Introduction

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Climate change is one of the most significant challenges facing the global community in the twenty-first century, and with its position at the border between people, technology, science, and communication, technical communication has a significant role to play in helping to solve these complex environmental problems. Curiously, however, technical communication (TC) research has remained relatively quiet on the ways our field contributes to positive environmental action. To help invigorate the conversation in TC about environmental issues, this collection of essays amplifies the work of scholars engaging with these challenges by creating a conversation about the ways that our field has contributed to pragmatic and democratic action to address climate change. Tillery (2018) makes a compelling argument that the history of TC scholarship reveals a tradition of mostly theoretical and rhetorical analysis of environmental communication (cf. Killingsworth & Palmer, 1992; Herndl & Brown, 1996; Ross, 2017). In comparison to that tradition, this collection explores the actual *practice* of technical communicators participating in community projects, government processes, nonprofit programs, and international work that shapes environmental action. Because of its focus on action, this collection addresses the need identified by Simmons (2008) in *Participation and Power*, and by Coppola and Karis (2000) in *Technical Communication, Deliberative Rhetoric, and Environmental Discourse* to examine firsthand cases of technical communication driving environmental action.

Beyond simple descriptions of the work we do, therefore, the collection foregrounds practical applications of technical communication theories such

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as social justice, participatory design, community action, service learning, and ethics to construct a *praxis* of environmental action in TC. Importantly, this collection locates *praxis* within *phronesis*—practical wisdom of communities—to consider the local and cultural values that must inform effective and ethical environmental action. Finally, *dialogue* lies at the core of this collection since only good-natured collaboration can begin to help solve problems as complex as climate degradation. By focusing the collection on these three concepts—praxis, phronesis, and dialogue—the collection hopes, as the title suggests, to paint a picture of the ways that technical communicators participate in shaping environmental action.

As a field, technical communication has been usefully described as a profession in which information is made accessible and usable for those who need that information to accomplish their goals—we are user advocates who filter, architect, and design information solutions to complex problems (*Defining Technical Communication*, n.d.). Complementing this practical orientation, TC retains a significant humanistic and civic orientation that Carolyn Miller (1989) wonderfully described many years ago as "a matter of conduct rather than of production, as a matter of arguing in a prudent way toward the good of the community rather than of constructing texts." TC, therefore, is a pragmatic discipline that seeks to drive concrete action by engaging with communities to define and describe problems, to invent solutions, and ultimately to hold one another accountable for the success of the interventions we collaborated to create.

Technical communication praxis, therefore, is the first key concept that establishes a unique scope for this collection. Commonly understood as putting theories or concepts into actual practice (Miller, 1989; Sullivan et al., 1997; Moore & Richards, 2018), praxis might more usefully be described as theoretically informed action (Katz, 1992). As a field, TC has a substantial body of theories, including, for example, participatory design (cf. Spinuzzi, 2005); user-centered design (cf. Zachry & Spyridakis, 2016); and iterative design (cf. Mayhew 1999) on one hand, and sociocultural concerns such as social justice (cf. Jones et al., 2016); community engagement (cf. Simmons 2008); and ethics (Dombrowski, 2000) on the other hand. By focusing on praxis, this collection emphasizes theoretically informed action occurring in the real world with real people.

Understanding the values of real people and how they contribute to environmental action represents a second key concept appearing in the chapters of this collection. Compared to generalizable scientific and economic theories that often are used in environmental decision making, phronesis draws on the knowledge and wisdom of specific groups

in specific locations (Kinsella & Pitman, 2012). Including the authentic, lived experiences of actual people who might be affected by a particular environmental challenge echoes TC's emphasis on participatory design and foregrounds the complex negotiations that must occur between diverse groups vying, first, to define problems and, second, to explore solutions to those problems. While some excellent prior scholarship discusses the importance of democratic participation in environmental action (cf. Grabill & Simmons, 1998; Blythe et al., 2008; Simmons 2008), the chapters in this collection take an additional step by explicitly foregrounding the ways that technical communicators rely on the practical wisdom of a polyphony of voices—phronesis—to create ethical and effective communication products that drive positive environmental action.

