

Maxwell H. Felsher. "It's What I Can Do": Uncertainty, Struggle, and the Emotional Know-How of Environmentalists Working for Social Change. A Master's Paper for the M.S. in I.S. degree. May, 2011. 79 pages. Advisor: Deborah Barreau

Time-line interviews and other aspects of Brenda Dervin's Sense-Making Methodology were used to explore the production of knowledge by people who are interested in creating social change—in particular, a group of environmentalists. Three prominent themes emerged in the interviews: the urge to make a difference in the world, uncertainty or doubt about the interviewees' impact, and personal struggles over whether the interviewees were doing enough for the cause. While some of the uncertainty, doubt, and struggles faced by the interviewees might be helped by better factual information, it is argued that some of these difficulties cannot be resolved in such a way. The "know-how" of being able to take action in the face of uncertainty and personal struggles may be an important kind of knowledge being produced and established in groups similar to the one studied.

Headings:

Environmental movement

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“IT’S WHAT I CAN DO”  
UNCERTAINTY, STRUGGLE, AND THE EMOTIONAL KNOW-HOW OF  
ENVIRONMENTALISTS WORKING FOR SOCIAL CHANGE

by  
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## Introduction

In 2009, the United States federal government produced a peer-reviewed report summarizing the scientific findings to date about climate change and its impacts on the U.S. (Karl, Melillo, & Peterson, 2009). The report's executive summary stated, "Observations show that warming of the climate is unequivocal. The global warming observed over the past 50 years is due primarily to human-induced emissions of heat-trapping gases" (p. 9). It went on to say that the projected changes to the climate "will challenge the ability of society and natural systems to adapt" (p. 10). In the face of these warnings and a political system that has taken little action to address them, some have called for a "mass movement" to push for further change (see, e.g., Klein & McKibben, 2011). If such a mass movement is to form or become stronger, what will it look like? In particular, what kinds of knowledge might be associated with acting for social change?

Social change is studied in several disciplines. It is at the heart of one of the central questions—perhaps *the* central question—of sociology: why do some structures or patterns of social relationships change while others remain stable? In particular, sociologists who have studied social movements have sought to determine the causes of mobilization, i.e., why people participate in movements. These researchers have sometimes discussed the role of information and knowledge: for example, Klandermans (1984) noted the importance of uncertainty, i.e., an absence of sure knowledge: "*persons have to decide to participate at a point when they do not know whether others will participate*" (p. 585; emphasis in original). Cultural sociologists have studied the links

between social change and meaning-making practices (see, e.g., Eliasoph, 1997; Isaac, 2008). Scholars in the fields of social psychology, anthropology, and communication have also studied how information and knowledge might be involved in actions directed at social change (see, e.g., Joireman, Posey, Truelove, & Parks, 2009; Casas-Cortés, Osterweil, & Powell, 2008; Kahlor, Dunwoody, Griffin, & Neuwirth, 2006).

Some education researchers have studied social change and the learning processes that are associated with its creation. Paulo Freire argued that when oppressed individuals work to truly understand their social positions, they will also realize that their positions can be changed and recognize what mechanisms can be used to change them (see, e.g., Freire, 1969/1994). Influenced in part by Freire's work, many who focus on adult education or environmental education are concerned with the goal of helping people learn how to change their communities and societies (see, e.g., Gruenewald, 2003; Haluza-DeLay, 2006; Kahn, 2008; Walter, 2007b; Welton, 1993). Jean Lave and Etienne Wenger's (1991) *Situated Learning: Legitimate Peripheral Participation* straddled anthropology and education (and arguably other fields) in its focus on the connections between learning, social stability, and social change.

However, information scientists, by and large, have not addressed the role of information and knowledge in the creation of social change. This is not to say that information scientists have ignored the social aspects of the processes they study. What is under-examined in information science is the potential for information and knowledge to not just be shaped by social structures but to shape them in return. Exceptions include Brenda Dervin and her Sense-Making Methodology (see, e.g., Dervin, 1992/2003b, p. 276), as well as some work on information literacy (see, e.g., Bruce, Edwards, & Lupton,

2006; Whitworth, 2009). Social informatics, defined by Kling (2000, p. 218) as the “working name for the interdisciplinary study of the design, uses, and consequences of information technologies that takes into account their interaction with institutional and cultural contexts,” addresses the creation of social change. To the extent that “information technologies” can include not just computers but also books and any other objects used for recording, storing, disseminating, or otherwise dealing with information, social informatics can provide an important contribution to our understanding of the relationships between information, knowledge, and social change. However, to the extent that we are interested in information and knowledge as such, as opposed to the technologies used to deal with them, we may need to look to research outside of social informatics.

The purpose of this study was to describe the process of knowledge production among people trying to create social change, and in particular, people who identify themselves as environmentalists. Zins (2007, pp. 486-489) described three types of knowledge: skills; unmediated recognition of an object, organism, or sensation; and “propositional knowledge,” or “knowing that....” Based on communications with a panel of leading information-science scholars, he noted that information scientists tend to focus on propositional knowledge. Zins further related knowledge to a person’s “justifiable belief that [a particular thought] is true.” I differ from Zins in that (a) I do not see truth as a useful criterion in practice for determining whether a particular belief should be described as knowledge, and (b) I emphasize the character of knowledge as an organizing framework. This is closer to some other characterizations made by Zins’ panel of scholars: for example, H. M. Gladney’s description of knowledge as “a set of conceptual

structures held in human brains” or Charles Ess’ statement that knowledge can approach the status of worldview, or “a cognitive framework that establishes the major parameters and ten thousand details of human social and ethical realities” (p. 483). For this study, I defined *knowledge production* as the process through which people develop general principles about—and the skills for how to deal with—themselves and their surroundings. I attempted to discover some answers to the following research question:

(RQ) How do environmentalists produce their knowledge about the reasons for and impact of acting in a pro-environmental manner?

For the purpose of this research question, I intentionally left open the definition of “pro-environmental,” allowing it to emerge from the perspectives of those who participated in the research.

Before reviewing relevant literature in greater detail, I briefly discuss my own orientation as an activist researcher and the position of this study within information science.

### **Researcher Orientation**

Hale (2008) argued against the notion that scholars should “leave [their] politics at the door” when entering the academy (p. 1). He maintained that activist research could be more rigorous, even more objective, than “disinterested” inquiry. Activist research, he said, is oriented toward:

...Explicit critical reflection on one’s own subjectivity as a researcher (...not just where you stand, but where you come from; not just how you think about yourself, but how you are viewed and positioned in the social context of your work) and systematic monitoring of how our relationship to research subjects affects both the content and the meaning of the data we collect. (p. 12)

In contrast, the usual call for objectivity is associated with the idea “that the speaker has no history, identity, or social position that has shaped his or her perspective” (p. 11). A

reflection on one's own position and orientation is important for any social research, I would argue, but it may be called for particularly when dealing with topics that are controversial and morally charged, such as environmental policies and practices.

I do not claim to be a disinterested observer: I have considered myself an environmentalist for at least eight years—since 2003, when I became involved in environmental activism and started working to fulfill the requirements for my undergraduate major of “earth systems.” Between then and now, I have consistently worked for environmental non-profits or volunteered with environmental activist groups, or both. When I entered the degree program for which I am writing this paper, I was specifically interested in the connections between information and social change. This was (and is) not just an academic interest but one rooted in a belief in the importance of social change and the future occurrence of *particular* social change. I have sought to infuse my analysis and discussion of this research with the kind of reflection and monitoring that Hale (2008) called for.

### **Position of Study**

It is possible to question whether this study should be included in the domain of information science. Ultimately, I am less concerned with its classification as “information science” than with its relevance to what information scientists and information professionals do. I believe it can be of use to these groups in two ways.

First, as was implied above and discussed in greater detail in the literature review below, the processes and systems studied by information scientists and the services provided by information professionals can contribute to the relative permanence of social structures as well as to social change. In turn, social structures and social change

influence information processes, systems, and services. Bracketing off these relationships may make analysis easier, but it does so at the expense of richer understanding, and it obscures what may be some of the most important consequences of what we study and do. While my research can ultimately provide just a few of the answers to the questions in this research area, I hope that it can serve as an example to others who can do more.

Second, activist research, as described in the “Researcher Orientation” subsection above, and the related concepts of community engagement and social justice, have been and continue to be important topics in academia. These discussions go on both within (or close to) information science (see, e.g., Bishop & Bruce, 2005; Mehra, Rioux, & Albright, 2010) and outside of it (see, e.g., Hale, 2008; Israel, Schulz, Parker, & Becker, 1998; Low & Merry, 2010). For information scientists and professionals who continue to wrestle with questions about the impact of their work on others, I hope to provide, first, a sense of the information and knowledge work undertaken by some people who are interested in bettering their world, and second, an example of one person’s attempt to use research to work for social change.

## Literature Review

The broad question of the relationships between knowledge production and social change has been addressed from a multitude of perspectives (some assuredly unknown to me), and I cannot hope to describe them all here. In this literature review, I briefly discuss approaches to these concepts in library and information science and the related field of knowledge management, as well as an important contribution from social practice theory (i.e., Lave & Wenger, 1991). Since the context of this study is the environmental movement, I then review in more depth how knowledge production has been approached in two research areas: social movement studies and environmental education/social movement learning. While most of the work in social movement *studies* is found within the discipline of sociology, environmental education and social movement *learning* are largely based in the field of education.

### Knowledge Production and Social Change in Library and Information Science

Brenda Dervin's sense-making approach (later called the Sense-Making Methodology) emphasized the perspective that each individual moves through space and time, attempting to address "gaps" in his/her existence:

Given that there is no static order in the universe, no isomorphism between "reality" and observation, no sharing of ideas between communicating entities without some behavioral effort, and no necessary equivalence between messages intended and messages received, gappiness is an assumed "constant" of the human condition. (Dervin, 1991/2003a, p. 64)

In this perspective, gap-bridging activities include "observings, thinkings, idea creatings, comparings, contrastings, rejectings, talkings, sendings, agreeings, [and] disagreeings"

(p. 64). At times, individuals are faced with a moment of discontinuity, or a “stop which does not permit [them], in [their] own perception, to move forward without constructing a new or changed sense” (Dervin, 1992/2003b, p. 277). The new or changed sense that emerges from the moment of discontinuity may be equivalent to, or related to, new knowledge. Dervin also briefly addressed the question of social change. The individual’s response to a gap may be a repetition of a previous action, and it may be constrained by external forces. However, to the extent that the individual is not completely constrained and is able to perceive this (perhaps partial) freedom from constraint, he/she can respond to the gap in new ways (Dervin, 1991/2003a, pp. 67-68). Dervin emphasized that social structures should not be seen as static entities: “A structure that is not energized via procedure necessarily dies” (p. 65). In this view, when an individual responds to a gap in ways that do not conform to the existing structure, the structure itself is transformed, if sometimes very slightly.

