Multi-Dimensional Sustainability:
An Exploration of Unification between Ecological & Social Considerations

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Abstract

This paper addresses 1) the crucial importance of a multi-dimensional vision and approach to sustainability (Wheeler, 2000) and 2) the human responsibility to work toward that end through a transformation in consciousness and action, which ideally will assist in righting humanity's relationships with itself, all other beings, and the biosphere. The concepts of *sustainability* and *right relationship*, as they relate to humanity's cultural constructs, are explored. An acknowledgement of the acculturated denial that contributes to humanity's unsustainable ways of being is followed by an examination of the corollaries between the dualities of monologic vs. dialogic communication and environmental vs. sociological foci in sustainability. Finally, the argument is made for a multi-dimensional understanding that may help facilitate transformation in our communicative consciousness *and* in cultures' potential for positive change, rather than uncritical perpetuation of unsustainable paradigms.

Key Terms: Social Justice, Right Relationship, Holistic vs. Dualistic, Inclusion, Equity, Communication, Critical Consciousness, Dialogic

These are the forgeries of jealousy:
And never, since the middle summer's spring,
Met we on hill, in dale, forest, or mead,…
But with thy brawls thou hast disturb'd our sport.
Therefore the winds, piping to us in vain,
As in revenge, have suck'd up from the sea
Contagious fogs: which, falling in the land,
Have every pelting river made so proud
That they have overborne their continents:
The ox hath therefore stretch'd his yoke in vain,
The ploughman lost his sweat, and the green corn
Hath rotted ere his youth attain'd a beard:…
Therefore the moon, the governess of floods,
Pale in her anger, washes all the air,

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> *That rheumatic diseases do abound:*
> *And thorough this distemperature we see*
> *The seasons alter:…*
> *The spring, the summer,*
> *The childing autumn, angry winter, change*
> *Their wonted liveries, and the mazed world,*
> *By their increase, now knows not which is which.*
> *And this same progeny of evil comes*
> *From our debate, from our dissension:*
> *We are their parents and original.*
>
> (Shakespeare, 1993, p.175)

Thus rails Titania, Queen of the Fairies, against her husband, Oberon, in Shakespeare's, *A Midsummer Night's Dream*. Reading her indictment of him, it is extraordinary to note the almost prophetic quality of this Elizabethen monologue, which is thought to have been penned originally in the mid-1590's. (Bloom, 1998) True, the literal interpretation of Titiania's accusations is that the power of their respective magic has wreaked havoc upon the earth, as an unfortunate consequence of their lovers' feud. The metaphoric meaning to be derived from it, however, is as powerful as the sense the ancient Greeks made of natural phenomena through their myths (i.e., the creation story of the Titans' birth; the seasons' causation attributed to Demeter's pining for her abducted daughter, Persephone; the sunrise and set caused by Apollo's golden chariot trekking across the sky (Hamilton, 1998)).

Since the dawn of human civilization, we have used stories and metaphors to make meaning of the world around us, as well as to communicate with one another our individual conceptualizations in the hopes of forging shared and communal understandings. Indeed, part of the artistry of theatre is that it can so compellingly invite participants into a conversational engagement with meaning-making. Thus, I thought it fitting to open this paper on understanding sustainability in a multi-dimensional context with a theatrical excerpt, which is timeless in its conveyance of accountability and responsibility.

Titania attributes her litany of environmental disasters to the breakdown of her communication and *right relationship* with her husband, Oberon. What a powerful corollary, then, to see so much of her centuries-old diatribe actualized in current environmental crises, which, arguably, also are the result of a breakdown in right relationship, communication, and understanding. This modern breakdown, however, arises in part because of the larger context in which humanity has articulated its relationship with the rest of the natural world.

Situating Author's Lens and Paper's Intent

As a doctoral student whose particular focus is constructing meaning-making that fosters inclusivity, solidarity, and unified healing, I write this paper both as an argument for integrating diverse disciplines into the field of Sustainability Education and a theoretical overview (a literature review of sorts), representative of dimensions perhaps not commonly considered in the sustainability conversation. Additionally, I examine the crucial importance of multi-dimensional – or "multiple perspectives" (Wheeler, 2000, p.1) in – sustainability and a movement away from the dualistic ways of being that continue to characterize our very definitions and approaches to transformation.

My academic lens, thus, is informed by a number of theoretical paradigms, which complement each other. Aspects of Critical Social Theory (Freire, 2000; Katz, 1999; Leonardo, 2004; McLaren, 2000), Feminist Theory (Brady, 1991; Diller, Houston, Morgan, & Ayim, 1996; Jackson, 1997; Weiller, 1991), an Ethic of Care (Gilligan, 1993; Noddings, 2006, 2005, 2003, 2002) , Intersectionality (Hesse-Biber, Lydenberg & Gilmatin, 1999; hooks, 2004; Smith, 2000, Tatum; 1997), and Dialogism (Bakhtin, 1993; Friedman, 1994; Habermas, 1996; Stewart, 1998) all contribute to this paper's exploration.

Further, as I identify primarily as an educator, I draw from each of these theoretical realms through the perspective of how they inform my educational praxis and approaches to sustainability. Indeed, McKeown's (with Hopkins, Rizzi, & Chrystalbridge, 2002) assertion, in regards to Education *for* Sustainable Development (ESD), holds particular resonance for me:

> …the use of education [can be] a tool to achieve sustainability.…While some people argue that 'for' indicates indoctrination, we think 'for' indicates a purpose. All education serves a purpose or society would not invest in it…. ESD promises to make the world more livable for this and future generations. (¶. 4)

Similarly, Zinn (1997) reminds us that education is the domain that has substantive power to transform collective consciousness. "Knowledge is power…[a]nd the knowledge industry, which directly reaches seven million young people in colleges and universities, thus become a vital and sensitive locus of power. That power can be used…to maintain the *status quo*, or…to change it" (p.501). All the more reason, in my mind, to invite diverse fields and perspectives to contribute to a holistic understanding of what sustainability has the potential of being.

