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GREENING THE GLOBE, ONE MAP AT A TIME

Eric Mason

Literacy is often conceived as the literacy of community members, but rarely as these members' literacy of their communities. Although our sense of community has become increasingly separated from geography, our local environment is a critical resource for developing the eco-literacy necessary to imagine sustainable futures. The Green Map® movement offers a model for how educators can encourage such literacy through engagement with the local community. Green maps are maps of local green-living resources, including sites of cultural, natural, and civic significance. These maps are created by local citizens with support from the Green Map® organization, which has inspired a new era of grass-roots cartography. By involving students in the production of green maps, educators can encourage an eco-literacy that is grounded in the local community and focused on designing shared visions of responsible co-existence.

In "Literacy in Three Metaphors," Sylvia Scribner confronts the "definitional controversy" over what counts as literacy by arguing that there can be no one universal definition—that literacy should instead be defined in a social context in response to contemporary concerns and realities (71). She critiques these debates concerning "definitional determinism" because they are

based on a conception of literacy as an attribute of individuals; they aim to describe constituents of literacy in terms of individual abilities. But the single most compelling fact about literacy is that it is a social achievement; individuals in societies without writing systems do not become literate. (72)

What Scribner brings into focus is that the perennial crises of literacy that prompt such quests for definitional clarity are concerned with the literacy *of community members*, not these members' literacy *of their communities*. By removing the community and, thus, the individual's physical location from notions of literacy, such approaches both reinforce the sense that "community has come increasingly unglued from geography" and reject the activist sense of community literacy as the collective "search for an alternative discourse" (Mitchell 166; Peck et al. 205). As Christopher Schroeder argues, "existing models of literacy dismiss the lived experiences [of our students] and elide the complexity of locations" (279).

Unfortunately, many models also dismiss a more expansive notion of what it means to be a literate community member. Although Scribner argues positively for the role of the community in drawing the boundaries of literacy, she restricts her inquiry to activities "carried out with written

symbols” (72). To be literate within a community, however, is not merely to be able to write but to engage in what Jacqueline Edmondson calls a “complex social practice in which language, including signs, symbols, gestures, texts, and actions, is used to mediate and produce culture” (10). At a time when communities around the globe are facing a host of complex and potentially devastating ecological crises, when web technologies are enabling intensely collaborative knowledge-making, and when many are seeking sustainable ways of living together on our planet, models of literacy that focus solely on individuals and on written text seem especially inadequate for establishing a vision of socially and environmentally responsible co-existence.

This essay emerged out of my concern with how an environmentally aware community literacy might be nurtured in students within a composition classroom without reducing such literacy to the expression of a stock set of acceptable attitudes towards, or “routine complaints” about (White ix), the state of the environment, as well as how students might be engaged with the complexity of the physical world and of discourse without being overwhelmed by the daunting scope of many environmental problems. In other words, how could I get students to become willing collaborators in their community’s environmental literacy? And how could I do so without wantonly sending students out to shame fellow citizens for their “wasteful Western ways”? Could my students engage in “writing as a form of sustainable design,” composing “eco-effective texts [...] designed to imagine alternative futures” for their communities? (Lindgren 112; 119).

I believe one can enact such a pedagogy through involvement in the global Green Map® movement (information and examples online at <http://www.greenmap.org>). The Green Map organization provides “Directions for a Sustainable Future” by providing resources to local teams of citizens for the creation of community maps. These teams encourage community literacy by creating maps that chart local “green living, natural, cultural and civic resources”--maps that can be used as “comprehensive inventories for decision-making and as practical guides for residents and tourists” (“Green”; “Think”). Local teams decide what to chart on their maps, using a host of ready-made icons representing everything from farmers' markets to drinking-water sources to free-speech zones, or creating their own unique icons representative of their local environment.

