107). Portable research, or “research that resonates,” engages public audiences by communicating that the research is important or has value. The larger the resonance, the greater the value. EcoTour communicates the value of local environmental issues, but also resonates beyond the space of Paynes Prairie, connecting a large and diverse audience to the complexity of social justice issues by balancing scientific rigor, historical accuracy, and cultural expertise.

St. Amant and Graham argue (based on Latour, 1987) that one of the key elements of portability is durability (p. 102). That is, durable research has been subjected to rigorous methods, tests, and trials. When research has been carefully vetted and tested, it has a stronger ethos and reliability. Building upon their work, Cathryn Molloy (2019) demonstrates how interdisciplinary partners (such as advocacy groups) also play a role in contributing to both durability and portability of research. EcoTour promotes the portability of environmental communication through coalition-building across communities. Working with non-profits, park officials, scientists, the University of Florida, local people groups, and other stakeholders, EcoTour created an experiential learning project where students worked across the disciplines and discourse communities to engage in scientific, historical, sociological, geographical, and cultural research.

In our classes, we discussed the ways that building from durable research supported our project’s portability. For example, through user testing and simple community surveys students were able to refine points of interest and create intersectional work that connected locals to larger conversations about climate change, racial justice, and data collection practices. These strategies worked to make large-scale issues like climate change visible, durable, and portable within the local community. As such, this project demonstrates how mobile media can contribute to making knowledge portable across a wide range of contexts and fields. AR provides a platform to make climate change (and other complex social justice issues) portable by localizing large-scale data.

Beyond our classrooms and our case study, this project demonstrates how deep mapping can be implemented as part of broader coalitional efforts to engage local communities in public-interest communication design. Locative media offer ways to make communication more portable by creating spaces for active

user experiences, which engage communities as part of the media ecology. While it is beyond the scope of this article to offer a full treatment of how this study might contribute to the practice of communication design more broadly, it raises important questions of community engagement in designing user journeys and experiences. Deep mapping offers one strategy to expand, and even to decolonize, our communication design practices. Through practices like bodystorming, localization, and engaging with white space, it became clear that we needed to dehomogenize the ways we map and wayfind within Paynes Prairie, our communities, and in our larger practice as communication designers.

## CONCLUSION

In working together to build EcoTour, we explored how environmental communicators can draw upon the rhetorical elements of place to better confront the complexity of climate change and illustrate the slow violence of environmental destruction. Our deep mapping approach reframed the design process as active, lived, and on location by linking archival and scientific data to local stories and environments. Building the tour was labor-intensive, requiring four lead designers and a small army of up to 60 students collecting data and producing content. The project would have been impossible without the funding and support of a small community grant to provide tablets and a camera to make the project. In addition, Paynes Prairie State Park officials were excited about our work and eager to see the new educational possibilities AR created in the park space. Even with this enormous amount of support, the project met with many limitations and constraints, from technical issues like data usage and physical limitations in space, to larger questions of efficacy which could only be answered through large-scale user testing beyond the scope of our case study and our funding. Beyond these limitations, we found that EcoTour was an incredible opportunity to extend students’ multimodal design work to a public-facing platform which connected them to the community and to the place itself. Doing so not only encourages students to see themselves as producers, and not just consumers, of emerging digital media experiences, but offers them a potential avenue for exploring AR’s potential as a place-based writing technology. In future projects, we will build on these lessons as we continue to create digital storytelling projects which engage students in experiential learning while connecting their work to the communities to effect positive change.

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## ENDNOTES

1. This phenomenon is referred to as the “problem of scale” by science and technology studies scholars (Zylinska, 2014; Clark,

2015; Latour, 2018) and has recently garnered interest from rhetoricians interested in STS (Pilsh, 2017; Mueller, 2017; Jones, 2019). Large scale problems appear on the one hand too vast for individuals to solve and on the other hand are made up of minute and mundane decisions. This leads to “scalar derangement,” where individuals feel powerless to confront large-scale problems at the local level.

2. The unabridged title is *Travels Through North & South Carolina, Georgia, East & West Florida, the Cherokee Country, the Extensive Territories of the Muscogulges, or Creek Confederacy, and the Country of the Chactaws; Containing An Account of the Soil and Natural Productions of Those Regions, Together with Observations on the Manners of the Indians* (1791).

3. For example, his description of a nearby Salt Springs made its way into Coleridge’s famous poem “Kubla Khan.” *Travels* also helped to initiate an American tradition of nature and environmental writers which includes H.D. Thoreau, Aldo Leopold, and Edward Abbey (Adams, 1994). Gregory Ulmer draws upon these connections in his work combining psychogeography, place-based writing practices, and digital rhetoric (Ulmer, 2008). While it is beyond the scope of this essay to unpack the connections between these practices, Madison Jones (2018) discusses how places like Paynes Prairie served as a “complex premise for Ulmer, which he connects to Bartram’s ecological understanding of the world and how this sense of place became a commonplace for Coleridge in the formation of Romantic sensibility.” Thus, the overlapping conceptual histories of travel writing, psychogeography, and cultural geography are both a rich part of deep mapping traditions and implicated in the histories of Paynes Prairie itself.

4. As the oldest son of Ahaya, Payne was his successor as chief of the Alachua Oconee Seminoles. Both brothers, Payne and Holata, were raised to become tribal leaders. Payne was killed in the border warfare between frontier settlements and the Seminole tribe in 1812 as part of early border conflicts that would lead to the Creek War of 1813–14. Today the place name “Payne” is one of few remnants of the tribe’s presence in the state park. The name “Paynes Prairie” demonstrates the complexity of naming as an appropriation tool and speaks to the recovery work that can expose the tensions between removal and erasure, and support the work of Indigenous survivance and sovereignty.

## REFERENCES

Adams, C. (1994). Reading ecologically: Language and play in Bartram’s *Travels*. *The Southern Quarterly*, 32(4), 65–74.

Arola, K. L. (2018). A land-based digital design rhetoric. In J. Alexander & J. Rhodes (Eds.), *The Routledge handbook of digital writing and rhetoric* (pp. 199–213). Routledge.

Basso, K. (1996). *Wisdom sits in places: Landscape and language among the Western Apache*. University of New Mexico Press.

Biggs, I. (2011). The spaces of ‘deep mapping’: A partial account. *Journal of Arts and Communities*, 2(1), 5–25. [https://doi.org/10.1386/jaac.2.1.5\\_1](https://doi.org/10.1386/jaac.2.1.5_1)

Blevins, B. (2018). Teaching digital literacy composing concepts: Focusing on the layers of augmented reality in an era of changing technology. *Computers and Composition*, 50, 21–38. <https://doi.org/10.1016/j.compcom.2018.07.003>

Branch, M. (1996). Indexing American possibilities: The natural *Communication Design Quarterly*, 9.1 2021

history writing of Bartram, Wilson, and Audubon. In C. Glotfelty & H. Fromm (Eds.), *The Ecocriticism Reader* (pp. 52–68). University of Georgia Press.

Bartram, W. (1791). *Travels through North & South Carolina, Georgia, East & West Florida, the Cherokee country, the extensive territories of the Muscogulges, or Creek Confederacy, and the country of the Chactaws; Containing an account of the soil and natural productions of those regions, together with observations on the manners of the Indians*. James & Johnson. Retrieved from, <https://docsouth.unc.edu/nc/bartram/bartram.html>

Bellin, J. D. (1995). Wicked instruments: William Bartram and the dispossession of the Southern Indians. *Arizona Quarterly*, 51(3), 1–23. <https://doi.org/10.1353/arq.1995.0015>

Bignall, S., & Rigney, D. (2018). Indigeneity, posthumanism and nomad thought: Transforming colonial ecologies. In R. Braidotti & S. Bignall (Eds.), *Posthuman ecologies: Complexity and process after Deleuze* (pp. 159–182). Rowman and Littlefield Publishers.

Bodenhamer, D. J. (2015). An exploration of deep maps. The Polis Center, IUPUI. <http://thepoliscenter.iupui.edu/index.php/an-exploration-of-deep-maps/>

Boyle, C., & Rivers, N. (2018). Augmented publics. In L. E. Gries & C. G. Brook (Eds.), *Circulation, writing, and rhetoric* (pp. 83–101). Utah State University Press.

Brooke, R., & McIntosh, J. (2007). Deep maps: Teaching rhetorical engagement through place-conscious education. In C. J. Keller & C. R. Weisser (Eds.), *The locations of composition* (pp. 131–50). State University of New York Press, Albany.

Ceccarelli, L. (2013). *On the frontier of science: An American rhetoric of exploration and exploitation*. Michigan State University Press.

Christen, K. (2018). “Relationships not records: Digital heritage and the ethics of sharing indigenous knowledge online.” In J. Sayers, *Routledge companion to media studies and digital humanities* (pp. 403–412). Routledge.

Clark, T. (2015). *Ecocriticism on the edge: The Anthropocene as a threshold concept*. Bloomsbury.

Clary-Lemon, J. (2019). Gifts, ancestors, and relations: Notes toward an Indigenous new materialism. *Enculturation: A Journal of Rhetoric, Writing, and Culture*. [http://enculturation.net/gifts\\_ancestors\\_and\\_relations](http://enculturation.net/gifts_ancestors_and_relations)

Covi, M. P., & Kain, D. J. (2016). Sea-level rise risk communication: Public understanding, risk perception, and attitudes about information. *Environmental Communication*, 10(5), 612–633. <https://doi.org/10.1080/17524032.2015.1056541>

Debord, G. (1989). Report on the construction of situations and on the International Situationist Tendency’s conditions of organization and action. In K. Knabb (Ed.), *Situationist International Anthology* (2nd ed., pp. 17–25). Bureau of Public Secrets. (Original work published 1957)

*Deep maps and spatial narratives*. (n.d.). The Polis Center, IUPUI. Retrieved from, <https://polis.iupui.edu/about/spatial-humanities/deep-maps-and-spatial-narratives/>

Druschke, C. G., & McGreavy, B. (2016). Why rhetoric matters for ecology. *Frontiers in Ecology and the Environment*, 14(1), 46–52.

<https://doi.org/10.1002/16-0113.1>

Eichberger, R. (2019). Maps, silence, and Standing Rock: Seeking a visuality for the age of environmental crisis. *Communication Design Quarterly* 7(1), 9–21. <https://doi.org/10.1145/3331558.3331560>

Endres, D., Hess, A., Senda-Cook, S., & Middleton, M. K. (2016). In Situ Rhetoric: Intersections Between Qualitative Inquiry, Fieldwork, and Rhetoric. *Cultural Studies ↔ Critical Methodologies*, 16(6), 511–580. <https://doi.org/10.1177/1532708616655820>

Frampton, A., Solomon, J. D., & Wong, C. (2012). *Cities without ground: A Hong Kong guidebook*. ORO Editions.

Geniusz, W. M. (2009). *Our knowledge is not primitive: Decolonizing botanical Anishinaabe teachings*. Syracuse University Press.

Goeman, M. (2008). From place to territories and back again: Centering storied land in the discussion of Indigenous nation-building. *International Journal of Critical Indigenous Studies*, 1(1), 23–34. <https://doi.org/10.5204/ijcis.v1i1.20>

Gonzales, L. (2018). Translation as Technology: From Linguistic “Deficit” to Rhetorical Strength. In C. Medina & O. Pimentel (Eds.), *Racial shorthand: Coded discrimination contested in social media*. Computers and Composition Digital Press. [https://ccdigitalpress.org/book/shorthand/chapter\\_gonzales.html](https://ccdigitalpress.org/book/shorthand/chapter_gonzales.html)

Gonzales, L., & Zantger, R. (2015). Translation as a user-localization practice. *Technical Communication*, 62(4), 271–284.

Grabill, J. T., & Simmons, W. M. (1998). Toward a critical rhetoric of risk communication: Producing citizens and the role of technical communicators. *Technical Communication Quarterly*, 7(4), 415–441. <https://doi.org/10.1080/10572259809364640>

Greene, J. (2017). From Augmentation to articulation: (Hyper) linking the locations of public writing. *Enculturation: A journal of rhetoric, writing, and culture*, 24. [http://enculturation.net/from\\_augmentation\\_to\\_articulation](http://enculturation.net/from_augmentation_to_articulation)

Greene, J. (2018). Creating mobile augmented reality experiences in Unity. *Programming Historian*. <https://doi.org/10.46430/phen0073>

Gries, L. E. (2015). *Still life with rhetoric: A new materialist approach for visual rhetorics*. Utah State University Press.

Haas, A. M. (2012). Race, rhetoric, and technology: A case study of decolonial technical communication theory, methodology, and pedagogy. *Journal of Business and Technical Communication*, 26(3), 277–310. <https://doi.org/10.1177/1050651912439539>

Haas, A. M. (2007). Wampum as hypertext: An American Indian intellectual tradition of multimedia theory and practice. *Studies in American Indian Literatures*, 19(4), 77–100. <https://doi.org/10.1353/ail.2008.0005>

Harvey, D. (1996) *Justice, nature & the geography of difference*. Blackwell Publishers.

Hayles, N. K. (2012). *How we think: Digital media and contemporary technogenesis*. The University of Chicago Press.

Hallock, T. (2001). “On the borders of a new world”: Ecology, frontier plots, and imperial elegy in William Bartram’s “Travels”. *South Atlantic Review*, 66(4), 109–133. <https://doi.org/10.2307/3202063>

Jones, M. (2018). Writing conditions: The premises of ecocomposition. *Enculturation: A journal of rhetoric, writing, and culture*, 26. <http://enculturation.net/writing-conditions>

Jones, M. (2019). (Re)placing the rhetoric of scale: Ecoliteracy, networked writing, and MEMorial mapping. In S. I. Dobrin & S. Morey (Eds.), *Mediating nature: The role of technology in ecological literacy* (pp. 79–95). Routledge.

