

Research Article

Principles of Place: Developing a Place-Based Ethic for Discussing, Debating, and Anticipating Technical Communication Concerns

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Abstract—Background: This paper offers a hybrid, place-based ethic drawn from multiple perspectives as a way to reinvigorate ethical thought for technical communicators. **Literature review:** Aldo Leopold's land ethic asks us to consider actions beyond our immediate surroundings. Martin Buber's dialogic ethics complement a land ethic and interrogate interpersonal communication. Anticipatory technology ethics recommends the integration of ethical discussions and decisions during the design phase of new technologies. Together, these three approaches inform a place-based ethic for technical communicators. **Research questions:** 1. How might we meaningfully merge the many ways that technical communicators from varying backgrounds approach ethics into a useful ethical model that considers human interaction, technological innovation, and physical place? 2. How might such a merged model, what we call a place-based ethic, affect technical communication design? **Methods:** We analyze cases including documents from radical environmental defense groups, a restyling of certain federal court rules from legalese into plainer language, the creation of mortgage documents suitable for consumers and industry professionals, and the action-research design phase of a locative mobile application about public art. **Results and conclusion:** The cases provide concrete examples of the components of a place-based ethic, and we conclude that designing with a place-based ethic includes actively acknowledging the value of the environment, seeking areas for dialogue among involved parties and celebrating dialogue where it occurs, seeking shared spaces, clearly stating anticipated outcomes, and usability testing for potential ethical issues.

Index Terms—Anticipatory technology ethics, decision-making, ethics, land ethic, mobile application design, narrow ridge, place-based ethic.

Matters of place have been complicated in recent years by the rise of mobile devices and their legally mandated global positioning system (GPS) hardware. Such devices inherently connect people with natural settings, but they also inextricably link those settings, device users, and their communications with the rest of the world through mobile and internet networks. These emerging technological changes are rewriting our

relationships with existing place-based technical communication, including analog forms already in place, or referring to place, spanning from legal paperwork to popular-media discourse, and leading to novel ethical dilemmas for technical communicators.

As technical communication has matured and grown during the past 50 years, so have its concerns for ethics, especially in relation to new technologies in fast-evolving media ecosystems [1]–[7]. This trend has included a turn in the field toward both ethics and invention, in response to the challenges presented by emerging technologies [8]. Often left out of these discussions, though, are ethical frameworks recognizing and giving power to all significant stakeholders, including nonhuman environmental actors, such as air, land, and water. In an effort to reconnect those ties, we offer a hybrid approach to the problem built from Aldo Leopold's land ethic, Martin Buber's concept of the narrow ridge, and anticipatory technology ethics. We call this a **place-based ethic** [9].

A land ethic, proposed by Leopold, asks us to consider actions beyond our immediate

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Practitioner Takeaway

- A hybrid Place-Based Ethic synthesizing Leopold's land ethic, Buber's concept of the narrow ridge, and the emerging perspective of Anticipatory Technology Ethics offers a way to reinvigorate ethical thought for technical communicators.
 - This Place-Based Ethic encourages technical communicators to be more aware of the people and places involved with and affected by a particular technology.
 - Designing with this ethic includes actively acknowledging the environment's value, seeking dialogue among involved parties and celebrating dialogue where it occurs, seeking shared spaces, clearly stating anticipated outcomes, and usability testing for potential ethical issues.
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surroundings. In this model, we reconsider societal roles, moving from *conquerors* of the land to *members* of a community [10, p. 204]. Such an ethic asks us to move beyond economic self-interest and to take personal responsibility for our environment. So far, few technical communication scholars have applied Leopold's ethic to place-based media, such as radical environmentalist publications that attempt to rewrite narratives about particular places. We will do that here.

The narrow ridge, an aspect of Buber's dialogic ethics, describes a place between two entrenched parties where they can meet if they enter dialogue. Buber's dialogic ethics, applied by scholars including Dragga [11], Salvo [12], and Katz and Rhodes [13], considers ethics through two relationships. In I/It relationships, one talks *at* the other without a true relationship. In I/Thou relationships, interaction is reciprocal. So far, our field has likewise rarely addressed Buber's narrow ridge concept, which calls for interlocutors to show respect and demonstrate goodwill, even in seemingly benign place-based documents such as mortgage-loan paperwork, which we will use as an example.

Scholars and practitioners are still seeking and developing nascent methodologies for dealing with the potential of ethical concerns related to an emerging technology, an integration that could radically affect design [14]. Advancement of what has been described as anticipatory technology ethics requires the integration of ethical discussions and decisions during the design phase of emerging technologies to actively predict and project how these technologies might be used and what the consequences of such uses might be, to ensure ethical outcomes [15]. Technologies can be unpredictable, even to their creators (as Gibson

writes, "the street finds its own uses for things" [16, p. 215]). Yet, ethical issues often arise, not because of unforeseen applications of technologies, but because creators may be more focused on whether they *can* build something than whether they *should* build it.

This approach is dubbed the "curse of feasibility" by Protzen and Harris [17, p. 223], though it may be more familiar to many of us as the problem of the technological imperative, when, as Katz writes, "technology becomes both a means and an end in itself" [18, p. 266]. In such a sense, society co-evolves with technologies [19]. In response, some scholars have tried to address these concerns through checklists that impose fixed rules and principles [20]. Rigid approaches, though, cannot flexibly respond and adjust to unanticipated ethical consequences created by, among many factors, varying cultural responses and individual appropriations of the technologies [21].

In some ways, other scholars based in more heavily design/engineering fields have addressed concerns about technologies and their underdeveloped ethical foundations via acknowledgements and assessments (e.g., [22]–[26]). As Verbeek [27] has argued, however, scholars need to do more than just "assess" the ethics of particular technologies; they need to develop new ways of "doing ethics" of technology "accompanying" technological development, implementation, and use. Along that line of thinking, we move this discussion forward through the development of an accompaniment approach to any design and implementation process by triangulating divergent perspectives into a unified place-based ethic. In short, we need a recurrent, top-of-the-list, always-on ethic. Without such an approach, "we"—those who design, create, implement, consume, and generally participate in any sort of consumer production model—risk

buying into and supporting an ethic of expediency that sets the curse of feasibility, the technological imperative, as a given.

This imperative is not just some ambiguous concern to be easily dismissed in the day-to-day actions of creation and implementation, but a tangible, real, active problem. The atomic bomb and mustard gas are, for example, pinnacle achievements as results of the technological imperative, but less obviously destructive technologies warrant our watch as well: from oil wells and pipelines to disposable computer technologies and Keurig coffee-machine cups, we should ask ourselves how what we create impacts our land and our human interactions. Together, the land ethic, the narrow ridge, and an anticipatory mindset toward technology (rather than a reactionary one) create the core of the place-based ethic that we put forward to combat the technological imperative. This proposed ethic considers place as a primary stakeholder in locative forms of technical communication and gives it appropriate power relative to the situation.

The following research questions drive this project.

RQ1. How might we meaningfully merge the many ways that technical communicators from varying backgrounds approach ethics into a useful ethical model that considers human interaction, technological innovation, and physical place?

RQ2. How might such a merged model, what we call a place-based ethic, affect technical communication design?

To answer these questions, we will first define the concept of “place” as we refer to it in this paper and then address Leopold’s land ethic, Buber’s narrow ridge, and the concepts behind anticipatory technology ethics. We then follow our explanations with brief analyses of case studies drawn from documents, interviews conducted with practicing technical communicators, and action-research-based app development insights, to suggest how these three systems play out in real-world communication contexts. We conclude with six points toward operationalizing a place-based ethic in technical and professional communication.

LITERATURE REVIEW

To set the stage for a place-based ethic, consider that ethical situations involve a moral agent or agents, an action or series of actions, consequences, and a recipient or recipients of

consequences. As authors such as Dragga and Voss [28], Katz [18], Slack et al. [29], and Ward [30] have argued, our roles as articulators of information embedded in ethical situations place us in a watchdog role. Adding a place-based system of ethics to our shared awareness as technical communicators has the potential to greatly enrich our ethical decision-making.

Parties involved in decision-making in ethical situations may separate over serious differences—ideological, religious, philosophical, and so on. Buber [31] describes the human world as split into two camps, each of which thinks it embodies truth while the other embodies falsehood. This separation may lead to a condition that Buber calls existential mistrust [32]. We see these cases of mistrust in our daily interactions—surely in the highly politicized world of environmental debate—but really in any circumstance where parties from conflicting public spheres meet.

The spheres we inhabit—our networks of social groups, professional affiliations, personal belief systems, and more—represent complex areas of self-identification in keeping with Habermas’s model of communicative rationality [33], [34] as rearticulated by Killingsworth and Palmer [35].