Other work in library and information science has dealt with concepts related to knowledge production. Brookes (1980) described knowledge as “a structure of concepts linked by their relations” (p. 131). He suggested that information was a small quantity of knowledge and that the addition of information to a knowledge structure causes some change in that structure. He was careful to note that this change is not necessarily one of accretion, but he also pointed out “how little we know about the ways in which our knowledge grows” (p.131). Kuhlthau (2004) discussed the processes involved with finding and constructing meaning during the process of information seeking. She emphasized the role of uncertainty (and associated feelings of anxiety and low self-confidence) in this process. At the beginning of information seeking, in this model, the

individual's thoughts are vague and unfocused, and he/she feels anxious and unsure. However, "as knowledge states shift to more clearly focused thoughts, a parallel shift occurs in feelings of increased confidence" (p. 92). In many other models of information behavior, the production of knowledge is the implicit result of an information process, sometimes placed in categories such as "information processing" or "information use" (see, e.g., Wilson, 1997, p. 569; Wilson, 1999, pp. 251, 264). Godbold (2006, "Navigating the gap") combined Brookes' model with several models of information seeking, following Brookes in describing the information seeking process as moving an individual from one knowledge state (K) to another (K'). "Knowledge" has also been connected to the creation of meaning: Bates (2005, "So what is knowledge?"; 2006, p. 1042), after defining information as "the pattern of organization of matter and energy," said that knowledge was "information given meaning and integrated with other contents of understanding."

Social change is less closely studied in library and information science. However, the desire for social change is implicit in the approaches of community informatics (see, e.g., Bishop & Bruce, 2005) and information literacy instruction (see, e.g., Bruce et al., 2006; Whitworth, 2009). In the field of social informatics, information and communication technologies are seen as complex sociotechnical networks—that is, the creation, alteration, and use of these technologies are shaped by social and political factors. Simple claims about the social effects of technologies are rejected in favor of careful analysis of the social, cultural, political, and technical aspects of the situation in question (Kling, 2000).

### **Knowledge Production in Knowledge Management**

A substantial quantity of research in the field of knowledge management has explored how knowledge is produced, shaped, or disseminated within organizations—generally, businesses with some kind of profit motive—and how managers can increase their organization’s performance by fostering certain knowledge-related processes. Considerable focus is placed on tacit knowledge, i.e., knowledge that cannot be articulated and codified.

One famous model, often called the SECI model, was developed by Nonaka (1994). Drawing from the work of the chemist and philosopher Michael Polanyi, Nonaka distinguished between tacit and explicit (articulated) knowledge. Nonaka then suggested four “modes of knowledge conversion” whose initials make up the model’s name. In socialization (S), one person’s tacit knowledge is converted into others’ tacit knowledge through their shared experience. An example might be an apprenticeship, in which apprentices “learn craftsmanship not through language but by observation [of their mentors], imitation, and practice” (p. 19). Next, in externalization (E), tacit knowledge becomes explicit knowledge, often with the help of metaphors and analogies. In combination (C), explicit knowledge interacts with other explicit knowledge through human communication, and the result is more explicit knowledge. Finally, in internalization (I), explicit knowledge becomes tacit knowledge through “learning by doing.” In this model, knowledge moves through these stages repeatedly, in a process symbolized by an upward spiral instead of a circle to demonstrate the increasing number of people who hold the knowledge. Nonaka, Toyama, and Konno (2000) extended the SECI model to include the idea of *ba*, or the shared context in which individuals interact and which is necessary for the conversion of knowledge.

Others have criticized aspects of these models. For example, Yates-Mercer and Bawden (2002) argued that tacit knowledge is personal and essentially inexpressible in explicit terms. It is different, they argued, from “from the ‘implicit’ knowledge which is often quoted in knowledge management (KM) contexts, which is often simply that knowledge which has not yet been extracted and recorded” (p. 22). Cook and Brown (1999) argued that tacit and explicit knowledge are fundamentally different kinds of things that cannot be converted into each other. Furthermore, they added the dimension of individual versus group knowledge, in which group knowledge is that which is “‘held in common’ by the group,” such as the knowledge of proper and improper behavior within a community. As with the distinction between tacit and explicit knowledge, individual and group knowledge cannot be converted into each other, according to Cook and Brown. Instead, new knowledge is created through the interaction of existing knowledge with *knowing*, or “*that aspect of action (or practice) that does epistemic work*—including doing things we know how to do, and [by deliberately seeking what we need] producing what we need, in order to do something what we want to do” (p. 388; emphasis in original). They call the interaction between knowledge and knowing a “generative dance”: knowing uses each of the various forms of knowledge “as a tool in interaction with the world,” while knowledge “gives shape and discipline to knowing” (p. 393). Through the generative dance, new knowledge and new ways of knowing are created. Orlikowski (2002) also discussed knowing and its inseparability from action, for instance in citing philosopher Gilbert Ryle’s “claim that knowledge is essentially a ‘knowing how,’ a capacity to perform or act in particular circumstances” (p. 251). However, while Cook and Brown suggested that tacit knowledge is distinct from

knowing (one knows how to ride a bike even when not actually riding), Orlikowski argued that tacit knowledge cannot truly be separated from action and so is actually a form of knowing.

Though there are many schools of thought within knowledge management, certain patterns run through the field. In his review of knowledge management literature, Martin (2008) stated that knowledge is generally “seen as emergent and resident in people, practices, artifacts, and symbols...and as meaning that is continuously reproduced and potentially transformed in communicative interactions between people” (p. 387). He also noted that, in all of the knowledge management frameworks he had reviewed, the processes that the frameworks described—such as “acquiring and creating; codifying and locating; internalizing; storing; and using knowledge”—are “often sequential, [but] are not linear, emphasizing that knowledge processes are rarely a discrete linear set of events. These processes...never really *stop* or *start* and may actually run in parallel” (p. 391; emphasis in original).

### **Knowledge Production and Social Change in Social Practice Theory**

Lave and Wenger (1991) explored the important links between identity, community, practices, and knowledge. Drawing on studies of apprenticeship, they introduced the concept of “community of practice” to describe a group of people whose social relationships are organized around particular practices. They suggested that the learning that occurs within a community of practice is bound up with individuals’ participation in the practices associated with that community. Crucially, they discussed the concept of “legitimate peripheral participation,” in which newcomers to a community gradually learn not only the practices of the community but also how to act “properly”

within that community. The newcomers eventually become the “old-timers,” engaging in the community’s practices and working with new newcomers. In so doing, they perpetuate the community’s patterns of social relationships, but also change them:

Newcomers are caught in a dilemma. On the one hand, they need to engage in the existing practice, which has developed over time, to understand it, to participate in it, and to become full members of the community in which it exists. On the other hand, they have a stake in its development as they begin to establish their own identity in its future. (p. 115)

Lave and Wenger continued by emphasizing that “learning and a sense of identity are inseparable: They are aspects of the same phenomenon” (p. 115). Furthermore, they noted that even “old-timers” participate in these processes: “everyone can to some degree be considered a ‘newcomer’ to the future of a changing community” (p. 117).

### **Knowledge Production in Social Movement Studies**

Eyerman and Jamison (1991) argued that social movements create room for new knowledge: “The forms of consciousness that are articulated in social movements provide something crucial in the constitution of modern societies: public spaces for thinking new thoughts, activating new actors, generating new ideas, in short, constructing new intellectual ‘projects’” (p. 161). They posited three dimensions of knowledge production, or “cognitive praxis.” The cosmological dimension corresponded to general worldviews that informed a movement’s vision of a better society. The organizational dimension was associated with understandings of the proper organizational forms and means of communication for the generation and spreading of knowledge. Finally, the technological dimension dealt with beliefs about which particular technologies and practices should be supported and which should be opposed. For example, they argued that the environmental movement in the 1970s had (a) helped articulate the worldview of social ecology, i.e.,

that everything is connected (cosmological), (b) helped establish a critique of elite scientific discourse (organizational), and (c) criticized sources of pollution and environmental degradation (technological).

In her discussion of an anti-globalization coalition in Toronto, Conway (2004, 2006) argued—much like Eyerman and Jamison (1991)—that social movements produce knowledge through their struggles for social change. She identified three ways that movements generate knowledge: they produce tacit knowledge about how to handle the practicalities of their work simply by acting for social change, they gain knowledge by critically reflecting on their actions (knowledge production through praxis, in Conway's terms), and they systematically generate knowledge in ways that contest other forms of knowledge (Conway, 2004, pp. 56-58; Conway, 2006, pp. 21-23).

Casas-Cortés, Osterweil, and Powell (2008) took a related view in proposing the term “knowledge-practices” to mean the “creation, modification and diverse enactments” of “stories, ideas, narratives, and ideologies, but also theories, expertise, as well as political analyses and critical understandings of particular contexts” (p. 21). They argued that social movements are important sites of knowledge-practice, and that scholars need to engage with the knowledge produced by social movements as potentially equal in validity to knowledge created in the academy.

Under such expansive definitions, much scholarship in the field of social movement studies has examined knowledge production without necessarily using the word “knowledge.” Indeed, Casas-Cortés et al. (2008) noted that while some earlier work had studied narratives, ideas, and concepts in social movements, such work had not usually referred to these narratives, ideas, or concepts as “knowledge.”

Most of this literature has tended to focus primarily on either the production of knowledge that motivates people to be *willing* to change or the production of knowledge about *how* to make that change. The two should not be considered completely separable, and both Eyerman and Jamison (1991) and Casas-Cortés et al. (2008) included both types of knowledge under their definitions. Nevertheless, it may be useful to organize the literature along these lines where it conforms to this division.

Among the literature that has focused on willingness to change, one of the closest examinations has been Rochon's (1998) model of how culture changes in a society. He argued that new ideas and values are produced in "critical communities," or groups of people "whose experiences, reading, and interaction with each other help them to develop a set of cultural values that is out of step with the larger society" (p. 8). By engaging with each other, the people in these communities build up new analyses of the world that point out and explain what is wrong with it. In Rochon's view, social movements are potentially *separate* from these critical communities, and movements' main cultural roles are (a) the diffusion of the critical communities' values and ideas through movement participants' collective action, and (b) the translation, repackaging, and framing of the critical communities' analyses into forms that will be more effective at achieving that diffusion and winning political support. Rochon summarized this view by stating, "The critical community is interested primarily in the development of new values; the movement is interested in winning social and political acceptance for those values" (p. 31). He recognized that this separation was somewhat artificial but nevertheless believed it had analytical usefulness.

Both the production of new analyses performed by critical communities and the translation of the analyses performed by movements would fall under the definition of Casas-Cortés et al.'s (2008) "knowledge-practices" as well as Eyerman and Jamison's (1991) "cognitive praxis." Rochon's conception of cultural change also bears some resemblance to Eyerman and Jamison's discussion of intellectuals in movements. In that view, "established intellectuals," who are recognized by the greater society as producers of knowledge (e.g., university professors), may help form the ideas that develop into movements. However, they might not participate in the movements themselves. Eyerman and Jamison separated this idea from their concept of "movement intellectuals," those who articulate the movement's collective identity and communicate the movement's message to participants and the public. Despite these similarities, Rochon seemed to put less emphasis on the knowledge production that occurs specifically in movements than either Casas-Cortés et al. or Eyerman and Jamison.

In his discussion of the emergence and development of the U.S. civil rights movement, McAdam (1999) included the idea of "cognitive liberation." He argued that the formation of a movement requires a "transformation of consciousness" in a large portion of a community, one in which people start to believe two things: first, that their situation is undeserved or unjust, and second, that working together can help to improve that situation (p. 51). He attributed this "cognitive liberation" process to two phenomena. The first was the emergence of subtle changes in the responsiveness of other political actors, which provide cues that the situation is amenable to further political change. The second was the existence of community-based organizations that provide the context for communication about the unfairness and susceptibility to change of the current situation.

