Environmental Trauma and Grief

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> *For one species to mourn the death of another is a new thing under the sun.*
> Aldo Leopold, 1948, 110.
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> *The grief felt at the loss of a species or a native habitat can't be encapsulated in scientific thinking or logic. It has a different kind of truth.*
> Phyllis Windle, 1995 , 136.

In 2010, Demetria Martinez opened the *Huffington* Post to find that the lead story was about the impact of the Gulf of Mexico oil spill on baby sea turtles. She said, *"I never got to the article. Instead I stared at a sea turtle that had been doused in oil and was now fighting for its life. Then I did what I have worked hard to avoid as I've followed the coverage of the spill: I wept. The grief was unbearable as I gazed at the tiny creature, a wondrous manifestation of God's creation"* (Martinez, 2010).

Martinez' grief was a natural human reaction to loss - the emotional suffering we feel when something or someone we love dies or is taken away. The trauma of the Gulf of Mexico oil spill not only deeply affected the conservation workers deployed to work directly on the spill, but also affected all of us who saw those images and followed the repeated disastrous interventions that only seemed to compound the damage to fragile ecosystems. We understood at some fundamental level that each oil-damaged bird or turtle represented the fragility of life on the planet.

These same strong emotions of grief often are raised in our classrooms as we and our students negotiate the dual strands of the despair and hope that are part of teaching and learning about Earth devastation. And as we examine what it means to live a moral life in a world of exquisite beauty that also suffers from multiple forms of social injustice and ecological degradation. As Phyllis Windle (1995) notes, reading about the state of the ecological world is like reading the doctor's notes on the progress of your mother's terminal cancer. This kind of pain sits in our classrooms and tugs on our sleeves all time.

During my academic life I have taught interdisciplinary courses on both sustainable food practice and in death and dying. The more I reflect, the more it seems to me that the significant work that has been done around how to manage grief in the arena of death and dying has something to offer to those experiencing grief in

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response to ecological crises. In this essay I want to explore the dimensions of environmental grief and trauma, the intersections and differences between this kind of grief and our more commonly understood kinds of bereavement, and outline the lessons we might learn as sustainability educators from the work that has been done in the study of bereavement and death and dying.

Grief is both a universal and a personal experience. We all grieve, but our individual experiences of grief vary and often are influenced by the nature of the loss. Although typically we think of grief connected with the death of a loved one or the ending of an important relationship, any loss of someone or something of personal value can cause grief, including the loss of a cherished dream or the loss of safety after a trauma.

And we are facing significant loss, and at a magnitude that is often difficult to comprehend. Huge swathes of the Amazon have been deforested to serve the resource needs of the first world countries. Acid rain has degraded much of the forest stock in North America. Dead zones in the Gulf of Mexico grow larger each year. The Labrador duck and the Passenger Pigeon are gone. Forever. The Japanese Sea Lion and the North African Elephant have been exterminated. Recent estimates indicate that humans share the planet with as many as 8.7 million different forms of life (Mora et al., 2011), but we still know very little about what sustains each species, how our own human activity impacts their survival, and which plants and animals will become extinct before scientists can even record their existence. As the Leopold epigraph at the beginning of this essay indicates, humans have been struggling with grief and despair related to changes in the planet ever since we began to understand that our own actions were causing irrevocable species loss.

The Earth Charter, initiated at the United Nations Earth Summit in Rio in 1992 and adopted by the United Nations in 2000, uses the metaphor of *Earth as our Home.* "Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life." (The Earth Charter, paragraph 2) If we think of the earth as our home, then this metaphor carries all the emotional weight of a place that sustains and nurtures us. In this vision, our 'home' is a healthy biosphere with interdependent ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air.

But what if this 'home' is deteriorating beyond recognition - glaciers receding, ice caps melting, both terrestrial and marine ecosystems stressed by global warming and increasingly severe weather patterns of tornadoes, droughts, and floods? As we learn more and more about how our own destructive behaviors precipitate natural or man-made events and signal the loss of fragile ecosystems, we experience a grief reaction. Our dearly held assumptions about the possible future of the planet are shattered by this degree of environmental degradation. We see the potential for the extinction of still more species, the link between toxic oceans and global warming, and political systems that are ossified and unable to act in the face of environmental

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crises. (Martinez, 2010) We are left feeling that the global environmental problems and the pace of change are unpredictable, unsafe, and beyond our personal control.