Finally, *dialogue* complements the prior two concepts of praxis and phronesis as the theoretical underpinning of this collection because it carries the ideas of both "practical" and "contextual." As a practice, dialogue requires that people make meaning in specific contexts, with specific words, with specific perspectives, and foregrounds the idea of building shared understandings (Grice, 1989; Sperber & Wilson, 1986). These shared understandings rely on people working in good faith to build common vocabularies, references, frames, and values by placing their individual understandings into dialogue with another as they build new understandings (Habermas, 1984). Unfortunately, much scholarship on environmental communication, both in TC and in journalism/mass communication, originates in the "deficit model" where scientists or experts know best, and the communicator's job is to translate that knowledge to others. Instead, dialogue teaches us that no "deficit" exists, just different conceptualizations of similar issues. Competing stakeholders don't share the same vocabulary or values and so simply "translating the science" inevitably will lead to misunderstandings because the model is presumed to be one-way where the nonexperts "receive" the information (cf. Perrault, 2013). By comparison, dialogue requires that parties openly engage in conversation based on principles of respect and equity: people need to talk *with* one another—not *at* one another—to build understanding. This collection intentionally foregrounds the practice of dialogue to help craft ethical and effective environmental action.

In short, while retaining careful grounding in technical communication theories, this collection explores the actual practice of technical communicators participating in shaping environmental action. Doing so helps us extend the role our profession plays not only in translating science and technology to the public—a traditional role of TC—but also

in promulgating the important democratic values of participatory design and environmental justice both in conceptualizing complex environmental challenges and in crafting prudent, pragmatic solutions to those challenges that genuinely respect the dialogue among the multiple forms of knowledge and expertise held by diverse stakeholders: indigenous populations, environmentalists, individuals, businesses, governments, nonprofits, landowners, and many others.

Perhaps now, more than ever in history, technical communicators have a responsibility to employ our unique skills at connecting people, technology, science, and communication to drive global environmental action. This collection is one response to this obligation.

Interacting with This Collection

Because this collection emphasizes dialogue, readers have many possible ways to explore the excellent work of the contributors. Dialogue doesn't proceed in a linear way in the natural world—it follows its own path depending upon those interacting and how they seek to build a shared perspective. This collection intentionally follows this model. Some readers might choose to read this collection from beginning to end—and that would be perfectly fine—because the chapters are ordered to foreground a conversation among two, three, or four authors on a particular type of *agency* (Wilson, 2001; Stephens & DeLorme, 2019). Agency, of course, intersects closely with *social justice* (Jones et al., 2016; Colton & Holmes, 2018; Sackey, 2018) and given this collection's focus on action and empowering people to act on behalf of the environment, every chapter in this collection takes up these intersecting themes of agency and social justice in one way or another.

However, the richness of the contributions to this collection enables other possible pathways through the book where readers might explore chapters according to their interests. The alternative reading pathways presented in table I.1 and described later in this introduction provide some possible ways to interact with this collection—a sort of academic "Choose Your Own Adventure"—that might respond to many readers' unique concerns about the intersection of technical communication and environmental action. A summary of each chapter follows the pathway descriptions so that readers have yet another opportunity to construct their own pathway through the collection according to their individual interests if they choose not to engage with one of the four alternative possibilities sketched in table I.1.

Table I.1. Alternative Reading Pathways for the Collection

Diverse Voices	Chapter 1	Chapter 2	Chapter 3	Chapter 6	Chapter 7	Chapter 10
Narrative Methods	Chapter 1	Chapter 4	Chapter 5	Chapter 6	Chapter 8	Chapter 11
Policy & Process	Chapter 2	Chapter 3	Chapter 4	Chapter 7	Chapter 9	Chapter 10
Pedagogy	Chapter 3	Chapter 5	Chapter 8	Chapter 11		

Diverse Voices

This group of chapters draws on recent calls for technical communication to be more inclusive (cf. Agboka, 2021; Gonzales, 2021; Itchuaqiyaq & Matheson, 2021). Specifically, these chapters ask readers to consider perspectives that are absent—or mostly absent—from scholarship in TC, to include viewpoints from outside North America and Western Europe, the traditional foci of most literature in the field. These chapters also include marginalized voices from within North America ranging from Inuit peoples to midwestern farmers.