Worth noting here is Habermas’s direct application toward bridging discourse and environmental ethics. While arguments regarding Habermas’s approaches often focus primarily on a perceived necessarily anthropocentric model of ethics, a postnormal reading of his works suggest direct application toward an environmental rhetoric inclusive of nonanthropocentric elements. We use Habermas as a bridge between Leopold and Buber, and draw on his model to suggest sites of ethical interaction and intervention (see Hendlin and Ott for a model suggestive of direct ethical action inclusive on the nonanthropocentric, where “Habermasians should or even must say *sic et non* [yes and no] to human superiority” [36, p. 208]).

In this model, we share ideas with one group; reshape ideas for presentation to, or discussion with, another group; and shape and reshape information based on personal, public, and technical expectations. Rather than seeking a single, systematic path and the reinforcement of a single, systematic instrument (a government, for example, which follows a communicative path more in keeping with instrumental rationality), communicative rationality is a system where publics and expertise overlap. In this overlapping

system of networks, finding common ground for decision-making can be problematic.

Buber's narrow ridge is a place between opposing parties, where they can find common ground if they regard each other as Thou and not It. The mistrust Buber describes is applicable to many situations involving bureaucratic organizations and their stakeholders. Government agencies, healthcare organizations, and environmental groups, among others, all deal with technical and scientific information in an environment where mistrust and resentment may separate these organizations from their constituents.

Technical communicators engage audiences to solve problems—the nature of our practice suggests that we must engage with multiple discourse spheres as a matter of course. (See Goodnight's work for background on the concept of spheres [37].) In this constant (re)negotiating of information and publics, we may lose a sense of place, of grounding, and, in so doing, move away from a guiding ethic that asks us to consider how we interact with both the land and each other. Dialogic and land ethics, together with anticipatory technology ethics, offers a reimagined sense of place where technical communicators potentially conceive of interlocutors more richly, understanding their technologies, surroundings, and lasting welfare, as well as their immediate needs.

In doing so, technical communicators may reimagine ethical situations, leading to decision-making outcomes and documents that might create more environmentally conscious workplaces, both in terms of environment-as-land and environment with regards to human-human interactions. Such reimagined workplaces are important. As numerous ethicists have argued, our environmental impact is ultimately the result of our need, or at least desire, to live in advanced societies, where we expect a certain level of comfort in even the most mundane of exercises. The bricks with which we build our houses; fuel used to import vegetables and meats; electricity for heating, cooling, and communication; even the metals for our tools all come at an environmental cost, and few of us can become truly self-sustaining without some level of community integration and sharing of resources.

Jones et al. [38] make a strong case for considering the energy that we use under the same sorts of models we use when considering social justice.

Their “energy justice” model is based on four assumptions:

1. That “every human being is entitled to the minimum of basic goods of life that is still consistent with respect for human dignity” (p. 151)
2. That “the basic goods to which every person is entitled also include the opportunity to develop the characteristically human capacities needed for a flourishing human life” (p. 156)
3. That “energy is only an instrumental good—it is not an end in itself” (p. 158)
4. That “energy is a material prerequisite for many of the basic goods to which people are entitled” (p. 160)

From these assumptions, they call for two principles of energy justice: the prohibitive principle and the affirmative principle. The prohibitive principle “states that energy systems must be designed and constructed in such a way that they do not unduly interfere with the ability of any person to acquire those basic goods to which he or she is justly entitled” (p. 162). The affirmative principle

states that if any of the basic goods to which every person is justly entitled can only be secured by means of energy services, then in that case there is also a derivative right to the energy service. (p. 165)

These principles apply to local scales as much as they do global scales, and add a valuable consideration to the way that we consider resource distribution and use.

Regardless of preferred starting point—Leopold, Buber, or somewhere else entirely—we recognize that culture plays a significant role in both creating *and reducing* environmental damage (see, for example, [39]). A place-based ethic for technical communicators may allow us to find the common ground needed to more richly engage with each other and more deeply consider our surroundings, in the often tension-laden, information-sharing aspects of the communicative spheres we inhabit.

Ideas about space, place, locale, and even finer conceptualizations of locative context, meanwhile, have been intriguing scholars for decades. As part of a much larger and more complex discussion, “space” generally is the label given to territory that has not been inscribed with significant human meaning, often thought of as transitional realm, such as a byway between important places [40],

[41]. Once that inscription has been made, the space transforms into a “place” [42], a “locale” [43], a “genius loci” [44], etc., depending on the precision and poetics of the inscription. Locative media, or media directly connected by technologies to a place, from a technical-communication perspective, redefine our understandings and our experiences with a location and related activities and events [45]. In such ways, digital technologies have the power to conceptually change the nature of a physical space and the social interactions that occur in them [46]. Such dynamic transformations also renegotiate our relationships with existing analog media, linked to places, all of which populate, energize, and complexly affect the broader media ecology. As de Souza e Silva presciently states, the primary question we have is not how do we build in mixed-reality spaces [47]? It is, instead, how does physical space, including artifacts of place, get reconceptualized through connectivity of digital and locative media? And what are the ethics of such reconceptualizations? Thus, in our argument toward a place-based ethic, we consider “place” to be a site of interaction between elements to which we ascribe moral and/or ethical value—not simply a “space” in which action occurs but that transformative space-to-place, where rights and obligations (can) become associated, inscribed, and contested.

A Land Ethic Leopold’s “The Land Ethic,” published in 1949 in *A Sand County Almanac*, stands as one of his most famous essays and as a valuable touchstone for ethics. In it, Leopold argues for a reconsideration of the way we treat “the land,” his term for what we would now more commonly refer to as “the environment.”

Understanding a Land Ethic: An ethic, Leopold notes, is “a limitation on freedom of action,” which differentiates “social from anti-social conduct” [10, p. 202]. He further notes that ethics serve as “a mode of guidance” for new situations and as an evolving “community instinct” [10, p. 203]. Ethics, Leopold argues, are conceived on a single premise: “that the individual is a member of a community of interdependent parts” [10, p. 203]. Ethical systems are traditionally and generally viewed as anthropocentric—human centered. They are normative, in that they assess, judge, and guide action (see, e.g., [48], [49]), so it makes sense to think of ethics as decision-making schema concerned with shaping the way we interact with each other.

Leopold’s concept of “community instinct” is important here and is one reason why we ask technical communicators, as a profession, to consider his land ethic. Individual decision-making results in individual change; individual decision-making within a group of individuals making similar decisions can result in larger scale change. A “community instinct,” then, suggests that with shared ethics comes shared (and increased) chance for change. Just as a society’s code of ethics both reifies and supports that society and supports (and shapes) individual member’s actions, a community instinct suggests that we might all eventually begin to naturally make meaningful social and environmental changes to our actions, both personally and professionally, if actively organized and oriented toward such changes.

Leopold’s reconception of ethics falls under a system of ecocentric ethics—one that asks us to adopt the stance that “ecosystems have moral standing.” We should consider ecosystems in our decision-making processes because “they have an inherent worth that is over and above their usefulness to the lives of plants, animals, and human beings” [49, p. 179]. In Leopold’s ecocentric view, when we think of ethical decision-making with regards to community interaction (when we decide a “right” course of action), we “simply enlarge . . . the boundary of the community to include soils, waters, plants, and animals, or collectively: the land” [10, p. 204]. In terms of decision-making, then, when we ascribe “rightness” or “wrongness” to an action, we should consider a thing (or decision) right “when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” [10, pp. 224–225].

As List notes, these three components—integrity, stability, and beauty—while often difficult to define, serve as valuable guides for the way that we interact with the land. If we follow an “assumption of non-reducibility,” which argues that these components are “neither reducible to one another nor to other properties such as diversity or harmony,” and we take that these components are “important and may not simply be replaced, deleted, or devalued,” along with an “assumption of realism,” that “integrity, stability, and beauty are present or absent in biotic communities, regardless of whether human beings know it or not” [50, p. 412], then we can perhaps more fully accept our role as members of a biotic community. That is, if we consider that every action that we take draws

upon energy resources that ultimately derive from the environment, then our decision-making becomes inexorably linked to considerations of integrity, stability, and beauty.