Jones, M., & Greene, J. (2017). Augmented vélorutionaries: Digital rhetoric, memorials, and public discourse. *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*, 22(1). <http://kairos.technorhetoric.net/22.1/topoi/jones-greene/index.html>

Jiang, J., & Tham, J. (2019, February 5). Multimodal design and social advocacy: Charting future directions for design as an interdisciplinary engagement. *Sweetland Digital Rhetoric Collaborative*. <http://www.digitalrhetoriccollaborative.org/2019/02/05/multimodal-design-social-advocacy/>

Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed Editions.

Larsen, S. C., & Johnson, J. T. (2017). *Being together in place: Indigenous coexistence in a more than human world*. Minnesota University Press.

Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Harvard University Press.

Latour, B. (2018). *Down to earth: Politics in the new climatic regime*. Polity Press.

Heat-Moon, W. L. (1991). *PrairieEarth: A deep map*. Houghton Mifflin Company.

Legg, E. (2014) *Networked knowledge, digital spaces: Storytelling as decolonial methodology* [Conference presentation]. Computers and Writing Conference, Washington State University, Pullman, WA, United States.

Looby, C. (1987). The constitution of nature: Taxonomy as politics in Jefferson, Peale, and Bartram. *Early American Literature*, 22(3), 252–273.

Maantay, J. (2002). Mapping environmental injustices: Pitfalls and potential of geographic information systems in assessing environmental health and equity. *Environmental Health Perspectives*, 110(2), 161–171.

Marshall, I. (1998). *Story line: Exploring the literature of the Appalachian Trail*. University Press of Virginia.

McKinnon, S. L., Asen, R., Chávez, K. R., & Howard, R. G. (Eds.). (2016). *Text + field: Innovations in rhetorical method*. Penn State University Press.

Middleton, M., Hess, A., Endres, D., and Senda-Cook, S. (2015). *Participatory critical rhetoric: Theoretical and methodological foundations for studying rhetoric in situ*. Lexington Books.

Molloy, C. (2019). Durable, portable research through partnerships with interdisciplinary advocacy groups, specific research topics, and larger data sets, *Technical Communication Quarterly*, 28(2), 165–176. <https://doi.org/10.1080/10572252.2019.1588375>

Morey, S. (2017). The deepwater horizon roadkill tollbooth. *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*, 21(2).

<http://kairos.technorhetoric.net/21.2/topoi/morey/index>.

Morey, S. & Tinnell, J. (Eds.). (2017). *Augmented reality: Innovative perspectives across art, industry, and academia*. Parlor Press.

Mueller, D. N. (2017). *Network sense: Methods for visualizing a discipline*. University Press of Colorado.

New York Times. (2020). Coronavirus in the U.S.: Latest map and case count. <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

Nixon, R. (2011). *Slow violence and the environmentalism of the poor*. Harvard University Press.

Olman, L., & DeVasto, D. (2020). Hybrid collectivity: Hacking environmental risk visualization for the Anthropocene. *Communication Design Quarterly*, 8(4), 15–28. <https://doi.org/10.1145/3431932.3431934>

Oulasvirta, A., Kurvinen, E., & Kankainen, T. (2003). Understanding contexts by being there: Case studies in bodystorming. *Personal and Ubiquitous Computing*, 7, 125–134. <https://doi.org/10.1007/s00779-003-0238-7>

Phelps, L. W. (1988). *Composition as a human science*. Oxford University Press.

Pilsh, A. (2017). Invoking darkness: Skotison, scalar derangement, and inhuman rhetoric. *Philosophy and Rhetoric*, 50(3), 336–355.

Porter, C. M. (2010). Bartram's legacy: Nature advocacy. In K. E. Holland Braund & C. M. Porter (Eds.), *Fields of vision: Essays on the travels of William Bartram* (pp. 221–238). University of Alabama Press.

Pratt, M. L. (1992). *Imperial eyes: Travel writing and transculturation*. Routledge.

Rai, C., & Druschke, C. G. (Eds.). (2018). *Field rhetoric: Ethnography, ecology, and engagement in the places of persuasion*. University of Alabama Press.

Regis, P. (1999). *Describing early America: Bartram, Jefferson, Crèvecoeur, and the influence of natural history*. University of Pennsylvania Press.

Reynolds, N. (2004). *Geographies of writing: Inhabiting places and encountering difference*. Southern Illinois University Press.

Riley-Mukavetz, A., & Powell, M. D. (2015). Making native space for graduate students: A story of Indigenous rhetorical practice. In L. King, R. Gubele, & J. R. Anderson (Eds.), *Survivance, sovereignty, and story: Teaching American Indian rhetorics* (pp. 138–159). University Press of Colorado.

Rios, G. R. (2015) Cultivating land-based literacies and rhetorics. *Literacy in Composition Studies*, 3(1), 60–70.

Roberts, L. (2016). Deep mapping and spatial anthropology. *Humanities*, 5(1), 5. <https://doi.org/10.3390/h5010005>

Roorda, R. (2001). Deep Maps in Eco-Literature. *Michigan Quarterly Review* 40(1). Retrieved October 20, 2020, from <http://hdl.handle.net/2027/spo.act2080.0040.138>

Senda-Cook, S., Hess, A., Middleton, M. K., & Endres, D. (Eds.). (2019). *Readings in rhetorical fieldwork*. Routledge.

Shivers-McNair, A., & San Diego, C. (2017). Localizing communities, goals, communication and inclusion: A collaborative approach. *Technical Communication*, 64(2), 97–112.

Sivils, M. W. (2004). William Bartram's Travels and the rhetoric of ecological communities. *Interdisciplinary Studies in Literature and Environment*, 11(1), 57–70. <https://doi.org/10.1093/isle/11.1.57>

Slotkin, A. (2020). Along the cow path: Technical communication within a Jewish cemetery. *Communication Design Quarterly*, 8(3), 16–25. <https://doi.org/10.1145/3410430.3436989>

Smith, B. K. (2014). Bodystorming mobile learning experiences. *TechTrends*, 58, 71–76. <https://doi.org/10.1007/s11528-013-0723-4>

St. Amant, K., & Graham, S. S. (2019). Research that resonates: A perspective on durable and portable approaches to scholarship in technical communication and rhetoric of science. *Technical Communication Quarterly*, 28(2), 99–111, <https://doi.org/10.1080/10572252.2019.1591118>

Stegner, W. (1962). *Wolf willow: A history, a story, and a memory of the last plains frontier*. The Viking Press.

Stephens, S. H., & Richards, D. P. (2020). Story mapping and sea level rise: Listening to global risks at street level. *Communication Design Quarterly*, 8(1), 5–18. <https://doi.org/10.1145/3375134.3375135>

Sturges, M. (2014). A deep map of the South: Natural history, cultural history, and William Bartram's Travels. *South Atlantic Review*, 79(1–2), 43–67.

Sun, H. (2006). The triumph of users: Achieving cultural usability goals with user localization. *Technical Communication Quarterly*, 15(4), 457–481. [https://doi.org/10.1207/s15427625tcq1504\\_3](https://doi.org/10.1207/s15427625tcq1504_3)

Tinnell, J. (2017). *Actionable media: Digital communication beyond the desktop*. Oxford University Press.

Ulmer, G. (2008). The chora collaborations. *Rizomes*, 18. Retrieved August 15, 2020 from <http://www.rhizomes.net/issue18/ulmer/index.html>

West-Puckett, S., & Shepley, G. (2020). Radical museology/radical pedagogy: Curating beyond boundaries. *The Journal of Multimodal Rhetorics*, 4(1). Retrieved August 15, 2020 from, <http://journalofmultimodalrhetorics.com/4-1-issue-west-puckett-shepley>

Wood, D. (2020). Psychogeography. In A. Kobayashi (Ed.), *International Encyclopedia of Human Geography* (2nd ed., pp. 65–68). Elsevier. <https://doi.org/10.1016/B978-0-08-102295-5.10587-6>

Zylinska, J. (2014). *Minimal ethics for the anthropocene*. Open Humanities Press.

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# Decolonizing Decoloniality: Considering the (Mis)use of Decolonial Frameworks in TPC Scholarship

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## ABSTRACT

As the field of technical and professional communication (TPC) has moved toward more inclusive perspectives, the use of decolonial frameworks has increased rapidly. However, TPC scholarship designed using decolonial frameworks lacks a clear, centralized definition and may overgeneralize and/or marginalize Indigenous concerns. Using a corpus analysis of TPC texts, we assess the ways that the field uses “decolonial” and propose a centralized definition of “decolonial” that focuses on rematriation of Indigenous land and knowledges. Further, we offer a heuristic that aids scholars in communication design appropriate for decolonial research and teaching strategies.

## CCS Concepts

CCS → Social and professional topics → User characteristics  
→ Cultural characteristics

## Keywords

Decolonial Methodologies, Social Justice, Corpus Analysis, Case Studies, Heuristic

## INTRODUCTION

As the field of technical and professional communication (TPC) has moved through the social justice turn, the use of frameworks that prioritize marginalized identities and perspectives have grown rapidly. We argue that the uses of decolonial frameworks as a way to push back against capitalist ideology are on the rise in TPC, noting that “while there have been 42 scholarly works since 2010 ... published that actively engage with decolonial methodologies [in TPC]...22 of those have been published since 2018” (Itchuaqiyag & Matheson, 2020, n.p.). However, as TPC scholars have long understood, rapid, efficient, and effective communication practices do not always equal ethical communication practices (Katz, 1992). Because there has been such a large and rapid uptick in TPC scholars using a decolonial frame, it is important to trouble the field’s *working* definition of “decolonial” as it relates to TPC research practices. We do this work not to condemn the very work that makes our own possible, but rather to equip our field to use decolonial methodologies respectfully as we work together towards equity, inclusion, and social justice in the future. We take a data-driven approach to uncover the generalizations made about decolonial methodologies in TPC scholarship.

This article examines how decolonial frameworks are being used in the field of TPC and to establish a heuristic for scholars using decolonial frameworks. This article directly informs the design of communication and research related to decoloniality. It outlines our methodology for conducting a corpus analysis of the TPC texts that include decolonial frameworks and establishes the positionality of the scholars. Next, it introduces a definition of “decolonial” based on the publications of international Indigenous scholars (Itchuaqiyag, 2021; Smith, 2012; Tuck & Yang, 2012; Wilson, 2008). Then it presents the findings of our corpus analysis with context and provides a heuristic for evaluating work that may be considered “decolonial.” We then apply our heuristic to two case studies (one journal article and one TPC course) to model how our heuristic might be implemented by scholars seeking to use decolonial frameworks in responsible ways. Finally, we present the significant limitations we recognized in this study and our

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conclusions. This article does not contain a traditional literature review, given that the methods themselves robustly engage with the body TPC literature relevant to decolonial frameworks.

## RESEARCH DESIGN

In this article, we work to answer the following research questions:

1. How has the field of TPC used decolonial frameworks to describe ideas or events in the field?
2. How might TPC researchers move toward defining and using decolonial frameworks in ways that do not contribute to the marginalization of Indigenous peoples?

For our research, we used corpus analysis techniques to investigate the field's working definition of "decolonial" as it relates to methods and methodologies. To do this, we conducted a search using online databases (Scopus, Google Scholar, and university library) and Itchuaqiyayq's digital research corpus<sup>[1]</sup> to find the body of TPC scholarship<sup>[2]</sup> using the terms "decolonial" and "technical and professional communication" in the body of the text (i.e., not just in the references section) since 2010. Our sample originally included 40 texts, which included scholarly monographs, chapters from edited collections, journal articles, and conference proceedings. To be clear, though we are examining the use of decolonial methodologies in TPC scholarship, we are not using decolonial methods to do so. We acknowledge that our particular research design, specifically using a counting method that assumes decoloniality must be explicit to be present, may run contrary to decolonial methodology. While we make no claims that this work is decolonial in nature, we do assert that this work is *in the service* of respecting the sovereignty of decolonial methodologies.

To do our analysis, we searched the texts for terms directly related to "decolonial" (e.g., decolonize, decolonization, decoloniality)<sup>[3]</sup> using the corpus analysis tool AntConc (Anthony, 2019). We did this by pulling all instances of "decoloni\*" in each text, outside of its references, and inserting the associated passage and any related frameworks listed in that passage into a spreadsheet. Through analyzing each quote from our sample, we discovered that a high frequency of texts cited Haas (2012a) and/or Agboka (2014) as their primary source for discussions of decolonial methodologies. We pulled those two texts from the sample and analyzed them separately. We then worked together to write a "working" definition of decolonial methods, approaches, and methodologies for each text (n=38) in our sample.

In this process, we already suspected that many of the texts would use decolonial as a euphemism for social justice or humanitarian work because of our previous exposure to this particular critique coming from scholars Tuck and Yang (2012). Because of this exposure, we may have gravitated toward sample quotes (if there were multiple passages using "decolonial") that highlighted social justice and/or humanitarian work as decolonial work. However, we used a grounded theory approach, generating categories from data based on textual evidence (Portewig, 2011), in order to categorize and synthesize working definitions of "decolonial" found in our sample. A grounded theory approach allowed the texts to guide us in our categorization and analysis. We used a collaborative coding design (Clegg et al., 2020; Saldaña, 2016) that allowed us to develop and refine our three codes together, which we called themes, through discussions informed by our personal and professional experience as well as our initial impressions of the

working definitions of "decolonial" from each individual text. Each author coded the sample's working definitions separately using the three themes (*Indigenous Concerns*; *Social Justice*; and, *Agency and Emancipation*) we developed, but also remaining open to new themes emerging from the data. It is important to note that some texts (we encountered four texts in particular) were difficult to categorize because they fit easily into more than one theme. To resolve this issue, we reanalyzed the sample passage(s) together and decided which theme was a stronger fit. After our initial coding process, we recognized that one theme, *Social Justice*, had far greater numbers than the others. We revisited the coded texts to uncover secondary themes, or sub-themes, within *Social Justice* to better understand that theme's nuances. Finally, we worked together to synthesize each theme's combined working definition of "decolonial."