Narrative Methods

Research methods in technical communication have expanded in recent years with many scholars adopting narrative methods to complement more traditional qualitative and quantitative forms of research (cf. Jones, 2017; Williams et al., 2016). This group of chapters demonstrates the power of narratives for understanding and representing TC knowledge, and in many ways complicates accepted forms of knowing in TC by challenging readers to ask the question, "What counts as research and knowledge?" for a topic as complex as environmental action.

Policy and Process

The environment is often regarded as a resource to be exploited for the benefit and comfort of human beings, and that perspective means governments, corporations, and diverse communities (among others) must negotiate how to manage the natural world (Killingsworth & Palmer, 1992; Herndl & Brown, 1996; Simmons, 2008; Ross, 2017). As this group of chapters demonstrates, those negotiations often take the form of debate about regulatory oversight, including who is empowered to participate in processes for constructing policies and the consequences that those policies and processes have for the environment, including nonhuman species.

Pedagogy

For technical communication to positively impact the environment, teachers must inspire others to act and demonstrate that what occurs in the classroom can have real consequences in the world. TC has a strong history

of service learning, client-based learning, and community engagement (Matthews & Zimmerman, 1999; Bowdon & Scott, 2003; Youngblood & Mackiewicz, 2013), and this group of chapters presents cases derived from classroom practice that not only demonstrate the significant contribution students can make but also offer practical advice on integrating environmental action into the TC classroom.

Chapter Summaries

In the essay that opens this collection, "When the Sound Is Frozen: Extracting Climate Data from Inuit Narratives," Cana Uluak Itchuaqiyaq speaks about bodily knowledges as the basis for understanding the natural world: when your breath freezes, for example, the temperature is –50 Fahrenheit or when ice breaks under the weight of a snowmobile, two adults, and four seals, the ice measures between three and four inches thick. We tell stories—narratives—about the natural world that draw on our lived, embodied experiences, and those experiences connect to traditional knowledge that exists within a community. Yet, Itchuaqiyaq argues, "science" often disregards the bodily knowledge presented through stories: "Narratives are a method of communicating important local expertise that is often overlooked as 'scientific' knowledge," they argue. Importantly, the chapter itself is a narrative about the author's experiences, about how "we Inuit have been taught to value and develop our relationship with the land, the waters, and the ice that surround us. We have been taught to listen to its stories." Yet that intimate knowledge of the environment seems to matter little in decision making when "experts" visit the Arctic with their ideas about what is best for the Inuit community. Instead, Itchuaqiyaq argues, outsiders should ask the community what it needs, what it values, what it knows—outsiders should listen—because those who live on this land know better than anyone how best to protect it.

Dan Card's chapter that follows, "Boundary Waters: Deliberative Experience Design for Environmental Decision Making," echoes Itchuaqiyaq's concern about whose views matter for environmental action. In this chapter, Card traces the processes currently unfolding (in 2021) that will determine the fate of the pristine Boundary Waters region of Minnesota and whether it will be opened to new mining activities. Drawing on principles of participatory design, Card argues that "the importance of local, context-specific praxis . . . begins with understanding local geographies,

local communities, and local impacts. In short, designing ethical and effective decision-making processes requires we listen and work to understand the unique local dimensions of a given environmental problem." Card asks, do environmental review processes engage the right people in dialogue at the right time? He investigates the complexities of the review process for the Twin Metals project, notably contrasting the actual review process with an ideal one, building a framework to ensure environmental justice. Technical communication for environmental action, in Card's view, requires careful attention to process because equitable processes ensure we are working with the right people and asking the right questions to generate positive outcomes for the natural world.