In 1668 the German physician Johannes Hofer coined the word "nostalgia" to describe the sad mood that results form a desire to return to one's homeland (Freeman and Stansfield, 2008). But how much more intense might these feelings of sadness be if we literally 'can't go home again' (Pantesco, Harris & Fraser, 2006). As Joanna Macy noted, our world "…is sending us signals of distress that have become so continual as to appear almost ordinary…These warning signals tell us that we live in a world that can end, at least as a home for conscious life. I do not say it *will* end, but it *can* end. This very possibility changes everything for us" (Macy, 1991 p. 4).

As a result, we are called upon to shift and recalibrate our own personal dreams and aspirations for a 'better life' and a healthy planet for our children and future generations and to question our tacit assumption that there will be generations to follow. Our understanding of species loss parallels and often outweighs our experiences with personal loss; for some of us, our fear of a personal death seems modest in the face of impending death of all human life. Our emotional response to this fear is powerful: terror for those we love and those descendants we have not yet met, rage at the decisions precipitated these crises, guilt at our own complicity in these actions, and grief and sorrow as we recognize the enormity of this loss, especially as we understand that this trajectory could have been avoided by changes in our own actions (Macy, 1995). These strong emotions are stirred in our classrooms as we help students negotiate the discrepancy between what "is" and what we believe "should be" and the subsequent required revision of our fundamental assumptions about the world. But often we repress or ignore this pain because it is frightening, we do not understand it, and we have few models for how to handle it (Parkes, 1972 and 1993; Pantesco, Harris & Fraser, 2006).

So why are these emotions particularly strong as we respond to these understandings? As Paul Wiemerslage (2010) asserts, sociobiologist E.O. Wilson's hypothesis of a *conservation ethic* may explain both humanity's innate need to associate and interact with living things and our strong emotional responses to the threats to these elements. Wilson suggests that our affiliation with nature is genetic, a result of our evolutionary history and is expressed through our preferences towards natural elements advantageous to our survival (Wilson, 1984; Kellert and Wilson, 1995). Further research extends these links between humans and the natural world to our association to landscapes, which include both living and non-living things (Kahn, 1997). As we study the challenges to our biosphere and increasingly see ourselves as an integral living part of a larger ecosystem and understand the degraded nature of struggling soil, plants, and animals, we begin to view the ecosystem's struggle as our own and our grief responses are a natural response to that struggle.

Humans have always looked to the planet for life sustaining information, about weather, seasons and tides. We learned from the earth about when to plant or

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harvest and where the sweetest berries might grow. We learned the ways our own actions might trigger a blight or flood. But as we have become a more global and urbanized society, this daily awareness of our own human impact on the planet has become more abstract and at the same time paradoxically more present. We have less personal daily experience with the impact of our actions on the living planet, but we are bombarded with news from across the globe about climate disruption and pollution. Environmentalists working in the trenches of conservation and recovery experience a profound awareness each day of how current human behavior is degrading the environment beyond recovery. Those scientists and those of us teaching about dwindling populations, devastated habitats and recovery efforts from natural disasters and other environmental problems experience an array of emotions not often acknowledged or discussed. Victor Pantesco and John Fraser (2008) have learned that these environmentalists and conservationists (and those of us teaching in the areas of sustainability) may not only grieve and exhibit emotional responses similar to those experienced through immediate personal loss or trauma, but also suffer from a subtype of acute post-traumatic stress disorder.

Kriss Kevorikan (2012) coined the term "*environmental grief*" to name the feelings we experience as we witness and deal with the news of yet one more environmental disaster or yet one more habitat lost, mostly through human interactions and expansion into areas once left as wild. Although this term is relatively new, as early as the 1960s, the environmental community began to talk about the despair that accompanied their work as they grappled with the issues raised by the use of nuclear power and the long-term challenges of nuclear waste. By the early 1980s, Joanna Macy and her colleagues began to work formally with groups to find the ways to transform this despair into personal action (Windle, 1995; Macy, 1983).