McAdam also suggested that the continued perception of unfairness and susceptibility was necessary for a movement to continue to exist. These two themes of perceived unfairness and susceptibility were also highlighted by Klandermans (1984), though in different form: he argued that a person's willingness to participate in a movement-related action was based partially on the benefit that would be gained from the action's success (analogous, though not identical, to reducing unfairness) and the expectation that the action would actually succeed (analogous to susceptibility). Kurzman (1996) argued that in some cases perceived susceptibility to change could precede and help bring about actual susceptibility.

The inclusion of "political analyses and critical understandings" under the umbrella of "knowledge" means that, in addition to McAdam's (1999) concept of cognitive liberation, the related concepts of collective identity and oppositional consciousness are also examples of knowledge. Several researchers have investigated these aspects of social movements without calling them knowledge. For example, Morris and Braine (2001) described the work of oppositional consciousness as reinterpretation, stating that a mature oppositional consciousness "challenges dominant beliefs and ideologies by distilling and synthesizing the ideas already present...[thus] giving them a coherence that forges them into symbolic blueprints for collective action and social change" (p. 26). Taylor and Whittier (1995, p. 173) argued that collective identity was based on three processes: the establishment of boundaries between "us" and "them," the formation of new frameworks that redefine "our" interests, and the interpretation of everyday life as a site where "their" domination should be resisted.

A consideration of interpretive frameworks also calls attention to research done on framing. Snow and Benford (1992), in response to what they perceived as a lack of attention to the “meaning-work” done by social movements (p. 136), proposed the concepts of collective action frames and master frames. In their analysis, *collective action frames* are coherent ways of interpreting the world that call attention to the injustice of certain aspects of one’s surroundings, suggest who is responsible for the injustice, and explain how the injustice should be remedied. *Master frames* do all of these, but they have also become embedded in the social context of many social movement organizations, forcing organizations to wrestle with them in developing their own collective action frames. Though Casas-Cortés et al. (2008, pp. 24-25) criticized the concept of frames as ultimately too reductive as an approach to the complicated work of knowledge production, it is important to recognize the existing work on framing as showing significant ways in which movements have produced new interpretations of themselves and their surroundings.

Work that has focused on the production of knowledge about *how* to make change includes Ganz’ (2009) analysis of the farm-worker movement in California. He focused on movement organizations’ strategy, or the way in which they choose how best to use their resources to bring about their goals, “an ongoing interactive process of experimentation, learning, and adaptation” (p. 10). He described organizations’ “strategic capacity” as their potential to create effective strategy, linking such capacity to their ability to be creative. In turn, he argued, creativity is fostered by the leadership team’s motivation to be effective, their access to relevant knowledge, and their ability to experiment and learn. Though the *production* of knowledge is most closely associated

with the last of these three, the other two elements point to the importance of the context established by previous production of knowledge: motivation can be connected to the collective identities, frames, and other structures described earlier, while access to relevant knowledge is clearly related to the ability to have created knowledge in the past.

Other social movement scholars have also examined the process of producing knowledge about appropriate tactics. For example, McCammon et al. (2008) proposed that organizations are most effective when they engage in a process of “strategic adaptation.” The adaptation process begins with (a) the perception of signals from the organization’s environment that might indicate a need for change in tactics, and (b) the evaluation of the organization’s tactics in light of those signals. Further innovations can occur when the organization has to decide how best to adapt their tactics to their current environment, McCammon et al. argued.

More broadly, most work that deals with communication by movement actors is somewhat relevant to an interest in knowledge production. This includes the large collection of theory and research on interactions between movements and the mass media (e.g., Amenta, Caren, Olasky, & Stobaugh, 2009; Gamson & Wolfsfeld, 1993; Roscigno & Danaher, 2001), as well as work that has investigated social networks (e.g., McAdam & Paulsen, 1993; Opp & Gern, 1993; Viterna, 2006) or movement diffusion (e.g., Andrews & Biggs, 2006; Zhao, 1998).

### **Knowledge Production in Environmental Education and Social Movement Learning**

Many scholars in the field of adult education have examined social movements as sites of learning. To provide an understanding of the development of the discussion, I present a selection of the work chronologically. Finger (1989) and Welton (1993) began

the most recent wave of interest in social movement learning. They focused on the “New Social Movements” (a collection of movements that included the environmental movement and the peace movement) as home to new kinds of knowledge production. Finger argued that the New Social Movements questioned the values inherent in modernization and development, in contrast to the old social movements, which sought to change the balance of power but still saw value in modernization. He suggested that these differing orientations led to differing views of education: for old movements, education was a means to the end of mobilizing individuals and thus gaining power, whereas for new movements, education (and the transformation that resulted from it) was an end in itself. According to Finger, the kind of learning that occurred in the new movements was different from learning in school or in the old movements: it was emotional, transformative, highly personal, and based deeply in understandings of morality. Welton suggested that the new movements were not abandoning the ideals of modernization but pointing out the contradictions in its current realization. He argued that these new movements were important new sites for the unlearning of discredited worldviews (such as anthropocentrism, militarism, and self-degradation) and the learning of new approaches (such as ecocentrism, pacifism, and recognition of self-worth).

Spencer (1995), in his discussion of learning about environmental issues in Canadian unions, argued against these earlier proposals that had privileged the new movements as sites of learning over the old ones. He noted that union-based education still had a substantial reach, and he pointed out that such education could provide a new constituency with a grounding in environmental issues, setting the stage for later environmental education that might be prompted by a particular issue or campaign.

Spencer also emphasized that union-based education was effective at placing these environmental issues in their political and social context, and he suggested that unions and environmentalists could learn from each other's methods of education.

Holford (1995) attempted to expand the discussion from "learning" (Welton, 1993) to the creation of knowledge. He heavily referenced Eyerman and Jamison's (1991) ideas of "cognitive praxis" and "movement intellectual," noting how these concepts helped push adult education beyond a focus on individual learners in social movements to an understanding of movements as producers of knowledge. Holford argued that the organizational dimension of cognitive praxis, with its focus on modes of communication, was especially relevant to the field of adult education, and that adult educators could serve in Eyerman and Jamison's "movement intellectual" role of identity articulation. He suggested that understanding how new knowledge is produced and communicated in social movements was an important object of study for the field. He also cautioned against an uncritical acceptance of movements' claims to new knowledge or communicative practices, noting that the ideologies embedded in these claims establish their own (sometimes problematic) "regimes of truth" (Holford, 1995, p. 106). This last point is interesting in light of Casas-Cortés et al.'s (2008) push to treat social movements as valid producers of knowledge.

Griff Foley's (1999) *Learning in Social Action* made an important contribution to the literature on learning in social movements. He emphasized the significance of the learning that occurs in the struggle for social change. Through these struggles, according to Foley, movement participants engage with and contest dominant discourses and ideologies, learning new ways of understanding the world, new theories, and new

conceptions of their own political power. For example, the participants in a campaign to save an Australian rainforest learned new skills and gained expertise, but also developed new forms of organization and came to understand the social, historical, and political context of their campaign (pp. 39-45).

Kilgore's (1999) project was to bring concepts of social justice to the study of group learning and concepts of group learning to the study of *learning for social justice*. She argued that more attention needed to be paid to how individuals learn within groups and how groups' learning is affected by the individuals within them, particularly in the context of social movements. Her framework for collective learning included constructs at the individual level (individual identity, consciousness, sense of agency, sense of worthiness, and sense of connectedness) and the group level (collective identity, group consciousness, solidarity, and organization). In this view, the formation of constructs at one level affects and is affected by the formation of the constructs at the other level, and both levels are affected by interactions with the broader culture and other actors. Kilgore was especially concerned with the creation of collective identity and the contestation of dominant understandings of the world. She argued that social conflict was central to these collective learning processes.

Since these works by Foley (1999) and Kilgore (1999), the field of social movement learning has continued to develop. An entry on the topic was included in the *International Encyclopedia of Adult Education* (Hall & Clover, 2005), and a "State of the Field" report was published for a conference on adult learning (Hall & Turay, 2006; see Haluza-DeLay, 2006, pp. 29-46, for another review of the literature). Learning in particular social movements, and especially in particular cases within social movements,

continues to be studied among scholars in the field. For example, several pieces on learning in the environmental movement have been published, some of which I here review in greater detail.

### **Themes in the literature.**

#### *Experience, place, and situation.*

Multiple studies have indicated the importance of learning from experience in environmental movements. Walter (2007b), in his historical analysis of protests in a British Columbia rainforest, suggested that protestors learned about the rainforest and its potential destruction, as well as the brutality of the prison system, through engaging in protest and going to jail. Bowles' (2007) analysis of interviews about learning by environmental-justice activists in the southeastern U.S. similarly described the importance of "learning by doing." In a small case study of the Australian "eco-pax" (environmental/peace) movement, Branagan and Boughton (2003) made parallel observations: engaging in protest activities helped participants learn skills, forced them to learn more about relevant topics, and helped at least one participant (Branagan himself) understand the power the movement had to make change.

Closely related to learning from experience is learning based on place. Gruenewald (2003) argued for a "critical pedagogy of place," which incorporated earlier theories that suggested focusing on the particular locations and experiences of students in order to develop their ecological literacy. Bowles (2006) found that "home" and "place" were important concepts that informed the learning of the activists she was working with. Interestingly, Bowles found that the activists' learning was related not only to the places where they lived (the usual interpretation of place-based pedagogy) but also to the places

they visited. Walter (2007b) noted that the placement of the protest camp “on the site of a clear-cut charred forest dubbed the ‘Black Hole’” (p. 255) helped protestors to viscerally understand what they were fighting against. In his dissertation, Haluza-DeLay (2006) proposed the concept of a compassionate sense of place, combining ideas of place and caring. His ethnography of environmentalists in a community in northwestern Ontario revealed that the concept was useful, though he noted that some participants saw compassion as emotional and weak. Echoing Bowles somewhat, he also discovered that a sense of place was not limited to the local, but instead recognized links to other places.

The assertion that the creation or construction of knowledge is *situated*, or highly dependent on context, is also common in the literature. Haluza-DeLay (2006) said that “Learning is always situated” (p. 68), and he emphasized this situatedness in explaining how people might learn to behave in a more environmentally friendly way. In Dana Powell’s ethnographic description of a meeting in the Indigenous Environmental Justice movement, she noted that a discourse of “energy justice” was grounded in a call to action (Casas-Cortés et al., 2008, pp. 31-32). She described “energy justice” as helping to create an “alternative knowledge” to scientific and economic-development paradigms.

### ***Relationships to the world.***

Ideas about place and situation are connected to an emphasis on relationships. Gruenewald (2003) pointed out the importance of links and relationships in both Freire’s critical pedagogy and the ecological sensibility upon which place-based pedagogy was founded. Haluza-DeLay (2006), as mentioned above, found that place was important *in the context of relationships to other places*. Walter (2007b) noted that part of what the protestors in the rainforest learned was how to effect change—that is, how to affect their

relationships to other actors in society. Branagan and Boughton (2003) discovered similar learning in the eco-pax movement. According to Powell, the knowledge built from discussions of energy justice represented an important new way of understanding participants' links to the physical environment and other political actors (Casas-Cortés et al., 2008). Shukla (2009) argued, based on her ethnography and content analysis, that local opponents of a dam in western India learned different kinds of citizenship depending on how their relationship to international activists was framed. One kind of citizenship was promoted by a "vertical" relationship implied by international groups' suggestions that it was the responsibility of Western nations to stop the dam construction (because they were funding that construction). The second kind, which Shukla deemed preferable, was based on "horizontal" relationships associated with the local activists' positioning of their cause as one site in a global movement.