Structurally, this paper commences by exploring the concepts of *sustainability* and *right relationship*, as they relate to our communicative understanding. Then, it discusses the acculturated denial that contributes to our unsustainable ways of being followed by an examination of the corollaries between the dualities of monologic (one-directional) vs. dialogic (two-directional) communication and environmental vs. sociological foci in sustainability. It concludes with my argument for a multi-dimensional understanding that, ideally, will help facilitate transformation in our communicative consciousness *and* in cultures' potential for positive change, rather than uncritical perpetuation of unsustainable paradigms.

Sustainability and Right Relationship

Sustainability. I affirm Allen, Tainter, and Hoekstra's (2003) assertion that, "the biophysical aspects of sustainability are central. Without a material system capable of functioning for a long time, there is nothing to sustain" (p.29). This is, of course, the literal and pragmatic conceptualization of "sustainability" that is most often associated with environmental sustainability. It addresses whether actions taken by humanity are degrading the Earth's carrying capacity and systems to the point where the planet will no longer be able to sustain its biodiversity with health, vitality, and balance. While there is certainly an ethical dimension to this literal, specifically environmental, interpretation of sustainability, it seems to me that the tangible threat of losing species, contaminating ecosystems with pollutants, and perhaps doing irreversible damage to the environment has provided a concrete urgency to explaining "why" people should be committed to it. After all, regardless of social ideology, virtually everyone's self-interest is driven to a large extent by their physiological needs, and if people accept that there is an immediacy to safeguarding their safety and/or well-being, they are more likely to take action. For instance, the interest in hybrid vehicles and alternative fuels has skyrocketed, since

gas prices began to roller coaster, precisely because the financial ramifications of filling one's gas tank had direct impact on many people.

The broader and, arguably, more existential (yet just as vital) aspects to sustainability, however, lie in the less quantifiable dimensions of humanity's capacity for embodying what sustainability at all levels, ideally, should be – namely systems that emulate balance, equity, justice, health, and connectivity for all constituents. Pittman (2007) articulates a "Living Definition of Sustainability [as:] The long-term equilibrium of health and integrity maintained dynamically within any individual system (organism, organization, ecosystem, community, etc.) through a diversity of relationships with other systems" (p.23). The equilibrium of which Pittman writes hearkens to Habermas' concept of the constitutive power of communication in which symmetry, reciprocity, and equality are paramount (1996) as well as Bakhtin's dialogism (1993; Clark & Holquist, 1984). Yet despite the ample models evident in the social field of communication for cultivating sustainable relationships, the conversation continues to predominate in the domain of environmentalism, which limits a holistic understanding of sustainability.

One of the reasons the social and relational aspects of sustainability are far less tangible is because there is much in the human-constructed world that gives the appearance of continued survivability (if not sustainability). On a day-to-day basis, many people in the United States may feel little connection to whether or not the basic human rights of others are being violated (Beckerman & Pasek, 2004). There are even those in the environmental movement who seem to think that human issues are not a consideration to sustainability because what they deem as "most important" is the other-than-human world (Shrader-Frechette, 2002). This focus and framing of sustainability primarily within the context of the environment, however, subsequently reifies our communicative understanding of sustainability as not pertaining to social relationships, as well. Such reification is hardly value-neutral, either. As Sprague (1993) notes, "[m]uch of [Habermas'] work is directed toward exposing the way language constitutes, sustains, and often conceals various social arrangements…[and] Habermas rejects any notion of language as a transparent code that merely transmits meanings" (p.5). Thus, by our omission of sociological dimensions and human relationships in the conversation, we divert our focus from a more holistic understanding and actualizing of sustainability.

Additionally, human civilization *has* survived for centuries, while perpetrating horrific acts of injustice and violence against itself, and it could probably *survive* (maybe even for a few more centuries), while still enacting the oppression, hegemony, and exploitation that currently exist. My argument, however, is that these ways of being are inherently *unsustainable* because they allow us to be the least of ourselves – the basest, most unethical, and least critically conscious of what humanity is capable. Further, I believe the longer we allow ourselves to excuse the exploitation and degradation of any living being, and continue pardoning *Lord of the Flies'* (Golding, 1999) communication and behavior within our human relations, the more our capacities for apathy and callousness will drive destructive and unsustainable actions. (I am reminded of the chant Golding's boys on that deserted island cried, whenever someone mentions the World Wrestling Federation, "Kill the pig! Slit her throat! Bash her in!" (Golding, 1999, p.60).)

A contemporary and applied (as opposed to literary) example of unsustainable practices is apparent in these consumption statistics:

> According to the WorldWatch Institute, a typical citizen of an industrial country uses
> three times as much fresh water, ten times as much energy, and nineteen times as much

aluminum as a typical citizen of a developing country…The average American [sic.] uses…two and a half times as much [fossil fuel] as the average Japanese. The United States alone produces and consumes one-third of the world's paper, despite having just 5 percent of the world's population and 6 percent of its forest cover…the typical American [sic.] discards nearly a ton of trash per person per year, two to three times as much as…the typical western European (Chapman, Petersen, and Smith-Moran, 2000, p.98)

These behaviors and belief systems are a regression in evolutionary consciousness, rather than a progression, and as Lincoln proclaimed in his first inaugural address, we must strive to realize "the better angels of our nature" (1861, ¶.28). Thus, I assert the need for humanity's embracing, understanding, and articulating the interconnectivity of all living systems. We must recognize that the ways in which we communicate (and each of our correlative actions) have repercussions, which eventually (if not immediately) will also impact us.