So as we experience emotions of frustration, grief, and despair, how might we effectively recapture our own impulses to make a constructive difference in the world and reengage our efforts toward a sustainable future and communicate this resolve to our students? How can we help them find their own personal responses to what they have learned? The range of responses might vary widely: one student might become a Puget Sound activist; another might take up meditation; another might write environmentally dedicated poetry; another might shift the way she is raising her children. Each of these responses has its own power to shift the balance, but to engage in any, we need to find ways to move beyond frustration or despair. To begin to answer this question, we can turn to the significant work that has been done in the field of grief related to death and dying.

Dimensions of Grief

We know a lot about the dimensions of grief from studies of end of life and dying. When faced with loss, the processes of grief are multifaceted. Worden (1991) described the vast repertoire of responses to loss under four general categories; emotional responses, physical sensations, altered cognitions, and behaviors.

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Emotional responses: Grief is fundamentally feelings of intense sadness in response to a loss (Barbato and Irwin, 1992). A less predictable but relatively common response is anger, perhaps directed at the deceased for leaving the bereaved or anger that the bereaved couldn't prevent the death. If the anger is not addressed, complications in the grieving process may arise; there is a risk that this anger will be directed towards others through attributing blame, or turned inwards (Worden, 1991).

Many of us working in sustainability and conservation express our grief through anger – at the political systems and decision-makers that have contributed to habitat loss, at corporate greed and individual irresponsibility, and sometimes at each other. John Fraser, currently head of the Institute for Learning Innovation, reports that in his years of working in conservation organizations like the Wildlife Conservation Society he began to notice how aggressive his colleagues were in meetings, and how emotional meetings became. Although the attendees were all deeply committed to the environmental issues on the table, when they got into a conversation in a meeting, the discussions often became very heated over petty and minor issues. He notes that outside the conservation community, he had never seen that level of passion around minor topics. As he became aware of this phenomenon he was also working on finishing his Ph.D. in environmental studies with a focus on conservation psychology. As he described these reactions to one of his dissertation advisors, Vic Pantesco, head of the Clinical Psychology program at Antioch Northeast, Vic said, "What you're describing is something that would almost fall into a clinical definition of distress." (Nijhuis, 2011)

This conversation prompted Pantesco and Fraser to design a study to ask questions about the emotional experience of environmental degradation for people working on the front lines of environmental conservation. Through interviews with 148 conservation biologists and environmental educators, they explored the psychological impacts of witnessing environmental damage first hand. The respondents told stories about hurricane damage and their understanding that this damage was amplified because the mangrove swamps had been removed. Others reported watching fisheries workers catching endangered species in driftnets and just tossing them aside. When asked, "How would you describe your feelings after those experiences, and how long did these feelings last?" some respondents described recurrent crying episodes, or feelings of helplessness. Definitely anger or even rage was a very important part of their descriptions. They all felt angry. These descriptions all parallel the classic emotional responses of grief (Pantesco, Harris & Fraser, 2006).

Physical sensations: Other physical sensations also are triggered in the grief response. When faced with overwhelming despair, the body shuts down in a protective way in an attempt to turn away to escape the bad feelings, as if to say, "Don't tell me about one more bad thing. I don't want to hear." Those grieving may experience a psychic numbing and deep fatigue. Other sensations which considered

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to be normal components of grief include: headaches, trembling, dizziness, heart palpitations and gastrointestinal symptoms, tight feelings in the throat and chest, oversensitivity to noise, breathlessness, muscular weakness and lack of energy. Usually these are transitory, but on occasion physical health may be seriously impaired, and growing evidence indicates that recently bereaved people are relatively vulnerable to illness (Barbato and Irwin, 1992).

In their study of conservation workers, Pantesco and Fraser (2008) reported that many mentioned feeling as though they could not get out of bed in the morning and felt immense fatigue. Fraser noted: "I'm not a clinical psychologist, but if you're waking up and feeling really, really listless about something for more than a day or two — that's an OK experience to have, but it's not OK to live with" (Nijhuis, 2011, paragraph 21).

Cognitive responses**:** Often new thought patterns occur in the early stages of mourning but usually disappear after a short period. However, persistent maladaptive thoughts may trigger feelings that can lead to depression or anxiety (Worden, 1991). Disbelief is often the initial cognitive reaction to the news of a death, especially if the death was sudden. Although this response is usually transitory, it can persist and become denial, where the bereaved does not accept the death. Other cognitive responses include feelings of confusion, difficulty organizing thoughts and preoccupation with the deceased, which may evoke intrusive thoughts of how the deceased died (1991).