***Dialogue and interpersonal communication.***

Freire's theories of critical pedagogy emphasized dialogue as a way for both "teachers" and "learners" to learn about their relationships to the world, *together*. While the literature reviewed here has not clearly described whether this kind of dialogue takes place, several studies mentioned interpersonal communication as an important learning mechanism. For example, in Walter's (2007b) description of rainforest protestors, he noted the importance of workshops and meetings in developing and maintaining the group's willingness to act, though informational handouts were also a large component. Workshops were similarly involved in learning in the eco-pax movement, as described by Branagan and Boughton (2003), who also mentioned the usefulness of conflict resolution skills in a movement that included people from a wide variety of backgrounds. Bowles

(2007) remarked that all of the environmental-justice activists she worked with stressed the significance of learning from mentors, movement colleagues, or friendly experts. The Indigenous Environmental Justice movement meeting, as described by Powell, was the site of substantial discussion, sharing of oral histories, and “translation” of research. These practices helped shape the production of knowledge by those who attended the meeting (Casas-Cortés et al., 2008).

***Being reflexive and critical.***

In most of this literature, experiences, places, situations, and relationships became important learning tools when reflected on and critically analyzed. This is in line with Freire’s concept of critical understanding, or *concientización*. Examples discussed earlier bear this perception out. The rainforest protestors recognized their own power through reflection (Walter, 2007b). The environmental-justice activists from the southeastern U.S. learned from their travels by analyzing how the places they were visiting were similar to and different from their own homes (Bowles, 2006). The members of the Indigenous Environmental Justice movement formed their new knowledge through critical analysis of the relevant science and politics (Casas-Cortés et al., 2008). Environmentalists in Ontario changed some of their behaviors after critical reflection (Haluza-DeLay, 2006).

However, Haluza-DeLay (2006) cautioned against an overemphasis on reflection. Drawing from Le Cornu’s (2005) discussion of internalization of knowledge (i.e., learning involves the incorporation of knowledge into the self), Haluza-DeLay argued that much knowledge is tacit. He also suggested, based on his ethnographic research and other researchers’ studies of social movements, that learning is often embodied in the sharing of relatively unexamined practices and ideologies.

*Interactions with the powerful.*

Another important theme in this literature is the way in which education affects (and is affected by) interactions between movement participants and people perceived as being powerful. Shukla's (2009) analysis of the anti-dam campaign in India revolved around the ways in which different framings of power structures contributed to learning different kinds of citizenship. A different kind of link between power and education is visible in Walter's (2007b) rainforest protest study, in which he described how the tactics and practices of the government, while brutal, led to new understanding of how the government worked and whose interests it served. The activists in the Australian eco-pax movement learned how their political and economic systems functioned, including what actions might be effective in changing those systems (Branagan & Boughton, 2003). In a study of activist monks in Thailand, Walter (2007a) found that the monks' attempts to construct new knowledge about the sacredness of the forest was both enabled and suppressed by various powerful actors, such as the Thai king and the military. Walter noted that violence was used as a tool to silence the monks; he used this example to point out that educational campaigns do not exist just in the realm of the cognitive and the discursive.

Science and the regulatory system were also seen as representations of power by activists. At the summit in the Indigenous Environmental Justice movement, scientific knowledge was recognized, but as only one of several different ways of understanding the development of energy sources: "While environmental policy specialists and biomedical doctors... were also on site as important, recognized experts, their claims and analyses were tempered in this social context by the authority of stories, community-

based research, and lived experience” (Casas-Cortés et al., 2008, p. 31). Other frameworks used at the meeting included worldviews based in various indigenous cultures, the activists’ own experiences, and the “energy justice” paradigm mentioned above. For the environmental-justice activists in the southeastern U.S., an attachment to home led to learning the intricacies of the scientific and regulatory issues that affected them (Bowles, 2006). Often, the activists would seek to understand the systems through independently directed seeking of information or by consulting experts (Bowles, 2007).

### **Connections among the themes.**

Some connections among themes in the literature have been alluded to above. An emphasis on experience, place, and situation as factors affecting learning is consistent with an approach that prioritizes an understanding of relationships and links to one’s social and physical environment. Both are based on a worldview in which context is seen as important to the creation of knowledge. This kind of viewpoint is in turn connected to a focus on interactions between movement participants and powerful individuals and institutions: since social movements are projects to create change in society, the context of an environmental movement includes those agents who are opposed to the changes and have the power to stop or delay them. An interest in the context of knowledge created in the movement therefore leads naturally to an interest in how the knowledge is affected by those who hold power.

A focus on power is also consistent with a belief in the importance of reflection. When people who are involved in social movements reflect on and analyze those movements, it seems likely that they will attempt to understand the forces supporting or opposing them. Reflection is in turn associated with dialogue and interpersonal

communication, at least to the extent that the dialogue or communication is thoughtful and helps participants to confront viewpoints they were unfamiliar with. Communication of this sort can be tied back to an interest in one's relationships with the rest of the world: in recognizing one's connections to others, it becomes possible to see the worth of their perspectives, which encourages thoughtful dialogue.

## Methods

To address the research question—how do environmentalists produce their knowledge about the reasons for and impact of acting in a pro-environmental manner—I conducted *time-line interviews* with environmentalists in the Triangle region of North Carolina. As described by Luo and Wildemuth (2009, p. 235), time-line interviews are used to help researchers work with respondents to understand the sequence of respondents' experiences and how the respondents understood the situation at each step in the sequence. As part of Dervin's Sense-Making Methodology, with which the method is commonly associated, the time-line interview involves the respondent's reconstruction of the sequence of steps in a situation, followed by close examination of each step in terms of the Sense-Making Triangle: the situation or context, the "gap" in understanding that the respondent had to attend to in order to make sense of the situation, and the use that "bridging the gap" would serve to the respondent. Dervin called for "circling" each step in the sequence by asking questions related to these three elements of the triangle (Dervin, 1992/2003b, pp. 276-282).

Time-line interviews are appropriate for a qualitative study of a complex phenomenon related to knowledge and understanding: Luo and Wildemuth (2009, p. 235) noted that this kind of interview can provide the researcher with "an in-depth understanding of the sequential events in a cycle of sense making and the multiple facets of each event." Schamber (2000, p. 742) found the time-line interview to be "a

naturalistic and relatively unobtrusive means of collecting data about respondents' cognitive perceptions.”

### **Study Population and Sampling Technique**

The population of interest for the study consisted of people residing in the U.S. in early 2011 who identified themselves as environmentalists. As is common in qualitative research, I used a purposive sample, that is, a sample in which the subjects are chosen in a way that maximizes the usefulness for the study (Wildemuth & Cao, 2009, p. 130). Patton (2002, p. 230) described this approach as seeking “information-rich cases” that provide insight and understanding about the phenomenon being studied. In particular, I used a case study approach, in which I recruited subjects from a particular group's membership.

This group, called Transition Carrboro-Chapel Hill (TCCH), is defined on its website as “a group of individuals and organizations growing a pathway toward a positive local future that meets our needs in the context of the challenges of climate change, economic downturn, and the end of cheap oil” (Transition Carrboro-Chapel Hill, 2010). It is one of many groups that form the Transition Network, which evolved from an initiative in the mid-2000s that centered on the small town of Totnes in southern England (Transition Network, 2010a). TCCH was formally launched in May 2010 through an event called the “Great Unleashing,” in which members of the local community were invited to describe their vision for the future of the community and organize themselves into action groups aimed at moving toward that vision.

Through my own activism, I had had previous encounters with TCCH, so I began my recruitment effort by getting in touch with a previous contact. She introduced me to

another volunteer through email, who assisted me by sending recruitment email messages to selected active individuals and by advising me about useful meetings to attend. In all, an estimated 36 people were contacted through email or through a pitch I gave at a meeting. Twelve of these people expressed interest in the study, and ten eventually participated. See Table 1 for a breakdown by recruitment method of the estimated number of people who were contacted, who expressed interest, and who participated.

Table 1

*Estimated Number of People who were Contacted, Expressed Interest, or Participated, by Recruitment Method*

<b>Method of Recruitment</b>	<b>Was Contacted</b>	<b>Expressed Interest</b>	<b>Participated</b>
Email Only	26	4	3
Email and Meeting <sup>a</sup>	2	2	2
Meeting Only	8	6	5
<b>Total</b>	<b>36</b>	<b>12</b>	<b>10</b>

<sup>a</sup>Includes one of my initial contacts in the group; she sent out further recruitment emails

The interviewees ranged in age from 25 to 74, with seven of the ten being over 50. All of them identified as white; six identified as male, and four as female. Nine had received undergraduate degrees, and three had also engaged in formal postgraduate education. I do not expect that race, gender, age, or education completely determined what interviewees said, nor was my goal to achieve a representative sample. Nevertheless, differences in demographics might be associated with different experiences, and I note the demographics here in order to provide a very general sense of the people I talked to. The race and gender breakdown of my sample was reasonably close to that of the meetings I attended, an unsurprising result given that seven of the ten people who I encountered at meetings agreed to be interviewed. Nevertheless, of the

three people who attended the meetings and did not participate in my interviews, two were women, and I suspect that TCCH as a whole has a higher proportion of women than my sample did. I also think that my sample underrepresented people of color, since my sample included none and I suspect that TCCH is not completely white. I will also note that all of the interviewees seemed to be moderately or highly involved in TCCH, so my sample did not include those with low or no involvement in the group.

No financial inducement to participate was provided to the interviewees. Costs to respondents are believed to have been minimal: the time spent during the interviews and travel to and from the interview location.

### **Instruments and Procedures**

I adapted several time-line interview schedules (Cardillo, 1997; Dervin, 1997; Dervin and anonymous students, 1997) to create a schedule relevant to the study, conducting two pilot interviews to further refine the schedule (see Appendix A for the schedule). In a time-line interview, interviewees first identify memorable events that pertain to the research question. This helps the researcher and interviewee to focus on events that are meaningful and makes it possible to review events retrospectively. The interviewee then picks one or more events and describes in detail what happened during each event. Through the process of outlining the time-line for the event, the interviewee can provide a concrete summary of the event to the researcher. For each step in the time-line, the researcher asks about how the interviewee made sense of what was happening. Several different questions are used to try to understand multiple facets of the interviewee's experience: for example, the researcher asks about questions or confusions, emotions, thoughts, and constraints. The researcher probes more deeply into each of the

items mentioned as a question, emotion, etc., asking how it related to the interviewee's life and social context. These probes help the researcher to understand the interviewee's experience as situated in his/her life.

I followed the time-line interview format in constructing my schedule, focusing on events or experiences that the interviewee felt were connected to the development of their reasons for being an environmentalist. In addition to the portion of the interview devoted to discussing these events, I included several other questions: my interview schedule began with questions about how the interviewee became involved with TCCH and why he/she was an environmentalist, and it concluded with questions about the interviewee's personal definition of "environmentalist" and the effect of the interview itself on the interviewee's thinking. I decided to take notes on index cards during the interview to help keep track of the interviewees' identified events, emotions, questions, and so forth. In addition, at the end of the interview, I planned to ask the interviewee to fill out a brief background profile that asked for his/her gender, race, age, and educational level, as well as his/her parents' educational level (see Appendix B). Dervin (1989/2003c, p. 56) argued that demographic characteristics are unlikely to be useful for predicting how people deal with situations but may be more closely related to which situations people face. The primary focus of this study was the *how* question, so demographics were not emphasized. Still, the *which* question was also of interest, and I expected that there might be differences in the situations faced by subjects of different genders, races, ages, and educational backgrounds.