A land ethic leads us naturally to considerations of human–human interaction as well. Though consideration of the land may seem at odds with consideration of our fellow humans, Rolston argues differently:

The four most critical issues that humans currently face are peace, population, development, and environment. All are entwined. Human desires for maximum development drive population increases, escalate exploitations of the environment, and fuel the forces of war. Those who are not at peace with one another find it difficult to be at peace with nature, and vice versa. Those who exploit persons will typically exploit nature as readily—animals, plants, species, ecosystems, and Earth itself. [51, p. 53]

To add to support for the necessity of an environmental ethic that considers the importance of human–human interaction, consider also Budolfson’s argument that Leopold himself is perhaps best taken as an enlightened anthropocentrist, rather than a radical environmentalist. As Budolfson notes, Leopold’s conception of the land ethic itself derives from an awareness that economic pressures and pleasures give light to the ability to consider the land as having more than economic value. The sentence preceding the oft-cited slogan that “a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community” notes that we must consider questions “in terms of what is ethically and aesthetically right, as well as what is economically expedient” [52, p. 444]. That is, because we draw resources from the land, we are inexorably tied to the land as the source of our own abilities, but considering the land *purely* as instrumental is to misunderstand our own complex relationship with our environment, one that must consider both physical and philosophical well-being (hence Budolfson’s argument toward anthropocentrism—in addition to everything else, the land is a source of pleasure and profit, so preserving it could be viewed as being based primarily in human need and desire).

Regardless of how one reads Leopold’s motivations, however, the land ethic as a starting place for a place-based ethic is essential. We cannot—or should not—work under any system of ethics that

allows us to disregard the very ground under our feet, or the water we drink, as that ground and that water are integral components of any sort of energy economy that ultimately allow us food, shelter, and communicative technologies. We are not simply users of the land, or stakeholders with an interest in its well-being. No matter how far removed we may *feel* from nature, we are inescapably tied to it—we cannot live without water, air, food, and shelter, all of which come from the land, just as we cannot—for long, and in good sanity—exist in a world absent nature.

A Land Ethic’s Potential Within Technical Communication: In “The Land Ethic,” Leopold notes that “lack of economic value” [10, p. 212] is often a characteristic we ascribe to biotic communities (a bog, sand dune, or desert, for example). We extend this to conceptions of human worth and our understanding of particular workplace practices. This devaluing—or nonvaluing—is ethically problematic on many levels. If we view our environment only through an instrumental lens, considering only its ability to serve as stock in trade, we risk losing rich components of our world and its many complex societies.

Considering complex environments with regard to their intrinsic value, the moral and ethical appreciation of their very existence has the potential to dramatically reshape our daily actions. In some literature, such an approach is considered an “ecosystem services” approach, where axiological (value-based) considerations of both fundamental (the consideration that nonhuman entities may contribute to the overall richness of human existence) and eudaimonistic (roughly, consideration of well-being, or an ability to flourish that leads to considerations of quality of life) elements are brought together in consideration of human–nonhuman interactions [53].

Although such an approach is in keeping with the place-based model we argue for here, the overall approach of an ecosystems model takes, perhaps, more of a hard, separatist line—that is, a line clearly separating humans from the land and instantiating them more purely as stakeholders than as beings inseparable from nature (see [53, p. 261], for example). Considering the land with regard to its eudaimonistic value (leading to the well-being of individuals), for example, is valuable—is critical, even—but also neglects the realities of humans’ beholden-ness to the land. We cannot disavow the world and continue to live

absent its support. Thus, we prefer an approach that considers the land more with regard to considerations of the nuances of instrumental versus intrinsic value, rather than a stakeholder approach that allows (or allows for) dissociation.

Jax et al. argue specifically against an instrumental approach, noting that “instrumental values, in the form of economic values, do not fully capture the ways people assign worth to nature” [53, p. 262]. We agree, but also find some fault with an ecosystem services model because of the rather mechanistic way it can be applied—there is some suggestion that humans are merely stakeholders in nature, not integral components—part of the land, as it were. We do agree with Jax et al.’s conclusions, however, in that acknowledging flaws in the ecosystem services model, then setting expectations of values-to-be-considered, has the potential for facilitating more of a science and society role in consideration of human action with regard to human–nonhuman interaction (see p. 266). So our disagreement is primarily a soft one.

We can likely agree that any ethic that asks designers and consumers to consider the land in their action(s) is preferable to any system that allows disavowal of the land entirely. Perhaps what we seek here is an impossibility—something that asks those in economic power to consider the value of nature for nature’s sake, and for their own physical and spiritual well-being. After all, as cases such as Easter Island and the Dominican Republic show, when nature can be exploited with the promise that more nature is or can be available, it is well within our power to exploit until nothing is left to exploit. But arguing the details of a land-based ethic—an ecosystem services approach versus a place-based ethic, for example, or even a pure land ethic as originally articulated by Leopold—at least puts our field forward as arguing about *which version* of a land ethic to use, as opposed to ignoring the land altogether.

If we consider the instrumental/intrinsic split more closely, we see how these models encourage different types of ethical action. In observations based on the study of indigenous communities in the Borneo tropical rain forests, for example, Choy notes that although considering the land through a purely instrumental lens is “bound to induce an exploitative mode of behavior,” skewing toward the intrinsic affirms “custodial responsibility” [54, p. 440]. Put another way, changing daily decision-making strategies from questions like

“does this have value to me?” to “what would my world be like without this?” could alter our decisions, or even the documents we produce. The first question—“what value does this have?”—overlays an economic grid on every aspect of our lives: we must view our actions almost solely as a system of transactions. The second question, a reflection of Leopold’s land ethic, recognizes that our daily lives extend beyond transactionality and into the aesthetic. In this question lies the assumption that there are places, events, and even modes of communication and conduct with intrinsic value.

Technical writing is by its very nature transactional. Longo, for example, notes that in its ability to bring order and legitimacy to complex information, technical writing acts as coin-of-the-realm [55]. With writing as a control mechanism for power and authority must come the realization that the value we put on writing and the value we ascribe to it ultimately shapes the institutional structures that depend on it for their daily practices. Thus, writing allows for complex, organized, mechanistic processes that may ignore human (or environmental) concerns in their daily routines. If writing focuses only on the programmatic, then we run the risk of falling into the trap of expediency that Katz warned us about in 1992 [18].

Just as Longo draws our attention to the way that technical writing creates and reifies power by codifying and standardizing information, Katz argues that technical writing is powerful in that it is “concerned both with arguments of fact and arguments of policy” [18, p. 261]. His depiction of technological expediency is worth considering here in some detail.

Indeed, expediency is the only ethic that can be “measured,” whether that measure be a cost-benefit analysis employed by an industrial engineer to argue for the automation of a plant, or the number of people exterminated in one day—“pure” expediency (undiluted and uninhibited by other ethics) recognizes no boundaries, no degrees of morality or other ethical limits. While expediency can be the basis of desire and emotion (like greed or the lust for power), the ethic of expediency is an exclusively logical, systematic, even quantifiable one, can lead to a rationality grounded in no other ethic but its own, and is symptomatic of a highly scientific, technological age. [18, p. 266]

This argument means that “simple” documents related to technology actually normalize and shape societal response; they are tools of deliberative rhetoric with the potential to shape future actions [18, p. 258]. If we consider only the economic value of our surroundings, including our interactions with others, then we are likely to produce documents that seek the most expedient path toward whatever end-goal is desired. If we take a land ethic into account, however, it is possible that we produce technical documents that—to draw language from an ethic of care into this argument—show caring concern for each other and our environments. In doing so, we may, as Ulman has argued, alter the manner in which we resolve problems [56, p. 73].

The Narrow Ridge Buber’s depiction of the narrow ridge frequently appears in discussions of dialogic ethics. Buber describes the narrow ridge in *Between Man and Man* [57] primarily in an extensive essay titled “What Is Man?” As Friedman writes in his introduction to *Between Man and Man*, Buber uses “What Is Man?” to comment on the “product of the decline of trust in communal existence, of the divorce between man and man” [58, p. xx].

Understanding the Narrow Ridge: Buber’s principles of dialogic ethics have been applied to issues in our field by scholars including Dragga, Salvo, and Katz and Rhodes [11]–[13]. Buber frames dialogic ethics through two relationships. In I–It relationships, one talks *at* the other without a true relationship; in I–Thou relationships, interaction is reciprocal. Buber’s concept of the “narrow ridge” links ideas of dialogue and place.

As Arnett describes it, “The narrow ridge is a philosophical stance that undergirds behavior” [59, p. 38]. Two parties may separate because of significant differences, whether ideological, religious, philosophical; they may separate because of what Buber called existential mistrust—lingering suspicions about the other’s true motives [59, p. 49]. In “Hope for This Hour,” Buber describes the human world as split into two camps, each of which thinks that it embodies truth and the other embodies falsehood [31]. Mistrust incites the two camps against each other [59, p. 79]. The narrow ridge is a place between two sides of an argument, where the parties can meet if they regard each other as Thou and not It.