Begun in 1992 in New York City, the Green Map movement grew out of the desire to share information about local environmental and cultural landmarks and to promote sustainability. With over 365 maps published in 54 countries by locally organized mapmakers (and hundreds of other unpublished classroom-oriented projects), this organization has inspired citizens around the world to strengthen community-based environmental literacy. In the academy, many scholars have contributed to ecocritical approaches that provide theoretical grounds for the study of the relationship between discourse and ecological systems, but they often stop short of identifying student projects that actually go beyond the critique of existing

discourse. While the creation of maps in the classroom does enact what Sidney Dobrin and Christian Weisser call “ecomposition”—which they define as “the study of relationships between environments (and by that we mean natural, constructed, and even imagined places) and discourse (speaking, writing, and thinking)” (6)—the broader value of green maps from the perspective of someone interested in community-based literacy is in locating the exploration and construction of these relationships within a genre created by members of the communities living in these environments. By providing a discursive space in which environmentally concerned citizens can gather and collaborate, the Green Map organization is providing inspiration and structure to a new era of grass-roots cartography. Educators interested in sustainability and environmental literacy can take advantage of the directions provided by this organization to develop pedagogies that allow students to work with other citizens to create practical resources for directing the future of their communities.

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Mapping in Literacy Education

Although literacy education occurs in many places besides the college writing classroom, this location is a good case study of how we can rethink the use of maps in literacy education. “Literacy education” here is meant to be inclusive of many forms of literacy—textual, environmental, technological, media, visual, and so on—as well as inclusive of the many modalities and technologies of composition—textual, oral, visual, and digital. In short, it is inclusive of the many activities through which we contribute to culture, and the tools and knowledge needed to engage in these activities.

In most writing classrooms, mapping strategies are currently used as a form of prewriting to generate ideas from, or draw connections between, elements of the writer’s past experience. In “Deep Maps: Teaching Rhetorical Engagement through Place-Conscious Education,” Robert Brooke and Jason McIntosh advocate the use of “mind maps” or “concept maps” to prompt students to create “pictorial representations of [their] psychological locations” in search of personal significance (132). Drawing these so-called “deep maps” serves as an invention exercise to help students see “themselves *in a place*” or visualize “their relationships *to a place*.” What this does not ask

students to do is to visualize themselves as part of a community inhabiting a place, or move beyond their immediate experiences to incorporate either the past condition of a place or the potential future condition of a place. Composition teachers thus tend to present mapping as a private strategy of meaning-making in which the writer turns inward, ignoring social history and social needs. Such preconceptions may make it difficult for teachers or students to imagine mapping as a public or collaborative method of invention or instruction, or as a method to develop the forethought necessary to thinking of place in terms of sustainability. If, as David Orr has written, “ecological intelligence [...] requires a broader view of the world and a long-term perspective” (241), then “deep” maps may barely scratch the surface of environmental literacy.

One assumption that prevents educators from recognizing the critical potential of maps to promote sustainability through the nurturing of a “long-term perspective” is the positivist view of maps as technical genres that simply communicate existing facts. In some academic circles, maps are judged solely by how accurately they transmit objective information. Edward Tufte, for instance, has written extensively on the effective graphical presentation of information, and has even offered up as one of his examples of “graphical excellence” a map designed by Charles Joseph Minard in 1869. Tufte praises this map as the “best statistical graphic ever drawn,” citing its “clarity, precision, and efficiency,” and emphasizes that “graphical excellence requires telling the truth about the data” (51). He fails, however, to ask critical questions such as “whose truth is represented?” or “whose interests are served in the selection and presentation of this data?” By locating the excellence of this map in its ability to reproduce data faithfully, rather than in its contextual deployment toward some purpose, Tufte downplays the historical, material, and social significance of the design of maps. In short, he ignores the role of community in their production and interpretation.

Carolyn Miller writes against this “positivist legacy” associated with technical genres, stating that such assumptions can turn a college class into a “skills course” rather than a site of critical thinking or community engagement (50). Since technical genres present information that has been agreed upon through “communal assent,” Miller claims that we can and should teach writing “as an understanding of how to belong to a community” (51; 52). Composing green maps can arguably serve as one method of nurturing an environmentally literate community.