Denial or cognitive shutdown is also a common response to escalating environmental crises. Often those of us teaching in environmental education or sustainability seek to validate our own emotional experience, our own sense of loss about what's happening to nature. Students come to the study of sustainability with a complex mix of optimism and skepticism. When confronted with the challenges the planet faces, their first response might be astonishment or incredulity. "Really? Is this true?" they might ask. Or "I don't believe climate change is real. There must be other explanations." Once persuaded they bring abundant energy to engage, and the desire to dig in and "fix it." As they are faced with repeated and interconnected bad news and the understanding that there are no easy fixes, they find themselves overcome with debilitating feelings of discouragement and hopelessness.

As we explore sustainability concepts along with an honest look at the realities of today's world, this mix of sometimes contradictory responses continues to shift and percolate. As Fraser notes, "Frequently, that's because we tell the story of nature as a tragedy. When that happens, the student can react in two ways — they can take in this new knowledge and use the emotions to feel a sense of passion to go forward and do something to change the situation, or they can say, 'You know what? I just don't like crying that much. It's not fun, and I don't really want to do it again. This person is a downer.' They may run the other way." (Nijhuis, 2011, paragraph 14). Additionally, as we ask students to witness and deal with significant environmental

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tragedy, they may also link this tragedy to other losses in their lives, which amplifies the challenge of facing the grief.

Behaviors: The most commonly reported behaviors associated with grief include disturbances in sleep, altered appetite (either over-eating or under-eating), absent-mindedness, social withdrawal (Worden, 1991). Studies have found that bereaved individuals suffer from more depressive symptoms during the first year after the loss than non-bereaved controls, and the young often are more susceptible to physical distress and drug-taking for symptom relief.

Fraser notes that this kind of self-medication seems to occur at a high rate in the conservation community. "I was at a high-level conservation conference recently, and someone who was transferring into the field looked at me and said, 'Boy, people here drink a lot.' I said, 'Yeah, they do.' That's a symptom of what's going on — it's a way of escaping, but it's not a healthful way of escaping. I'm not saying environmentalists shouldn't drink liquor. What I'm suggesting is that within the community, there's probably a higher level of self-medication than is really helpful" (Nijhuis, 2011, paragraph 22).

The parallels between personal grief and environmental grief seem clear, and as Windle (1995) reminds us, failure to grieve has significant consequences. These significant risks of psychological dislocation and damage to our health add urgency to our need to tackle this challenge. Additionally, because the magnitude of environmental degradation requires the capacity to sustain focused commitment, resilience, and deepened competence over time, it is urgent that we find strategies to strengthen the fiber of hearts and souls. The poet Adrienne Rich says:

> *My heart is moved by all I cannot save:*
> *so much has been destroyed*
>
> *I have to cast my lot with those*
> *who age after age, perversely,*
>
> *with no extraordinary power,*
> *reconstitute the world.*
>
> *A passion to make, and make again*
> *where such un-making reigns* (Rich, 1978 p. 67).

It is possible that passion and commitment to what remains and the courage to "reconstitute the world" may be forged through this grieving.

Mourning - The Adaptation to Loss

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Mourning is a process, not a state of mind, and as in any process, work must done so that the process can proceed to successful resolution. The intensity and emotional response to loss varies according to many factors, including the importance attributed to the loss, the circumstances of the loss and the availability and utilization of support networks. But we know that unresolved grief can exacerbate physical and mental well-being and that inhibiting or holding back one's thoughts, feelings, and behaviors is associated with long-term stress and disease. We have also learned that grief counseling can reduce the incidence of these health problems following intense grief. Actively confronting upsetting experiences, through writing, talking or reflection, can increase measures of cellular immune-system function and may serve as a preventative treatment for physical or mental health problems (Barbato and Irwin, 1992).

The implications are that grief counseling which encourages disclosure of pain may also help us negotiate the awareness of suffering and the grief, despair, and fear that come with exposure to urgent problems of crisis proportion. Pantesco, Harris and Fraser (2006) assert that it is essential to focus efforts on sustaining the conservationist if we really hope to foster sustainability of the natural world. They recommend that conservation communities identify their coping strategies (both adaptive and maladaptive) and foster discussions to cultivate a language that imagines alternative views of the self in order to directly address the traumatic impact of the awareness of environmental degradation.