In Buber’s dialogic ethics, reciprocal relationships are vital. “The individual is a fact of existence in so

far as he steps into a living relation with other individuals. The aggregate is a fact of existence insofar as it is built up of living units of relation. The fundamental fact of human existence is man with man” [57, p. 203]. In describing how he answers the central question, Buber writes,

Since my own thoughts over the last things reached, in the first World War, a decisive turning point, I have occasionally described my standpoint to my friends as the ‘narrow ridge.’ I wanted by this to express that I did not rest on the broad upland of a system that includes a series of sure statements about the absolute, but on a narrow rocky ridge between the gulfs where there is no sureness of expressible knowledge but the certainty of meeting what remains, undisclosed. [57, p. 184]

Buber’s narrow ridge is not a place where troubles do not exist or where disagreements die. Rather, a narrow ridge is a place that exists, barely, despite disagreements and differing points of view. Buber writes that when two people share dialogue, they create something new between them.

In the most powerful moments of dialogic, where in truth “deep calls out to deep,” it becomes unmistakably clear that it is not the wand of the individual or of the social, but of a third which draws the circle around the happening. On the far side of the subjective, on this side of the objective, on the narrow ridge, where I and Thou meet, there is the realm of “between.” This reality, whose disclosure has begun in our time, shows the way, leading beyond individualism and collectivism, for the life decision of future generations. Here the genuine third alternative is indicated, the knowledge of which will help to bring about the genuine person again and to establish genuine community. [57, pp. 204–205]

Buber calls for awareness of other perspectives in a close, relational sense. That is, just as we are inescapably tied to the land, to reach back to the land ethic, we are inescapably tied to each other—we would not exist without our parentage, without family, without workplace relationships, or without social relationships. Because it is passably rare that a single human can exist in pure isolation for the full of his or her life, we must learn to live with each other. Thus, Buber’s narrow ridge calls upon us to *not* ignore political, religious, or other such disagreements, but instead to acknowledge them, and *despite those disagreements*, meet. And here we may reach ahead to suggest that digital meeting places are just as valuable, or at least as

valuable in-and-of themselves, as physical meeting places. For in these meetings of disagreeing individuals, we see the potential for growth—ethical, environmental, personal, and more.

Potential of the Narrow Ridge Within Technical Communication: Prior applications of Buber’s dialogic ethics in our field have produced useful discussions on treating people ethically and humanely. Salvo describes design processes that involve and respect users of technological systems [12]. Dragga describes how corporate codes of conduct can be more reader-oriented and humane instead of company-focused and coercive [11]. Katz and Rhodes describe how individuals’ relationships with technology can reflect humane and ethical values [13].

A narrow-ridge approach to technical communication will focus on creating dialogue between parties who sometimes oppose each other. This approach does not require parties to pretend that they do not have any frustrations; it does not assume that only happy and positive messages will be exchanged. A narrow-ridge approach involves creating spaces, whether physical, virtual, or in a mixed-reality context, where parties communicate openly, listen (or read) intently, and experience relationships reciprocally within their shared spaces. A narrow-ridge approach thus (in our place-based ethic) adds to a land ethic in that it builds in the requirement of human acknowledgement of human values, not as separate from the land, but as integral to and inseparable from that place.

A narrow-ridge approach may take many forms. For example, without acknowledging Buber directly, a couple in California have created a program to encourage people to create dialogue and encourage understanding among people holding different points of view. Nellie and Steven Ambrose created the Walk the Ridge program to encourage civil discourse. The program’s website provides several suggestions for encouraging people to communicate civilly in their personal lives and in the workplace. The program also offers wristbands to serve as reminders of the group’s principles of seeing, hearing, and respecting others. The shades of purple on the wristbands reflect that the US is not simply red (for conservative or Republican ideas) or blue (for liberal or Democratic ideas), but rather a combination of ideas.

Like Buber, Walk the Ridge acknowledges that meeting in a space for discourse is not in itself a panacea for disagreement.

Walk the Ridge is NOT about pushing people into changing their beliefs or opinions. It’s about individuals breaking free of the tribe mentality, which has resulted in inflexibility toward listening, understanding, and practicing civility to others with different viewpoints. [60]

In keeping with Buber, however, Walk the Ridge encourages a kind of spatial awareness to avoid mingling only with one’s own typical tribe in one’s own typical spaces. Nellie Ambrose embraced the ridge motif after looking out over the mountains near Los Angeles.

I sort of had an “ah-hah moment” that we have become tribes of opinion separated by the ridge of a mountain. We’re not seeing each other for who we really are, just the box we checked on election day, and not hearing each other to really understand our backgrounds and how our views were formed. We want to empower people to rise above the valleys and walk the ridge, the narrow path on the mountain range where we can see there is beauty on both sides. [61]

Sorrells writes that intercultural communication

broadens and deepens our understanding of the world we live in by challenging our taken-for-granted beliefs and views and by providing alternative ways to live fully and respectfully as human being. [62, p. 16]

Her six points of entry to what she calls *intercultural praxis* are relevant to those who would share a space with someone unlike themselves regardless of cultural backgrounds.

1. Inquiry is a state of curiousness, a willingness to ask questions, and to see the world from a different point of view.
2. Framing is a process of understanding our perspectives and re-examining how our frames of reference reveal some things while obscuring others.
3. Positioning involves examining how we are positioned socioculturally and understanding our access to power and influence.
4. Dialogue is a process of reaching across divides, stretching ourselves, and becoming aware of tensions as we talk with others with whom we might disagree.
5. Reflection is the capacity to learn from introspection and perhaps alter our perspectives and actions.
6. Action is how we respond to others and to what we learn about ourselves; it is what we do (and what we choose not to do). [62, pp. 17–23]

In addition to venturing into spaces and places that we do not typically inhabit, we should re-examine how we consider those with different points of view. Witt points to the example of former Senator Bob Dole. After losing the 1996 presidential election to President Bill Clinton, Dole maintained that Clinton was his opponent but not his enemy. By seeing others from different points of view as participants in the marketplace of ideas and not merely as enemies [63], and by sharing spaces rather than restricting access, we can move toward Buberian dialogue and enact a place-based ethic.

Anticipatory Technology Ethics If we accept the idea that new communication technologies likely will continue to emerge and that those technologies will continue to significantly change aspects of technical communication—sometimes in disruptive ways—then we also should anticipate that ethical issues will arise continually as well. And we should prepare for it. Sometimes ethical issues surface in surprising ways, of course, but they also may present themselves in predictable patterns, forecastable upon close reflection about the affordances and constraints of these technologies and through awareness gained via action research with such technologies aimed at exposing ethical risks. With locative technologies adding even more complexities to our media ecologies, designers need heuristics to help foresee ethical issues before they appear, not after.

Understanding Anticipatory Technology Ethics: Because researchers often examine third-party technologies from a detached perspective more than they actively help to develop them, technology assessments tend to come after beta testing or even after a public release, when significant structural changes to those technologies are difficult to make for various pragmatic reasons, including cost, time, and disruption to the current user base. These assessments also typically aim to document “quantifiable risks” that involve safety, health, or environmental concerns. Yet they rarely account for ethical issues, even though norms and values get reconstituted by each significant technological advancement that we make. Thus far, scholars and practitioners are still forming nascent methodologies for dealing with the potential of ethical concerns related to emerging technologies, creating novel approaches that could radically affect design [14]. In such a sense, society co-evolves with technologies [19]. In response, some scholars have tried to address such concerns through checklists that impose fixed rules and principles [14], [20]. Such rigid approaches,

though, cannot flexibly respond and adjust to unanticipated ethical consequences created by, among many factors, varying cultural responses and individual appropriations of the technologies [21].

A response to this dilemma is an approach that Brey calls anticipatory technology ethics, which recommends facing ethical uncertainty with forecasting and future studies, within a predetermined framework [64]–[66], along the lines of the ethic proposed here. Anticipatory technology ethics in recent years has embraced participatory design as a complementary approach to the forecasting of potential ethical concerns related to emerging technologies, which is part of the reason why we have included it in our place-based ethic.

In other words, once a technology has been implemented and released to the public, it typically can be only either slightly tweaked or cancelled. So the best opportunities for significant design changes are early in the development process, when various options are being considered and designs are more malleable.

Brey argues that ethical concerns also are best identified, evaluated, and addressed early in design processes, but also that more research needs to be directed toward developing sound approaches and methods for ethical analysis of emerging technologies. In Brey’s approach, such ethical assessment ultimately concerns what would be good and bad about devices and processes that an emerging technology might elicit, as well as what might be right or wrong about ways in which these technologies may be used. Anticipatory technology ethics, therefore, can also be applied to promote and yield more ethically sound and desirable devices, uses, and policies.

Potential of Anticipatory Technology Ethics Within Technical Communication: The obvious epistemological problem inherent in predicting ethical concerns of emerging technologies, especially early in design processes, is that such situations are often highly unpredictable, interconnected with many internal and external factors, including rapid changes within technology ecosystems, within which the particular project being examined is uncontrollably immersed. Until users of a technology have it in their hands, we do not truly know how—or whether—they will use it. With limited resources, designers will worry about frittering away precious time and money on issues that end up being irrelevant.