Cartography as Critical Citizenship

Despite the resistances described above, the ability to create and understand maps can be a critical tool in many social endeavors, and is necessary for full participation in a democratic polis. Consider some of the many issues of local governance—land development, resource management, pollution, schooling, political districting, defense, immigration, flood control, and taxation—that are mediated through maps that are both material and ideological. Intersections of environmental policy and social justice, for

instance, are often greatly illuminated when the effects of policies are visualized in the geographic context of the communities affected. Although maps seem most at home in geography and history classes, it is also true that in

many fields of study, an understanding of the geographical context of places and events is central to deep comprehension of the subject matter. [...] Joining subject matter to a mapping tool provides an educational experience unlike simply reading about a place and then finding it on a map. [...] [Maps] provide a means for placing data and class lessons into a physical context. (“7 Things” 2)

This suggests that, in order to encourage “deep comprehension” of academic subjects, teachers should embed data *into* a physical context. Of course, this fails to acknowledge that the physical contexts of students are *always already* embedded with data. In other words, the local environment is a significant (and, hopefully, sustainable) community resource for experiences that encourage critical literacy. Creating maps allows students to position themselves within discourse in ways grounded within community values and reflective of community experiences. In the words of Patricia Sullivan and James Porter, “[m]apping is one tactic for constructing positionings of research that are reflexive” (78).

Mapping can also contribute to an understanding of what Edward Soja calls “human geographies” (11). Maps are not merely factual snapshots of natural or constructed places; they are records of the relationships of humans to each other and to the natural world. Maps as human geographies reflect the relational nature of space and social practice by composing not just a visual representation of space but the “interplay of history and geography, the ‘vertical’ and ‘horizontal’ dimensions of being in the world” (Soja 11). Maps not only record past and present uses of space, but project future possibilities that “help us imagine how things could be different, to create a new vision of the future” (Lindgren 114). Through their design decisions, mapmakers contribute to our understanding of place as a dynamic realization of the interconnectedness of communities both human and animal, and the interdependence of spaces both natural and constructed. The endorsements by Sullivan, Porter, Soja, and Lindgren of mapping as a tool of critical research, reflection, and imagination counter the typical conceptions of mapping as methods of personal reflection in the teaching of literacy, and as technical documents embodying a positivist epistemology.

Although Tufte may wish otherwise, there is no such thing as a disinterested map. It is no coincidence that the last golden age of cartography was fueled by the appalling excesses of colonial imperialism and the rationalistic hubris of the Enlightenment (Edney). Maps allow the powerful to represent reality “in ways that stabilize” meaning and narrow “interpretation toward one truth” (Sullivan and Porter 8). To be responsible in our judgments, what we need, Sullivan and Porter argue, are not authoritarian representations of the world, but “multiple mappings”

that present “competing truths.” Green maps solicit such multiple mappings by asking citizens to supplement official maps circulated by government institutions such as the U.S. Geological Survey, and by commercial services such as Google Maps™, with their own visions of their communities. Although the Green Map organization only allows one map-making team to be active in any single area, one could see this as encouraging the struggle between competing truths to occur at the grassroots level by bringing multiple perspectives together on the same map-making team. The Green Map organization’s more recent attempt to create an “open” online green map to which anyone can contribute more directly invites competing perspectives.

Since designers of green maps are encouraged to focus on whatever environmental, civic, or cultural landmarks are important to the sustainability of their communities, these mappings reflect the complex human relations of the members of that community. By studying the history of mapmaking, students learn how maps allow the powerful to “create a knowledge space within which certain kinds of understandings and of knowing subjects, material objects and their relations in space and time are authorised and legitimated” (Turnbull 7). But they can also learn to accommodate the power of maps to local desires. Especially with the emergence of digital mapping tools that are free and easy to use, mapmaking is no longer controlled by governments, institutions, or powerful individuals. As Evan Ratliff writes in *Wired Magazine*:

Today the power still lies in the hands of the map makers. The only difference is that we're all mapmakers now, which means geography has entered the complex free-for-all of the information age, where ever-more-sophisticated technology is better able to reflect the world's rich, chaotic complexity. (par. 27)

Once it is clear that power over geographical representation can be distributed across a complex and diverse citizenry, students can move beyond seeing maps as simply the results of existing power relations. Rather, they can begin to see maps as a means to create the conditions for alternative social relations to emerge in their communities.