In order to equip TPC researchers in their designing appropriate decolonial methods, we then developed a heuristic to help scholars determine if the use of a decolonial framework is appropriate for their situation, research, and communication design. We acknowledge that attempts to "institutionalize" or standardize complex concepts such as decoloniality can limit the nuance of such frameworks (refer to Edenfield, 2019b). Therefore, we have chosen to use self-reflection as a part of our research design and point to our own work as a case study upon which to test our heuristic, in part, because it offers us the chance to explore that nuance and be transparent about both our process and about our positions as researchers and scholars. We believe that by talking about and modeling transparency regarding the complexities we've faced as scholars attempting to do decolonial work, we provide space for other scholars to acknowledge and, where necessary, rectify the messiness involved in their own work. In addition, we see it as vital to our work to acknowledge and state our positionalities as scholars engaged in work concerning Indigenous communities.

As we stated earlier, these methods are distinctly not decolonial. We have used a conventional method of conducting research about decolonial research because we believe that a corpus analysis is the most effective way to understand this particular issue as it relates to the scholarship in the field.

Itchuaqiyayq is a tribal member of the Noorvik Native Community in NW Alaska and Assistant Professor at Virginia Tech. She uses big data techniques to investigate the intersections of identity, technology, colonialism, and culture in order to effectively reveal how mainstream academic practice often perpetuates the marginalization of underrepresented scholars and communities. She uses theory and data to develop effective methods that equip others to do respectful research and social justice work in TPC, especially with regards to Indigenous communities. Itchuaqiyayq was also the managing editor of *Technical Communication Quarterly* for two years and analyzed scholarly publication practices in TPC scholarship for her dissertation research. Because of these experiences, she is sympathetic to the real pressure authors face to cite certain scholarship or to use certain frameworks. For example, authors who ignore the suggestions of peer reviewers—especially "easy" fixes such as "you should incorporate framework A" or "you should cite authors XYZ"—risk rejection because it is often their original reviewers who will reevaluate their "revise and resubmits." Itchuaqiyayq recognizes that citation and the (mis)use of particular frameworks are not solely an author issue; they are also related to issues tied to the publication process that are beyond the scope of this current project. Further, as we will discuss in subsequent

sections, reviewer input can pressure authors to *retroactively* reframe their work to increase their chance at publication. It is well known that publication success is an important metric of obtaining and retaining academic employment (Chakravartty et al., 2018; Chang, 2009), so the pressure to yield to reviewer input is tangible.

Matheson is a white woman working as an Assistant Professor at Utah Valley University in the United States. She has long standing research ties with communities in the Global South, and as such, has spent much of her early career wrestling with the complexities of working in TPC beyond the social justice turn. In her efforts to center communities that have been historically overlooked in TPC, she has also often found herself wrestling with the significant and troubling problems her white gaze (and presence) brings to her work among racially marginalized communities. She approaches this work tentatively and with an awareness that her privilege is woven throughout her work. As such, she seeks to model openness and accountability about the limitations of her perspective and analysis in social justice work, knowing that her relative position of power makes such a move less risky for her than for multiply marginalized and underrepresented scholars (Walton et al., 2019).

## DEFINING “DECOLONIAL” IN TPC

In our initial analysis, we found that the major point of overlap in decolonial TPC scholarship is a reference to the definitions of “decolonial” provided by Indigenous technical communication scholars Angela Haas (2012a) and Godwin Agboka (2014).<sup>[4]</sup> Although these works were written prior to TPC’s growing practice of actively considering and stating one’s personal connection and positionality regarding subject matter and method of research, their international Indigenous perspectives coupled with their scholarly dedication to knowledge legitimization of Indigenous communities and social justice in TPC provide them with credibility to discuss and define decolonial methodologies in our field. In our sample, upwards of 90% of the 37 texts referenced either one or both of these authors’ articles (Agboka, 2014; Haas, 2012a), demonstrating their influence on the field’s understanding of decolonial methodologies. Snippets from Haas’s (2012a) discussion of decolonial and/or Agboka’s (2014) discussion appeared as direct quotes or were paraphrased in a majority of texts.

Rather than provide a totalizing definition of decolonial, Haas (2012a) provides relevant contours that are specific to TPC research and pedagogy. She states that decolonial methodologies and pedagogies “(a) redress colonial influences on perceptions of people, literacy, language, culture, and community and the relationships therein, and (b) support the coexistence of cultures, languages, literacies, memories, histories, places, and spaces—and encourage respectful and reciprocal dialogue between and across them” (p. 297). Haas offers decolonial methodologies as a means to equip our field with tools that help create spaces for long-ignored marginalized knowledges and community perspectives to arise as expertise. In this sense, Haas describes decolonial methodology as a relational, collaborative, and iterative practice that actively challenges the colonial underpinnings of knowledge production in academia. Haas (2012a) states,

My definitions are dynamic, rather than static, because they are open to revision as I continue to learn from the overlaps with and divergences from other definitions to which colleagues in the field may subscribe. Therefore, in the spirit of rhetoric, I offer these definitions as openings

to future conversations in our field, not definitive answers, so that our uniquely situated field might further contribute to disciplinary, interdisciplinary, and everyday understandings of race, rhetoric, and technology. (p. 282)

Her approach to decolonial methodologies is reflexive and acknowledges decoloniality as a process that may shift and slip as the field undertakes this challenging work and learns together.

Agboka (2014) provides important Indigenous cultural context to his definition of decolonial. He states that the term “decolonial” is used by scholars “to capture the process of rupturing and challenging the political economy of knowledge production that accords certain privileges and legitimacy to certain forms of knowing while invalidating indigenous knowledges or viewpoints of research participants” (p. 302). In this definition, Agboka extends Haas’s (2012a) discussion of decolonial to specifically include and amplify Indigenous communities and knowledges. While neither Agboka nor Haas use the term ‘sovereignty’ in their respective discussions, Agboka’s (2014) treatment of decoloniality prioritizes the rights, concerns, and experiences of Indigenous populations in a way that points to Indigenous peoples as sovereign. He continues, “Decolonial approaches also seek to produce new knowledge about how colonialism has worked and continues to work to subjugate, commoditize, and otherwise exploit culture, knowledge, and other resources of unenfranchised people, groups, and nations” (p. 302). In his discussion of decolonial methodologies, Agboka both pans in and pulls away from the Indigenous contexts related to decolonial work. In doing so, he creates an inroad to apply decolonial methodologies to a wide variety of marginalized experiences and needs.

While both Haas (2012a) and Agboka (2014) center their discussion on the relationship of decolonial methodologies to knowledge legitimization, they both refrain from any detailed discussion of decolonial approaches’ relationship to land rematriation. However, the growing body of TPC scholarship regarding environmental justice presents an area of opportunity for discussions of Indigenous stewardship of land in future research (see Ross, 1994). Further, Indigenous concepts of land can be extended to stories and histories, as Legg and Sullivan (2018) call “stories as monuments” (p. 37), which position narrative as a powerful method to connect knowledge legitimization efforts with Indigenous bodily experience in time and space. While we recognize the work of Haas (2012a) and Agboka (2014) as vital to laying the groundwork for decolonial practice inside the field, we call for an extension of the definition of decolonial inside the field that demands that such work have more robust implications for the sovereignty of Indigenous peoples.

## CORPUS ANALYSIS OF “DECOLONIAL” IN TPC RESEARCH

Keeping the above definition of decolonial methodologies in mind, we now discuss the findings of our corpus analysis. We collected 42 different texts, such as scholarly monographs, chapters from edited collections, journal articles, and conference proceedings, that used a variation of the word “decolonial” within the body of the text. As we discussed in our Research Design section, we removed Agboka (2014) and Haas (2012a) for separate analysis (above). In Table 1 we present the results of our corpus analysis of the use of “decolonial” in TPC scholarship.

**Table 1: Decolonial working definitions in TPC publications 2010–2020**

| Decolonial Definitional Fragment | Citations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Working Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Related Frameworks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indigenous Concerns<br>(7 texts) | Cox (2018); Eichberger (2019); Frost & Haas (2017); Legg & Sullivan (2018); Moore & Richards (2018); Savage & Matveeva (2011); St. Amant & Graham (2019).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Decolonization means the recovery of traditional Indigenous values, land, and cultural identity through a resistance to dominant colonial culture. Decolonial rhetorics are related to Indigenous rhetorics. They complicate the boundaries between personal/professional, public/civic, and private/individual. Decolonial methodologies expose underlying colonial structures, work to rid culture of colonial influences, and refocus upon place (land, stories-as-monuments). Decolonial frameworks are useful for discussing the connection between humans, land, and animals. Decoloniality is related to Indigenous identity, land, and language unconstrained by Western institutions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Amerindian perspectivism, antenarrative, anthropology, critical contrastive rhetoric, critical race theory, cultural rhetoric, feminism, human subjectivity, Indigenous rhetorics, intercultural theory, Native American frameworks, postcolonial theories of translation and economics, post-development studies, risk communication                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Social Justice<br>(28 texts)     | Agboka (2012); Agboka (2013); Agboka (2021); Agboka & Matveeva (2018); Cheung (2017); Cobos, Raquel Ríos, Johnson Sackey, Sano-Franchini, & Haas (2018); Del Hierro (2018); Ding & Savage (2013); Edenfield (2019a); Edenfield & Ledbetter (2019); Haas (2012b); Haas & Eble (2018); Jones, Savage, & Yu (2014); Frost (2016); Frost & Haas (2017); Jones (2016); Jones, Moore, & Walton (2016); Moore (2018); Petersen & Walton (2018); Rose (2016); Rose & Walton (2015, 2018); Salvo, Breuch, Larson, & Cassell (2012); Shelton (2020); Shivers-McNair, Gonzales, & Zhyvotovska, (2019); Small (2017); Verzosa Hurley (2018); Walton, Moore, & Jones (2019). | Decolonial methods support social justice action though prioritizing marginalized cultural perspectives and histories. Decolonial methods require researchers to be respectful, responsive to participant's needs, self-aware, to work with local partners to co-construct knowledge, and to act humbly. Decolonial methods include reciprocity, knowledge sharing, knowledge legitimation, cooperation, inclusivity, and respectful partnerships. Decolonial methods resist and change oppressive structures with a particular sensitivity to colonialist and capitalist structures, prioritizing the use of stories. Decolonial approaches are politically-oriented and attempt to account for the power dynamics at play in research contexts. Decolonial methods involve stakeholders in the development of solutions that are context-specific, rather than taking a one-solution-fits-all approach. Decolonial approaches center, legitimize, and prioritize "insider" marginalized perspectives, narratives, and knowledges to respectfully support community aspirations, and work to make hegemonic colonial practices, hegemonic practices, and globalization visible. They challenge the field to broaden its perspectives via introducing cultural contexts. Decolonial perspectives broaden perceptions of communities, workplaces, technologies, and development. | Action research, antenarrative, anti-racism, apparent feminism, Black feminism, community research, critical race theory, cultural rhetorics, cultural studies, digital an visual rhetoric, embodiment theories, ethical action, ethics, ethnography, feminist theory, gender theory, globalization, historical and archival research, intersectional social justice, localization, medical rhetoric, narrative, narrative inquiry, participatory approaches, pedagogy, politically-oriented research, postcolonial theory, postmodern theory, poststructuralism, progressive approaches, regulatory writing, rhetorical silence theory, risk communication, scientific rhetoric, social justice approaches, user advocacy, user-centered design, user-centered research, visual culture, workplace writing |

|                                   |                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                       |
|-----------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Agency and Emancipation (5 texts) | Agboka (2018); Dorpenyo (2020); Jones (2016a); Novotny & Hutchinson (2019); Petersen (2014). | Decolonial research is emancipatory and contributes to the social good. Decolonization is an enactment of agency. Decolonial approaches counter hegemonic knowledge systems and give voice to marginalized populations. Decolonial methods are critical frameworks that lead to increased agency and promote human rights and equity through supporting self-determination and liberation. Decolonial methodologies help recover the lost identities of colonized people. | Critical race theory, feminism, grounded theory, human rights, narrative inquiry, postcolonial theory |
|-----------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|

In our sample, the earliest work was published in 2011 and the most recent was published in early 2020. We encountered three themes of how decolonial was used in our sample: *Indigenous Concerns*, *Social Justice*, and *Agency and Emancipation*.

## Indigenous Concerns

Texts coded as *Indigenous Concerns* explicitly discussed Indigenous peoples' concerns at least once. There were seven texts that were given this code, and their combined working definition of decolonial is the closest to the definition we developed. However, three of the seven texts in this sub-sample used the word "decolonial" only once and their subjects were largely unrelated to Indigenous peoples (to be fair, one of these three was an editors' introduction to a special issue). These single-mention instances of decolonial framework suggest an underwhelming engagement with the complexities of a decolonial frame by giving it only a brief nod. Such limited engagement with decolonial issues in these works means that these works cannot fully engage in rematriation work. In addition, because Indigenous concerns are a central feature of decolonial methodologies, having so few texts coded as related to Indigenous concerns was alarming.