Yet, just because such prediction is difficult and resource-draining does not mean that it should be left out of the design process or ignored. As Brey suggested, designers in these cases need helpful heuristics that allow them to anticipate uses in a responsible and reliable way [65]. They can use a generic and conservative approach that looks backward, based on historical precedent, to predict what happens next, which is relatively reliable. Or designers can choose to look further ahead and forecast, raising more ethical ideas for consideration in relation to the specific technology under assessment and including ecological contexts that could be affected by the technology as well.

In addition, Brey raised the complexities of developing an ethic as potentially being concerned with multiple facets of the technology, from its different components to its techniques, from its current to its future uses, from its social consequences to its implications that take people by surprise. Each approach suggested to date has its strengths and weaknesses, with the place-based ethic counting among its strengths a narrow focus on technical communication as it relates to place, thus encouraging designers to think more richly about how place relates to technology, and how technology impacts and uses place.

METHODS

To consider the possibility of a place-based ethic for technical communicators, we first examined sample cases against the heuristics of Leopold's land ethic and Buber's narrow ridge. To do that, we developed a simple coding system based on a five-point Likert-type scale. We each independently examined the cases against our descriptions of the three existing ethical systems and assigned each a level of consideration regarding a land ethic, the narrow ridge, and anticipatory technology ethics. The choices were marked by placing a symbol relating to the land ethic (a triangle), to the narrow ridge (a square), and to anticipatory technology ethics (a circle) on the scale. In doing so, each author independently noted aspects, elements, and data that led to that particular understanding and conclusion.

We then conferred to normalize agreement among us by first sharing our initial assessment, followed by a discussion, followed by a reassessment and a reaching of inter-rater agreement, determined either through unanimity of the rating or majority vote in cases of disagreement. In this process, there was very little disagreement, even in the initial

ratings. Our assessments were in agreement about 90% of the time, likely because of the work we each put into explaining both heuristics and initial assessment. Through discussion of any disagreement or confusion, however, we were able to reach consensus. Thus, we were able to present a single coding scale for each document, showing the adjusted assignment of consideration of a land ethic, the narrow ridge, and anticipatory technology ethics.

This part of the process mimicked the one that two of us (Ross and Willerton) first completed, considering only Leopold's land ethic and Buber's narrow ridge, described in an earlier article [9]. We revisited the entire process with the addition of a new contributor (Oppegaard) and anticipatory technology ethics for this iteration of the project. Next, one of us (Oppegaard) created the Manoa Public Art (MPA) app specifically as a research instrument to explore a practical example of these types of inquiries, following the standard action-research strategy of creating a cycle that

1. Planned the action
2. Performed the action
3. Observed responses to that action
4. Reflected upon those responses

in preparation for the next action cycle, as a way, in part, to develop and test our place-based ethic in authentic settings with real users performing real tasks. All three authors then assessed the completed project against the same Likert-type scale. From this process and these results, we hypothesize what a reconsidered place-based ethic would look like.

Our approach is fundamentally qualitative, and although we acknowledge the difficulty of replicability and potential for slippage in our coding—just as we acknowledge the necessity of combined, multiple expertise for this project—we mindfully attempted to ensure as transparent an approach as possible by working through multiple iterations of our coding and showing our work. When we disagreed, we revisited the problematic section and wrote out our arguments for why we chose a particular category. In so doing, our theory evolved, marking disagreements as points not of contention but points of potential theoretical growth (in itself an interesting narrow-ridge approach to analysis). Our approach would not be possible without sharing expertise; thus, we must acknowledge the inherently and necessarily collaborative nature of this project for its strengths and weaknesses. We anticipate that different

groups of people would come to somewhat different findings but that those findings would still reflect increased mindfulness about the place-based ethic.

Methodologically, our reading of the documents and art project is akin to close textual analysis, or could be viewed as a combination of both narrative and ideological criticism. In these approaches, the researcher(s) identify objects of study, then look for patterns and systems of beliefs (ideological criticism), or systematic, progressive stories about our world (narrative criticism) (see [67]). In this case, our methodology could best be described as “combined-expertise ethical analysis,” as each interpreter of the situation had to be brought to a point of shared understanding against the other researchers’ expertise; then, we each assessed the cases against those heuristics. As such, the documents, or narratives, were engaged from our three individual perspectives, each of us informed by our shared engagement with Leopold’s land ethic, Buber’s narrow ridge, and anticipatory technology ethics. Such combined-perspective analyses regarding ethics have been employed in other cases (successfully) as well, including, notably, Colton et al.’s work on ethics and tactical technical communication [68].

CASES

To test the concept of our place-based ethic, we examined a series of cases from various discourse arenas. From our experiences, we think collectively that they offer insights into what the place-based ethic outlined above might look like in practice. These are the cases.

1. Documents from the world of radical environmental rhetoric that are designed to convey important environment-related information to their stakeholder audience
2. Documents from the world of mortgage loans and from a restyling of the Federal Rules of Evidence, as a way to get at the way organizations facilitate change in high-value documentation
3. A mobile app development process and product, plus a field experiment that outlines the design, development, and testing of the public-art app product, as a way to look at ways in which technology is designed and deployed when place is a major design factor

Our goal is to outline the constituent parts of a place-based ethic as drawn from both our underlying theories and the ways in which we see these theoretical components enacted in the cases.

Cases I and II: Earth First! and the Sea Shepherd Conservation Society Newsletters

Two of the documents that we use to test our place-based ethic for technical communicators come from within the world of radical environmentalism. The first is the Yule 2014 issue of *Earth First! News* [69]. The second is the 2012–2013 issue of the *Sea Shepherd Log* [70].

Radical groups, as argued by Deluca, embody a community “akin to ecologist Leopold’s land ethic” in that they recognize that

humans are always embedded in place (not space) in a particular relationship that is coconstitutive of both the identities of the land and the people. Community includes not only people, but also animals, plants, waters, and soils. [71, p. 58]

Their documents, then, potentially give us a way to visualize a land ethic in documentation. Radical environmentalism often takes an inverse approach to saving the environment from that of mainstream environmentalism, and in so doing offers documents that potentially help us challenge traditional, hegemonic discourse. In addition, many argue that radical actions are in some way aberrant. Thus, drawing on Ward, these cases may allow us to “establish the outer bounds of possibility and thus more easily chart a continuum along which intermediate cases can be studied” [30, p. 72]. Katz makes similar arguments throughout his work, noting that critiques of dangerous rhetoric allow us insights into our own uses of—and implications of—rhetoric and, as we argue here, ethics [18].

For these reasons, we selected these documents, along with the long, storied history of the organizations, the reach and impact of these newsletters, and—at the time we began this project—the timeliness of the publication of these documents. We offer brief histories and descriptions below.

Earth First! began with a small group of people who felt that, according to founding member Dave Foreman,

it was time for a new joker in the deck: a militant, uncompromising group unafraid to say what needed to be said or to back it up with stronger actions than the established organizations were willing to take. [72, p. 40]

Despite the often-questionable nature of their actions, Earth First! undoubtedly has influenced public policy about environmental concerns [73, p. 83]. *Earth First! News* evolved from the *Earth First! Newsletter*, one of their primary modes of communication since November 1, 1980.

The Sea Shepherd Conservation Society (SSCS) was formed by Greenpeace co-founder Paul Watson in 1977, after he left Greenpeace. In an early action, the SSCS rammed and ultimately destroyed at dockside the pirate whaler *Sierra*, responsible for the slaughter of an estimated 25,000 whales in roughly a decade of poaching. By the 1980s, Watson and his society were credited with single-handedly stopping pirate whaling in the North Atlantic [73]–[76]. The log we examine here reports their yearly activities to interested parties and serves as both a newsletter and a recruitment tool.

These organizations have extensive histories of direct action. It would be highly unlikely that any one of us would agree with all of their actions, as even those who associate themselves with these organizations often offer alternative takes on their ethics and practices. That said, such uncompromising action offers us time-tested, widely distributed, antihegemonic, ground-up models of discourse for consideration.

Cases III and IV: Financial Documentation for Mortgage Loans and Restyling the Federal Rules of Evidence Case III embodies Buber's narrow ridge in a recent effort to create new documents that convey information to consumers when they purchase a house by obtaining a mortgage.

In the wake of the US financial crisis between 2007 and 2010, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act in 2010. Dodd-Frank transferred responsibility for the Truth in Lending Act (TILA) and Real Estate Settlement Procedures Act (RESPA) to a newly created organization, the Consumer Financial Protection Bureau (CFPB). The Dodd-Frank Act required the CFPB to propose updated rules and to integrate the disclosure forms required under TILA and RESPA for mortgage-loan transactions covered by those laws. Kleimann Communication Group won a contract to work with the CFPB to create two types of mortgage disclosures of loan estimates and closing costs. (See Willerton [77] for further discussion of the ethical perspectives in this project and Kleimann Communication Group [78] for a description of project methods and major findings.)