My definition, then, of *sustainability* is a multi-dimensional manifestation (communicatively, tangibly, ethically, affectively, intellectually, psychologically) because I believe it is only with this more inclusive perspective that our consciousness, communication, and actions at any level will begin to be transformed. This is the understanding that drives my work in the field of Sustainability Education and why the profoundly social nature of dialogue and cultural construction (as expressed by Bakhtin, Whorf, Habermas, Apgar, Stewart, and others) contributes significantly to my thinking about the environmental considerations of sustainability, as well. The social lens of *right relationship* and its cultivation, then, also inform my argument for communicative consciousness in ecological sustainability.

Right relationship. My working definition of the term *right relationship* is influenced by:

- Garrett and Garrett's (1996) exploration of the Cherokee concept of holistically, healthily reconnecting with self (mind, body, and spirit), the natural world, and all other beings;

- Buddhism's charge for "integrity" in government (Rahula, 2003, p. 148) and the law of "interdependence" (Kaza, 2003, p. 528);

- Many aboriginal cultures' embrace of "relationship to the whole creation" (McKay, 2003, p. 520);

- Theories of Islamic justice (Engineer, 2003, p. 355); and

- The Quaker Earthcare Witness' statement:
  WE ARE CALLED to live in right relationship with all Creation, recognizing that the entire world is interconnected and is a manifestation of God [sic.].
  WE WORK to integrate into the beliefs and practices of the Religious Society of Friends the Truth that God's Creation [sic.] is to be respected, protected, and held in reverence in its own right, and the Truth that human aspirations for peace and justice depend upon restoring the earth's ecological integrity. (Vision & Witness Statement, 2009, ¶¶. 1 & 2)

While I, and others, may not resonate with the Quakers' monotheistic framing or the stipulation that the Earth is "God's Creation," there is much to be said for and understood by all of these diverse faith traditions' articulations of "right relationship." I particularly appreciate the Quakers' assertion about "restoring the earth's ecological integrity," for we *all* – regardless of

identifying with religion or not – are a part of *ecos* or *home*, and the restoration of integrity in interconnected relations is vital for health and justice to be achieved.

Further (and in seeming anticipation of secularists' resistance to their terminology), Quaker Earthcare Witness explains:

> In speaking to non-Quakers, Friends may choose the more secular term "sustainable living" as conveying roughly the same idea as "right relationship." Indeed, many of the world's social and ecological problems stem from practices that are manifestly unsustainable—misuse of nonrenewable resources, treatment of soil, air, and water as commodities to be sold to the highest bidder, the general disregard for the needs and rights of future generations. We are all complicit and therefore accountable for damage being done in our name.
>
> But "living in right relationship" goes a step further in suggesting why so many humans today seem unwilling and unable to change their ways, even when they are aware of the size and effects of their ecological footprints, in terms of housing, transportation, diet, and family size. (Right Relationship, 2009, ¶¶ 2 & 3)

Indeed, the Quakers' stress on human accountability reinforces the metaphoric connections between the Shakespearean monologue with which I opened and our current environmental context.

The swelling riverbanks, ruined crops, and altered seasons of which Titania speaks might well be seen in the broken levies and flooding of Hurricane Katrina's aftermath, the devastation of droughts across the continents, and the incontrovertible issue of global climate change. What is so striking about Shakespeare's seemingly prescient words is Titania's closing, in which she takes responsibility for the disasters she has enumerated, "this same progeny of evil comes from *our* debate, from *our* dissension: *We* are their parents and original" [emphasis mine] (Shakespeare, 1993, p.175). One can hear the foundational lessons of an interpersonal communication course (Rosenberg, 1999; Stewart, Zediker, Witteborn, 2009) in Titania's "I" statements. Even in her rage at Oberon, Titania is willing to own her part in the destruction that has ensued, and this self-awareness (coupled with responsibility-taking) is what is crucial, I think, for transforming human communicative consciousness in order to "right" our relationship with the planet.

Denying our Responsibility in Relationship

Unfortunately, there is a great deal of culturally indoctrinated denial and resultant behaviors that present themselves as formidable obstacles in our current state of affairs, when it comes to taking responsibility in all of our relationships. For instance (Heimlich & Ardoin, 2008), in their examination of behavioral theories and change (explicitly in relation to environmental education), discuss "constellations" or "groups of behaviors" (p.222), which can grow out of acculturation. They provide the example of someone purchasing products, some of which may be environmentally friendly and others not, because that individual's behavior is primarily financially driven. In mainstream U.S. culture, then (where consumerism and capitalism are paramount), we are encouraged into a state of denying our broader responsibilities, when we feel our personal needs are being met. This denial also is evidenced in (and reinforced by) our resistance to move from monologic (one directional) and linear modes of communicating to more dialogical (two-directional/reciprocal) ways of engaging and constructing mutual understanding.