## Social Justice

Texts coded as *Social Justice* were by far the largest category in our sample, which was no surprise considering our experience applying decolonial studies scholars Tuck and Yang's (2012) critique of decolonization being used as a metaphor onto TPC scholarship practices (Itchuaqiyak & Matheson, 2021). There were 28 texts given the code *Social Justice*. Because there were so many texts assigned with this code, it was useful to revisit those texts to uncover specific aspects within that larger theme (Clegg et al., 2020). There were eight sub-themes that emerged as related to social justice and decolonial methodologies:

- self-aware/humble
- challenge hegemony/reject colonial structures
- inclusive /cultural perspectives
- respectful
- locally aware and responsive
- amplify marginalized populations, knowledges, and needs
- social justice/addressing inequalities
- politically oriented

It was unsurprising that most of the social-justice themed texts

explicitly discussed the term *social justice* alongside decolonial methodologies, or other concepts closely related to social justice such as *addressing inequalities*. Two sub-themes that emerged were focused on the researcher's interaction with the subjects of their research: *self-aware/humble* and *respectful*. Similarly, three other sub-themes focused on respectful and aware research practice: *inclusive/cultural perspectives*, *locally aware and responsive*, and *amplify marginalized populations, knowledges, and needs*. These sub-themes highlight that research influences people and communities and so it needs to be aware and respectful. Finally, two sub-themes that emerged focused on the worldview associated with research: *challenge hegemony/reject colonial structures*, and *politically oriented*. It is important to note however, that none of these articles were focused directly on the concerns of Indigenous peoples.

## Agency and Emancipation

Texts coded as *Agency and Emancipation* explicitly focused on empowering individuals to have agency over their bodies and lives. We found five of these texts inside our data set. Such texts aim to emancipate individuals from oppressive structures by countering hegemonic knowledge systems and making space for the voices of marginalized populations. Emancipating marginalized voices also allows them to have an active role in contributing positively to society. Such approaches promote human rights and equity through self-determination and liberation. These approaches provide important tools for highlighting marginalized voices in positive ways that could include the knowledges of Indigenous people. However, this approach also has the potential to be overextended beyond the interests of Indigenous peoples and, in fact, may actively overlook the needs of these populations when used to focus on other populations. Inside of this category, only three of the texts were involved in Indigenous issues; others used a decolonial frame to focus on the agency and emancipation of other marginalized populations.

## Implications of Working Definitions

Despite this critique, the scholarly works we have included in our analysis do important work. We write this critical text not to reduce the vital contributions of these authors but to offer strategies for improving the fidelity of future works. Authors in our sample frequently used decolonial as a tactic to express an inclusive perspective (since decolonial perspectives inherently reference marginalized bodies as Appleton, 2019, discusses), a move that demonstrates concrete action towards using one's own scholarship to make our field more inclusive. Further, because we found no instances of discounting or critiquing decolonial methodologies

within our sample, we can assume that all authors in this sample were attempting to use decolonial methods in good faith, even if their efforts warrant strong critique in our analysis. As Itchuaqiyaq & Matheson (2021) discuss, there seems to exist an “automatic” response to declare anything that highlights non-dominant or marginalized cultures, narratives, experiences, or individuals as “decolonial.” For example, cultural studies scholar Nayantara Sheoran Appleton (2019) sharply criticizes scholars who glibly state that they are “decolonizing” their syllabus or their university when they are merely conducting, as the name of her article suggests, a hollow academic rebranding.

The use of decolonial as a metaphor for subverting dominant cultural paradigms or demanding equity or social justice “is one way the settler, disturbed by her own settler status, tries to escape or contain the unbearable searchlight of complicity, of having harmed others just by being one’s self” (Tuck & Yang, 2012, p. 9). This anxiety leads to attempts to subsume the struggles faced by Indigenous peoples into a homogenized and sterilized universal struggle, which absolves the settler of their complicity in upholding settler colonialism. Tuck and Yang state that,

describing all struggles against imperialism as ‘decolonizing’ creates a convenient ambiguity between decolonization and social justice work, especially among people of color, queer people, and other groups minoritized by the settler nation-state. ‘We are all colonized,’ may be a true statement but is deceptively embrace and vague, its inference: ‘None of us are settlers.’ (p.17)

Further, they argue that, “[d]ecolonization is accountable to Indigenous sovereignty and futurity” and cannot be supplanted by definitions that simply use decolonization as a metaphor for using Indigenous knowledges or traditions to improve systems or ideas” (p. 35). Such efforts to define scholarship as decolonial when in fact it does not do decolonial work undermines the real and pressing work of Indigenous sovereignty and reinforces colonial structures.

Because colonial ideals are ever present in Eurowestern cultures, to some extent all bodies—marginalized or not—are colonized. However, viewing all bodies as colonized can lead to an overextension of decolonial frameworks when authors intend to do social justice work. Our data demonstrate that TPC scholarship has done just that: 28 out of 40 texts in our sample used decolonial as a metaphor for social justice in scholarship that does not directly work toward Indigenous issues and concerns. Likewise, five other texts used decolonial as a metaphor for emancipatory actions. Only seven texts were coded as explicitly relating decolonial to Indigenous concerns. Further, 21 out of 40 texts used the term “decolonial” only once outside of its references, which could indicate a lack of deep engagement with the concept. However, as decolonial scholars might note, using a quantitative method, such as the corpus-based approach we used in our study, assumes decoloniality must be explicit to be present, and this runs directly counter to many tactical decolonial practices. While we acknowledge the validity of that critique, we believe that it is through the use of a systematic, analytical approach that we can best demonstrate the concern we have regarding our field’s overwhelming mischaracterization of decolonial methodology.

Our grounded theory analysis of our sample of articles illustrates that TPC scholars are using decolonial as a metaphor for social justice or emancipation erases the concerns, knowledges, and

aspirations of Indigenous bodies as central to decoloniality. In essence, treating decolonial as a metonym for social justice or critical-cultural action colonizes decolonization. Although putting all three definitional themes together creates a pretty good definition of decolonial methodologies, picking them apart causes selective cultural erasure. Scholars wishing to use decolonial methodologies should incorporate them into their research and communication design *from the beginning* (Itchuaqiyaq, 2021; Smith, 2012; Wilson, 2008) rather than retrofitting their work with decolonial frameworks after the research has been conducted. Further, scholars should consider the concepts and needs expressed within decolonial methodologies in their fullness instead of picking and choosing convenient-to-hand fragments to shoehorn into abstracts, introductions, literature reviews, arguments, methods, results, implications, and conclusions—even if the intention is to increase inclusivity. Indigenous peoples’ acts of resilience facing historic and continuing genocide deserve more respect and deeper engagement than this type of scholarship provides.

In studying the definitions offered by Haas (2012a) and Agboka (2014), as well as other definitions, critiques, and cautions from Indigenous decolonial scholars concerned with respectful decolonial research (Itchuaqiyaq, 2021; Smith, 2012; Tuck & Yang, 2012; Wilson, 2008), as well as the texts we have reviewed above, we offer the following definition to guide TPC research and pedagogy: **Decolonial methodologies support, respect, and restore the sovereignty of Indigenous peoples, lands, and knowledges. They also support community-developed aspirations for Indigenous peoples, and support the abatement of unjust conditions related to settler colonialism that affect Indigenous communities.**

## HEURISTIC FOR IDENTIFYING DECOLONIAL WORK IN TPC

For TPC and communication design researchers to better determine if the work they are inclined to think of as decolonial is actually decolonial we follow up our above definition with an offering of the following heuristic to inform decolonial communication design. Ask yourself:

1. **From what paradigm does your work arise?** In other words, what are the primary motivating factors behind your project’s design? Did you design your research/project to be primarily concerned with supporting, respecting, and restoring the sovereignty of Indigenous peoples, lands, and knowledges? If not, you may want to consider other ways to frame your work.
2. **How have you negotiated the paradigms embedded within the materiality of your work?** In other words, do the tools, products, or other material aspects involved in your project actively work towards supporting, respecting, and restoring the sovereignty of Indigenous peoples, lands, and knowledges? If not, have you critically considered and resisted colonial underpinnings that might be found inside those materialities? If neither element is present, you may want to consider other ways to frame your work.
3. **How do Indigenous peoples and communities directly benefit from your work?** Did you design your research/project to benefit Indigenous communities associated with your research/project? How have you meaningfully incorporated Indigenous knowledges and/or stakeholders in

your design? If possible, are you engaging with Indigenous community partners towards fulfilling their own community-defined goals and providing opportunities for their meaningful input and critique? If you have not designed your project to directly benefit Indigenous communities, then you may want to consider other ways to frame your work.

## CASE STUDY: MODELING COURSE DESIGN USING DECOLONIAL HEURISTIC

In this section, we will attempt to provide an example of enacting decolonial communication design, much like Smith (2012) provided in her book, *Decolonizing methodologies: Research and Indigenous peoples*. In an effort to model critical self-reflection of the course design practice, and to encourage other scholars to do the same, this example stems from Itchuaqiyag's experience designing course materials.

### Designing a Decolonial Methods in Technical Communication Undergraduate Course (Itchuaqiyag, 2020)

#### *Synopsis*

This case study comes from the process of designing an undergraduate "capstone" technical communication course Itchuaqiyag using the heuristic we developed.

#### *Itchuaqiyag meta-narrative*

I designed this decolonial methods course to focus on repatriation after authoring scholarship that posits a definition of decolonial methodologies for TPC research with consideration to Indigenist paradigms (Itchuaqiyag, 2021). My goal in designing this course was to bring some of the calls about collaborating with Indigenous communities on issues related to technical communication I made in my manuscript to life. The following is the current course description:

In this course, you will learn about the value and reality of decolonial work in TPC. Because decolonial work centers on relationships, you will work as a coalition to create documents that are useful for Indigenous tribes in the U.S. for their repatriation efforts. Throughout this course, we will practice decolonial methods for TPC through studying existing documents regarding the repatriation of Indigenous artifacts and remains.

We will apply that knowledge and create original technical communication documents that will assist tribes in their efforts towards repatriation.

In this course, you will learn about decoloniality, ethics, audience, research, and technical communication design and techniques, among other things. While this course will center on TPC related to issues facing Indigenous peoples, you will gain a clear understanding of technical communication as a profession and practice in general. Like many "mainstream" TPC courses, you will learn to design and create professional products (policy writing, ethics statements, multimodal information, proposals, and manuals) that are multimodal, accessible, and appropriate for specific and general audiences, but will develop those products considering how issues like

oppressive cultural paradigms and colonialism might contribute to design if left unchallenged. Furthermore, this course will provide a great foundation for working with marginalized populations in a respectful and collaborative manner. (Itchuaqiyag, 2020, para. 7–9)

This first attempt at decolonial course design represents my effort at applying my own understanding of decolonial methodologies to TPC pedagogy. One way I tried to apply a decolonial lens, beyond the focus on repatriation, was through rejecting the letter-grade standards and instead incorporating a more holistic and collaborative approach to grading. For example, the syllabus contained this "Note on Assessment":

This is a pass/fail course. The irony of doing decolonial work within the confines of academe is not lost on me. However, the university requires that I grade your efforts, and this is the best grading option available. I want to state that if this course were graded using the typical A - F model, no one—including myself—would be able to receive an A. Decoloniality is a *practice* not a prescription. Decolonial methods require a *change in perspective* that is incredibly hard to do, something hardly achievable in one semester. Instead, I call upon you all to work together to give *our best effort* at practicing decolonial methods in the short period of time we have together. (Itchuaqiyag, 2020, para. 19)

#### *Applied Heuristic*

Because I designed this course specifically working to restore and respect Indigenous sovereignty, it represents a good attempt at applying a decolonial framework to an undergraduate university course. However, applying the heuristic, as we have defined above, helped locate avenues for improvement in this course design as well as locations of critique.

#### 1. From what paradigm does your work arise?

While this course attempts to work from an Indigenist paradigm, it is a university course designed to be taught at a primarily white institution (PWI). This constraint is apparent in how I discuss assessment because I am forced to give grades for how well a student can rapidly adapt to and perform an Indigenist paradigm and do decolonial work. My initial design used the term "repatriation," rather than *rematriation*, which demonstrated an affiliation with the underlying "heteropatriarchal white supremacy" (Tuck, 2011, p. 34) inherent in the term "repatriate." Instead of using the term "repatriate," decolonial scholars such as Eve Tuck, recommend the use of the term "rematriate". She states, "A rematriation ... is concerned with the redistribution of power, knowledge, and place, and the dismantling of settler colonialism" (2011, p. 37), which influenced the revision of my course design when considering issues related to paradigms and power.

During the post-heuristic revision of my course design, I changed all discussion of "repatriate" to "rematriate" and revised course readings and focused class discussion on this topic. While I could not change the reality that courses like this will likely occur in PWIs, I chose to publish my full course design, including theoretical framing, course description/front matter, course readings, assignments, and schedule on my personal scholarly website under an Attribution 4.0 Creative Commons license. This mode of publication assures that the

content of the course design is available to access, use, or even redesign by anyone.

## **2. How have you negotiated the paradigms embedded within the materiality of your work?**

Although I acknowledge the irony of any PWI course being truly decolonial and actively trying to push back against Eurowestern academic norms of pedagogy, the situatedness of the course within the confines of the PWI academic structure (versus a Tribal College or University) limits the application of an Indigenist paradigm. For example, the course description assures students that they will still learn to effectively create “normal” (read: capitalism-based) technical communication products rather than challenge or attempt to discover what other types of skills and products such a course could produce.

## **3. How do Indigenous peoples and communities directly benefit from your work?**

The major project in this course centers on working directly with tribal technical communicators to create repatriation manuals for both individuals wanting to repatriate items (such as human remains, sacred items, historical items) as well as for tribes receiving such items. This project is designed as a live model that will create products that are directly beneficial for Indigenous tribes in aiding their repatriation efforts. Although the students at the PWI may or not be Indigenous students, their acculturation to Indigenous concerns as a significant part of their basic technical communicator training may benefit Indigenous peoples and communities in the future.