The purchase of a home by mortgage is exceedingly complex. Each home purchase involves people working in several related but independent occupations, often dispersed throughout the community, region, or country. Among those affected are two groups who can seem at odds with each other: consumers and real-estate industry professionals. Because professionals in real-estate and banking were accustomed to the existing documentation, some might say that they had little incentive to support development of new forms. In the US Congress and across the country, many opposed the CFPB and its mission; they opposed more government involvement in business processes. In this project, CFPB and Kleimann Communication Group had to face arguments supporting the status quo.

Kleimann Communication Group conducted extensive formative usability testing on the documents it created. The firm conducted 10 rounds of testing with 92 consumers and 22 industry professionals. These tests occurred in small, medium, and large cities in each of the nine geographic regions identified by the US Census Bureau. By testing documents with consumers and professionals, Kleimann Communication Group allowed people on both sides to give their opinions on the documents under development and to show, through testing, to what degree the documents were effective.

Case IV, a consideration of the Federal Rules of Evidence that govern the ways in which lawyers may enter evidence in federal courts, provides a second example to which Buber's narrow ridge applies. The Evidence Rules also affect state courts, because many states' rules closely follow the Federal Rules. The Standing Committee on Rules of Practice and Procedure maintains and reviews the rules governing US courts. The committee calls this process "restyling" because the goal is to change the style of the documents without changing the substance. From 2007 to 2011, a group of judges, law professors, and other legal experts on the Advisory Committee for Evidence Rules updated the Evidence Rules by restyling them in plain language whenever possible. Many participants in this restyling effort met for a symposium in October 2011; the comments made at the symposium are recorded in a law review article [79]. (See Willerton [77] for more discussion of the ethical perspectives in this project.)

The Standing Committee oversees five sets of court rules. The Evidence Rules were the fourth to be

restyled. Even after other successful restyling efforts, not everyone on the Advisory Committee on Evidence Rules thought restyling was a good idea. Judge Reena Raggi pointed out that changes to these frequently used rules result in “transaction costs” when judges, lawyers, law professors, and law students have to adjust to new verbiage, new section headings, and other changes to the text [79, p. 1467].

Participants in the restyling project had varying legal backgrounds, but they found a narrow ridge in both physical and distributed environments to support their dialogue. The Evidence Rules affect different legal professionals in specific ways. Committee members included judges, attorneys, professors of law, and experts in legal drafting; they conferred outside of meetings via telephone and email. Drafts of the Evidence Rules were available online for a public comment period, as were minutes of committee meetings, and a large number of professionals outside the restyling committee expressed their views on the Evidence Rules. The archive of materials from the project serves as additional evidence that the restyling committee facilitated dialogue on a narrow ridge rather than shutting it down.

Case V: Design, Development, and Deployment of the MPA App The MPA app was created to put research ideas into real contexts. As such, it serves as an instrument to test universal locative designs, design processes, and a continuation of in-situ experimentation initiated during other similar action-research and design-based research projects [80]–[82]. In this role, it also provides important opportunities to reflect upon and anticipate broader ethical issues about what can be done with mobile media when those media are being made. This project began in the fall of 2015, with local grant funding, in a graduate-level special-topics communication course, followed by additional rounds of grant-funded and independent content development in 2017 and 2018. Its ultimate mission was to create a useful model of locative journalism about public art in the Manoa neighborhood of Honolulu, HI, through a process that also could bring research concerns, including ethical concerns, to the forefront of that process.

As a practical matter, students in this project identified public art in the area that had potential for journalistic discourse about it, such as a persistently broken fountain in the center of campus, a disconnected piece of audio art, and a

misplaced set of stone gates. They then researched the topics and produced journalistic media (texts and visuals), also creating strategic plans for making the mobile media interactive among both users and place. Philosophically, the goal was to create place-based experiences, but each design decision invariably also led to ethical concerns and extensive group discussions about the ways in which people were becoming connected to each other and their contexts.

Although students learned about locative media and their ethical implications from earlier implementations, some of the most impactful lessons arose when the research team purposively and actively thought about what it could do and then reflectively considered whether it really should do those things. At the most extreme, for example, at launch of the app, the team could have turned on all of the device’s sensors (including location tracking, microphone, cameras, etc.) and grabbed all data stored on the phone (including contacts, photos, notes, etc.), then logged every following interaction with the phone (literally every touch the user makes on the device while the app is on, including those not related to the MPA app). The team quickly reached consensus about the ethical inappropriateness of such an approach. Yet, as creepy as such a design potential sounds, mobile app designers can do such things—and have—and all sorts of technologies under design in the ubiquitous computing world envisioned by Weiser [83] present similar potential to cross ethical lines. Some designers will consider those choices in thoughtful altruistic ways; some will not. We recommend keeping a focus on the former.

As designers of the MPA app, the team’s members and subgroups made these choices in an ad-hoc manner, based on their particular sensibilities and ethical standards, as negotiated among the group and reflected upon individually. Some decisions seemed simple, and consensus was reached immediately in this group of five graduate students. While it was easy to decide to not surreptitiously turn on all available sensors and indiscriminately gather data, the choices were much more difficult as they edged closer to the lines of normative modern mobile-app behaviors. Other development teams, with different personalities, training, and sensibilities, likely would have come to different conclusions, big and small, and made different choices. We naturally started with an anthropocentric paradigm, but also, at times, through discussions and mindfulness created

narrow ridges among discordant team members as a way to discuss ecocentric concerns as well, invoking concerns of a land ethic.

The free app—available for Android and iOS devices—was designed, programmed, and released to the public in roughly a six-month period. After the first round of development, it offered six distinct experiences around public art within easy walking distance of the University of Hawai‘i campus at Manoa. Six more have been added since, with another six coming soon. This design-based research approach—creating new technical communication experiences while also actively interpreting, analyzing, and reflecting upon process and product in real time—was intended to test in situ the place-based ethic.

RESULTS

In this section, we analyze each case to estimate how much it reflects Leopold’s land ethic, Buber’s narrow ridge, and anticipatory technology ethics.

Case I: Earth First! News, XVII Analysis of the *Earth First! News* piece we chose suggests an ethic *based* in consideration of the land, but more strongly representative of the militaristic/divisive rhetoric noted by Ceccarelli [84] than any real attempt at productive communication. The tone suggests that this newsletter is operating less as a recruitment device, or attempt at creating a space for dialog, than just what it claims to be—a newsletter. Thus, we rated the Earth First! document as having some consideration of a land ethic (represented by the triangle), despite being *based* in a land ethic, and having almost no consideration of a narrow ridge (represented by the square) (see Fig. 1). The writers for this publication appear less concerned with opening a space for conversation, or discussing the value of the land, and more interested in showcasing their own activism to their already-involved constituency. With regard to anticipatory technology ethics, we rated the piece as having “some consideration” (represented by the circle) as several pieces document actions that anticipate ethical concerns and show engagement with potential problems *before* those problems are fully realized.

Statements such as

Since August, a series of protests, tree-sits, blockades and judicial rebuttals have pressured KM [Kinder Morgan] into its own destruction, and sentient creatures can sigh in temporary relief. [69, p. 1]

offer an agonistic rhetoric but also situate the discussion within a land ethic, as it de-emphasizes humans. At the same time, that statement dehumanizes anyone not already siding with Earth First!, thereby shutting down potential for conversation. Similarly, agonistic phrases, such as referring to an energy company as “toxic perpetrators” [69, p. 1], or noting that the company “claims” to want discussion, also suggest a lack of interest in meeting for meaningful conversation, or the belief that meaningful discussion could even occur.

This same militaristic/agonistic rhetoric is apparent in 49 short statements of global action falling under the heading “News from the Eco-Wars” that make up the bulk of the rest of the document. These pieces again suggest an ideology of action based in a land ethic, but more celebratory of the very act of taking action, rather than creating a place for dialogue. One of these pieces notes a protest being disbanded “after an agreement was struck,” [69, p. 4], but the others are almost entirely concerned with simply chronicling activists around the world engaged in activities during the newsletter’s timeframe. The tone of these short pieces is generally reactive, as most indicate actions in response to ongoing actions. Those categorized as “anticipatory” (10, or 20%) are events where the brief descriptions could be read as reporting on events taking place in anticipation of future problems with emerging technologies—20,000 people marching through Huizhou City in China to oppose future construction of a waste incineration plant [69, p. 2], for example. That said, most of those we categorized as “reactionary” (39, or 80%) could be considered *broadly* anticipatory, if we consider that reactive anti-environmental action anticipates further environmental degradation based on unforeseen or ignored technology-imposed issues.