Maps as Visionary Practice

In her essay “Visions of Sustainability,” Kristina Hill argues that without shared visions of the future of our planet, “sustainability is nothing but a covert, revisionist philosophy, and will be unlikely to engage the wide audience it needs in order to succeed” (310). Many of the map projects listed on the Green Map web site have been inactive for some time—another reminder of the difficulty of generating a shared vision that will sustain community engagement. “Visions of sustainability,” Hill writes, offer “alternative sets of values, priorities, and roles that can be implemented and reinforced by the practices of individual people, small groups, and larger

cultural communities” (306). But they will only succeed, she states, if they allow “us to see ourselves, our interests, and our actions in a larger historical and biological context.” Maps can provide this broader context, locating us spatially within complex ecological and social networks, and sowing our desire for global community in the soil of our backyards.

While Hill sees visions of sustainability being spread most efficiently through the production of cultural narratives such as folk tales told in private settings, these visions can be encoded into more formal texts that circulate in the public sphere. William McDonough and Michael Braungart’s book, *Cradle to Cradle: Remaking the Way We Make Things*, not only calls upon industry to transform how it designs products in order to create a culture where commerce and environment are both sustainable, it embodies these principles by being printed on a recyclable synthetic (plastic and inorganic) paper. Looking at the eco-friendly design of this text, Tim Lindgren notes that the authors,

by communicating their vision of the future in a book that is attractive, durable, and infinitely recyclable, [...] remind us that it matters what material form [the sustainability] argument takes and that reading and writing are ultimately products of design. (111)

Arguing that literacy education needs to include instruction in “eco-effective design,” Lindgren claims that in order to produce “eco-effective texts [that] are designed to imagine alternative futures,” students must reach a general audience that is resistant to more accusatory and pessimistic forms of persuasion (Lindgren 119). In other words, it does little good to critique our communities for their eco-unfriendly ways if the only alternatives offered require a joyless asceticism; we must be willing to enact these alternatives through our advocacy, showing that eco-friendliness can coexist with a happy and productive life. Lindgren’s call for texts to embody one’s commitment to sustainability resonates well with David Orr’s reminder that “we will begin to design more sustainably only if design includes reflection on the ecological implications of the technologies we use, the products we make, and the buildings we construct” (115). Getting students to consider how their own writing embodies a material argument for or against sustainability is one step toward developing an ecological literacy that integrates the cultural and physical dimensions of the environment.

The ability of maps to help us re-imagine the cultural and physical conditions of our communities invokes a distinction Dobrin makes between *place* and *space*. Drawing from the work of Michel de Certeau, Dobrin writes that

[s]pace is where hegemony is trying to happen, but where counter-hegemonies still have footholds. Space is the ever-present trace of possibility that the meaning of a location—whose interests are represented by the social as natural, as

right, as in the best interest—might be changed. Place is where consent has been achieved. (18)

Conventional maps chart *places*. But if green maps are to function as sites of hegemonic struggle over paths to future sustainability, they must chart *spaces*. Dobrin and Weisser's definition of ecomap given earlier calls attention to the "natural, constructed, and even imagined places" that make up our environment (6). A sustainable future is just one of the imagined places that maps can construct. If maps are merely brought into classrooms as objects of study, the authority of the original map designers, even if challenged, remains the focus. If we hope to enact a truly "transgressive and productive pedagogy that builds on student [...] knowledge and experience of the politics of place" (Drew 67)—a pedagogy that engages students in methods for establishing collective community authority over space—we should consider engaging them in rewriting

Jorges attributes this accomplishment to the social ties between her students and the community created through her students' involvement in the Green Map project, as well as the attitude...that "they did not necessarily have to turn to their local government for solutions to their problems; the community itself could solve them"

their relationship to their environment through the production of maps that don't merely reproduce hegemonic understandings of the existing cultural and physical landscape.

Those who imagine sustainable futures need to provide the resources required for action; maps and mapmaking can provide these resources. In 2005, Google Maps added a public transportation option for individuals interested in traveling other ways besides cars. Such a technology is essential

to a future in which citizens routinely forego automobiles for more eco-friendly forms of transportation. Public transportation has always had a "steep initial learning curve that keeps away casual or infrequent users," and interfaces that enable users to easily access and navigate complicated systems such as public transportation are invaluable in promoting their use (Faludi, par. 2). But this addition to Google Maps does not address the many obstacles that deter individuals from, for instance, riding their bikes to work. Studying maps allows one to see the many physical deterrents to bike-riding, such as suburban sprawl, but community produced maps would allow one to trace the existence of resources not commonly found on traditional maps (such as bike lanes) that could enable such alternatives. As the Green Map organization states on its "About" page, they help mapmakers create "perspective-changing community 'portraits'" ("Think"). In other

words, mapping current conditions is a practical heuristic for imagining and implementing the transformation of those conditions.