The application of the heuristic demonstrates that while some of the aspects of this course are closely in line with the aims of decolonial methodologies, other aspects are still rooted in colonial frameworks. However, recognizing and revealing oppressive structures like colonialism are the first parts of the process towards rejecting and replacing them, as described by Walton et al. (2019) in their 4Rs framework. Applying this heuristic while still in the design phase of this project allows me to concretely determine areas that I might be able to improve this course (such as considering alternative products achievable through decolonial TPC) as I redevelop it for future implementation.

## **LIMITATIONS**

Our study design has some limitations built into our scope. For instance, we did not include the terms post-colonial or anti-colonial in this study because we believe these terms have distinct and different purposes. Still, much could be learned by researching the scholarship using these terms that might add complexity and depth to our findings in this study.

As we stated in our Research Design section, our study was greatly influenced by Tuck and Yang’s (2012) critique of the ways scholars commonly (mis)used decolonial methodologies. Because of this influence, we already suspected that many of the texts in our sample would use decolonial to describe social justice or humanitarian work. Thus, we may have gravitated toward sample quotes that reflected that assumption. How we attempted to mitigate this bias was to pull every quote that used the term “decoloni\*” in our sample and analyze each individually and as a whole before determining a final code. It is worth noting that using the corpus analysis method we chose meant that we did not do a close reading of each of these texts for this analysis, though we had read many of them

previously. Because of this method, we could have missed what we would consider necessary contexts to make a study decolonial in nature. However, considering that a large number of the texts in our sample used the term “decoloni\*” only once within the body of the manuscript supports our claim that decolonial methodologies are being used in shallow ways in our field’s scholarship.

Relatedly, using a counting method such as we did to understand decolonial methodologies limits our ability to account for nuance. While our own research design is not decolonial, we do not want to suggest that successfully deploying a decolonial communication design requires a set number of mentions of decoloniality, land, or Indigenous people. Instead, we use a counting method to help us understand, describe, and discuss a problematic phenomenon within our field without alienating members of our own community of scholars. Further, we recognize that chattel slavery has complicated issues of “homeland” and a sense of place for Black communities in the United States whose ancestors were stolen from their homelands and brought to the U.S. unwillingly. More work is needed to explore how sovereignty in the Black community and Indigenous community intersect and complement one another, especially in how these communities use narrative to evoke a sense of place, belonging, and identity. Technical communication scholar Natasha N. Jones argues that “Decolonial narrative inquiry... embraces experience, especially the lived experiences of the multiply marginalized that are almost always “both/and” realities, rich and complex” (2020, p. 520). While we assert a particular view of decoloniality in this article, we cannot demand a singular vision as the only way forward. Instead, we ask that this both/and reality connected to decoloniality and its application be explored and considered thoughtfully. We believe social justice work in our field is important and we want to equip our colleagues to do this work respectfully and thoroughly without reinscribing colonial violence.

Although study limitations are often a way of describing limitations in methods or findings, we wish to communicate that there are also limitations built into the way we have written this article. Communication and rhetoric scholar Karma Chávez (2013) argues that it is through radical interactionality, or confronting the roots of oppression in no uncertain (or utopian, status quo protecting) terms, that real change can occur, even if it produces discomfort among the audience for whom it is intended. However, Chávez recognizes that this type of action requires risk—in this case, specifically calling out scholars in the field for misusing decolonial frameworks in ways that further marginalize Indigenous people while being junior scholars embodying various vectors of marginality ourselves—and that not all scholars have the margin of maneuverability (Feenberg, 2010; Walton et al., 2019) to embody that risk. For reasons apparent and not apparent, including our status as early career researchers using radical methods represents risks to our status and progression in the field. This is, in part, because the field has long prioritized decorum as an important practice of critique (Mackiewicz & Riley, 2003). As a result, we have, as junior scholars, made the difficult choice to obey the rules of the genre and engaged in critique that embodies a certain level of careful decorum, to protect both ourselves and other tenuously positioned scholars from the implications of direct critique.

We argue that not all scholars have the margin of maneuverability to *incur* risk as well. For example, our choice to synthesize our data about the specific ways each of the 40 texts in our sample use decolonial into one generalized table is an acknowledgement that many of the scholars using decolonial frameworks are

marginalized junior scholars themselves. Although we recognize that a strong and specific critique might make our case more effectively, the risks associated with such an act are too great. Instead, we choose to discuss the effects of the misuse, rather than the instances of the misuse, of decolonial frameworks in no uncertain terms. Overlooking the Indigenous concerns regarding sovereignty and rematriation explicit in decolonial methodologies is cultural erasure, even if that is not the intention of the author. If that cultural erasure is intentional, then it is an element of genocide (MacDonald, 2015). While some may balk at the use of genocide in relation to the misuse of a decolonial framework, we use this term with intention as an act of radical interactionality. Chávez (2013) states that softening or limiting language for the sake of decorum does not reduce oppression; instead, she suggests that strong language can and should be used to combat oppression.

Finally, we acknowledge that the peer review process itself can sometimes shape or limit the extent to which scholars are able to do radical or even truly decolonial work. Reviewers are working from a position of power, amplified by anonymity, which limits dialogue between author and reviewer and can put authors in the position of needing to conform to reviewer feedback or risk rejection from publication. Further, peer reviewers sometimes ask authors to use a specific framework, leaving authors to have to decide if pushing back is worth the risk of a rejected manuscript. These complicated systemic factors related to the publication process add another layer of vulnerability to the work of marginalized scholars attempting to do important work and reaffirms our decision to proceed carefully in our critique.

## CONCLUSION

While we agree with Haas (2012a) that decolonial frameworks can be dynamic, we also argue that it should have boundaries in order to assure that decolonial work retains a meaningful benefit to Indigenous people. As a result of this work, we suggest that authors can and should work toward being more intentional about the use of decolonial frameworks in TPC. While we believe such work is well intentioned, we maintain that overly broad uses of decolonial framework have the potential to remarginalize Indigenous peoples. Scholars that aim to use a decolonial framework should build the framework directly into their research and communication design from its beginning. We suggest that when in question, scholars implement our heuristic to evaluate the appropriateness of a decolonial frame for their own work. Work that does not meet the specifications of the heuristic might indeed be more appropriately categorized inside another ideological frame such as feminist, social justice, anti-colonialism, critical race theory, or other related theoretical frames. Finally, we affirm that these many other frameworks are vital to the growth of the field. Scholarship that does not do decolonial work should simply identify itself as such and use a more appropriate frame.

Some takeaways for communication designers in doing decolonial design:

- Engage with Indigenous stakeholders and users from the beginning of your project.
- Consider how your design may be interpreted within Indigenous contexts.
- Recognize the potentially competing interests (such as the underlying capitalistic demands of colonial organizations) at

play in your project.

- Allow Indigenous communities to identify both the potential benefits of your project as well as the potential harms.

Some takeaways for scholars using decolonial frameworks in their research design:

- Collaborate with Indigenous stakeholders and communities to identify community needs prior to designing research.
- Treat collaborators as co-designers of knowledge rather than support staff.
- Create tangible benefits to stakeholders that contribute to community-identified aspirations.
- Respect the sovereignty, leadership, and expertise of stakeholders.

In addition, we acknowledge that in many cases, TPC scholars have elected to use decolonial frameworks as a result of the pressure from peer reviewers. As such, we call peer reviewers to use the same discretion in asking authors to use a decolonial frame in situations that fail to meet the specifications of our heuristic. As a result, authors should come up against less outside pressures to undertake a theoretical framework that re-marginalizes an already marginalized community.

As a side effect of our major intention to define and understand the use of decolonial frameworks in TPC, we also acknowledge that work such as ours (and the work of many other junior scholars) comes embedded with significant limitations due to the academic structure in which we are operating. Such limitations should be made visible by acknowledging and naming them, and structural norms around decorum inside the field should be critically reevaluated with an eye for the ways in which these norms limit the depth of our scholarship.

And finally, we argue that an important part of working in TPC after the social justice turn requires doing work that is self-reflective, transparent, and responsible to the communities it aims to serve. As a result, we have aimed here to model reflexivity and self-critique as a mechanism of being accountable to our community for our work. Such a practice allows us to take a radical stance and to be honest about the limitations of our work and accountable to each other and our communities, especially as our perspectives shift and change over time. This reflective strategy is an important part of participating in decolonial methodologies which require scholars to evaluate the harms that researchers bring to the research (Smith, 2012).

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## ENDNOTES

1. Itchuaqiyak's digital research corpus includes 427 texts related to technical communication, social justice, intercultural communication, and decolonial research. It also includes all (n=777) journal articles from 2012–2019 in five major TPC journals.

2. We did our best to uncover the body of TPC publications from 2010 until February 2020 that use a form of “decolonial” outside of its references, although it is possible that we may have inadvertently overlooked some.

3. We have specifically chosen not to include the terms “anti-colonial” and “post-colonial” in our study because they each have distinct meanings that differ from “decolonial” (refer to Itchuaqiyaaq & Matheson, 2021, for more information about the distinction between anti-coloniality and decoloniality). We acknowledge that there exists TPC scholarship that refer to their work as anti-colonial or post-colonial, but they fall outside of our research’s scope because we are specifically interested in how our field frames and uses decolonial methodologies.

4. Haas explicitly discussed her Indigenous identity within her published scholarship (2012a, p. 296) and Agboka gave permission (G. Agboka, personal communication, October 27, 2019) to Itchuaqiyaaq to refer to him as an Indigenous scholar.

## REFERENCES

- Agboka, G. (2012). Liberating intercultural technical communication from “large culture” ideologies: Constructing culture discursively. *Journal of Technical Writing and Communication*, 42(2), 159–181. <https://doi.org/10.2190/TW.42.2.e>
- Agboka, G. Y. (2013). Participatory localization: A social justice approach to navigating unenfranchised/disenfranchised cultural sites. *Technical Communication Quarterly*, 22(1), 28–49. <https://doi.org/10.1080/10572252.2013.730966>
- Agboka, G. Y. (2014). Decolonial methodologies: Social justice perspectives in intercultural technical communication research. *Journal of Technical Writing and Communication*, 44(3), 297–327. <https://doi.org/10.2190/TW.44.3.e>
- Agboka, G. Y. (2018). Indigenous contexts, new questions: Integrating human rights perspectives in technical communication. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 114–137). Utah State University Press.
- Agboka, G. Y. (2021). “Subjects” in and of research: Decolonizing oppressive rhetorical practices in technical communication research. *Journal of Technical Writing and Communication*, 51(2), 159–174. <https://doi.org/10.1177/0047281620901484>
- Agboka, G. Y., & Matveeva, N. (2018). Preface: Advocating for the good of humanity: Technical communication as a tool for change. In G. Y. Agboka & N. Matveeva (Eds.), *Citizenship and advocacy in technical communication: Scholarly and pedagogical perspectives* (pp. xxv–xxxvii). Routledge.
- Anthony, L. (2019). AntConc (Version 3.5.8) [Computer Software]. Waseda University. <https://www.laurenceanthony.net/software>
- Appleton, N. S. (2019, February 4). Do not ‘decolonize’ . . . if you are not decolonizing: Progressive language and planning beyond a hollow academic rebranding. *Critical Ethnic Studies*. <http://www.criticalethnicstudiesjournal.org/blog/2019/1/21/do-not-decolonize-if-you-are-not-decolonizing-alternate-language-to-navigate-desires-for-progressive-academia-6y5sg>
- Chakravartty, P., Kuo, R., Grubbs, V., & McIlwain, C. (2018). #CommunicationSoWhite. *Journal of Communication*, 68(2), 254–266. <https://doi.org/10.1093/joc/jqy003>
- Chang, R. S. (2009). Richard Delgado and the politics of citation. *Berkeley Journal of African American Law & Policy*, 11(1), 28–35. <https://doi.org/10.15779/Z38BK6D>
- Chávez, K. R. (2013). *Queer migration politics: Activist rhetoric and coalitional possibilities*. University of Illinois Press.
- Cheung, I. W. (2017). Plain language to minimize cognitive load: a social justice perspective. *IEEE Transactions on Professional Communication*, 60(4), 448–457. <https://doi.org/10.1109/TPC.2017.2759639>
- Clegg, G., Lauer, J., Phelps, J., & Melonçon, L. (2020). Programmatic outcomes in undergraduate technical and professional communication programs. *Technical Communication Quarterly*, 30(1), 19–33. <https://doi.org/10.1080/10572252.2020.1774662>
- Cobos, C., Ríos, G. R., Sackey, D. J., Sano-Franchini, J., & Haas, A. M. (2018). Interfacing cultural rhetorics: A history and a call. *Rhetoric Review*, 37(2), 139–154. <https://doi.org/10.1080/007350198.2018.1424470>
- Cox, M. (2018). Shifting grounds as the new status quo: Examining queer theoretical approaches to diversity and taxonomy in the technical communication classroom. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 288–303). Utah State University Press.
- Del Hierro, M. (2018). Stayin’ on our grind: What hiphop pedagogies offer to technical writing. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 163–184). Utah State University Press.
- Ding, H., & Savage, G. (2013). Guest editors’ introduction: New directions in intercultural professional communication. *Technical Communication Quarterly*, 22(1), 1–9. <https://doi.org/10.1080/10572252.2013.735634>
- Dorpenyo, I. K. (2020). *User localization strategies in the face of technological breakdown: Biometric in Ghana’s elections*. Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-26399-7>
- Edenfield, A. C. (2019a). Research in cooperatives: Developing a politically conscious research methodology. *Technical Communication Quarterly*, 28(4), 376–390. <https://doi.org/10.1080/10572252.2019.1621388>
- Edenfield, A. C. (2019b). Queering consent: Design and sexual consent messaging. *Communication Design Quarterly*, 7(2), 50–63. <https://doi.org/10.1145/3358931.3358938>
- Edenfield, A. C., & Ledbetter, L. (2019). Tactical technical communication. *SIGDOC Proceedings*. <https://dl.acm.org/doi/10.1145/3328020.3353927>
- Eichberger, R. (2019). Maps, silence, and Standing Rock: Seeking a visuality for the age of environmental crisis. *Communication Design Quarterly*, 7(1), 9–21. <https://doi.org/10.1145/3328020.3353927>