These same discussions should be happening in our classrooms. Again we may have something to learn from bereavement studies about the tasks that must be accomplished in order to move from despair to resolve and the recommitment to "reconstitute the world."

According to J. William Worden (1991), there are four tasks to mourning, which may take place in any order, the experiences that we go through after the death of someone we care about. These tasks may also help guide our own responses to the grief we feel related to these environmental crises.

Task 1 - Accepting the reality of the loss: In end of life work, this task involves coming face to face with the reality that the person is dead and will not return. Often the bereaved refuse to face the reality of the loss, and may go through a process of not believing, and pretending that the person is not really dead. Similar responses occur as we try to negotiate the looming environmental crises. As Joanna Macy reminds us: "As a society, we are caught between a sense of impending apocalypse and the fear of acknowledging it. In this 'caught' place, our responses are blocked and confused. The result is three widespread psychological strategies: disbelief, denial and a double life… in which we attempt to live as though nothing has happened when we know it has" (Macy, 1995 p. 242). The grief for our losses intertwines with our despair as we face an uncertain and dark future. Our pain related to these losses is damaging only if we deny it. Disowning the pain distorts it, leading to anger, self-medication, isolation, and feelings of impotence. "We can be

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caught between two fears – the fear of what will happen if we, as a society, continue the way we're going, and the fear of acknowledging how bad things are because of the despair that doing so brings up" (Kaza, 2008 p. 65).

For those of us working through our environmental grief, this task includes acceptance and acknowledgement that despair, hopelessness, and anger are real and legitimate feelings. Environmental grief is not recognized as a phenomenon in the larger society. In some cases we are faced with learning to accept real losses, of species or habitat, and in other cases, we are faced with impending losses that have not yet occurred and need to be fought, yet we must recognize that despair can paralyze us. This kind of fear and despair cannot be banished by injections of optimist discussions of the technical fix or sermons on positive thinking and denial that these changes are possibly irreversible. Our feelings of despair and grief must be named and validated as a healthy, normal human response to the situation in which we find ourselves. We are in grief together (Macy, 1995; Kevorkian, 2012).

The Curriculum for the Bioregion Project[2] has been exploring how to embed contemplation and reflective activities in sustainability teaching. Some of these strategies can be used or adapted to provide some counterbalance for what Jean MacGregor (2009) calls "the Cassandra problem" that often occurs when faculty present the challenges of an uncertain or dark future to their students who either "don't believe me" and resist learning or swing the other way into the depths of despair without the resources to climb out.

Task 2: To work through the pain of grief: Once we have accepted that the losses are real, the process of allowing oneself to feel the pain rather than suppressing the experience is beneficial in the normal resolution of mourning. This means that we may experience a variety of intense feelings and the willingness to explore intense emotions, thoughts and sensations takes time.

Mourning environmental losses is difficult. Often there is no social support for this grief. We do not dedicate time in the courses we teach to helping students recognize their own emotional state or provide them chances to be in a safe place with other people concerned about the environment to talk about what's really upsetting them. As Stephanie Kaza notes, "Sometimes there is nothing to be done about the suffering we witness. We feel helpless, sad, overwhelmed, anxious. It is difficult to accept these feelings and know the suffering will likely continue. When we look around and see how widespread the suffering is for animals, trees, oceans, and forests, we can easily become discouraged" (Kaza, 2008 p. 25-26).

We need to create spaces in our courses and in our lives to address these feelings, to start to process them. Acknowledging and talking about these feelings as real and valid is a first step. As we have learned from other grief work, if it is mentionable, it

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[2] See http://bioregion.evergreen.edu/ for more details other specific classroom strategies related to contemplative and reflective practice.

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is manageable. In our classes it may be as important for students to ask, “How am I experiencing environmental loss? What am I seeing around me that causes me to have these feelings?” as it is to learn the scientific principles of climate disruption. Information alone is not enough; we need to process our understanding on *both* intellectual and emotional levels. Those of us dealing with environmental grief need to speak with others and share our grief to find support and understanding. If we don’t, our traumatic experiences surface in overly emotional behavior, and in burnout — in people saying, “I just want to retire and go back to my own little garden.”