Thus, our reading here is based on a fairly loose interpretation of anticipatory technology ethics, including anticipation of generalized concerns or threats. The more specific the projection, we think, the better the ability to plan for it. But sometimes generalities are all that can be summoned, until people start using the technology in real contexts. Toward a place-based ethic, then, we argue that written communication with an eye toward anticipatory action should offer a clear statement of such anticipatory action rather than nebulous and unactionable worries. That is, something as simple as “X action/event is designed to prevent further likely environmental degradation” would make anticipatory technology ethics an overt part of any sort of documentation.

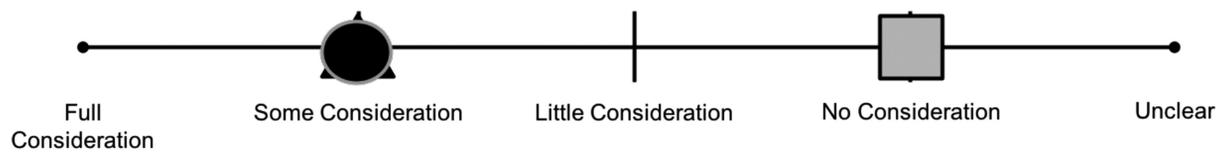


Fig. 1. Earth First! News Scale Assignment. The *Earth First! Newsletter* was rated as having some consideration of both a land ethic (triangle) and anticipatory technology ethics (circle), and no consideration of the narrow ridge (square).

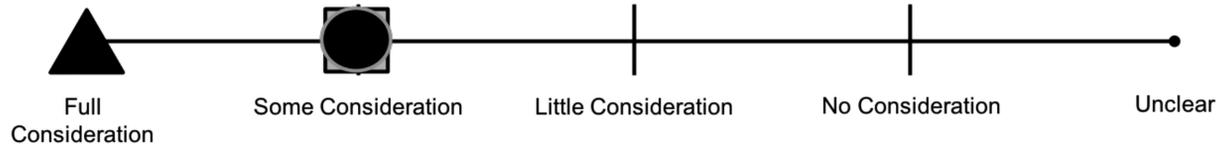


Fig. 2. Sea Shepherd Log Scale Assignment. The Sea Shepherd Conservation Society Log was rated as having full consideration of a land ethic (triangle), and some consideration of both the narrow ridge (square) and anticipatory technology ethics (circle).

Case II: Sea Shepherd Log No. 70 Given the organization’s mission to end habitat destruction and slaughter of wildlife [76], The *Sea Shepherd Log* seems to be created with full consideration of a land ethic. The articles, headlines, and general tone all suggest that actions are being taken “to preserve the integrity, stability, and beauty of the biotic community” [10, p. 225]. Evidence of wanting to have productive discussion, however, and in some cases doing so, is also present, suggesting that while extreme disagreement between the organization and groups involved in environmentally harmful practices exists, there is still a narrow ridge where constructive conversation can happen (see Fig. 2). As with the Earth First! material, many pieces, though not all, note actions taken in anticipation of future problems related to technological developments.

The document boasts many elements constitutive of a land ethic, such as identifying dolphins as “innocent sentient beings” [70, p. 2] and referring to humpback whales as “our largest clients” [70, p. 2]. The organization’s language often offers unequivocal moral standing to animals. Noting that sea lions are “being executed for the crime of consuming endangered species” [70, p. 3], for example, places sea lions within a frame of justice ethics: if a sea lion can receive justice, it has moral societal standing.

We were interested to note that, contrary to the way Earth First! situates much of their rhetoric, the SSCS newsletter often seems to deliberately note areas where dialogue either happened or could happen. It notes that effective communication led to the scrapping of a contentious gas hub proposed

by Woodside Petroleum in Australia [70, p. 4], for example, and that following proper legal procedures in Taiji regarding shark finning could lead to change [70, p. 5]. These reports additionally take opportunity to celebrate successful communication strategies where they occur. These elements reflect some of Buber’s narrow-ridge principles.

Anti-narrow ridge rhetoric appears as well. Identifying dolphin fishers in Japan as “the dolphin killers” objectifies them by leaving out any consideration of culture, for example; referring consistently to Namibian seal hunters as “the opponent” [70, p. 3] seems to close out space for effective communication. Taken together, the pro- and anti-indications of awareness of positive communication strategies led to our assessment that they have “some consideration” of the narrow ridge.

Regarding anticipatory technology ethics, we found that two of the five primary news articles appeared somewhat anticipatory of technological impacts in their tone, as they discuss actions taken to prevent inadvertent impacts by generalized conceptualizations of technologies on the planet, rather than specifically analyzing and deconstructing particular technological threats in detail. The other three appeared largely reactionary, as they detail events, such as actions taken regarding legislation authorizing the execution of sea lions on the Columbia River [70, p. 3].

The international news sections appear primarily reactionary, though this finding is not necessarily surprising, as the tone of the section (which comprises four pages) offers updates from

branches of the SSCS around the world (US, UK, Belgium, South Africa, Netherlands, France, Germany, Switzerland, Galapagos, Australia, and New Zealand). There is a fairly limited amount of space in each case to discuss the actions of each group over the course of an entire year, and, from a purely rhetorical stance, it seems more effective to say, “we saw X problem and did this,” rather than “we set up plans in case something happened.” That said, notes on fundraisers and other outreach programs are certainly anticipatory of generalized technological threats, as they generate funds and potential involvement toward future needs to react to emerging technology-propelled situations.

The “Legal” section [70, p. 10] is almost entirely reactionary, as it discusses legal reactions to charges brought against the organization. It is worth noting that the back cover of the *Log* offers the Sea Shepherd Conversation Society’s mission statement, which includes the line, “Our mission is to end the destruction of habitat and slaughter of wildlife in the world’s oceans in order to conserve and protect ecosystems and species” [70, p. 12]. The mission is thus, in and of itself, anticipatory, as it anticipates problems both inherent in, and resulting from, habitat destruction and species extermination, although it fails to identify how emerging technologies explicitly factor into these threats. (Inferring that such destruction is related to development, implementation, and use of technologies, from road-building to agricultural technologies, is no stretch.) As with the Earth First! document, we noted that language clearly indicating anticipatory action about specific projections of technology-based impacts would help clarify intent.

Case III: New Financial Documentation for Mortgage Loans The project by CFPB and Kleimann Communication Group shows little consideration of the land ethic, some consideration of the narrow ridge, but full consideration of anticipatory technology ethics (see Fig. 3).

Supporting some minor consideration of the land ethic is the fact that homebuyers consider the environment around a home (parks, trails, natural features). Additionally, usability testing showed how information on the forms affects homebuyers’ decisions about which home(s) they can afford—and which environments their families would live in [78]. However, the mortgage documentation does not otherwise directly affect the environment in either language or perceived intent.

The mortgage documentation project reflected the narrow ridge more effectively. The process brought

together homebuyers and real-estate industry professionals to give input. Homebuyers and real-estate industry professionals do not share all of the same goals; some tensions can be seen between their perspectives. Furthermore, iterative development incorporated insights from each round of testing. One fact detracting from the narrow-ridge element is that the homebuyers and real-estate professionals did not speak to each other; members of the project team mediated and sorted through their comments.

This project strongly reflected anticipatory technology ethics with its substantial focus on future action related to purchases of specific pieces (or collections) of technology in which people make their homes. This mortgage documentation was designed to support—and now does support—the buying and selling of millions of real estate properties each year. Team members worked throughout the research and development phase to create documents that would be clear, usable, and helpful to all the parties who would eventually use them.

Case IV: Restyling the Federal Rules of Evidence Into Plainer Language The project to restyle the Federal Rules of Evidence shows little consideration of the land ethic, but full consideration of the narrow ridge ethic and anticipatory technology ethics (see Fig. 4).

The narrow-ridge ideals and concepts of anticipatory technology ethics are reflected in this project. Representatives of the parties most affected were part of the process: judges, attorneys, professors of law. The Evidence Rules affect the behaviors of judges, attorneys, and even pro se defendants who act as their own attorneys for as long as the rules are in place. The future results of changes to the rules were at the forefront of committee members’ minds; the committee knew that its actions could have consequences for many people far into the future. Many conversations about individual changes to the Evidence Rules were difficult, but the committee did not shy away from them. Furthermore, if a sizable minority opposed a change, the committee did not make it. The spirit of dialogue was present among the group. Participants knew well the various venues that the Federal Rules of Evidence affect, and they worked through many conversations, emails, and memos to restyle the rules in ways that would benefit the users of the rules.