Bob Hyland recounts how he has used his courses to inspire students to generate positive environmental outcomes in his chapter, "In Defense of a Greenspace: Students Discover Agency in the Practice of Community-Engaged Technical Communication." The essay begins by connecting service learning, student identity formation, and advocacy in technical communication literature, then turns to discuss agency and why we must help students move from passive critics resigned that climate change "just is" to agents of change "bending the arc of justice." Moving to a close analysis of student work produced over a series of three semesters to protect an "urban oasis" in Cincinnati, Hyland demonstrates that when students see real outcomes of their community-engaged classwork, they develop a strong sense of agency, and that technical communication has a responsibility to undertake environmental action by engaging students: "If we frame for our students that TC *can* be used to make a difference, we may be missing an opportunity for the educement of agency. Instead, I'm positing that we provide opportunities for our students to see that TC *must* be used to make a difference." Our pedagogies must demonstrate real impacts, not hypothetical ones, in other words. Educing agency, Hyland continues, requires localizing TC pedagogy and coursework because showing how we can positively impact our local communities empowers students to think about global challenges. If students recognize that technical communication products such as infographics and technical reports possess the power to influence a community to preserve a small, wooded area; to sustain a community partnership; to restore the ecology of the greenspace; then perhaps those students will feel empowered to undertake larger challenges, to employ the practice of technical communication for global environmental action.

Daniel Richards's essay, "Flood Insurance Rate Maps as Communicative Sites of Pragmatic Environmental Action," introduces the idea that technical communicators can undertake "procedural, banal work . . . as we figure out the bigger, more wicked things." The chapter narrates the author's experiences leading a project to construct an online tool that sought to persuade residents of a coastal community prone to flooding to purchase flood insurance policies. This tool, a literal calculator to help residents determine their yearly insurance premiums, represents a core technical communication practice: translating the abstruse appendix J of the National Flood Insurance Program's (NFIP) rate tables into plain language usable by nonexperts to make informed decisions about how to act. Richards demonstrates, however, that the apparent simplicity of the task hid extraordinary complexity for him as a design team of one—a role familiar to many technical communicators, especially those working in contract or freelance positions similar to the government-funded project that Richards describes. The essay traces the author's learning path about concepts like "occupancy type," "structure type," and "BFE–base flood elevation," all concepts he had to understand to write accessible documentation for nonexpert users to review as they priced insurance. Writing was the easy part, though; coding all the complex decision trees proved to be beyond the author's capabilities, and as the project reached its deadline, he had to enlist the help of a programmer to make the website work as he imagined. Richards concludes that despite the difficulties he faced creating the flood rate calculator, he learned an important lesson: "technical communication cracks the objectivist sheen of regulatory writing. Projects highlighting these realities and advocating for change are in great need." Demystifying the regulatory complexity of flood insurance stands as a metaphor for many forms of environmental action because this apparently banal communication helps communities become resilient, recognizing the need to protect people from the harm of advancing flood waters.

"Collaborating for Clean Air: Virtue Ethics and the Cultivation of Transformational Service-Learning Partnerships," by Lauren Cagle and Roberta Burnes, undertakes the challenging work of theorizing a "participatory action teaching" partnership. In their autoethnography of an emerging partnership between a university professor and an environmental educator working for the state of Kentucky, the authors take a unique look not at what it takes for students to collaborate with external partners, but at the emerging relationship of those who facilitate the student learning. In other