In my first interview, I followed the schedule closely, but I found the time-line portion difficult to apply effectively. In subsequent interviews, I used the schedule as an

outline: without feeling forced to stick to the questions on my schedule, I tried to get the interviewees to discuss the thoughts, questions, and feelings that they held during events that were important in the development of their environmentalism. I continued to ask the questions listed before and after the time-line section in a fairly consistent manner. I also stopped using the index cards after the third interview, as it was not always easy to define what should be recorded on the cards and they seemed to offer little additional value to the interviews. An adaptive, flexible approach to research, such as this one, is common in qualitative inquiry.

Each interview was recorded using a small digital audio recorder. The interviews were held between mid-February and mid-March of 2011, at locations and times that each interviewee and I agreed on. Most of the interviews took place in the interviewee's home or the home of a relative, but some occurred in workplaces, cafés or restaurants. The recorded portions of the interviews ranged in length from 62 minutes (just over an hour) to 146 minutes (almost two and a half hours); the mean length was 107 minutes, and the median length was 105.5 minutes (about 1 hour, 45 minutes).

### **Analysis**

Seven of the ten interviews were transcribed. In addition, one interviewee sent me the text of a poem that she found meaningful and relevant to the interview. I imported these transcripts and the poem text into a project in the qualitative analysis program NVivo 9. As I read three of the transcripts, I identified themes inductively—that is, the themes “emerge[d] out of the data, through [my] interactions with the data, in contrast to *deductive analysis* where the data are analyzed according to an existing framework” (Patton, 2002, p. 453; emphasis in original). Of course, I brought my own biases and

questions to the analysis, and so this set of themes represented what I *as an individual* found interesting *in the context of this project*. In particular, my interests in knowledge production and social change, as well as my use of time-line interviews, made me sensitive to concepts related to questioning, realizing, perceived barriers, and power. See Appendix C for a list of the set of themes I developed in this stage of analysis.

Becker (1958, p. 653) recommended that those in the early stages of analyzing data from participant observation should try to find “problems and concepts that give promise of yielding the greatest understanding of the organization” being studied. Although I did not conduct participant observation, I felt that Becker’s suggestion provided a useful guideline for the next stage of analysis. I selected the concept of “wanting to make a difference” as a theme that had seemed especially prevalent and important in my earlier analysis and my general sense of the unanalyzed interviews. In particular, I focused on the idea of wanting to make a difference *in the face of uncertainty and other constraints* as providing useful insight into the group. I then coded the poem and the remaining four interviews that had been transcribed, focusing on the themes related to these concepts (see Appendix D for a list of the themes included in this subset). This coding helped me identify further patterns in the data. In the final stage of my analysis, I listened to the three interviews that had not been transcribed, took summarizing notes, and transcribed quotes that seemed relevant to the patterns I had found in analyzing the other interviews.

### **Advantages and Limitations**

The main advantage of the use of time-line interviews is the ability to examine the unfolding of events in great detail. In addition, this approach allowed interviewees to

speak in their own words about their own experiences, reducing the extent to which I imposed my pre-existing categories and beliefs on the data.

However, my presence and my questions helped create a context that was probably different from those usually faced by the interviewees; how often in the rest of their lives were they asked to discuss the development of their environmentalism at length? In addition, some of the events being described occurred long before the interview. A strict interpretation of the interviewees' responses is that they are an outgrowth of the interviewees' sense-making in early 2011 in the context of a research interview. In this view, it should not be assumed that the interviewees' descriptions of their experiences are accurate representations of the sense-making that went on during those experiences. Similarly, the responses cannot be assumed to represent how the interviewees would make sense of these events outside of an interview, even in 2011. Indeed, we cannot even assume that the responses are a transparent window into the interviewees' thoughts and feelings at the time of the interview. Nevertheless, I hope to show the usefulness of these responses, both when interpreted narrowly (i.e., as reactions to my interview questions and nothing more) and more broadly (i.e., as representative of different times and places). The broad interpretations require us to set aside some of our skepticism, at least temporarily. Such an approach can be justified by the recognition that although there are "gaps" or differences between one time and another, between one place and another, and between one person and another (Dervin, 1991/2003a, p. 64), there are continuities as well. Many of these continuities are related to the senses of personal identity and memory that persist to some extent from one experience to another;

others stem from shared language and culture. These continuities allow us to make tentative claims about situations that we cannot observe.

An additional limitation is that, although time-line interviews have been used with large, probability-based samples (see Dervin, 1992/2003b, for examples), I used a small, purposive sample. This choice of sampling technique may limit the generalizability of my results. However, qualitative research is generally aimed less at generalizability than it is at in-depth understanding of a phenomenon (Patton, 2002, pp. 244-245).

Finally, as mentioned in the introduction, I am not a detached observer. The topic and location of this study are ones that I care deeply about. This can be a limitation if it blinded me to certain aspects of what I was studying, but it can also be an advantage, in that my commitment might have allowed me to notice and understand aspects that a “disinterested” observer might have missed. As Dervin has said, the researcher engages in sense-making just as surely as the interviewees do (Dervin & Naumer, 2010, p. 4702), so my background may have allowed me to make sense of observations that otherwise would have remained mysterious. And as Hale (2008, p. 12) noted, caring about an issue and feeling a responsibility to the participants in one’s research provides a strong incentive to be careful and diligent in conducting that research.

## **Findings**

Interviewees described wanting to have a positive effect on the world around them, but several were uncertain or even doubtful that they could make a significant difference. Many discussed personal struggles over whether they were doing enough to make the changes they sought. Some expressed a desire to not have to worry or think about the environmental problems they were engaging with. These statements suggest that the production of knowledge about *environmentally correct action* may be fraught with uncertainty, struggle, and urges to avoid intense reflection. To the extent that interviewees were able to act in the face of these difficulties, they may have developed (or be developing) an important kind of emotional *know-how*.

### **Wanting to Make a Difference**

All of the interviewees expressed a desire to make a difference in the world or to be of service. At the end of one interview, when asked for any additional thoughts about his reasons for acting in an “environmental way,” the interviewee’s response included the following:

So you know there's this Buddhist idea that says first, do no harm. So you know, I think that's been true for me. I mean, I think when I look back at this work I'm doing, I try to really look deeply into that idea. Both for myself personally and for the work I do, you know working with other people, how do we manifest that idea? But there's that word “first,” so OK, what's second, it suggests. And so, I think second, to me, is to try to be of service, to try to help. (M1)

Another interviewee also mentioned Buddhism in describing her approach to environmentalism:

I'm going to paraphrase it, but the Buddhist practice of the bodhisattva is to remain as long as there is pain and suffering on the planet, to remain to help...I will keep returning until all sentient beings are free of suffering. And that puts you like in a huge context. That's very helpful, that's a helpful paradigm. (M4)

Other interviewees described what it meant, for them, to be environmentalists:

For me? Stewardship, like take care of the planet that we have....It's a responsibility. You can't just take, take, take, take and not give. We all take a lot and we need to give back. It just doesn't work otherwise. It's just not natural. (M3)

Um, well for me it always conjures up the twinge, I have a reaction of being embarrassed like "Don't call me that," because it's not politically correct now. It doesn't help me to identify [as an environmentalist], but if you define it as basically what I do, because a lot of it is that way, I feel like well it's important, it's as helpful as I can be as a tiny little particle of humanity, and it's kind of a what-the-heck, why not? (M7)

Another interviewee made a statement evoking a similar sentiment to the phrase "a tiny little particle of humanity." Having discussed learning about a view of the world as composed of nested systems at various "holonic levels," such as cells, organs, individuals, and ecosystems, she continued:

And our awareness is on the level of humans, on our holonic level. Bacterial awareness is on the level of bacteria, you know. I don't know what bacterial awareness is like, but they clearly interact with each other and do things to survive, so there's some sort of interaction with the rest of the world, right? On a bacterial level. I don't know that bacteria have a clue about humans or not. But it seems as though it would be a good thing for the whole system if our awareness could transcend the human level and acknowledge that we are just one holonic level and we are part of greater systems, and I want to be the best little bacteria I can, you know. (M10)

Yet another interviewee described her feeling of needing to "save the world" in the following way:

I feel like to be a human being at this point in time who's conscious of the dangers, it's sort of irresponsible not to be doing anything about it. And so, I feel like I need to be devoting my time to this idea that maybe we can still save the planet. (M8)

Another interviewee, when asked why he volunteered, given the pressures there must be on his time, responded:

There certainly are [pressures], but I figure that I have a lot to give. I come in with a different experience, I have a lot of resources already available, a lot of personal time invested in this, in collecting this knowledge and this sort of information and experience in a sense. And I can all keep it to myself and I would [be] just sitting there or it's just a small incremental step from there to share it and make better use of it overall. And it's not helped if only I do these things and I only know about these. It has much more positive and much wider effects if I can reach more people with—well, I mean, some of these things aren't really that big an effort, right. (M9)

For some interviewees, the desire to make a difference was expressed in terms of survival or stability:

Q. Do you remember when you first started thinking about these [environmental] issues or worrying about these issues?

A. Well, I think I've always been worried about mistakes that I saw being committed by our government or by people supporting those things. I was looking for groups to join that—one feels so helpless looking at it just as an individual but join a group, it's just more empowering to know that one's contribution is part of an effort that all combined might have actual effect. So I mean... I can remember the anti-nuclear war activists having marches and walks... and I participated in those, and went to meetings of those groups regularly, going door to door, trying to talk people out of manufacturing a bunch of MX Missiles and all that. So the issues kind of morph, one thing and then another thing. It always seems like there's a need for people to be contributing to trying to steer the country and the government into more reasonable paths regarding annihilating ourselves in one way or another. (M2)

Q. We'll talk about this more, but do you have any—just off the top of your head if somebody asked you why you're an environmentalist, do you have particular reasons?

A. It's common sense. You know, it's self-preservation as much as anything else. People don't realize that the reason we're alive and breathing and eating is because of the health of our surrounding environment. And absent that, we will not be healthy or alive. (laughs) So, yeah, I mean I derive great enjoyment from the aesthetic wonders of the world we're in and I think it's healthier to be connected to the world we're a part of, but I don't—you know, it really is like, I'm an environmentalist because I enjoy being alive. I enjoy being alive and

healthy and I want other things to be alive and healthy, too. And that entails keeping, taking care of the whole. Because we're connected—it's not like we can jet off to another planet and be happy and healthy there. It's not going to happen. (M10)

A. ...To me, it's just one big system. If we screw it up, we're only impacting ourselves. (laughs) You know, from a very selfish point of view. Because I believe it's a system, it's an ecosystem that's fairly fragilely balanced....It's big, it's a big system, so you and I individually have a hard time impacting it unless we have a lot more power than we currently do. (laughs) ...But as a whole culture, certainly we have [impacted it], we see it, we can impact it. You know, people with power can impact it. Big corporations have a lot of power, especially in this country, a capitalist country. So corporations have a lot of power, they can impact it. (M5)

A. ...Because it is daunting. You know everything needs to happen in a big way. But it's confusing to figure out how to do it in a small way. And also, I felt somewhat marginalized in my (trails off). So I had fear and I also had guilt. But I also had a feeling of ineffectiveness. Like you know if I'm working day-to-day in a [not environmentally related] position, doing whatever specific little thing I'm trying to learn about, I am not having an effect in these other arenas that are really going to have, that really are dogma in life, they're base of life for our existence. And so I was like, well if that's not taken care of in my life, these things that I'm enjoying doing in my work life, that could dissolve. And so maybe that's fear also about losing some sort of other parts of your life that you really love because you know these base elements aren't being altered so that they can keep up with the new world that we're living in, this ever changing world. (M6)