As a social justice corollary to Heimlich and Ardoin's (2008) environmental example, I experienced a White, financially privileged, heterosexual, male student in a Multicultural Education class I was teaching challenge me with the question, "If the 'status quo' [of institutionalized oppression] benefits me so much, why should I want to work to change it?" While the myriad reasons I offered, in response to his query, are not the purview of this paper, I was struck with the parallels between the paradigm my student articulated and the seemingly laissez-faire outlook much of humanity seems to have, in terms of our unsustainable treatment of the environment and our responsibility to change.

Mitigating apathy, fear, and denial. E. O. Wilson (1992) asserts, "In the world as a whole, extinction rates are already hundreds of thousands of times higher than before the coming of man [sic]. They cannot be balanced by new evolution in any period of time that has meaning for the human race." (p.346) Wilson clearly anticipates an apathetic response, as he continues:

> Why should we care? What difference does it make if some species are extinguished, if even half of all species on earth disappear? Let me count the ways...In amnesiac revery it is also easy to overlook the services that ecosystems provide humanity…Without these amenities, the remaining tenure of the human race would be nasty and brief…Such organisms support the world with efficiency because they are so diverse…They run the world precisely as we would wish it to be run, because humanity evolved within living communities and our bodily functions are finely adjusted to the idiosyncratic environment already created…an environment that will destabilize and turn lethal if the organisms are disturbed too much…To disregard the diversity of life is to risk catapulting ourselves into an alien environment. (1992, pp.346-347)

It is highly likely that being thrust into an "alien" and "lethal" environment would frighten many (if not all) of us with the consciousness to understand such a threat, yet the truth remains that many humans often fail to recognize the need to change their dysfunctional behavior in relationships before it is too late. (*The 11th Hour,* Leonardo DiCaprio's 2007 documentary about the state of the environment is aptly titled, since our status quo behavior toward the biosphere and each other draws us ever-nearer to crisis.) Even with the reality of a change being in one's own best interest (as Wilson eloquently articulates or in the countless examples of individuals perpetuating self-destructive behaviors, like smoking), people, all too frequently, remain in stasis, rather than risking entry into the dissonance and disequilibrium that 3rd order change requires. Thus, a significant part of our more-of-the-same communication, behaviors, and denial is fueled by fear of the unknown that change may bring.

Further, we live in a "culture of denial", as Bowers (1997) argues. The drive for modernity, progression, and individualism creates a socio-cultural malaise of comfort and acquiescence that often goes both unexamined and unchallenged. If anything, many of our educational institutions diminish our desire for transformative comprehension and change. "The educators' emphasis on the individual has also led to a reduction in the ability of modern cultures to store and renew a symbolically complex understanding of essential human/nature relationships" (Bowers, 1997, p.141). That said, however, I maintain that part of our denial arises from a self-imposed divide between humanity and the rest of the planet, which I think has been perpetuated, albeit inadvertently, in the quest for environmental sustainability above all.

Problematizing the "Social vs. Ecological" Divide

A barrier to human's transforming their understanding of sustainability (and owning their responsibilities in "righting" their relationships) is the dichotomization that so often occurs between the social and ecological realms and the communicative constructs in which this duality is framed.

> The weakening or destruction of a monologic [unidirectional] context occurs only when there is a coming together of two utterances equally and directly oriented toward a referential object. Two discourses equally and directly oriented…within the limits of a single context cannot exist side by side without intersecting dialogically, regardless of whether they confirm, mutually supplement, or (conversely) contradict one another. (Bakhtin, 1984, pp.188-189, as cited in Schultz, 1990, p.120)

By arguing for environmental sustainability as *fundamental* to sustainability, we, once again, create a value hierarchy and a dualistic divisiveness between humans and ecology. There is the subtle or, at times, explicit implication that nature is separate from humans, *and* it is more important (fundamental) than humans. Yes, unquestionably, if we succeed in degrading the planet to the point where it becomes lethal to us and other species or continue our acceleration toward surpassing both "optimum" *and* "maximum carrying capacity" (Odum & Barrett, 2005, p.128), then no other sustainability considerations will matter. At the same time, considering how many millions of people have been acculturated into biophobia and disconnection (Orr, 1993), the longer those of us with the educated privilege and awareness to work for environmental sustainability continue to separate it from social sustainability, the more we perpetuate what I believe is a self-destructive dualism.

Environmental primacy bordering on elitism. A compelling examination of this dualism was articulated in a paper written by one of my Master of Arts' students, which critiqued the disregard that David Orr (2004) and Steven Van Matre (1990) seem to have for social inequities and environmental racism. Particularly as this student is an educator at Bronx Expeditionary Learning High School in Manhattan, he has had the personal perspective of his own valuation of the natural world being confronted by the reality of his students' lives, which are impacted by socioeconomic disenfranchisement and environmental racism. While it was clear that this graduate student deeply appreciated the scholarship, insights, and challenges Orr and Van Matre offer, he also was pushing back against what he perceived to be their environmental elitism. He wanted to know how his students can be expected to have right relationships with the environment, when so few of the systemic relationships they experience everyday of their lives are "right." (Maciejewski, 2006)

I, like my colleague, appreciate much of what I have read of Van Matre and Orr, in terms of cultivating an environmentally literate, compassionate, and responsibly connected populus. I think Van Matre is correct in his critique that

> If a few teachers do include an environmental lesson or unit, chances are good that they still do not systematically address what environmental education set out in the beginning to accomplish, i.e., how life functions ecologically, what that means for people in their own lives, and what those people are going to have to do in order to lessen their impact on the earth. (1990, p.5)

At the same time, I found myself balking at Van Matre's singular framing and the sneering condemnation and judgment he leveled at those who do not have the same awareness or education in environmental literacy that he wants them to have. I firmly believe that one of the quickest ways to lose a potential ally is to convey, implicitly (or state, explicitly), that person is stupid.