- Feenberg, A. (2010). The critical theory of technology. In C. Hanks (Ed.), *Technology and values: Essential readings* (pp. 176–195). Wiley-Blackwell. (Original work published 2002)
- Frost, E. A. (2016). Apparent feminism as a methodology for technical communication and rhetoric. *Journal of Business and Technical Communication*, 30(1), 3–28. <https://doi.org/10.1177/1050651915602295>
- Frost, E. A., & Haas, A. M. (2017). Seeing and knowing the womb: A technofeminist reframing of fetal ultrasound toward a decolonization of our bodies. *Computers and Composition*, 43, 88–105. <https://doi.org/10.1016/j.compcom.2016.11.004>
- Haas, A. M. (2012a). Race, rhetoric, and technology: A case study of decolonial technical communication theory, methodology, and pedagogy. *Journal of Business and Technical Communication*, 26(3), 277–310. <https://doi.org/10.1177/1050651912439539>
- Haas, A. M. (2012b). Technical communication, empire-building, and social justice. *CPTSC Conference Proceedings* (pp. 34–40). <https://cptsc.org/wp-content/uploads/2018/01/2012.pdf>
- Haas, A. M., & Frost, E. (2017). Toward an apparent decolonial feminist rhetoric of risk. In D. G. Ross (Ed.), *Topic-driven environmental rhetoric* (pp. 168–186). Routledge.
- Haas, A. M., & Eble, M. F. (2018). Introduction: The social justice turn. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 1–3). Utah State University Press.
- Hurley, E. V. (2018). Spatial orientations: Cultivating critical spatial perspectives in technical communication pedagogy. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 93–113). Utah State University Press.
- Itchuaqiyag, C. U. (2020, August 3). Decolonial methods in TPC: Full undergrad course. *Cana Uluak Itchuaqiyag*. <https://www.itchuaqiyag.com/post/decolonial-methods-in-tpc-full-undergrad-course>
- Itchuaqiyag, C. U. (2021). Iñupiat ilitqusiag: An Indigenist ethics approach for working with marginalized knowledges in technical communication. In R. Walton & G. Y. Agboka (Eds.), *Equipping technical communicators for social justice work: Theories, methodologies, and pedagogies*. Utah State University Press. (in press)
- Itchuaqiyag, C. U., & Matheson, B. (2021). Decolonial dinners: Ethical considerations of “decolonial” metaphors in TPC. *Technical Communication Quarterly*, 30(3). (in press)
- Jones, N. N. (2016). Narrative inquiry in human-centered design: Examining silence and voice to promote social justice in design scenarios. *Journal of Technical Writing and Communication*, 46(4), 471–492. <https://doi.org/10.1177/0047281616653489>
- Jones, N. N. (2020). Coalitional learning in the contact zones: Inclusion and narrative inquiry in technical communication and composition studies. *College English*, 82(5), 515–526. <https://library.ncte.org/journals/CE/issues/v82-5/30756>
- Jones, N. N., Moore, K. R., & Walton, R. (2016). Disrupting the past to disrupt the future: An antenarrative of technical communication. *Technical Communication Quarterly*, 25(4), 211–229. <https://doi.org/10.1080/10572252.2016.1224655>
- Jones, N. N., Savage, G., & Yu, H. (2014). Tracking our progress: Diversity in technical and professional communication programs. *Programmatic Perspectives*, 6(1), 132–152. <https://cptsc.org/wp-content/uploads/2018/04/vol6-1.pdf>
- Katz, S. B. (1992). The ethic of expediency: Classical rhetoric, technology, and the Holocaust. *College English*, 54(3), 255–275. <https://doi.org/10.2307/378062>
- Legg, E., & Sullivan, P. (2018). Storytelling as a balancing practice in the study of posthuman praxis. In K. R. Moore & D. P. Richards (Eds.), *Posthuman praxis in technical communication* (pp. 23–45). Routledge.
- Mackiewicz, J., & Riley, K. (2003). The technical editor as diplomat: Linguistic strategies for balancing clarity and politeness. *Technical Communication*, 50(1), 83–94.
- MacDonald, D. B. (2015). Canada’s history wars: Indigenous genocide and public memory in the United States, Australia, and Canada. *Journal of Genocide Research*, 17(4), 411–431. <https://doi.org/10.1080/14623528.2015.1096583>
- Moore, K. R. (2018). Black feminist epistemology as a framework for community-based teaching. In A. M. Haas & M. Eble (Eds.), *Key theoretical frameworks: Teaching technical communication in the twenty-first century* (pp. 186–211). Utah State University Press.
- Novotny, M., & Hutchinson, L. (2019). Data our bodies tell: Towards critical feminist action in fertility and period tracking applications. *Technical Communication Quarterly*, 28(4), 332–360. <https://doi.org/10.1080/10572252.2019.1607907>
- Petersen, E. J. (2014). Redefining the workplace: The professionalization of motherhood through blogging. *Journal of Technical Writing and Communication*, 44(3), 277–296. <https://doi.org/10.2190/TW.44.3.d>
- Petersen, E. J., & Walton, R. (2018). Bridging analysis and action: How feminist scholarship can inform the social justice turn. *Journal of Business and Technical Communication*, 32(4), 416–446. <https://doi.org/10.1177/1050651918780192>
- Portewig, T. C. (2011). The role of rhetorical invention for visuals: A qualitative study of technical communicators in the workplace. In J. Conklin & G. F. Hayhoe (Eds.), *Qualitative Research in Technical Communication* (pp. 145–162). Routledge.
- Richards, D. P., & Moore, K. R. (2018). Introduction. In K. R. Moore & D. P. Richards (Eds.), *Posthuman praxis in technical communication* (pp. 1–20). Routledge.
- Rose, E. J. (2016). Design as advocacy: Using a human-centered approach to investigate the needs of vulnerable populations. *Journal of Technical Writing and Communication*, 46(4), 427–445. <https://doi.org/10.1177/0047281616653494>
- Rose, E. J., & Walton, R. (2015). Factors to actors: Implications

of posthumanism for social justice work. *SIGDOC '15: Proceedings of the 33rd Annual International Conference on the Design of Communication*. <https://doi.org/10.1145/2775441.2775464>

- Rose, E. J., & Walton, R. (2018). Factors to actors: Implications for posthumanism for social justice work. In K. R. Moore & D. P. Richards (Eds.), *Posthuman praxis in technical communication* (pp. 91–117). Routledge.
- Ross, S. M. (1994). A feminist perspective on technical communicative action: Exploring how alternative worldviews affect environmental remediation efforts. *Technical Communication Quarterly*, 3(3), 325–342. <https://doi.org/10.1080/10572259409364575>
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Sage.
- Salvo, M. J., Breuch, L. K., Larson, B., & Cassell, K. (2012, September 27–29). *How new technologies affect communities and rhetoric* [Conference panel]. CPTSC 39th Annual Conference, Houghton, MI, United States. <https://cptsc.org/wp-content/uploads/2018/01/2012.pdf>
- Savage, G., & Matveeva, N. (2011). Toward racial and ethnic diversity in technical communication programs: A study of technical communication in historically Black colleges and universities and tribal colleges and universities in the United States. *Programmatic Perspectives*, 3(1), 58–85. <http://cptsc.org/wp-content/uploads/2018/04/Vol3-1.pdf>
- Shelton, C. (2020). Shifting out of neutral: Centering difference, bias, and social justice in a business writing course. *Technical Communication Quarterly*, 29(1), 18–32. <https://doi.org/10.1080/10572252.2019.1640287>
- Shivers-McNair, A., Gonzales, L., & Zhyvotovska, T. (2019). An intersectional technofeminist framework for community-driven technology innovation. *Computers and Composition*, 51, 43–54. <https://doi.org/10.1016/j.compcom.2018.11.005>
- Small, N. (2017). (Re) Kindle: On the value of storytelling to technical communication. *Journal of Technical Writing and Communication*, 47(2), 234–253. <https://doi.org/10.1177/0047281617692069>
- Smith, L. T. (2012). *Decolonizing methodologies: Research and indigenous peoples* (2nd ed.). Zed Books.
- St. Amant, K., & Graham, S. S. (2019). Research that resonates: A perspective on durable and portable approaches to scholarship in technical communication and rhetoric of science. *Technical Communication Quarterly*, 28(2), 99–111. <https://doi.org/10.1080/10572252.2019.1591118>
- Tuck, E. (2011). Rematriating curriculum studies. *Journal of Curriculum and Pedagogy*, 8(1), 34–37. <https://doi.org/10.1080/15505170.2011.572521>
- Tuck, E., & Yang, K. W. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education, & Society*, 1(1), 1–40.
- Walton, R., Moore, K. R., & Jones, N. N. (2019). *Technical communication after the social justice turn: Building coalitions for action*. Routledge.

Wilson, S. (2008). *Research is ceremony: Indigenous research methods*. Fernwood Publishing.

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# Book Review

## *Nihilism and Technology*

### Nolen Gertz

Gertz, N. (2018). *Nihilism and technology*. Rowman & Littlefield.

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Nolen Gertz's *Nihilism and Technology* is a commendable book that analyzes the human-technology relations by applying Nietzsche's nihilistic views to technology. By exploring the intertwinement of technology and nihilism, the book underscores its thesis that technologies are our means of escapism from the meaninglessness of our lives. This book turns away from the technophilic and technophobic views of technology and instead moves us toward questioning "how technologies both shape and are the result of... ideological definitions" (Gertz, 2018, p. 7). This is an awakening read that leaves the readers pondering over the numbing effects of technologies.

Chapter 1, "Nietzsche and Chill," serves as a necessary introduction to the chapters that follow. Gertz begins his investigation by looking at what he calls "leisure-as-liberation" in technological design where technologies are understood to liberate us to have more leisure time. Technology is taken to be a way of life that works to offload humans from the daunting chores that prevent them from having free time. Today, the boundaries between humans and technologies have become blurred that it has become difficult to tell where technologies end and humans begin. Neither humans nor technologies could exist independently of one another. The distinction between humans and technology is a result of the dualistic modes of thinking.

Gertz takes a philosophical stance in the following chapter by investigating the meaning of nihilism. He rejects the understanding

of nihilism that is associated with not caring and rather associates it with the "caring for life" (Gertz, 2018, p. 7). Nihilism is prevalent in daily life, and according to Nietzsche, is intertwined with morality. Sartre captures the nihilism of everyday life maintaining that nihilism is a way to unburden ourselves from being ourselves. What is normal is not caring and not wanting accountability. This is the normalcy of nihilism. Gertz points that while Sartre allows us to understand nihilism in everyday life, Nietzsche provides insight into the relationship between nihilism and life itself that he defines as the "will to power" (Gertz, 2018, p. 21). Nihilism is the reason we can question our values. By highlighting the role of asceticism in Nietzschean philosophy and the way that no other ideal can compete with ascetics, Gertz points that Nietzsche can help us explore the field of technology. An intriguing question that Gertz raises is whether technology can be a manifestation of active or passive nihilism. Gertz contends that Nietzsche has taken for granted that to be human must be necessarily associated with embodiment. Yet, Gertz discusses transhumanism to argue that embodiment is not necessarily a requirement for being human. While "overman" is Nietzsche's goal, Gertz assumes that Nietzsche would perceive transhumanism as a continuity of the nihilism that his overman was supposed to overcome. Gertz closes the chapter on a pessimistic note that technologies are a sign of human decline that while they help us progress, they make us more self-destructive and nihilistic.

Martin Heidegger's concerns about modern technology and Don Ihde's analysis of human-technology relations are explored in chapter 3, "The Hammer of God." Despite its technical jargon, Gertz develops a philosophy of technology in this chapter. Central to Heidegger's analysis is that the essence of technology is nothing technological. While ancient technology for Heidegger is a way of bringing-forth what nature and humanity are capable of, modern technology challenges nature. Technology has become a means to an end; and humans, too, have become instruments for technology. Heidegger's pessimistic view is countered by Gertz's view which holds that humans must ultimately remain in control. Gertz highlights the powerful resemblance between Heidegger's understanding of the essence of technology, which

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he calls enframing, and the essence of nihilism, which is the will to power. Ihde's human-technology relations are not strictly about how humans relate to technology, but rather how "humans and technologies become what they are," (Gertz, 2018, p. 61) and how they co-constitute one another. According to this view, tools do not exist independently of the human-technology relation in which they are engaged. Contrary to Heidegger, Ihde does not see our relationship with technology as dystopic. Rather, we are aware of what technology does, yet we continue to use it nonetheless. By bringing Nietzsche and Ihde together, Gertz introduces a new human-technology relation that he calls nihilism relations which describes the ways we use technologies while overlooking their dangers.