words, this essay describes how the authors' collaboration evolved from a "normal" service-learning project into something much more sophisticated, participatory action-oriented teaching "where the emphasis is on teaching, but the teaching does not happen without the participatory action. . . . It's not just about teaching within the confines of a college class, but about a messy ongoing relationship." The character of that relationship—based in the virtues of honesty, generosity, respect, humility, and justice as well as feminist community engagement—challenges the "service learning as charity model" by presenting an alternative view where the needs of students, the faculty member, the university, the community partner, and the partner's organization have equal voice in co-constructing what students do in a course. The essay's structure itself reveals this commitment to respectful dialogue with the authors weaving short, reflective narratives throughout their argument describing the concept of a transformational relationship. The authors conclude, "There's nothing uniquely environmental about this notion of participatory action teaching. And our partnership is environmental by default." However, this essay perhaps reveals a deeper logic, one we might call "ecosystem thinking," where differences coexist harmoniously, multiplying the contribution and virtue of any single participant. Importing that logic into our classrooms is itself a form of environmental action that can open "paths for scholars to prioritize relationships among humans and nonhumans alongside, or even above data," the authors suggest, because environmental action requires us to think deeply about how co-constructive, mutually respectful relationships can change the way we view the natural world and act within it.

Beth Shirley adopts a similar ecosystem logic in her essay, "The Narrative of Silent Stakeholders: Reframing Local Environmental Communications to Include Global Human Impacts," arguing for a perspective called "societal teleconnections" that examines "the faraway effects of decisions made at home." From this perspective, environmental challenges don't unfold in just one location but result from the relationships among distant places, and we must examine shared experiences of local communities and distant ones to break down the local versus global binary. To demonstrate this perspective, the author presents research conducted with a women's agricultural association in rural Morocco, describing technical communication practices within the association used both to maintain the organization and to improve the community. For example, one member of the association was able to petition the government for olive trees, empowering the women in the community to become more

resilient since the trees provided habitat for bees raised by the women, for soil stabilization at their home gardens, and for shade to cool the soil. The local narratives collected by the research project, though, become most significant for environmental action when they are included, for example, in policy reports or decision-making conversations about local actions and local priorities. As Shirley argues, "Technical communicators are in a unique position to include these narratives of stakeholders who otherwise have few other ways of making their voices heard. Because we have that capability, we must make use of it when engaging environmental issues." Changing the nature of environmental debates, that is, requires us to connect "decisions made in the United States to impacts on people in underresourced communities," especially those in the Global South who are likely to be the most impacted by climate change. Through this essay, then, Shirley models the idea of societal teleconnections as it might be used in environmental action, introducing readers of this collection (who likely are reading in English and probably reside in North America) to a group of mostly silenced women in Morocco, giving voice to the environmental challenges they face and asking us to investigate our role—half a world away—for creating those problems.

Agriculture, although in the United States, also occupies a central place in "Resilient Farmland: The Role of Technical Communicators" by Sara Parks and Lee Tesdell. The essay describes possibilities for technical communication in the context of the $1.1 trillion agriculture industry in the United States and presents cases about how technical communication could better intervene to protect midwestern agricultural land by informing decision makers "about the ravages of climate change and agricultural innovations that might mitigate them." Like most essays in this collection, Parks and Tesdell argue persuasively about the importance of knowing a place to understand how environmental communication works in a particular context, specifically the row-crop farms of Iowa. The authors establish this connection to place by describing some typical genres of technical communication used in midwestern agriculture such as the "field day," which are "site visits that invite farmers, landowners, and other key people such as managers, consultants, and agents to the (usually literal) field in order to see systems, tools, and new techniques in action." Importantly, Parks and Tesdell argue, these genres are used differently than in other contexts, so technical communicators can't rely solely on their training. Instead, they must know the context and position themselves to make a difference when the *kairos* is right. The essay draws on this background

about Iowa farming and common genres to describe two cases, one failed and one successful. The unsuccessful case focuses on a lawsuit brought by the Des Moines Water Works Board against three counties in Northwest Iowa based on the claim that those counties were polluting the rivers with excess nitrates from farm fields. The public communication around the lawsuit relied on technical communication products such as watershed maps, graphs of pollutants, technical descriptions of testing procedures, and websites to make the case. The successful case describes STRIPS, Science-Based Trials of Rowcrops Integrated with Prairie Strips, especially the persuasion strategies that rely on engaging stakeholders' values to promote the project. We learn from these cases and the background that leads to them that technical communication can play an important role in "turning the ship of Big Ag and Big Petroleum in the direction of policies and practices that bring us cleaner water and healthier soil," and how important this type of environmental action is because "declining soil and water quality is literally an existential threat to humankind."