Hundreds of communities have already begun the work toward alternative futures, and found that mapping allows them to put their environmental principles into practice by helping them identify the local knowledge and resources that make change possible. In Cuba, for instance, there exist more than a hundred green mapping projects within the Green Map Cuba Network, which operates nationally with help from organizations like the Félix Varela Center, a non-governmental organization in Cuba dedicated to the study of ethics and politics. Liana Bidart, project coordinator at Félix Varela Center and head of the National Green Map Network, states that they teach local groups to use green maps as a “community tool to promote alternative practices” for improving the community (qtd. in Acosta, par. 23). One Cuban mapmaking group associated with the Rafael Morales Elementary School in Los Palacios, Cuba, has accomplished several goals, such as “preventing a neighboring agricultural cooperative from irrigating their crops with polluted lake water, eliminating small garbage dumps, and putting a stop to the practice of burning off sugarcane before harvest-time” (Acosta, par. 12). The coordinator of this group, a teacher named Gladis San Jorges, states that “[creating the] Green Map has taught us things we didn’t know, but it’s also changed us as individuals” (qtd. in Acosta, par. 13). This



Figure 1 – Pre-Hurricane Gustav green map created by students at the Rafael Morales Elementary School in Los Palacios, Cuba.

group primarily works with school children, and the map shown below is just one of the maps these children have worked on:

While the map above combines handwritten text with attached photographs, there is a great range of formality among green maps. For an example of a professionally designed and distributed green map, see the “Green Apple Map” series that charts environmental and cultural resources in New York City (online at <http://greenapplemap.org>), created by a team

including the founding director of the Green Map system, Wendy Brawer. San Jorge says that mapmaking makes the students upbeat advocates for the local environment: “[...] the children are happy. They not only participate in the map’s preparation, but also in the whole process of dealing with problems. Many times it’s the children themselves who go out to talk to people, to convince them” (qtd. in Acosta, par. 13).

Following Hurricanes Gustav and Ike in 2008, which wrecked over 2,000 Cuban schools, the community came out to rebuild Jorge’s school, and it was the first of the 43 elementary schools in Los Palacios to be restored (Acosta, par. 17). Jorge attributes this accomplishment to the social ties between her students and the community created through her students’ involvement in the Green Map project, as well as to the attitude cultivated by participation in the Green Map movement, the attitude that “they did not necessarily have to turn to their local government for solutions to their problems; the community itself could solve them” (Acosta, par. 11). Students at this school will be revising their green map as a response to the environmental damage caused by Hurricanes Gustav and Ike, and, in the process, will be studying their community to find ways to reduce damage from future natural disasters. By having the students revise the map to identify flood-prone areas, emergency shelters, and sites where reforestation would create natural buffer zones for residential areas, educators hope to take what was a traumatic event in these children’s lives and use it as inspiration to improve their community’s preparedness for future disasters. This is the type of engagement that green maps enable, one in which local conditions guide production, and local citizens benefit from the insights gained through mapmaking.

Green maps are just one method for engaging students in the exploration and preservation of their communities, and for developing within students literacies suitable to the global and local intersections of culture and environment. Composing maps does not simply focus attention on existing topography; it serves as a heuristic for imagining alternative practices that make use of local knowledge and resources that can be used to create space for more sustainable ways of living. Composing multimodal texts such as maps is one form of writing that engages students in a broad scope of literate practices, and which grounds these literacies in their experience of the human geographies they inhabit. Once we take the long-term perspective advocated by proponents of sustainability, it becomes clear that “the future is ultimately what is at stake in how we teach our students to write” (Lindgren 117). Paths to a sustainable future are ready to be charted, and the Green Map movement shows us that we need not be solitary trailblazers.

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