The remaining two thirds of the book presents case studies on how various technologies play a numbing effect in our lives. Chapter 4, "Ecce Hulu," takes a practical turn by building on chapter 3 to explore techno-hypnosis as a nihilism-technology relation. By applying Nietzsche's "self-hypnosis" practices to technologies, we can identify the hypnotic appeal of technologies which is our attempt to avoid the burdens of consciousness. We immerse ourselves in self-hypnosis, as a form of nihilism, to evade pain, fear, or regret. Similarly, techno-hypnosis explain how technologies are tools for us to carry self-hypnosis, to escape reality, and to achieve "zoning out" (Gertz, 2018, p. 61). From television and YouTube to virtual reality and augmented reality, we came to see technologies as hypnotizing, where this hypnotizing effect is not only pleasurable but also justifiable. We grew so comfortable with "watching as a way of life" (Gertz, 2018, p. 70). The hypnotic nature of technology is understood as a feature rather than a fault. Gertz highlights that techno-hypnosis is not without dangers. Techno-hypnotic technologies reduce our awareness and presents us with the world view which we take for granted as reality. They result in self-denial that reduces our awareness. Technologies are hypnotic "because we want to be hypnotized" (Gertz, 2018, p. 85).

Chapter 5, "Amor Fitbit," tackles a second human-nihilism relation which is "mechanical activity." While techno-hypnosis is one way to self-hypnotize through technologies, mechanical activity is another to avoid ourselves through repetitive tasks. Gertz discusses Fitbit as a technology that tracks our fitness and quantifies our lives in a way which separates the action from the actor, leading Nietzsche to label this behavior as nihilistic. Central to this chapter is the question of "who is the "you" that the Fitbit is monitoring, motivating, and attempting to understand?" (Gertz, 2018, p. 93). Humans have been transformed into measurable data that their personhood and individuality have been stripped. People blindly obey Fitbit's orders to "Move!" demonstrating that algorithms and devices prompt decisions for us. Algorithms today are reliable in predicting human behavior because humans are predictable, resulting in us becoming not only measurable but also uniform. Ironically, while no one really knows how algorithms work, we still trust them.

Whereas chapter 5 focuses on techno-hypnosis, this chapter, "The Uber Mensch," looks at a third human-nihilism relation that Nietzsche calls "petty pleasures" which is a type of reward that we get out of helping others to compensate for our own powerlessness. Nietzsche's claim here is that "we help others in order to help ourselves" by demonstrating our own power (Gertz, 2018, p. 111). While the selflessness in the two previous forms of nihilisms was based on escapism into mindless activities, selflessness with petty pleasures is found in altruistic activities. Gertz uses "pleasure

economics" to describe the use of technologies in helping others. Given the unprecedented role of technologies today, people not only help others by exchanging gifts, sending money, or renting their homes, but also renting their bodies by using sites like TaskRabbit. Pleasure economics is not without dangers. While it allows us to enjoy the power of generosity, it also lets us feel the power of cruelty and reducing others to their neediness. Central to this chapter is the "sharing economy," which is not only about commodities and services, but also sharing experiences and trust which is the result of uploading personal information onto websites. This sharing, however, leads to judging and discrimination. Gertz raises a controversial question: have we grown so dependent on technology for feelings of pleasure that we can no longer experience community with others without the applications of pleasure economics?

The title of chapter 7, "Thus Spake Zuckerberg," is a nod to Nietzsche's *Thus Spoke Zarathustra* (1997). This chapter looks at the technology-nihilism relation which Gertz labels "herd networking." Nietzsche argues that we join the herd because it provides us the opportunity to avoid the burden of being who we are. Social networking platforms are re-forming what engagement means. But similar to the dangers associated with pleasure economics, herd networking has its own dangers which leads people to craft certain identities and content that meshes with the platform to the extent that we have become our content.

Chapter 8, "The Trolling of The Idols," explores Nietzsche's final human-nihilism relation, "orgies of clicking," which is a term that explains our "tendency to express our orgies of feeling in and through technologies" (Gertz, 2018, p. 162). Nietzsche describes the orgies of feeling as constitutive of the "guilty" human-nihilism relation as they are about emotional explosions. While the orgies of feeling lead to self-destruction, the orgies of clicking lead to the world-destruction. Gertz uses trolling and flash mobs as instances where the dangers of the orgies of clicking can be seen. Pertinent to this chapter is Gertz's comparison of the Internet to a playground where the comments section can provide us with a space to "virtually explode" (Gertz, 2018, p. 167) and discharge our instincts, which is referred to today as "trolling". Trolling is nihilistic as a troll refuses to admit that they are a troll. The self-created online anonymity leads to what can be labelled as virtual-actual dualism which separates online actions such as trolling from real life. Trolling can be perceived as an evasion of one's reality, like techno-hypnosis, and of one's accountability, such as data-driven activity. Gertz compares trolling to flash mobs for while the earlier is about hiding from the responsibility of attacking others; the latter is about transforming oneself into a performer who denies responsibility for the performance. Social media has resulted in strangers suddenly gathering in the same place to perform the same activity enabling the herd networking of trolling and flash mobs.

While the previous chapters examined specific technologies, the concluding chapter, "Google is Dead," attempts to answer the question of "how we should respond to the relationship between our nihilism and our technologies" (Gertz, 2018, p. 10). Here Gertz compares between God who once functioned as a guide for the lost and Google which is our present-day guiding star that provides us with answers. Today, technologies are omniscient and omnipresent. Google works to demonstrate our never-ending nihilistic reliance on external sources. Gertz concludes that evading technologies won't eliminate their effects on us. Rather, humans need to find ways to understand what it means to be human by moving from

passive to active nihilism, a view that leads to taking a more critical stance toward the human-technology relationship and to understand what “progress” means.

Thanks to its accessible language and abundant examples, this book would appeal to the general audience outside the confines of philosophy departments. By applying Nietzschean nihilism, Gertz provides a brilliant analysis of how modern-day technologies have reshaped our lives. He leaves his readers reflecting on the social implications of technology and offers them an invitation to get out of the cave and conquer their shadows.

## REFERENCES

Nietzsche, F. (1997). *Thus spake Zarathustra*. Wordsworth.

## ABOUT THE AUTHOR

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## Book Review

### *Rhetoric of Health and Medicine As/Is: Theories and Approaches for the Field*

**Lisa Melonçon, S. Scott Graham, Jenell Johnson, John A. Lynch, and Cynthia Ryan**

Melonçon, L. Graham, S.S, Johnson, J., Lynch, J., & Ryan, S. (Eds). (2020). *Rhetoric of health and medicine as/is: Theories and approaches for the field*. The Ohio State University Press.  
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The foreword, written by Judy Z. Segal, begins with a brief dialogue between a patient and a nurse that illustrates the effects of discursive actions on health and medicine. It is a dialogue between a patient and a nurse, reminiscent of stories of ancient cartographers who mapped their changing and uncertain worlds through stories, discovering ever new riches in a world that wasn't flat. In the same way, contemporary thinkers in health and medicine are discovering the treasure in exploring rhetoric and technical communication across traditional boundaries. These authors move through previously uncharted territory with story and new questions that extend the boundaries of our individual bodies. They explore important questions of individual human agency and how that intersects with social and rhetorical theory. Critical questions new to medicine in the twenty-first century, such as resistance, power of representation, and where advocacy for health justice lies, are topics explored through a variety of lenses in this collection.

The editors of this collection advance an interdisciplinary approach to the rhetoric of health and medicine (RHM) that grounds it as solid theory that is also defined by boundaries. Each contribution in this collection challenges representations of how our current culture influences the construction and delivery of healthcare. Each one challenges the work cut out for RHM: to find new frameworks from which to build new understandings of where healthcare is today. The selections offer ways in which RHM and scholars and practitioners across many disciplines can reimagine and present healthcare cultures and concepts in need of fresh consideration.

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The book is divided into three sections focused on different healthcare perspectives. Each section is followed by a response from prominent scholars. The thematic approach contextualizes the diverse selections and offers considerations to move research and practice forward.

The first section includes three chapters on interdisciplinary perspectives, each one mediating the spaces between health and the dehumanization of healthcare and illuminating the need to rethink the dual-culture trope of science vs. humanities. Section Two focuses on the binaries between how we see our embodied selves and how those bodies are represented through external actants such as autoimmune or chronic diseases, or mediated objects such as medical devices and electronic apps. The attention is on what constitutes disease and health agency. The chapters in the final section are focused on health citizenship and advocacy

Beginning with a discussion of local food sustainability and constitutive rhetoric, Coleen Derkatch and Philippa Spoel consider the formation of health citizenship and the ways in which the rhetoric of healthcare might be expanded through generalized socio-ideological frameworks. Health, they maintain, is rhetorically constituted in materials that are not directly related to medicine. RHM, the authors conclude, has the potential to provide knowledge about health humanities that have value outside of the healthcare profession.

Moving to an interdisciplinary, cultural and political construction of dis-order, Drew Holladay and Margaret Price explore the intersection of Disability Studies (DS) and the rhetoric of mental health to move them beyond conceptions of limitation, stigmatization, and difference to vocabularies of equity and justice. For such a political-relational approach to configurations of disability and mental health to occur, rhetorical critique and invention strategies that challenge the current conversations among RHM and DS scholars will be required.

Emily Winderman and Jamie Landau revisit the HeLa cells of Henrietta Lacks to call for the rehumanization of RHM through pathos as a rhetorical process. In this third chapter, the authors

use Rebecca Skloot's award-winning book, *The Immortal Life of Henrietta Lacks* (2010), to demonstrate how the rhetoric of pathos and rehumanization can be put into practice to work in the service of gender and racial justice.

John Lyne, synthesizing considerations explored in the first section, maps the field of RHM to a lineage of scientific rhetoric and explores ways of understanding RHM within ontological and ecological contexts. He considers essential questions such as the role of pathos, how tightly the field can be defined, or who the audiences for RHM are, and then how those questions might be explored to move the field forward.

The next section begins with a discussion by Molly Margaret Kessler directing attention to autoimmune conditions where the body attacks itself, troubling the binaries between mind and body, self and non-self, materiality. She questions how representational practices participate in shaping and influencing patients' identity boundaries rather than in how language represents those identities. It is in the spaces of these binaries, she says, where the work of rhetoricians lies.

The evidence-based practice of medicine and the role of mathematics in persuasive language merit more rhetorical attention according to Amanda Fritz and Stacey Overholt. As an example, they examine Eve, a period-tracking app that collects the data input from all its users and translates it into "big data analytics" from which infertility issues can be mathematically determined, thus removing that responsibility from physicians and serving as a guise for policing female bodies and promoting a moral imperative to reproduce. The challenge for rhetoricians, they say, is to begin to examine the Gordian knots between practice and theory and the inherent rhetoricity of quantification.

Chronic conditions shift identification from someone who has an illness to someone who is an illness, who is inhabited by a disease. From their discussions of identification with, and representation of, chronic illness, Sarah Ann Singer and Jordynn Jack summarize three ways for RHM scholars to engage chronicity: focus *in* individuals as rhetors, analyze the vernacular as well as the medical and scientific texts, and work across institutions and disciplines to encourage positive representations of chronicity.

Rebecca Kuehl, Sara Mehlretter Drury, and Jenn Anderson place concepts of health citizenship squarely in rhetorical praxis. Analyzing two community gatherings, one on breastfeeding support, the other on substance abuse, the authors demonstrate how facilitated focus group discussions invite agency, health citizenship, and action. The analysis of the rhetoric of the public deliberation discussions conceptualizes rhetoric as praxis for health citizenship.

In much the same way, Jennifer Helene Maher shares the rhetorical strategies used to provide information about preventing Sudden Infant Death Syndrome (SIDS) to underprivileged communities who were disproportionately affected by infant mortality. Citing Aristotle, and showcasing a 2009 Baltimore initiative, Maher sees rhetoric as an ethical endeavor to be used to bring transformative social justice to communities affected by the intersecting causes of health disparities by tailoring both the message and the mediums to underrepresented groups.

The final chapter, by Amy Hickman, situates RHM within feminist decolonial theories and explores the modalities of power that exist in the hierarchy of medical professionalism. Through rhetorical studies of how Margarita, a pseudonym for a community health

worker (CHW) in a Latinx community, interrogates relations of power and health discourse through what Hickman defines as relational praxis where neoliberal concepts of health citizenship in marginalized communities are redefined, public health messaging is decolonized, and healthier communities are built.

In the response to the last section, Lisa Keränen considers the rhetorical traditions of health citizenship in the context of *synerchestē*, or senses, positioning the discourse of health citizenship as means to democratically enact agency over healthcare systems, as a technique to secure one's own health and well-being, and as resistance to dominant biomedical knowledge. The role of RHM is presented as a call to action to enact health equities.

In the afterword reflection, Cynthia Ryan, Barbara Hefferon, and T. Kenny Fountain reiterate the polydisciplinary, yet inclusive, ability of RHM to reimagine and rehumanize health and medicine as a theoretical construct and what it *is* in relation to medical practices. Although it is largely western-centered, this is a collection that explores many of the challenges, answering the central question posed by Segal: "Who is persuading whom of what and what are the means of persuasion?" (p. ix). In a time when the relationships between people and their health and health and healthcare are evolving in myriad ways, RHM has opportunities to offer valuable insights into those conversations, and rhetoric has the power to map individual stories to the shifting times and spaces of complex social change, the place the ancient cartographers filled with stories and creativity.

## REFERENCES

Skloot, R. (2010). *The immortal life of Henrietta Lacks*. Crown Publishing.

## ABOUT THE AUTHOR

Temple West is currently pursuing a PhD in English at Old Dominion University. She is a Senior Standardized Patient Educator at the Sentara Center for Simulation and Immersive Learning, Eastern Virginia Medical School, where she has been since 2008. Her educational background includes a Master's Degree in Health Professions Education from Eastern Virginia Medical School and an MFA in Creative Writing from Old Dominion University.

# Book Review

## *The Science of Communicating Science*

### Craig Cormick

Cormick, C. (2019). *The Science of communicating science*. CSIRO Publishing.