### **Uncertain Impact**

Although an urge to make a difference was common across interviewees, the urge was complicated by other considerations. Six of the ten interviewees expressed uncertainty or some degree of pessimism about whether their efforts would make the difference they sought. For example, when asked what questions or confusions she had had as an environmentalist, one interviewee's response included the following:

It's hard for me to see what this transition looks like on a worldwide or even community-wide scale. Like how are we going to work this? It's beyond my comprehension to figure out sustainable systems to continue to take care of

mankind, womankind, um transpeople-kind. (laughs) And it's hard to work towards something you can't even vision towards, you know? I can see small pieces of it, and I can for the most part envision how *my* own life, it could work. But even then, there are some things that industrial society produces that are really, really useful. Chainsaws are really, really useful, you know? And how are we...going to get along without those things? (M10)

Later in the interview, she again mentioned her uncertainty about being able to create the change she wanted, but nevertheless felt she should continue to work at it. Shortly after remarking, "I want to be the best little bacteria I can" (as discussed in the previous subsection), she said:

I don't know that I have the ability to save the whole world but I would like to do the best job that I can in my place and time and local system, you know. That feels like my responsibility as a member of this community, ecological or Carrboro community or spiritual community, etc. (M10)

Another interviewee expressed hope that the efforts of Transition would make a positive difference, but it was clearly guarded hope. When asked why Transition had appealed to him when other environmental efforts had not, he responded:

Well, it seemed doable. One point that Rob Hopkins [the original founder of Transition] makes: if you wait for the government to do everything, it's going to be too little and too late. If you try to just do it by yourself, you know change your light bulbs and grow some tomatoes, it's going to be way too little, it's not going to make an effect. But organizing on a community basis might work, you know. And it might not. But you know it's better to try than just to sit there. (M3)

Later in the same interview, he noted that in the past he had "burn[ed] the candle at both ends" in conducting his activism. When asked what had changed, he said he no longer felt like he was going to have a large impact on the world:

Older and wiser, you know. Like that Dylan song, I was so much older then, I'm younger than that now. (laughs) I've given up the thought that I'm going to totally change the world or that I'm going to be this tremendous impact on anything. You know, content to do what I can do. (M3)

A third interviewee remarked that her actions seemed “kind of futile,” though “worthwhile”:

Q. Are there particular reasons just off the bat, off the top of your head, for being an environmentalist that—?

A. Well, I'd have to summarize it as a growth economy that depends on growth, unsustainable growth, essentially, because the planet—it's limited, has limited resources. And throughout my life, I've just seen the consequences of people's cultural behavior impinging, ever increasingly, on the environment that supports human life. So whatever efforts I can make to mitigate that have always seemed worthwhile to me, even though kind of futile. It's you know, what I can do. (M7)

While discussing how she had refined her environmental views over time, this interviewee again indicated uncertainty about the impacts of her actions:

I have to watch out for getting too anal about it, like anxiety-stricken about things that really don't matter. Probably the best thing I could do for the planet is to kill myself—I mean, there's whole websites about that—which is true, but you know, I [am not] going to do that. So I mean, if I redoubled and tripled and quadrupled everything I did, it still wouldn't make any huge difference. It's kind of philosophical, you know, you just have to relax about it...It's not, I don't control enough resources to really make much difference, which is why I did Transition, because it increases a little. And really I'm just here for a little period of time, and who knows? I don't know ultimately if it makes a difference at all. (M7)

A fourth interviewee, who had been an environmentalist for several decades, described society as moving in ways that were mostly unaffected by his own actions. He used the metaphor of a school of fish that appeared to be moving together with one mind, when in reality most of the fish were following the leader extremely closely. He continued:

I suppose, as one of the fish, I've found it really disconcerting, to be going in a philosophical direction, and then all of a sudden, there's a new leader and we're going in a different direction. I do what I can. (M5)

Later, he again emphasized the fickleness of society, though he did think some limited positive change was occurring:

I guess I'm pessimistic in a sense that I don't think things are going to change overnight. Things aren't going to swing in my direction all of a sudden. They're

just not going to. They're not going to all of a sudden swing in my direction and stay there. They might swing in my direction for a little while, and then, oh, oh boy, I'm with all the fish now. But then in another year or two, the rest of the fish go over there and I'm still going over there [in a different direction]! You know. And the reality is that we are making a difference, that things are changing, even just—I don't know—just because people get behind a certain set of metaphors. People I think innately like efficiency. I don't think you would say that many people really like waste, which is kind of the opposite of efficiency. (M5)

Like M3, who (as mentioned earlier) had “given up the thought that I'm going to totally change the world or that I'm going to be this tremendous impact on anything,” this interviewee cited his high age and remarked, “I don't see myself as making any big waves.” (M5) In the face of such uncertainty, he advocated continuing to move while recognizing that one's destination might change:

If you just keep going down that path, with enough people (long pause) having the same goal, then you get where you're going. When you get there, it might not be, as I said, it might not be where you thought you were going. But you do get there. I've often thought about it like when people are going across the country in the wagon trains, they didn't have a clue what was on the other side! (laughs) Even less than now. (M5)

Another interviewee, when asked to compare his current environmental activism to activism earlier in his life, said he had become less idealistic:

No, I think [my current work is] completely different in a sense. I mean back then, you have the idealism and you think you can completely change the world, and that's just the prerogative of the youth to do that. And in the meantime, you know...I just have a lot more experience under my belt, and know to look at the world less naïve, more realistic, and maybe in that sense more grown-up. (M9)

Yet another interviewee, when asked at the beginning of the interview for her reasons for being an environmentalist, referred to climate change but said “it seems like it might be too late for action, but we can't just sit here and say that. We have to do what action we can and see if we can make a difference” (M8). She mentioned that she had worked on anti-nuclear campaigns in the 1980s; when asked about any questions or confusions she had at that time, she expressed uncertainty about her ability to change the world:

I always struggle internally with, is there any point to my activism. Back with the nuclear freeze I remember that it really felt like what the heck am I doing, I'm sitting on a street corner at a table with a petition, and these people—ten people have walked by, and they all signed my petition. Big deal! How is that going to change anything? I had a friend in that organization that her sister would call her periodically and say, “Gail, you did it again. Another day, and we didn't blow up in a nuclear holocaust.” Just to give her some feedback, that she was having an effect. Which is a valid, I mean that's a valid idea to have about your activism. You can't expect to change the world. I think in a way what I want is to save the world. I spent some time in 12-step groups, like probably the one I did the most time in was Co-Dependents Anonymous. And it's a very co-dependent thing, it's like a savior complex, to always want to be, you know fixing your problem, and fixing those people's problem, and looking everywhere except inside yourself, and just you know, the ultimate is to want to save the world. (M8)

She also stated that Transition might not “be *enough* to turn things around” without government involvement, “but it's at least something that we can have control over”

(M8). Nevertheless, she noted, in discussing her urge to “save the world,” that:

Even if we have the best damn Transition Town in the whole world, we're only saving Carrboro-Chapel Hill, so I've come down a bit from wanting to save the world. (laughs) The fact that I'm attracted to the local action, I think maybe that reflects the acceptance that I'm not responsible for or capable of fixing the whole entire world. (M8)

### **What's Enough?**

Given the desire to make a difference and the uncertainty about impacts, it is not entirely surprising that the interviewees described themselves as struggling over whether they were doing enough to combat the crises they perceived. One interviewee, when asked what questions or confusions she had had as an environmentalist, discussed the everyday struggles she experienced and a way to resolve some of those struggles:

And then I just have questions about what is enough? What is good enough? What is a justifiable use of the earth's resources? Like, those little questions every day. I'm like, well, is it justifiable for me to drive back home and get this thing and then come back into town? Should I really be using the fossil fuels for that – it's like, is my life that important? And when I step back, it's not, but then when I look at my life and what I need that day, it is, you know. Or some stupid question, like what should I set my space heater at? Sixty-two is too high. Fifty-two might be too low, but maybe 55? Or maybe I'm feeling particularly virtuous tonight, and

I'll set it at 53. You know every little detail of my life (sighs) you can ask that question. And (laughs) so I think it's as much wanting to not have to ask those questions all the time that I want to homestead, and be like, yeah, it's OK for me to shower because I'm not going to use a lot of water. It's heated by the sun, and my solar shower, and the graywater [water from the drain] is going to go out and water the garden. You know? Unfortunately, well, I don't know if it's unfortunate or not, but there's a lot of guilt attached to various activities and I think it's useful because it's a motivating factor, but also it sort of sucks to feel guilty all the time. (M10)

Similarly, she expressed a struggle over her commitment to environmentalist and anti-racist work:

I think the main emotion I feel right now is guilt for not doing enough....Again the question of what is enough is a challenging one. Like, what's enough organizations to be involved with, enough meetings gone to, enough emails written, enough effort getting you know relationship building. And balancing that with: well, I work seven days a week, I deserve some time off. And these problems are urgent! (laughs) You know and your ability to not engage—yeah, what's enough and the ability to not be super, super engaged is a privilege. (M10)

She came back to this struggle later in the interview:

So again, the same question, it's what I'm doing with my energy, the most effective thing to be doing with my energy. What could I be doing with it? Who knows? That's what I always arrive at. I don't know! I don't know! Who knows? (M10)

A second interviewee similarly wondered about whether she was doing enough:

But sometimes I think also about that, that maybe that's too small a contribution, like, so *an* environmental organization is putting out *a* publication, and I'm editing it, so I am fixing, you know, the punctuation in this one publication from this one organization. Meanwhile, another whole administration is going by and not passing any climate change legislation. I don't know. But again, it's sort of devaluing of my one little contribution—which is really all I can do, is just my one little contribution. But I'm constantly thinking about that, like what can I do that could really make a difference. (M8)

Though less clearly expressing his situation in terms of struggle, a third interviewee also discussed a wish to make his purchases more environmentally friendly than they actually were:

Q. Is there anything in particular that you remember thinking about, like wondering about, is this really good or is this really a bad choice?