There is power in telling the stories of what we have lost and the feelings that this understanding brings. John Fraser says, “I would love to see environmentalists create a place for talking about sadness. When an editor responds to one of my papers with, “Gee, this is kind of a downer,” I think, “Exactly, so we have to talk about this.” It’s perfectly reasonable to have conversation about our own sadness and how to accept it” (Fraser, 2011, 1).

A common exercise in bereavement work is to invite the person who has experienced the loss to write, draw or play music that represents the feelings, thoughts, sensations associated with this loss, identifying where they are felt in the body or how they impact relationships at work, school or home. Learning to express these can help us move through them and open the space for new ways of experiencing the loss. Unblocking these feelings often releases energy and clears the mind, and the integration of emotion and intellectual understanding can help us regain a measure of both control and freedom.

The urgency of these issues requires finding ways to nurture the practices of reflection and contemplation. Without that ability to step back and reflect on the process of learning and these connections, it is easy to become a leaf in the wind, pushed around without much autonomy or authority over our own behaviors and practices and to fall into numbness or despair. Paradoxically, inviting students to sit quietly with uncomfortable facts and emotions often generates illumination, hope and empowerment.

There are faculty who are already including exercises to help students negotiate these feelings. In her large-lecture Global Environmental Politics course, University of Washington professor, Karen Litfin, feels compelled to help her students grapple with the fear, anger and despair that arise when they learn about the unfolding planetary crisis. In her course in international relations, which she calls “Person/Planet Politics,” Karen encourages her students to continually ask, “Who am I in relation to this information?” For instance, at the end of a two-week section on global climate change, Karen invites her students to relax deeply and to observe their emotions and bodily sensations as she invokes some of the political and ethical quandaries covered in the course. Or at the end of a lecture, she often takes the ‘pulse’ of the room by asking students to sit quietly for a minute or two and then

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quickly call out one-word that encapsulates their inner experience of the lecture. Students almost universally report gaining “significant insights into my sense of self in a changing climate” (Eaton et al., 2012, 20).

In a course on Visioning Sustainable Futures at Fairhaven College, Western Washington University, Gary Bornzin engages the issues of our unsustainable practices on both an intellectual and personal level in order to stimulate students to imagine about possible futures and creative responses. But he begins with reflective exercises that openly explore despair and draw on Joanna Macy’s and Stephanie Kaza’s invitation to ‘be with the suffering’ before moving to solutions (Macy, Brown and Fox, 1998; Kaza, 2008). Students write, reflect and discuss (in community) their fears of the future and the magnitude of the problems, asking T.S. Eliot’s challenging question: “Where does one go from a world of insanity? Somewhere on the other side of despair.” Together they explore the possibility that hope *is* on the other side of despair, and that we stand a better chance if we approach venturing into the future as a collective process (Eaton et al., 2012).

Task 3: To adjust to an environment in which the deceased is missing: Following a loss, the bereaved are called upon to take new roles and adjust to a changed self of self in relation to these new roles. We struggle with all of the changes that happen as a result of the person being gone - including all of the practical parts of daily living Frequently the full extent of what this involves, and what has been lost, is not realized for some time after the loss occurs. In response, the bereaved person may withdraw from the world and not face the requirements of the situation.

Coping with trauma and loss is a process of incorporating the event into one’s fundamental belief systems or “revising one’s assumptions to acknowledge a changed reality” (Romanoff et al., 1999 p. 295). There is often a nonlinear vacillation between dwelling on loss (sadness, pain), and restoration (new ideas about the future) (Stroebe and Schut, 1999).

Joanna Macy describes this process as “positive disintegration.” “The living system learns, adapts and evolves by reorganizing itself. This usually occurs when its previous ways of responding to the environment are no longer functional. To survive, it must then relinquish the codes and constructs by which it formerly interpreted experience” (Macy, 1995 p. 255).

Elan Shapiro tells a story about a practice he encourages conservation workers to use when faced with weeding entire slopes covered with an invasive shrub, Scotch broom. “Either at the outset of this kind of work, or partway through it, I have people hold one tall broom plant and breathe and sense and move with it. This offers them an opportunity to experience and honor the plant’s uniqueness and beauty, as well as their relationship with it, before uprooting it” (Shapiro, 1995 p. 232). This exercise is often unsettling at first for those who have been long involved in habitat restoration. They have learned to view the plant in only one way, as

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enemy. Breathing with the plant reconnects them to the deeper currents of restoration, and allows them to connect with their own fears of death and loss.