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*The Science of Communicating Science* by Dr. Craig Cormick is a lively introduction to the foundational principles of science communications, particularly those oriented towards the public. Dr. Craig Cormick is a well-known science communicator and former president of the Australian Science Communicators, a network of science communicators and journalists. Cormick has also written over 30 books of fiction and non-fiction—in addition to academic articles—and has worked with the Commonwealth Scientific and Industrial Research Organization (CSIRO), which incidentally also published his textbook. *The Science of Communicating Science* operates on the premise that science communication is a complex process requiring extensive and time-consuming interdisciplinary research. Cormick's textbook aims to simplify the learning process by distilling well over 400 sources into a compact volume so that novice science communicators may learn important skills for informing and empowering the public by telling engaging stories, fostering interdisciplinary skills, and understanding the audience.

This textbook is divided into four sections titled: The Ground Rules, Communication Tools, When Things Get Hard, and Science Communication Issues. These sections are organized to, first, provide readers with foundational guidelines for science communication and, second, review individual strategies and roadblocks. The Ground Rules section justifies the need for better science communication while proposing communications objectives based on specific, measurable, achievable, relevant, and timely (SMART) goals. The Communication Tools section presents

guidelines on simple messaging, narrative structure, trust, framing, media (including social media), public speaking, and more. The When Things Get Hard section focuses on the difficulties of communicating with an audience that doesn't share your beliefs and/or values and shares some strategies for changing behavior. It also addresses uncertainty in the audience and explains the strong influence of pseudoscience. Finally, the Science Communication Issues section briefly reviews the need for ethical standards.

Each section is further divided into chapters that breakdown concepts in science communication into easily digestible chunks, which will surely be appreciated by readers with little time. For example, most chapters are no more than fifteen pages long and are structured so they begin with a brief introductory section. They are followed by an in-depth review of specific concepts and conclude with condensed information in the form of a bulleted list. This structure is repeated throughout the entire textbook, which makes finding and understanding information a simple and easy process. Furthermore, consistent visuals in the form of funny, cartoonish stick figures and the use of epigraphs referencing literature, science, and pop culture contribute to an appealing, friendly tone that keeps readers interested and engaged.

The whole premise of this textbook is that effective science communication is a necessary skill because it helps the public to understand scientific concepts and to participate in the decision-making process on how to use scientific knowledge. It largely builds this premise on basic rhetorical and communications principles like knowing your audience, being aware of your purpose, and utilizing anecdotes to appeal to emotions, as well as psychological research on the ways beliefs and values influence the types of information people will accept. Yet the textbook is not always as effective as it could be because it infrequently uses technical language and theoretical concepts from any of the referenced disciplines. The benefit of using simplified language is that it reaches a broader audience, one that is presumably turned off or resistant to more in-depth knowledge. The drawbacks to this stripped-down approach are that, first, it will alienate readers with any kind of disciplinary background. Second—and in spite of Cormick's impressively long

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and detailed endnotes—some of the guidelines are only shallowly situated within the larger scholarly discourse on productive science communication. The effect is that of Cormick simplifying his research *too much* for a readership that is likely capable of understanding science communications at more depth.

Another stumbling block in *The Science of Communicating Science* rests on its use of “science.” I admit it is a term that has been widely deliberated and contested, yet many will agree that—at its core—it is a systematic process for investigating a problem. This textbook claims it will give readers a scientific process for learning how to communicate science, yet it fails to deliver on this point. Yes, it successfully distills a large quantity of information and clearly explains important concepts. Yes, it is written in such a way that a very broad readership will understand complicated information. But it does not consistently explain any kind of process to follow for developing communications skills. For example, Chapter 15 is called “P-values: Policy and politics.” This chapter discusses how to engage with policymakers on scientific concepts in a familiar, effective way so that political decisions match public needs. The chapter covers the following information: the relationship between science and politics, a definition of policymakers, and strategies for getting the attention of policymakers. At no point does it baldly state: “a policy communication looks like [example of a policy communication].” This lack is problematic because, if we assume a novice audience for this textbook, then no amount of lecturing or defining will adequately prepare them for talking to politicians. Learners also need examples and clearly delineated steps for achieving tasks. To me, this gap in *The Science of Communicating Science* signals the necessity for having both a knowledge of science communication and of the pedagogical tools necessary for teaching science communication.

This textbook will be immensely useful for readers seeking to improve their communication skills. I also see a use for it in classroom contexts, particularly in technical and/or science communications. However, either readership will find themselves needing to dig more deeply into the concepts from the textbook. My recommendation? Take Dr. Cormick’s advice at the end of *The Science of Communicating Science* and search for additional information in academic publications, blogs, multimedia, and news editorials.

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Elisa Cogbill-Seiders holds a PhD from the University of Nevada, Las Vegas in literature with a concentration in composition and rhetoric. She’s taught various composition, as well as literature, courses at the University Nevada, Las Vegas and the University of Dayton. She is currently an assistant professor in the English and Fine Arts Department at the United States Air Force Academy in Colorado Springs, CO, where she specializes in composition and environmental communication. Right now, she is working on a project investigating the argumentative function of denial in climate change discourse.

## Book Review

# *Rhetorical Work in Emergency Medical Services: Communicating in the Unpredictable Workplace*

Elizabeth Angeli

Angeli, E. L. (2019). *Rhetorical work in emergency medical services: Communicating in the unpredictable workplace*. Routledge.

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In *Rhetorical Work in Emergency Medical Services: Communicating in the Unpredictable Workplace* (2019), Elizabeth L. Angeli explores the unpredictable workplaces which are the locations of emergency medical services provided by first responders, the EMS personnel who receive 911 calls but may have little idea about what to expect once they arrive at the site of the emergency. While rhetoric of health medicine (RHM) is not a new area of rhetoric, Angeli found little research about EMS professional rhetoric, leaving a void in understanding the modes of communication in these ever-changing, life-altering workplaces. Her text began as part of her dissertation project but morphed into a rhetorical analysis/EMS rhetorical training pedagogy for Technical Professional Communication (TPC) and RHM as well as EMS trainers and trainees.

Angeli's work provides much needed insight into the use of rhetoric in EMS and resulted in her conclusion that there is a deficiency of rhetorical training in some programs. Her work is influenced by Sauer (2003), whose research into the risk rhetoric of large regulatory industries spotlighted the importance of gestures in the rhetoric of these industries. Like the work of Ding (2014), who delves into the TPC complexities of the SARS epidemic, Angeli's text contributes meaningful information on communication in unpredictable workplaces. But unlike the themes of global pandemic and mine safety, Angeli examines the need, not only for analysis of EMS rhetoric, but for training future EMS personnel in those rhetorical forms of communication specific to the work of EMS.

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Angeli's experiences in riding along with EMS, and eventually training for a National Registry Emergency Medical Technician basic certification, provide a unique perspective combining rhetorical analysis with her personal observations of the lived experiences of EMS professionals who do the work which she researched. She structures her writing based on traditional rhetorical methodologies and theories she adapted (such as critical decision methods) to the rhetoric of EMS. Each chapter begins with an introductory 'scene size-up' illustrating that chapter's theme grounded in the rhetorical work performed by EMS every day and ends with a summary paragraph and 'Takeaway' paragraphs so that her specific audiences (TPC/RHM and EMS) might synthesize the information examined as it pertains to each group. Interwoven with the rhetorical analysis and pragmatic suggestions for improving EMS training, Angeli illustrates how the exigence of her work is much like that of EMS providers—it needs to happen quickly. The lack of rhetorical instruction for unpredictable workplaces points to a glaring deficiency in EMS training. One which literally can have life-altering consequences.

Angeli synthesizes personal experiences and observations with the chapter's theme, creating a 'backstory' for the specific rhetorical component of her research in every chapter. Chapter one, "The Scene Size Up," details sensory descriptions, artifacts and observations which an EMS provider must absorb at each call and provides the necessary background for Angeli's audiences to understand the exigence of the situation, giving her readers a slice of her research life as well as EMS providers' work. While these providers are required to communicate at every step along the way, they are not given much guidance about communication protocols. The various stages of emergency calls are documented in a patient care report (PCR) which is crucial to the patient's care and include details from the weather to witness statements to the treatment provided before arriving at the hospital for EMS, hospital staff and, potentially, legal counsel. But little training is provided for this crucial rhetorical tool. As Angeli discovers later in her research, memory and gut instinct, which are not often taught in any classroom, are also integral parts of EMS work.

Chapter Two, “Managing the Unpredictable Workplace Through Rhetorical Work,” describes the various, and unique, rhetorical work EMS professionals do each day. Angeli delineates the difference between ‘high-stakes’ workplaces and emergency situations, noting that high-stakes do not automatically include urgency. They may not involve “dire consequences, such as mine collapse,” but emergency situations require “urgent action” to prevent “patient death” (2019, p. 26). In her exploration of the challenges to EMS, Angeli describes how regulatory agencies may not delineate the complexities of EMS communication.

The influences and limitations created by the multiple governmental agencies which regulate EMS’s agency and determine its business models and operational structures are discussed in the third chapter, “A Rhetorical History of a Developing Field.” The participants in the construction of EMS as we know it today include: the military, the government, transportation safety and public health (Angeli, 2019, p. 44). Like a storyteller influences their own stories, the various agencies involved in the creation of EMS have influenced its structure, identity and rhetoric; the focus on adaptability in unpredictable workplaces also emerged from this history.

Angeli had to employ methodologies to analyze artifacts and interviews which were composed of fact, recollection, intuition and protocol. These are described in chapter 4, “Studying the Unpredictable Workplace.” To interpret these varied components, she implemented “process-focused scholarship,” an unusual methodological choice for TPC, but which allowed her to study exigencies, defined as “obstacles that create a sense of urgency in need of response” (2019, p. 64). She augmented critical decision methods (CDM) in her interviews to analyze everyday EMS communications without having to make in-person observations of the communications.

In chapter 5, “Using Multisensory Invention in the Unpredictable Workplace,” Angeli explores the importance of invention and intuition to EMS communication. While sensory information based on gut feelings might seem unreliable, Angeli finds that EMS providers gather a multitude of information based on sights, sounds, smells and hunches when they are on-scene. They must be tuned into the environment in which they are working and the people with whom they are interacting to acquire vital information about the patient and the emergency situation. This “multisensory invention” (2019, p. 87) is utilized by EMS providers to determine the appropriate responses for each unpredictable location they are called into.

In chapter 6, “Integrating Distributed Cognition, Memory, and Writing in the Unpredictable Workplace,” Angeli explains that memory is also a vital EMS tool. As with invention and intuition, to outsiders, memory may seem like a poor tool in a life-or-death situation. While we often assume that technology is invaluable to a medical provider, in unpredictable workplaces, technology is not always available. EMS must take note of the physical settings, patient vital signs and other crucial information and accurately recount it for ER personnel and the PCR. Certain conditions make paper and pencil or even smartphone notes impossible. In these conditions, EMS providers must rely on their memories, and their memories must be reliable to ensure the best treatment for the patient. Inaccurate or incomplete information can have lethal consequences.

In the final chapter, “Preparing Communicators for the Unpredictable Workplace,” Angeli provides pedagogical lessons

for EMS educators and trainees based on her findings. These tools are the culmination of her research and are intended to improve the communication skills Angeli has found are often underemphasized in EMS training. Without appropriate understanding of the rhetoric required in unpredictable situations, a new EMS trainee may innocently cause harm to a patient. Chapter 7 is Angeli’s heuristic to EMS trainers and trainees for providing the missing component of a strong EMS rhetorical foundation and makes her text a pedagogical tool rather than just a report of her research findings.

Angeli writes that awareness of audience and genre will help EMS professionals achieve better quality PCRs, the “culmination of rhetorical work” (2019, p. 158) in EMS. Her mini-lessons are scaffolded to familiarize EMS professionals with IMRAD formatted reports as well as genre analysis, practice observations and deep listening activities. These lessons are ready to use in the classroom. EMS instructors can incorporate each one into their own instructional materials. Angeli (2019) states that she did this to support instructors as they prepare EMS trainees to “engage in the underlying rhetorical work of EMS and similar unpredictable workplaces” (p. 178).

*Rhetorical Work in Emergency Medical Services* reveals the unique rhetoric required to work in unpredictable workplaces. The reliance of EMS providers on their intuition, senses and memories may not be a revelation to everyone, but the extent to which these providers rely on these tools may be. How often do life or death actions depend on memory or ‘gut instinct’? According to Angeli’s research, much more often than most of us realize. Because her research occurred in a small community in upstate New York, future research might examine how her findings apply in larger, urban settings. Is training similar? Do urban EMS personnel rely on intuition or do policies and procedures differ and require more written documentation? Do differences in traffic volumes, types of emergencies and structures of EMS change the rhetoric?

EMS training needs to include rhetorical instruction to facilitate adequate communication between the various parties who depend on accurate patient information which EMS professionals alone can provide. The pedagogical solutions offered in Elizabeth Angeli’s *Rhetorical Work in Emergency Medical Services: Communicating in the Unpredictable Workplace* may provide a key to eliminating some of the uncertainty in “the unobservable processes that facilitate written communication practices in unpredictable workplaces”

(Angeli, 2019, p. 1).

## REFERENCES

- Angeli, E. L. (2019). *Rhetorical work in emergency medical services: Communicating in the unpredictable workplace*. Routledge.
- Ding, H. (2014). *Rhetoric of a global epidemic: Transcultural communication about SARS*. S.Illinois Univ Press.
- Sauer, B. (2003). *The rhetoric of risk: Technical documentation in hazardous environments*. Lawrence Erlbaum Associates.

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pedagogy, particularly the intersectionality of UX, the learning support curriculum and institutional policies and procedures as well as the use of storytelling in the FYC classroom.