Discourse analysis to "bridge" understanding. If those committed to environmental communication and sustainability deny the realities of *context* (what external and internal factors are influencing the speakers) and *addressivity* (each speaker's awareness and "attunement to the attunement of the other" (Rommetveit, 1992, as cited in Stewart, 1998, p.342)), then true reciprocity and dialogue are rejected and potential allies may well be lost, because their lived realities have been ignored in the communicative exchange. As all utterances, ideally, are shaped both by the person speaking *and* by the person being addressed (bringing the role of the listener and the reciprocal, co-generative process of dialogue into sharp focus), the potential for mutual respect and partnership in communicative understanding of sustainability becomes far greater. Thus, there needs to be a dialogical collaboration that occurs through which values can be inspirationally transformed and healthy relationships renewed.

Additionally, the presumption that simply providing people with information will compel them to change their behavior has been disproved. "Not only does it not work [people changing their behavior because they'd learned about ecological issues], but too much environmental knowledge (particularly relating to the various global crises) can be disempowering, without a deeper and broader learning process taking place" (Sterling, 2001, p.19). I am convinced that a component of the "information-rich, yet action-poor" paradox is human's capacity to compartmentalize and see ourselves as "separate from" the information, just as many of us perceive ourselves outside of the biophysical system. By hybridizing the realms of sociology and ecology, however (both in our conceptualizations of them *and* our communicating about them), we have the potential to move a step closer to restoration, regeneration, and reconstruction.

Indeed, trans- and interdisciplinary work at the college level has demonstrated the power such melding can produce:

> Rowe (1999) found that students who had an interdisciplinary course with a focus on creating a more humane and environmentally sustainable future developed an increased caring about the future of society, an increased belief that they can make a difference, and an increased willingness to participate in solving societal and environmental problems.
>
> (as cited in Rowe, 2002, p.8)

Working toward right relationship between humans and the biosphere, then, means articulating a more integrated understanding of sustainability's "bottom line."

Redefining the "Bottom Line"

While I acknowledge many environmentalists' critique of anthropocentrism, in its myriad forms, I also think it is antithetical (in the pursuit of sustainability) to remove humans from the alchemy. I resonate with Allen, et al., when they state, "sustainability without a social justice component won't work…Social justice addresses local considerations of individual sacrifice but in support of a larger system that offers real or perceived benefits for the individual" (2003, p. 9). This acknowledgement of the human element in sustainability also speaks, inherently, to Bakhtin's perspective that our values are constructed in the process of dialoguing with each other. "Bakhtin treats values not as an abstract axiology but as the practical work of building. By

shaping answers in the constant activity of our dialogue with the world, we enact the architectonics of our own responsibility" (Clark & Holquist, 1984, p.10).

Embracing our responsibility, then, through enacted communicative discourse, reflects on our capacities for/potential to change, provided we can be "present" and in "partnership":

> One of the most terrible responsibilities in the world is that of really being present, of being a presence for the other. We cannot achieve dialogue by an act of will, for dialogue is genuinely a two-sided affair…We are, nonetheless, responsible for what we are… Listening and responding at a greater depth is the direction away from a *specious individualism* to the reality of the partnership of existence…Those people who relate to the world only as a function of their own becoming will not change…But those people whose trust is grounded in the partnership of existence are changed every time they go out to meet another [emphasis mine] (Friedman, 1994, pp.83-84)

By cultivating communicative understanding about the "perceived benefits" (Allen et al., 2003, p.9) socially and ecologically sustainable endeavors can yield for everyone and everything (communally, individually, and biospherically), as well as embracing the "partnership of existence" (Friedman, 1994, p.84) that such dialogical interface can yield, perhaps we can achieve the transformation that is vital for systemic change. If not, I fear the concept of *what* our relationship is with the "biogeophysical system" (Allen et al., 2003, p.9) and *how* we need to take responsibility for it will be lost.

Sustainability as a Uniquely Human Dilemma. The reason sustainability is even an issue, I assert, is because of humans. The Earth's biosphere would sustain itself (as it did for billions of years prior to the "age of [Hu]Man[ity]" (Wilson, 1992, p.345), if humans no longer existed. As Capra (2002) puts it, "the outstanding characteristic of the Earth household is its inherent ability to sustain life" (p.230). Thus, it is the rapid acceleration of human abuse of, as well as disassociation from its relationship with (and within), the ecosystem that raises the issue of sustainability at all. In our discourse about sustainability, in general, and the environment, specifically, then, it is crucial that the human element be discussed overtly. Indeed, as numerous critical social theorists have noted (Freire, 1970; Habermas, 1996; Katz and Earp, 1999; Leonardo, 2004; McLaren, 2000) part of the way dominance, exploitation, and hegemony are perpetuated is by remaining unexamined, so discussing humanity's role explicitly appropriately situates our responsibility in the discourse.

Additionally, the emergent field of "sustainability education" refers to educating *human beings* to live more sustainably. Capra reinforces this by stating,

> The key to an operational definition of ecological sustainability is the realization that we do not need to invent sustainable human communities from scratch but can model them after nature's ecosystems, which are sustainable communities of plants, animals, and micro-organisms. (2002, p.230)

Golley (1998) presents an interaction matrix of relationships within the biosphere, which demonstrates the sustainability of natural ecosystems, even across the spectrum from parasitism to mutualism. Examples of right relationship, thus, exist everywhere. The dilemma, of course, then becomes how can our communication catalyze understanding and desire within human consciousness to learn from the models of sustainability that the natural world provides us in such abundance?