Exercises with breath can also work in the classroom to help students move through this task of adjustment. One strategy is to call attention to the process of breathing – and the understanding that each breath we take is an exchange of breath with every tree and plant, both living and dead, with all the birds, animals and people who have ever breathed the same molecules of air. With each breath, we can embrace the blessing of this inner to outer experience over and over again, acknowledging both the fragility of life for all species and our own mortality, learning that each breath out is our last until we choose to inhale again.

***Task 4: To reinvest energy in life, loosen ties to the deceased and forge a new type of relationship with them based on memory, spirit and love*:** Emotional relocation requires we find ways to continue with our own lives after the loss. This means reframing our relationship with the memories of the deceased, to acknowledge the value of the relationship we had with the person who died and everything we may have learned or loved or respected or disagreed with about them. The resolution of grief does not mean "forgetting" or "moving on," but rather finding ways to honor and hold the memories, and possibly forge new connections and purpose. "Unblocking our pain for the world reconnects us with the larger web of life. We are interconnected. "Our lives extend beyond our skins, in radical interdependence with the rest of the world" (Macy, 1995 p. 253).

Ritual plays an important part in this step in the grief process. We are all familiar with the funeral and memorial services that not only help facilitate the expression of grief, but also serve as a marker for the bereaved that they are moving through a different stage of mourning. In grief work, we invite the bereaved to write, draw, collage, paint, mold, create an image of your favorite memory of the person or to do something that honors their memory – plant a tree, share stories about them, create a memory box or photo album or webpage with pictures and stories... anything that honors them in a way they would want to be remembered.

Ritual can also serve a role in our grief about environmental loss, to help guide the reorganization of life. We have examples of rituals related to species loss. In 1947, the Wisconsin Society of Ornithology erected a monument to the Passenger Pigeon. Ecologists gathered in 1992 to "conduct a funeral for the natural environment of the Western hemisphere. They [mourned] the demise of the New World's natural heritage and the eradication of entire groups of indigenous Caribbean people" (Viola and Margolis, 1991 p. 249). The Council of All Beings, a series of rituals created by John Seed and Joanna Macy, is intended to help end the sense of alienation from the living Earth that many of us feel and to renew the spirit and vision of those who serve the Earth (Macy, 1995).

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As educators, we also can tap into the power of ritual. For example, students might create memory books of important childhood landscapes that are lost, or recount stories of particular places or ecosystems that have been important to them, but are now at risk. Or students might write letters of commitment to an endangered species or ecosystem, outlining the steps they will take in their individual and collective lives to help protect.

As we work with students, these kinds of reflective and contemplative activities and shared stories about loss and commitment may help us search for hope or learn to live well without it. They hold promise for helping students negotiate the magnitude of their feelings of grief and helplessness in order to construct a new world view that can hold both the sadness and the possibilities for the future and harness that grief to make changes in our lives to help our fragile planet.

Personal vs. Environmental Grief.

Although there are many parallels between our experiences of grief and loss in our personal lives and much to be learned from those who work with the bereaved, there are also some significant differences related to environmental grief that should be explored and may also inform the ways we negotiate these emotions. Coping with the death of a loved one is learning the lesson that all things die, even those dear to us. Everything comes to an end and passes away.

Yet the death of your mother is different than the loss of biodiversity. Unless you killed your mother, you are not complicit in her death. However, in the case of environmental degradation, the losses are not part of a natural cycle. We are complicit in the very real threats to the future of the planet; we are causing the devastation, and have to face that much of this destruction comes from our unwillingness to give up the things we enjoy. So we not only grieve the losses, but also mourn the fact that we are not the people we would like to be. These are important perceptual differences. Facing our own loss of innocence and the fact that we have desecrated the home we claim to love also causes frustration, sorrow and despair.

Scale and magnitude are also different. Unless we have experienced genocide or a mass murder, most of our personal losses come in cycles with islands of calm between them, and often space to grieve one loss before experiencing another. Our confrontation with environmental grief is daily, faced every time we open a newspaper or listen to the radio. It is hard to know when is the right time to grieve, because the tragedies, large and small, just keep happening. Environmental grief is also not only sorrow for a species or an ecosystem lost, but also grief for the future generations. We are a culture that has already faced wiping out the whole human race with the bomb, yet we are having trouble as a global community in stepping back from the brink of ecological disaster.