A. Yeah. I mean I think about that kind of stuff some times. Like, we have two cars. I get this...truck, which I got in [the last town he lived in] and I really needed it there for what I was doing. But as far as gas mileage, it's really bad. I wish I could get something better. I almost traded it in for [a] Prius. But the economy was kind of shaky and then it crashed. (laughs) So I was glad I didn't do it because I would be making payments I couldn't pay now. I mean there's a lot of things, if I had money, I would do a lot of things different. Like I got this shirt at Wal-Mart because it was cheap. But I don't like Wal-Mart and I would rather get from Patagonia or some-, you know. There's a lot of things I'd like to do different. (M3)

A fourth interviewee, when asked if he had ever not done something that he thought to be environmentally correct, mentioned the difficulties of running a business in a way that he thought was environmentally responsible: "You have to get over the frustration of it not being exactly what you want it to be." (M5) A moment later, when asked about his feelings in those situations, he again mentioned the frustration and said, "And the higher your ideals in a sense, (laughs) the more frustrated you're going to be. So you kind of have to manage both ends." (M5) A fifth interviewee described how she managed the pressure to do more:

There are times when I feel like I should, and want, to attend, usually some hearing...and I'm burned out, I'm tired, I just can't do it, I didn't do good self-care and I'm burned out. Those things will prevent me from doing what I feel that I should do. But more often, it's now, where no matter what someone else might expect of me, I will sometimes say no, because it just doesn't feel right. It feels like, no, that fight is too big for me, no I can't do that one. But I've gotten sort of ruthless about, this is a personal thing and because it's all volunteer, I can really pick and choose. And I don't care what people think...because I've chosen to not be a leader in Transition. I've chosen to not get a staff position at an environmental organization, so I'm not on the dime. It's all volunteer, so I can really pick and choose. And I like that because it means that I can choose something that fires my passion, and I can always listen inside, 'Uh-oh, this fight feels like not my territory.' Because, you know, there's tons of fights. (M4)

Another interviewee described the approaches he was or was not willing to take:

I don't mind investing my time to put up a website or go to meetings that are constructive, where we think we can make a change. That's positive time and positive energy invested. I do agree with you my time is too valuable of starting to go head to head with such deniers on such topics. That's where I think my line is in the sand, that's where I'm not such an activist that I would pick those battles...I just simply don't. And...shouldn't that be confronted? It probably should, but I think I just have enough on my hands to do the more constructive work and reach out in that direction that will still completely occupy me and is more efficient and has a better outcome potentially. And that's why I just don't pick those fights. (M9)

A moment later, however, he described his concerns about whether non-confrontational approaches would be effective enough:

It also makes me sometimes wonder though in the sense of well, that's all nice and fine but given where we are and given what we need to do, what is ahead of us, to really avert major crisis, is that going to be sufficient? (M9)

He thought that asking this sort of question helped lead him to join Transition when he first encountered the group:

If I had come to the conclusion that I'm doing enough, I may have said, 'OK, it's great what you do there, keep doing it,' and walk my ways. But I didn't; for whatever reason, I decided to get engaged, and that certainly had something to do with myself asking the question. (M9)

Yet another interviewee, when asked if he had had any experiences in which he felt like he was acting against "the environmentally right choice," responded "all the time" and described a "convenience monster":

I could certainly do more in the garden and produce more food locally. But I have some savings from my employment on a monthly basis that I'm willing to spend on vegetables that were shipped from far away. And I know that they're not as good environmentally as the ones I (trails off), probably they don't really taste as good either. But I just love the convenience. There's a lot of things that are very convenient and they free up my time to do other stuff. And um that convenience monster is a big monster to fight because it's hard to let go and accept more work. When you could just, you know it's great having a refrigerator or whatever, you know. Those vegetables taste pretty good. They're not terrible. And they're pretty cheap, sometimes cheaper on my pocket than growing them in the garden. But they're really not the right solution. (M6)

The same interviewee, when asked to describe situations in which “things stopped [or started] making sense,” also struggled with not knowing as much about environmental issues as he felt he should:

So, the guilt of being so lazy and realizing that you have very little knowledge in something that's very important in your life. It can be a powerful. It was powerful to me, that feeling, that guilt. I had guilt. How could I have a concern about it, something so important, but not do anything about it? So even now, I would be the first to admit that I know so little, much less than one, than really the average person really should know. And I feel that I know more than a lot of my, I think about it a lot more and I'm invested in it energetically. But for me, there was this moment where I was like OK, I have got to spend more time learning and I have to be willing to accept that you know, I don't know nearly as much as I need to know about any of these particular topics. So I have to approach those topics just the best I can. (M6)

Other interviewees also mentioned feeling troubled that they did not know as much as they should about environmental topics. One discussed the struggle he faced in preparing a statement to read to a commission that made decisions on environmental issues:

Q. Do you remember in particular what you were struggling with?

A. Just how little I knew. So I was thinking about all the information I would like to put in and more information I'd like to find to put in. (M2)

He expressed similar apprehension about doing outreach in the community:

The worry I would have would be about having some skeptics there who would pop up, and I'm sure that they would have questions that I wouldn't be able to answer. I'm sure that they would be prepared from all those websites to punch holes in anything I had to present. Just have to stand up and be a target. So I think it's still better to do that than to not, than to have the [community group] not talk about it at all. (M2)

Another interviewee said that she had “read a lot, but I haven't read as much as I probably ought to [in order] to be a really *informed* environmentalist.” (M8)

Multiple interviewees expressed a wish to not have to face these struggles. For example, when asked about confusions or questions he had had around environmental issues, one interviewee's response included the following:

I'm like well, the experts will figure it out, because god, it's complicated, my brain hurts thinking about it sometimes and I just want some genius sometimes to just figure it out, so I can just go to the store and buy whatever the new super green fuel is, that's you know completely renewable and I can just feel good about what I'm buying sometimes, you know. But I think in college, when you start to learn more about your subjects, you realize that the experts are just as baffled as anyone else. They're smart. There's a lot of smart people on the planet. But every one of those people has (trails off) I mean that was confusing. What do experts know versus who are the experts really? And the experts are us, I mean, in a way. I feel that of course there are a lot of people that are very heavily trained and they have a very good educational background. But still nothing was happening [to solve environmental issues] in my viewpoint. (M6)

Another interviewee, who had been discussing how she had dealt with her “weaknesses,” said:

Well, yeah, I mean when I look back at the ones I finally addressed, I think back about all the times I didn't before that, I guess I keep hoping that something else will intervene—like somehow someone will discover all these talents I have without my having to go out to meet total strangers and, you know market and stuff. Someone will, I don't know, invent a pill that makes you lose weight so I don't have to deny myself anything. Or I'll be one of those lucky people that can eat whatever they want. You know, it's, I think there's this hope that, that something from outside, some random lucky thing will intervene and not make me face that, that discomfort, and I'll cling to that in those moments, or I haven't clearly identified it, I haven't really noticed that I'm doing it. (M7)

Yet another interviewee mentioned that, before being introduced to Transition, she “was a believer, (laughs) not a denier of climate change, but had not really looked at the facts too closely, because they were scary.” Similarly, once she had received a copy of the Transition Handbook, which explains the concepts of the Transition Network:

It took me a really long time to read the handbook because I was pretty sure once I had read the handbook, I would need to do something about it, so I put it off a lot (laughs a little). (M10)

One interviewee described her earlier encounters with information about climate change in a similar way: “It was a feeling of foreboding, and then I would push it away.” (M4)

Finally, another interviewee, when asked why other people might not be as committed to

environmentalism as he was, suggested that similar wishes for avoidance might be involved:

I think it's the same kind of thing where someone feels sick, but they don't want to go to the doctor because they think they might have cancer. Whereas if you think you have cancer, the best thing is to go to the doctor. But just that fear, they block it out. I think that's part of it. "No, it can't be," you know. I think sometimes it's a strong religious sentiment. Like they feel that God won't let that happen or...God is letting this happen because it's a sign of the end, or we'll pray and it will all go away. I think that's a factor. It's probably not just one thing. (M3)

## Discussion

### “To Walk While Questioning”

The interviewees’ interest in working for social change in the face of their own uncertainty and doubt parallels a statement on the website of Transition Carrboro-Chapel Hill (2010) titled, “So how is it that we have all the answers? (A Cheerful Disclaimer)”:

Just in case you were under the impression that Transition is a process defined by people who have all the answers, you need to be aware of a key fact: We truly don't know if this will work. Transition is a social experiment on a massive scale....This site, just like the transition model, is brought to you by people who are actively engaged in transition in a community. People who are learning by doing - and learning all the time. People who understand that we can't sit back and wait for someone else to do the work. People like you.

A very similar statement appears on the Transition Network’s (2010b) website, under the heading “Cheerful disclaimer!” Casas-Cortés et al. (2008) discussed a phenomenon with interesting parallels that occurred in the Italian *movimento dei movimenti*, or “movement of movements.” The members of this movement engaged in their own research and inquiry, but also actively questioned their own views:

Whereas in the past, organizations might have proceeded thinking they already “knew” what should happen—so that if others didn’t follow it was a matter of false consciousness or apathy—today there are meant to be less pretensions to such certainty. (p. 40)

Casas-Cortés et al. connected this practice to the concept, originating with the Zapatista movement, of *caminar preguntando* (“to walk while questioning”).

Uncertainty and anxiety are important components of Kuhlthau’s (2004) model of the information search process. Some of the statements made by the interviewees reflected an active search for information, and these tended to be broadly consistent with

Kuhlthau's descriptions of the exploration stage of the process—in which the individual is trying to orient him/herself in the subject matter and is likely to feel confusion, frustration, or doubt—and the presentation stage, in which he/she uses the information and feels satisfied if the search was successful. However, in many cases, no information search was explicitly mentioned even though the interviewee described being uncertain. For some of the interviewees' questions, no database, search engine, or library would be able to provide sufficient answers. While facts and perspectives discovered during a search might inform a person's thinking about whether he/she was effective or doing enough, the effectiveness of one's actions can only truly be determined in the future, and the sufficiency ("enoughness") of the actions is either personally defined or (like effectiveness) determinable only in retrospect.

The ability to move forward without being remotely certain of success might suggest foolhardiness. However, it may also represent a crucial form of knowledge, a *knowing how* to manage the urge to make change even when there is no clear way to do so. Such knowledge may be important in contexts in which the way to make change will only become clear (if it ever does) through action and experimentation. If Ganz' (2009) model of movements' strategic capacity is correct in its inclusion of the ability to learn and experiment, then the knowledge that seems to exist in Transition may be an important part of its strategic capacity. It also places McAdam's (1999) concept of cognitive liberation in a slightly different light. As McAdam's model would suggest, many of my interviewees did say that they were more effective as a group than as individuals. However, their uncertainty and pessimism about reaching their goals—to the

extent that these attitudes were genuine—imply that their actions might not be based simply on the expected value of those actions' outcomes.

Another form of know-how that may be developing among my interviewees is the ability to deal effectively with personal struggles over *what is enough*. To be effective, these environmentalists must refrain from the urge to look away from the problem or push it aside. At the same time, they have to avoid being overwhelmed by guilt and despair. As some of my interviewees suggested, the inability to negotiate these difficulties may be related to some other individuals' lack of environmental action.

The importance of know-how is recognized in the focus on knowing and tacit knowledge in the field of knowledge management (see, e.g., Cook & Brown, 1999; Nonaka, 1994; Nonaka et al., 2000; Orlikowski, 2002). Within the field of social movement learning, Haluza-DeLay (2006) also mentioned the need to be aware of tacit knowledge, as did Conway (2004, 2006) in social movement studies. Lave and Wenger's (1991) model of communities of practice and legitimate peripheral participation suggests one possible way in which tacit knowledge could be produced—through engaging in the practices associated with a particular community. Such tacit knowledge could include not just know-how but also knowledge of how much activism is considered sufficient within the social context of that community.

The statements of my interviewees suggest that, as several scholars in social movement learning have claimed, engaging in struggle may be important for learning new ideas and new ways of relating to the world (see, e.g., Branagan & Boughton, 2003; Foley, 1999; Walter, 2007b). Such an argument is also consistent with Conway's (2004, 2006) analysis of the production of knowledge, as well as Dervin's focus on moments of

discontinuity as helping to create new “sense” (see, e.g., Dervin 1992/2003b). I emphasize, however, that I cannot be sure, based on my data, that it was struggle that caused the learning/knowledge-production process; perhaps my interviewees had already accepted these new ideas and understandings, or developed their know-how, before their struggles.