Monika Smith, in the essay "Writing for Clients, Writing for Change: Proposals, Persuasion, and Problem Solving in the Technical Writing Classroom," continues the discussion about technical communication's role in changing institutional inertia, describing a TC classroom as a site of significant environmental action. Smith argues, for example, that "grounding students' grasp of resource consumption in the daily life of their own campus can shift the classroom dynamic from *getting* students to write for environmental action to *inspiring* them to do so." To establish the grounds for the argument about student agency, the author carefully links environmental action to social justice issues, then transitions to a discussion about community-engaged learning (CEL) that forms a pillar of the strategic plan at the author's university. Smith concludes, "My first tip is that it is well worth looking to your own campus for suitable and meaningful partnerships." Smith recounts how looking to her own campus generated rich opportunities for computer science students in a required technical communication course to apply their problem solving and research skills to addressing environmental challenges on their own campus such as reducing electricity consumption and reducing the amount of plastic waste going to landfills. Writing, Smith argues, for one's own campus inspired students to engage with real audiences because if their ideas were to make a difference "right here on their very own campus . . . those ideas had to resonate with the entire community: not just their campus client, but everyone who would be directly impacted by the changes

they envisioned." Working on their campus, that is, enabled students to recognize that technical communication can be used for environmental action not someplace far away, but where they lived and worked every day. Writing for change and participating in concrete environmental action with a place-based ethos, Smith concludes, might help in "paving the way to a transformational project that foregrounds the environment in any decision-making process," especially those of engineers who might be disengaged from conversations about public welfare.

Public welfare is precisely the topic of Barbara George's chapter, "Health in the Shale Fields: Technical Communication and Environmental Health Risks." In this essay, the author outlines a detailed relationship between environmental justice and procedural justice that enables the author "to critique patterns of powerful interests exploiting a marginalized locality for particular resources that often result in long-term degradation of local land and water." George's critique is directed specifically at communication surrounding the risks of high-volume hydraulic fracturing—fracking—to the low-income residents of southwestern Pennsylvania who "live with the histories of extractive economies and poverty and currently lack the agency to speak about environmental justice." George compares case studies from the region employing stasis theory to demonstrate a distinction between what "is" communicated and what "ought" to be communicated. Describing communication from the Pennsylvania Department of Environmental Protection and the Pennsylvania Department of Health, the author details confusion among the agencies about responsibility for protecting the public and how these governmental agencies—supposedly charged with protecting the public—squelched debate and engagement by the very people they were meant to serve. Additionally, these agencies significantly underreported health risks about fracking, stating, for example, that more studies are required due to "limited evidence of relationships of living near [a fracking site] and poor infant health." George contrasts the governmental response to a local nonprofit that effectively—and ethically—employed technical communication to reveal the significant health risks associated with fracking. The organization, called the Southwest Pennsylvania Environmental Health Project, enables environmental justice by providing platforms for comparing the scientific literature on risks associated with fracking, connecting individuals to healthcare providers, and providing legal resources for those who believe they have been impacted by fracking. In short, the nonprofit develops technical communication from an "ought" perspective about how the local community "ought" to

be treated and what resources and information "ought" to be available, providing a model for how governmental agencies might develop their communication platforms to protect both the local environment and the health of those who live there.