Nesting Systems

As a doctoral student, I am examining a number of different, interfacing systems, which - at first glance – may appear to contradict each other, but it is my supposition that they are complementary, inextricably connected, and essential to achieving communicative consciousness around humanity's *right relationship* with itself and the rest of the biosphere. Much of my thinking on this is not original, and Wilber (2000), Wheeler (2000), Edwards (2005), and others have helped shape my understanding and articulation of it. At the same time, I am aware that because much of the sustainability movement originated out of environmentalism (Capra, 2002; Mackenzie, 1998), there can be a defensive reactivity triggered, when humans, rather than the environment, are perceived to be the focus in discourse.

My premise is that humans *must* be the initial focus of transformation, as they are the locus of control in whether *ecological* (encompassing of human and other-than-human life) sustainability will be achieved. In order to explain my rationale, let me examine Sterling's nesting systems (2001) in concert with an umbrella model I am constructing, which – in turn – is influenced by some of Wilber's (2000) concepts. Speaking of environmental education, specifically, as one of the "movements for educational change," which are housed within the broader educational system, Sterling provides this explanation,

> [The] educational system can be seen as a subsystem of the larger socio-economic and cultural systems, which also directly 'educate' people. Socio-economic systems must be regarded as subsystems of the encompassing biophysical system. (The fact that the economic system is often seen as independent of, or encompassing, the biophysical system is partly the root cause of our current crisis, of course.) (2001, p.32)

Adapted from Sterling's Nesting Systems (2001):

Biophysical system ------------------------------
 Social, economic, & cultural systems----
  Educational system--------------------
   Educational movements for change--
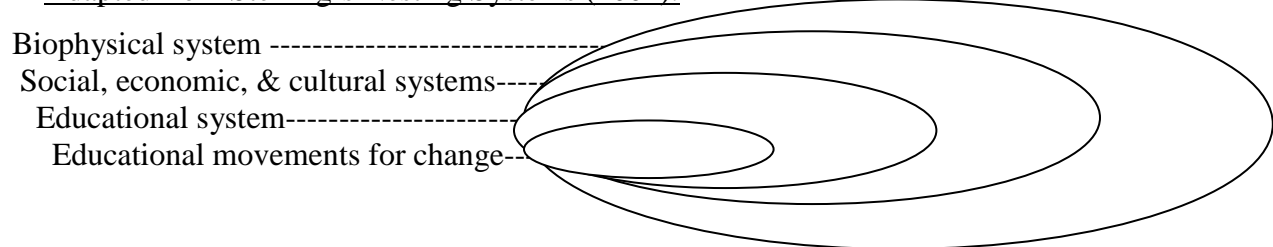
In addition to Sterling's locating the economic system within the biophysical system, however, I would argue that the economic system is entirely contained within (and is a manufactured construct of) society, so it should not be incorporated as an entity unto itself, but rather another sub-circle, nested inside society.

While I understand some proponents defining a "triple bottom line" (Elkington in Edwards, 2005, p.50) comprised of social, economic, and environmental considerations to inform sustainable business practices, I think the Venn diagram that often presents Society, Environment, and Economy, as three equal parts perpetuates a supposition that economics are external to human control. A similar dilemma exists, I believe, in the Brundtland report's framing of the "Three Es:"

> Conceptually, the report contained the first articulation of the key to contemporary sustainability – the importance of evaluating any proposed initiative with reference to the interaction of three fundamental criteria: ecology/environment, economy/employment, and equity/equality (Edwards, 2005, p.17)

Here, again, is a separating of economy from equity, which, arguably, are completely intertwined, and it reinforces the notion that economy is independent of human control. Additionally, since *ecology* is a term that, ideally, encompasses both human and other-than-human life, it concerns me that it is so often synonymized with "environment," rather than housing all aspects of the "E's" under its umbrella.

      Changing the framing. These levels of framing in the sustainability conversation demonstrate the power communicative constructs have in shaping our understanding. Since it seems that much of our current understanding of sustainability has arisen from us *socially constructing* compartmentalized frameworks, I posit that increased *social interactionism* may help us move beyond such separatism in our discourse and understanding.

> *[S]ocial constructionism* examines the way that shared meanings shape the beliefs, activities, and discourse of members of particular groups…the respective communities are said to inform the speakers' discourse, which in turn "reflects" and "instantiates" the group's ideology…*Social interactionsim* examines the role played by difference, conflict, and struggle ("stratification, diversity, and randomness" [Bakhtin, 1981, p.272]) in shaping the meaning and discourse of individuals in their interactions with each other
>   [emphasis mine] (Nystrand et al., 1997, p.117).

Thus, the concepts of "social constructionism" and "social interactionism" acknowledge that each macro-culture (and the myriad micro-cultures within) are built by their members, these structures then are reified into ideologies, and the interplay across groups can have the capacity to foment change within each.

A Multi-Dimensional Approach

      These concepts and critiques prompted my increasing attraction to a multi-dimensional conceptualization of sustainability, which, in turn, led me to Ken Wilber's integrated approach:

> Laszlo refers to the three "great realms" of evolution: material, biological, and historical. Erich Jantsch refers to them as cosmic, biosocial, and sociocultural. Michael Murphy summarizes them as physical, biological, and psychological. In popular terms: matter, life, and mind. I will refer to these three general domains as the physiosphere (matter), the biosphere (life), and the noosphere (mind). (2000, p.15)

All of these examples present a triumvirate of concepts, and I found that Wilber's articulation allows for the housing of sociology within ecology, while simultaneously recognizing the power of the mind (noosphere) to have profound impact on the rest of life (biosphere), because of humanity's capacity for "reflective consciousness" (Capra, 2002, p.39).