### **Methods of Recruitment**

As is clear from Table 1 (see the methods section, above), the proportion of people who expressed interest or participated in the study was substantially greater among the people with whom I had some form of face-to-face interaction prior to the interview. It is no doubt easier to ignore an email than it is to decline to sign a sheet being passed around a room, given that the researcher is in the room as well. I do not think that my presence was coercive. Nevertheless, being there may have helped establish a tacit connection or feeling of trust, which, as many knowledge management scholars would predict (see, e.g., Nonaka, 1994; Nonaka et al., 2000), could have contributed to the interest of individuals in agreeing to create new knowledge during the interviews. Because of my greater success at recruiting people at meetings, my sample might have been skewed toward the kind of person who would not just subscribe to email lists but would also attend Transition meetings. However, as described earlier, my sample was not intended to be representative, and it seems possible, though far from certain, that some of the most interesting knowledge production might be occurring amongst those who are engaged enough to attend meetings.

**Implications**

I have not shared my findings yet with my interviewees or anyone else from Transition, and I am curious to hear their reactions. I suspect that they may have already come to some of the same conclusions that I have. I focus here on the implications for other communities.

**For social movement scholars and social movements.**

To what extent is Transition an unusual case? Are the participants' uncertainty and personal struggles stronger or more frequent than those of other movements? Clearly, I cannot answer this question definitively with the data from this study. However, Transition is in the unenviable position of dealing with *two* issues (peak oil and climate change) that are global in scale and enormous in economic scope. Such a focus might lead to even greater questioning of one's impact and struggle over one's commitment than in other movements. It would be useful for other social movement scholars and other social movements to determine how typical Transition is in these respects.

**For LIS scholars and practitioners.**

In addition to suggesting that LIS scholars and practitioners place more focus on working with social movements and other agents for social change than they currently do, I would like to pose some questions to this community. How should information services and models of information behavior be adapted to deal with situations in which the answers to some questions simply do not exist yet? What about situations in which the most important knowledge may be know-how rather than *know-that*, and might be *emotional knowledge* rather than factual knowledge? What are the responsibilities of LIS scholars and practitioners when faced with large-scale threats such as climate change and peak oil?

### **Conclusion**

I have sought here to describe a few details of the ways in which knowledge is being produced by some people who are engaged in efforts for social change. I cannot hope to understand or describe such processes in full, but these few details suggest the importance of certain aspects of these environmentalists' experiences. The environmentalists I interviewed face uncertainty, doubt, and personal struggle over their contributions. In some cases, more or better factual information might help them in trying to deal with these issues, but in other cases no such facts will truly bring resolution. Here I have suggested the importance of the emotional skills that are important to the continuation of action in the face of uncertainty, doubt, and struggle. These are examples of knowledge, not in the sense of organized facts, but in the sense of know-how that must incorporate organized facts as well as understandings of how to employ them. As some scholars of knowledge management, education, and social movement studies have recognized, know-how may be just as important as know-that in promoting effective action. Moreover, this know-how specifically relates to how to move forward when sense—knowledge, from a certain perspective—has run out and shows little sign of returning. In that way, the development of these skills may be important not only for the members of one social movement or even all movements. To the extent that uncertainty and doubt are unavoidable aspects of our existence, especially when facing problems that seem much larger than we can handle, this know-how is important for us all.

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## Appendix A

### Interview Schedule (Used as Guidelines)

[Explain what the study is about, go through fact sheet.]

[Confirm that the subject (a) identifies to some extent as an environmentalist, (b) is at least 18 years old, (c) consents to participating in the interview, and (d) consents to being recorded.]

1. [Warm-up] How did you get involved with [organization]?
2. OK, I'm using a technique called the Sense-Making approach. This involves asking you about the situations you've encountered in your life when you weren't immediately sure how to deal with the situation, how you reacted to those situations, what questions, emotions, and ideas you had, and so forth. I'll be asking you specifically about situations that were connected to the development of your reasons for being an environmentalist. Remember that you're the expert on what's happened in your life, so you should feel free to correct me if I say something that seems wrong.
3.
  - a. What are your reasons for being an environmentalist? What drives you to act in an "environmental" manner? I'm going to take notes on these index cards because we'll be focusing in a moment on how these reasons developed.
  - b. [Show index cards to subject.] Do these seem accurate? We can always change them later in the interview if you think of something new or decide these are inaccurate, but take a good look now, and feel free to correct anything, remove anything, or add anything.
4.
  - a. I'd like you to think back over your life about how your reasons for being an environmentalist developed. What events or experiences were connected to your very first reasons for acting environmentally? What events or experiences were connected to how your reasons changed during your life? "Changed" might mean that you found new reasons for being an environmentalist or that your reasons stayed partially the same but altered somewhat. It could also mean that you became more convinced or less convinced about your reasons. Like before, I'm going to take notes on these index cards and then we'll go over them to make sure I got it right.
  - b. Are there any experiences you're going through right now that you think are related to your reasons for being an environmentalist? Any experiences or events that you see happening in the future?
  - c. [Show index cards to subject.] Do these seem accurate? Again, we can always change them later in the interview if you think of something new or decide these are inaccurate, but take a good look now, and feel free to correct anything, remove anything, or add anything.
  - d. [If not already discussed:] In what ways were these events connected to how your reasons changed?

5. Select the one event or experience that stands out most in your mind.
  - a. What happened in this situation? What happened first, second, and so on? Think of this as telling me the story like it was a movie -- what did you say and think, what did others say, what just happened? I'm going to write down the steps so we can keep track of them, because we'll be coming back to look at and talk in more detail about these steps later.
  - b. [Show index cards to subject.] Do these seem accurate? Again, we can always change them later in the interview if you think of something new or decide these are inaccurate, but take a good look now, and feel free to correct anything, remove anything, or add anything.
  - c. [If more than five steps identified for this event/experience:] OK, I'd like you to think about these steps a little more. Earlier, you mentioned that this event was connected to changes in your reasons for being an environmentalist because [repeat what subject said earlier]. Are there certain steps that you think were particularly associated with these changes? Let's pick four or five of the steps that we'll pull out to focus on.
  - d. We're going to go back and look at these steps in a very particular way. I'd like you to remember back to each step, thinking again about what happened, what you and others who were there said and did and felt and thought, and focus now especially on what questions and confusions you had, what emotions and feelings you had, what ideas or conclusions or understandings you came to, what hindered you and what helped you. This might get to feel repetitive, but it's like you're taking me into a movie and showing me every detail. If I ask you something that you think you've already answered, just say so. Again, I'll take notes so that we can come back to these later.
  - e. [For each time-line step:] At this moment...
    - i. Did you have any questions, confusions, muddles? What were they?
    - ii. Did you have any emotions, feelings? What were they?
    - iii. Did you have any conclusions, ideas, thoughts? What were they?
    - iv. Did you see any thing in particular as a barrier/constraint? What? How did it act as a barrier/constraint?
    - v. Did you see any thing in particular as helping? What? How did it help?
    - vi. If you could have waved a magic wand, what would have helped?
    - vii. [Show index cards to subject.] Do these seem accurate? Feel free to correct anything, remove anything, or add anything.
    - viii. [For each separate element named in items i-vi, triangulate, adapting the questions as needed:]
      1. What led to this?
      2. How did it connect to your life at the time? Your previous experiences? How did you see it relating to your future?
      3. Did it relate to your community or society in any way? How?

4. Did you feel more connected to other people because of it? Less connected? The same? How so?
  5. Did it help? How?
  6. Did it hinder? How?
  7. Did it have any other consequences or impacts? How?
6. [If time allows, go through more events.]
- 7.
- a. Now that we've talked about these events, do you have any other thoughts about your reasons for being an environmentalist that you'd like to share with me?
  - b. [For each thought:]
    - i. What leads you to this thought?
    - ii. How does this thought relate to your life?
8. When you think about being an environmentalist, what does that mean to you?
9. So I have a little more general background about you, I'd appreciate it if you filled out this really quick profile. If you're uncomfortable answering any questions, you can leave them blank. Let me know when you're done or if you have any questions.
10. [Respondent debriefing:] Looking back at this interview, would you say:
- a. It was helpful to you in any way? How?
  - b. It was hindering to you in any way? How?
  - c. It opened up new ideas for you? What?
  - d. It led you to new questions/confusions? What?
- [Check to see if I've addressed all questions/concerns, see how I should follow up with the subject if I need clarification, and let the subject know that he/she can contact me if any additional questions or thoughts come up later.]

## Appendix B

## Interviewee Background Profile

**Exploratory Study of Knowledge Production Among Environmentalists****Participant Background Information**

Gender:

Race:

Age:

Highest level of schooling you've completed:

Highest level of schooling your parent(s) completed (list each parent separately):

**Researcher use**

Participant ID:

Date:

## Appendix C

## Codes Used in Initial Analysis

<b>Code Name</b>	<b>Code Definition</b>
Awareness	Refers to (lack of) awareness or factual knowledge.
Being in nature	Reference to impact of being around “nature.”
Big event	An event deemed important at larger scale than the personal.
Community	Emphasizing a “community.”
Contemplation	Refers to contemplation, careful consideration.
Exploration	Active searching for new information, ways of doing things.
Family	Refers to one’s family as important in some way.
Global capitalism	Refers to global commerce, trade, capital flows.
Identified author or document	Identified (or came reasonably close to identifying) a particular author or document/source which is being compared or contrasted with own beliefs, thought to have influenced own beliefs.
Impacts	Refers to what will come out of an event or practice, or effects on the future.
Inclusion or divisiveness	Talks explicitly about whether to include or exclude people from a group or movement.
Individual environmentalism	Refers to acts to reduce one’s own direct environmental impact.
Interconnectedness	Refers to “everything being connected” or networks.
Involvement with Transition	Refers to interviewee’s involvement with Transition.
Just made sense	Says that something “just makes sense” or seems true without being able to articulate why.
Meaning of environmentalist	Discusses what “environmentalism” is or what it means for him/her to be an “environmentalist.”
Mistaken or wrong	Refers to something as being mistaken or wrong.
People-nature relationship	Explicitly refers to how some set of people should or could deal with “nature.”
Personal danger	Refers to potential harm to self.

<b>Code Name</b>	<b>Code Definition</b>
Places	Explicitly referring to the effect of a particular place or going to a different place.
Positive approach	Explicitly referencing an approach to change built on emphasizing positive changes instead of combating negative ones.
Possible quotes	Seems like a good quote to use in paper.
Practices in social space	Refers to engaging in an activity or practice with others, or learning from others.
Question	Refers to a question, wondering, puzzling.
Reaction to technique	How responded to my interviewing technique--was it easy to respond or not?
Realization	Refers to seeing or understanding something in a new way.
Relation to computers etc	Talks about the usefulness, value of computers, other "high tech."
Relation to power	Refers to those "in power," politics, ability to affect others.
Relation to science	Talks about how to interact, how interacted with science or scientific findings.
Spiritual connection	Talks about spirituality, something "bigger" or "deeper," "fulfillment."
Stepping out	Making claims about "how things work" as opposed to talking about their life.
Stuck	Talks about being stuck, facing a barrier, being constrained.
Wanting to help	Expressing a desire to make a difference, help, be of service.
Wealth or poverty	Refers to wealth or poverty.
Youth	Refers to teenage years or earlier.

## Appendix D

## Codes Used in Later Analysis

<b>Code Name</b>	<b>Code Definition</b>
Awareness	Refers to (lack of) awareness or factual knowledge.
Contemplation	Refers to contemplation, careful consideration.
Exploration	Active searching for new information, ways of doing things.
Possible quotes	Seems like a good quote to use in paper.
Question	Refers to a question, wondering, puzzling.
Stuck	Talks about being stuck, facing a barrier, being constrained.
Wanting to help	Expressing a desire to make a difference, help, be of service.