Josephine Walwema provides a complementary case of responsible and ethical government action to protect the environment and the community in her essay, "Participatory Policy: Enacting Technical Communication for a Shared Water Future." The chapter analyzes technical communication produced by the City of Cape Town, South Africa, two years after that city nearly ran dry, exploring how Cape Town developed a participatory approach to developing policy for "achieving a shared water future." Specifically, the author argues, "building trusts necessitates a dialogic interaction that assures the public *learns* the science and how it affects their lives, and the technical experts *control* the messaging with accurate science." That dialogue requires that the technical experts interact with the public to solicit their experiential knowledge, and this experiential knowledge in turn allows the technical experts to adapt their messaging to local contexts. This dialogic approach, Walwema demonstrates, enables the public to translate technical knowledge into action that can help regulate environmental risks in the lives of individual communities. The author uses critical discourse analysis to evaluate policy and strategic documents produce by Cape Town about its water strategy to reveal how the structure, discourse, and genres of the strategy documents reveal a dialogue between experts and the public: "The policy documents . . . are visibly informed by scientific methods, data, and measurements, but they are rendered as technical communication that deliberates on the choices offered by the science and the collective values of the people of Cape Town." Importantly, this dialogic approach provides practical guidance for environmental action as the local communities can see how their experiential knowledge intersects with technical knowledge, because "ideas are not expressed as hypothetical but as provisions . . . that predispose Cape Town residents toward practical engagement in securing a water future for their city."

Echoing Walwema's optimistic findings, Michelle Hall Kells challenges readers to drive environmental action through "the heart lines of appreciation and imagination" in her essay, "Rhino Crash: Teaching Science, Medical, and Environmental Writing for Social Action." Importantly, Kells foregrounds "interspecies kinship ties as a critical feature of environmental education in technical communication," closing a loop that returns us to Itchuaqiyaq's essay that opened the collection. The essay

begins very personally, talking about Pilar, the author's wild mustang rescue, and how a serendipitous conversation with Pilar's veterinarian launched a cascade of possibilities for connecting the author's students to conservation activities for black rhinos in South Africa. Kells outlines a 10-part pedagogical praxis revolving around the concept of *ubuntu*, "an ecology of braided attachments," that views all life as inextricably bound together and structures the pedagogy around stories of hope rather than despair. The author positions each stage of the course within student work to demonstrate each component of an approach designed to inspire her class to undertake environmental action. Beyond creating flyers, posters, and online products to stir awareness about the plight of rhinos, the students generated a grant proposal for an art installation and created a student club sanctioned by the author's university dedicated to protecting rhinos. Kells argues, "We learned that rhinos, as endangered species, index a larger ecosystem in distress wherein threatened human and nonhuman species together face habitat deterioration, natural resource depletion, poaching, predation, displacement, and mutual extinction." The essay concludes, however, on the optimistic tone where it began, showing that if Pilar, the author's mustang, could recover from what was expected to be a fatal set of afflictions, then perhaps transformation—"restoring our planet and all our relations"—through environmental action is possible and that "biophilia, the love of life in all its forms, is the quintessential response to our collective suffering."

Finally, in her epilogue, "Right Relation with the Whole World: Creating a Richer Polyvocality for Environmental Technical Communication," Caroline Gottschalk Druschke reflects on the themes and contributions of this collection. Her reflection lands on four key themes—innovative process, scalar connection, improvised action, and right relation—that weave the chapters together and concurrently serve as "a manifesto for the future of environmental technical communication: offering a roadmap for where the field has been, is now, and might—or even *must*—be headed in response to the increasingly urgent demands of environmental degradation and conflict." We must, the author argues, find ways for technical communication to place humans into "right relation" with the whole world.

As you read these chapters—in whatever order seems most appropriate—I hope that you will be inspired to undertake environmental action in some form. Technical communication's intersecting concern of people, technology, science, and communication demands that we act—*that we do something*—to make the world a better place, not just for humans,

but for all life on the planet. The environmental actions we take now could save hundreds or thousands of threatened species of plants and animals across the globe from extinction, of which we humans are just one. Humans have incredible creative potential, and we should direct our energy to conserving, not consuming; to aiding, not harming; to offering kindness as a first response. The essays in this collection offer some points to begin conversations about technical communication's responsibility for our collective well-being and show the tight connection between agency and social justice and how environmental action can participate in both. This collection marks only the beginning of a conversation that *must* evolve into concrete action for the environment.

How will you participate?

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