      Thus, in the spirit of integrative relationships, I visualize a model in which Multi-Dimensional Sustainability embraces society as part of ecology while recognizing that there are unique issues within both the Cultural and Biospherical realms, some of which may overlap and impact the others, but all of which must be considered and addressed, in order for right relationship to be re-established. Within the Cultural realm reside all of the relationships and structures humanity has created for its benefit, including its economic structures, its institutionalized systems of oppression, and its relationship with all other parts of the ecological system. Within the Biospherical realm are all of the interconnected aspects that are impacted by humanity's "reflective consciousness" and actions.

It is my supposition that by intentionally bringing this integration to bear in our communication and language choices, we may begin to shift our collective consciousness. Human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society. It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that the "real world" is to a large extent unconsciously built up on the language habits of the group…We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation. (Apgar, 1994, p.66)

Our indoctrinated "choices of interpretation," then, hold much sway over our subsequent perceptions, beliefs, communication, and actions. This is another reason why I find Bakthin's dialogism (1993) and Habermas' (1996) communicative action (i.e., the reaching of mutual understanding and engagement in symmetrical discourse) hopeful possibilities for change in our cultural conversations, regarding sustainability.

Cultural Communication: Perpetuating the Disconnect vs. Potentiating Integration
There is a grand irony in the culturally perpetuated disconnect humanity has from the rest of the ecological web of which we are a part – namely, we are profoundly dependent upon the biosphere, yet our acculturated valuing of "progress," at all costs, has us working against the very relationship that most would benefit us and the larger ecological system. Golley (1998) reinforces the interconnectivity of (and relationships between) humanity and both culture and the environment. "There is no way to escape culture. It is as tightly bound to us as is environment. We are penetrated by culture; our actions and thoughts are shaped by it. Yet we are unconscious of culture most of the time" (p.226). This unconsciousness, unfortunately, leads to the perpetuation of unsustainable and "taken-for-granted moral schemata" (Bowers, 1995, p. 9).
Myth of progress. Bowers (1995) discusses the deeply imbedded cultural "myth" about social progress (communicated to us in myriad forms, from our elementary school history texts celebrating the pioneer spirit and Western Expansion to contemporary governmental policies on globalization) that has accelerated humanity's disconnect from ecology and its subsequent degradation of the environment. "This myth…is predicated on an anthropocentric view of the universe and the further assumption that our rationally-based technology will always enable us to overcome the breakdowns and shortages connected with the natural world" (1995, p.4). Bowers (1995) goes on, in his synthesis of Leopold's "land ethic", to assert:
Whether viewed as individually or culturally centered, behaviors are wrong in every sense – morally, politically, educationally, economically, and ecologically – if they threaten the "integrity, stability, and beauty of the biotic community" (Leopold, 1966, p.262). In effect, behaviors that undermine the viability of the energy and information webs upon which humans and other members of the biotic community are absolutely dependent are to be judged as ecologically unsustainable. (p.5)

The stories we have told ourselves set us apart from (rather than integral within) the natural world, and these stories have been reified in our acculturated treatment of and relationship with the planet.

David Orr – as a leading environmentalist, educator, and sustainability activist – stipulates that, while Wilson's biophilia hypothesis (1984) may have been instinctively inherent in earlier civilizations, when direct connection to the planet was essential for survival and health, modern society's disassociation from the natural world has made biophilia or biophobia a "choice." Defining biophobia as, "the culturally acquired urge to affiliate with technology, human artifacts, and solely with human interests regarding the natural world" (1993, p.416), Orr asserts that the rapid advances in technology are alienating humans from their instinctive capacities for affiliation with their ecology.

> It is evident that tribal cultures possessed an ecological innocence of sorts because they did not have the power or knowledge given to us. We, in contrast, must choose between biophobia and biophilia because science and technology have given us the power to destroy so completely as well as the knowledge to understand the consequences by doing so. (1993, p.417)

I also would propose that, perhaps, biophobia is an unhealthy mutation of our instinctive, biophiliac, nature loving tendencies (much like hate is often a corruption of love), and it is in the healing of our biotic relationships that we can relinquish the biophobia-producing lure of technology and rampant "advancement."

Evolving into integration. Wilber (2000) appears to agree with Bowers' and Orrs' appraisals of humanity's detachment from the rest of ecology, which is perpetuated through our communication and by our cultural constructs, and he proposes the potential for a cultural evolution that might shift us into a place of right relationship:

> The main difference between tribal and modern eco-devastation is not presence or lack of wisdom, but presence of more dangerous means, where the *same* ignorance can now be played out on a devastating scale...our massively increased means have led, for the first time in history, to an equally massive disassociation of the noosphere and the biosphere, and thus the *cure* is not to reactivate the tribal form of ecological ignorance (take away our means), nor to continue the modern form of that ignorance (the free market will save us), but rather to evolve and develop into an integrative mode of awareness that will… *integrate* the biosphere and noosphere in a higher and deeper union. (p.173)

This union would allow for ecosociological sustainability because it would oblige humanity to assimilate all aspects of Cultural and Biospherical realms into its relational and communicative actions. Such assimilation would ideally reinvigorate humanity's biophilia, as well.