There is a figurative landscape shared by the people who use the Federal Rules of Evidence; the

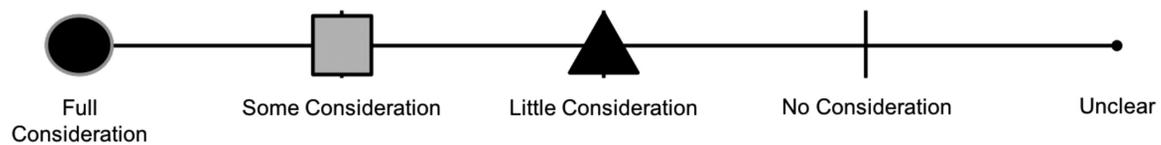


Fig. 3. CFPB/Kleinman Scale Assignment. The CFPB/Kleinman project was rated as having full consideration of anticipatory technology ethics (circle), some consideration of the narrow ridge (square), and little consideration of a land ethic (triangle).



Fig. 4. Federal Rules Scale Assignment. The restyling of the Federal Rules of Evidence case showed full consideration of both the narrow ridge (square) and anticipatory technology ethics (circle), and little consideration of a land ethic (triangle).

restyling committee tried to respect them all. While this finding supports the idea of the land ethic, the landscape that the committee members inhabit is only figurative.

Case V: MPA App Action-Research project

When assessing the MPA app, the land ethic was considered to some degree through the placement of the locative media in open and well-established public places. Pokémon GO, for example, which relies on locative technologies, has become a catalyst for many emerging ethical discussions about locative media, privacy, and place [85]. In the MPA context, though, after testing locative material in many different types of spots, from private offices to courtyards, the most ethical decision was also the most practical one. When a locative mobile app integrates its embedded media with the existing local infrastructure, including sidewalks, roads, and plazas for public gathering, people seem to be able to get around more easily, linger longer, and have the potential for higher levels of engagement.

Meanwhile, app users are not terraforming (or colonizing) new sections of the environment on their quests, or clogging up transitory areas designed for other uses. Even if app users are trampling flowerbeds or destroying sensitive habitats, people generally will follow directions—often in the most efficient route—regardless of obstacles or inherent dangers, such as crossing treacherous traffic. If designers are ignorant of or ambivalent to existing structures, rules, and environmental concerns, those directions can lead to unintended negative consequences for a setting and the people in it.

In this case, the land ethic came into consideration in many ways. For example, we initially placed

information about a mural over a lecture hall doorway right in front of that portal. If the door had opened at the end of class and students rushed out, unsuspecting app users could have been hit by the door, blocked the exit, or been bumped by those exiting. By testing the prototype in situ, we were able to anticipate a problem before it became one, thereby eliminating it through projection rather than reaction.

Although not explicitly articulated in this process, the narrow-ridge metaphor aligned with the core value of the MPA app in that all of the participants in the project worked together to create locative media designed to prompt and inspire further discussions about community issues related to public art. By selecting particular pieces for specific interactive purposes, the designers hoped to create a narrow ridge with the app through the common ground of the public-art referent.

For example, a decorative and historic fountain in the middle of the campus had fallen into disrepair and been dry for at least a decade. Although it appears to be an eyesore now, it was once a source of pride for the college and the community. So the designers of that locative experience embedded photographs and texts showing the fountain's history, its inspiration (students had pooled their money to build it as a tribute to a beloved teacher), and the journalistic discourse about why the fountain has not been fixed (cost, structural problems, not the right size for the space, etc.).

All of that is just one-way broadcast material, though, until the final action of the fountain module, in which the app asks the user what should be done about this situation and offers a hyperlink to a www.Change.org petition for those

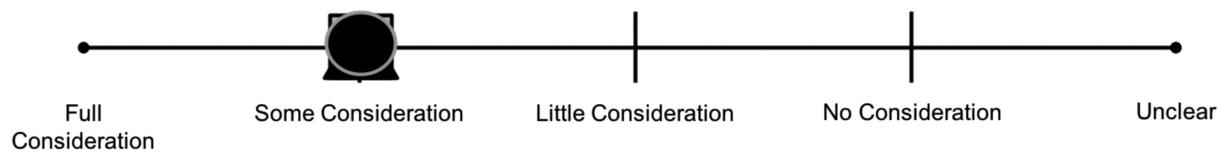


Fig. 5. Manoa Public Art App Scale Assignment. The Manoa Public Art app project was rated as having some consideration of all three ethical elements present in this project: a land ethic (triangle), the narrow ridge (square), and anticipatory technology ethics (circle).

who want the fountain fixed. On that Change.org site, those who want to get on the narrow ridge (between those who don't think the fountain is worth saving and those who do) and talk about the issue can both choose to support the fountain and share comments with the community (and back-and-forth seek consensus) about it. Other modules prompted discussions about cultural differences (related to origin stories, sharing the Hawaiian myth as expressed in a series of murals), aesthetic considerations (is graffiti valued as art?), and campus architectural concerns (should a set of neglected stone gates be moved to another part of the campus; if so, where?).

During this process, we did anticipate some ethical concerns (such as not requiring a user account and not gathering IP addresses of users, as a way to preserve as much privacy as possible), but we also became aware of many other ethical issues through the prototyping process that we might not have responded to otherwise out of lack of awareness. For example, two of the chosen locations were near areas of heavy traffic and intense direct sun on most days. We identified the heat and congestion problems on our site visits, during prototyping, and began to imagine worst-case scenarios.

To lessen the dangers of having distracted mobile device users near those streets or exposed for long periods in that sun, we moved our locative-media prompts to trigger devices in places that were in the shade and farther from the streets. From this perspective, we did not have to wait until someone was hurt or uncomfortable to shift our design slightly but significantly to create a more ethical environment for use. In such ways, this app-development project showed some consideration of the land ethic, some consideration of the narrow ridge, and some consideration of anticipatory technology ethics (see Fig. 5).

CONCLUSION: A PLACE-BASED ETHIC FOR TECHNICAL COMMUNICATORS

We recognized from the outset of this project that we were working extensively in hypothetical,

theoretical, and interpretive realms. Thus, by necessity, our analyses are heavily qualitative and subject to interpretation. We have made our processes as transparent as possible in the space allowed, but we also realize the limitations. Despite the strongly theoretical nature of our analyses, however, we hope that our process and discussion offer ways that might help technical communicators reconceptualize everyday ethical situations and decision-making strategies. We recommend future studies that bring in multiple document raters, replications, other cases, and other ubiquitous-computing research instruments as ways to further test and refine a place-based ethic for technical communicators.

Our initial consideration of these documents, cases, and experiences against Leopold's land ethic, Buber's narrow ridge, and anticipatory technology ethics helped us formalize our concept of a place-based ethic for technical communicators by giving us extreme examples of these two ethical models and an in-situ testing apparatus of the ethic that we analyzed with the same rubric as applied to the written documents. As a result, we propose that a place-based ethic for technical communicators should reflect these principles:

1. Actively acknowledge the value of the environment in any decision-making process, even if that process does not ultimately result in positive environmental change. Such action moves positive consideration forward in any future decision-making.
2. Actively seek grounds and spaces for dialogue, even if involved parties appear irrevocably ideologically separated.
3. Acknowledge and celebrate dialogue when it occurs.
4. Actively seek a space that participants can share; in the absence of physical spaces, virtual spaces may substitute.
5. Offer clear statements of anticipatory action and projections of concerns in any documentation or written communication. Be clear about any forward-thinking actions.
6. Actively usability test end products before public release as a way to discover underlying

ethical issues in the blind spots of designers, ideally through field testing in authentic environments with real and representative users, in real situations.

Ultimately, we hope that this foray into the development of a place-based ethic for technical communicators creates space for discussion and future research, and helps us to more ethically engage with each other and our environment in our daily decision-making strategies. We hope that this discourse raises awareness about the emergence of a place-based ethic, side by side with locative media technologies, and presents generative possibilities for its application in these types of situations and others that we have not anticipated. Key to the development of this place-based ethic is its positioning in the forefront of design thinking (not just as an afterthought among designers) and diverse applications of it throughout technical communication contexts. How we enact a place-based ethic across multiple disciplines in diverse contexts now becomes our next consideration. How, for example, might an engineer practically acknowledge the value of the environment? What tools and methods will we employ to actively seek grounds for dialogue?

We hope that the application component of this piece, the design and testing of the MPA app, starts to get at how theoretical and ethical considerations find their way into practical applications, but we also recognize that different approaches will be necessary in other contexts. A final consideration toward the application of a place-based ethic could then simply be, “seek consultation with those in tangential fields” when you are struggling with application—this is the approach that led to this paper. As with the usual societal wrangling of a new technology, we hope that the street now embraces the place-based ethic and finds uses for it. We invite researchers to apply this place-based ethic to diverse technical communication processes, as it is only then that we will begin to more fully understand the degree to which a place-based ethic can function effectively in a range of communicative contexts.

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