Transforming Grief into Hope and Resolve

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Facing our grief and despair does not make these feelings go away, but may help us place it within a larger context and landscape that gives it different meaning. It is often hard to see the impact of our small actions on the larger issue, which contributes to our sense of despair. Just because a student starts riding the bus, global warming doesn't end, so it is hard for them to see how any individual behavior might make a difference. However, as we have learned from complex systems of traffic flow modeling, sometimes if we just slow down we actually might get to a destination faster. Learning to take this deep view of time may help us build the hope and resolve that positive action requires and help us look beyond individual action to the larger political, economic, family and environmental systems with which we interact to find our own places of intervention and influence. (Kaza, 2008)

As Rebecca Solnit reminds us, previous transformations that have initiated positive action and changes in environmental policy have all begun in the imagination and hope. "To hope is to gamble. It's to bet on the future, on your desires, on the possibility that an open heart and uncertainty are better than gloom and safety. To hope is dangerous, and yet it is the opposite of fear, for to live is to risk" (Solnit, 2004 p. 4). But the hope we want to engender in our students is not the *passive* hope that waits for an external agency to invent a technical fix or relies on false optimism about a better kind of future. *Active* hope does not require optimism, but instead the ability, resolve and commitment to become participants and active agents in restoring and creating what we want to see (Macy and Johnstone, 2012; Nelson, 2010). As Robert Jensen notes, we may not find winning strategies at this point in history, "but we have an obligation to assess the strategies available, and work at the ones that make the most sense, [to] embrace our humanity by acting out of our deepest moral principles to care for each other and care for the larger living world, even if failure is likely, even if failure is inevitable" (Jensen, 2012, paragraph 21).

We can nurture hope because, as Solnit reminds us, history is not an army marching forward. "It is a crab scuttling sideways, a drip of soft water wearing away stone, an earthquake breaking centuries of tension. Sometimes one person inspires a movement, or her words do decades later; sometimes a few passionate people change the world; sometimes they start a mass movement and millions do; sometimes those millions are stirred by the same outrage or the same ideal and change comes upon us like a change of weather" (Solnit, 2004 p. 4). Rather than being paralyzed into helplessness by our pain and grief, we can be strengthened by it; we have evidence that we *can* make a difference if we join our collective energy into agency and action.

Can we be like drops of water falling on the stone?
Splashing, breaking, dispersing in air
Weaker than the stone by far
But be aware
That as time goes by the rock will wear away

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And the water comes again
(Near, 2000)

Post-Script

When I shared this essay with colleagues from the Contemplation and Reflection group in the Curriculum for the Bioregion project, it sparked a rich discussion in which we shared our own struggles with working with grief in classrooms settings and our lives. We agreed that if working with this subject matter will break students' hearts, we do have a responsibility for helping them find the ways to put it all back together -- to give them tools to work with their grief. But we also noted this work is challenging; through this discussion, a number of questions were raised, and although this essay will not attempt to answer them, they seemed important to note.

1. When and how is it appropriate to ask students to reflect on their emotional responses to academic content? And to what degree is this 'split' between the two based in our own cultural and disciplinary understandings of what we're up to when we teach? Is there a cognitive side to emotion? What's our responsibility to students to skillfully manage this emotional terrain without sacrificing intellectual depth?

2. What can we learn from colleagues who teach in teach in literature, theatre and other expressive arts about strategies for engaging deeply emotional material in intellectually responsible ways?

3. As a faculty member, what do I feel comfortable doing? What are the lines between the personal and professional in engaging students in daunting issues for which there are no solutions? What responsibility do we have to 'hold the container' to provide a safe place to express these emotions? How comfortable am I in the classroom in sharing emotions? How skillful am I in keeping track of the concepts being covered, their emotional responses and my own emotional state in relationship to these topics?

4. How do power relationships and classroom dynamics shift when feelings become part of the 'work' of the class? Especially in relationship to the evaluative role and function of a faculty member?

5. How might this kind of teaching be viewed by colleagues in our departments and colleges? How might I persuade them that there are good pedagogical reasons for engaging students at both the cognitive and emotional level?

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