Bowers (1997) highlights suggestions for educational reform that would draw from, "the Balinese, Hopi, Koyukon, Ladakh, and hundreds of other indigenous cultural groups [who] demonstrated that conserving local biodiversity is essential to long term survival" (p.135). It is evident, then, that culture, though powerfully capable of perpetuating unsustainable, anthropocentric practices, also has the potential either to return to the more sustainable practices of "traditional ecological knowledge" (Berkes, 1999, p. 5) or to "integrate…in a higher and deeper union" (Wilber, 2000, p.173). This dialectical and educative engagement across cultures is inherent in Apgar's (1994) concept of "languacultures" (p.60), as well.

Finding common ground. Apgar's exploration of languacultures (and an indicator that paradigmatic evolution in dialogue can lead to transformation of world-views and systems) focuses on the impact they can have on one another.

> Whorf showed that language – or languaculture…– shapes *consciousness*, shapes ways of seeing and acting, ways of thinking and feeling…But if two different symbolic systems,…kinds of consciousness,…languacultures, come into contact, how can they be connected?...When you find similarities,…reach common ground, then you can start work on the bridge to cross the space. (1994, pp.71-72)

This concept of finding similarities is also resonant in Rosenberg's (1999) premise, regarding Nonviolent/Compassionate Communication, that all human beings have the same needs, we just have different strategies for meetings those needs. Our communicative shifts may come from fostering dialogical understanding and learning between cultures already in existence, as Apgar (1994) discusses. Or, they may arise out of our embracing the possibility of evolving from a languaculture that is pre-existent (e.g., our current dichotomized understandings of the environment and humanity) to one which is yet to be created (e.g., intentionally integrated and sustainably communicative ways of being).

True, the unfamiliarity and initial awkwardness of exploring the language with which we story our lives and entertaining "different" vernacular or worldviews may be discomfiting (as immersing one's self in a new country and culture can be). Yet, I trust that the similarities evident across cultures, demonstrating the fundamental good of humanity (combined with our self-serving desire for survival), can move us toward more sustainable and just paradigms. As Wheeler (2000) notes, finding common ground through a holistic approach is key to sustainability education:

> Our vision of education for a sustainable future is focused on how to get beyond the reduction and analysis – with which we are most comfortable – to the synthesis and integration of what we know and can know. Likewise, a convergence and integration of…systems is core to our work. This is why and where educating about sustainability becomes increasingly complex. We often try to come at sustainability from *one* direction based on our predisposition. To engage successfully…we must train ourselves to think holistically. Education about sustainability in essence is about learning to make and understand the connections and interactions between…complex systems. (pp. 1-2)

Isaacs (1999) reminds us, "to change the way we talk is to begin to change the way we think…our words shape our world" (p.308). By shifting our languaging, then, and disallowing a perpetuation of divisiveness, we may well move closer to Wheeler's aspiration of thinking and acting more holistically.

Conclusion

There is no doubt that conserving, preserving, restoring, and renewing the biophysical system of which we are a part is the essence of sustainability. At the same time, when we view the transformation of human consciousness and culture through a multi-dimensional lens, we can foster an active desire and follow-through toward cultivating right relationships in all areas of sustainability. I assert that our communicative understanding can play a large role in this transformation process.

By recognizing that education occurs within the broader context of social systems, Sterling (2001) reinforces the role cultural adaptation plays in shifting our ways of being:

> The systems perspective encourages a change of question, to 'How can education and society change together in a *mutually affirming* way, towards more *sustainable patterns*

> for both?'…It takes us from a model of education as one of social reproduction and maintenance, towards a vision of continuous co-evolution where both education and society are engaged in a relationship of mutual transformation – one which can explore, develop and manifest sustainability values. (pp. 32-33)

This "continuous co-evolution" is at the heart of dialogical engagement. Indeed, "dialogue is not restricted to two-person communicating,…meaning emerges *through* all participants… meaning…is *collaboratively co-constructed*….when you're listening or talking dialogically, *you are not in control of what comes out of the communicating*" [emphasis in the original] (Stewart, Zediker, & Witteborn, 2009, p.235). Acknowledgement of the co-ownership and co-creation process of communication allows us, I believe, to move deeper into both accountability *and* commitment. Like Titania, humanity must be able to own its responsibility in causing the devastation it has, as well as possess the deep love and steadfastness that makes the work of right relationship desirable and worth fighting for.

We must facilitate a transformation in our thinking, communication, and ways of being that shifts us away from rampant individualism and toward a greater level of communalism, while recognizing that the adaptations of culture take time:

> Culture is a form of adaptation, and although it changes, human groups tend not to risk what has worked in the past. We tend, collectively, to be conservatives…This is why environmentalists must learn to manage cultural change. In order to alter our consumptive and destructive patterns of living, we need a different cultural model that stresses maintenance, cooperation, mutualism... These concepts must be taught to children by parents and schools. We must have examples of successful adaptations before our eyes so that we can imitate and improve on them. We must have laws and regulations that move us toward positive adaptation. Eventually these will create a changed culture.
>
> (Golley, 1998, pp.226-227)

There is a reason why the Jim Crow laws no longer exist and why public schools are no longer legally segregated. Different cultural and communicative models were in order, and Civil Rights activists had to figure out how to facilitate the dialogical adaptations that led to a cultural shift. (It is no coincidence that the Rev. Dr. Martin Luther King, Jr. was a brilliant orator. He discursively engaged with the heart of humanity and, in so doing, fomented extraordinary shifts.)

Golley (1998) is correct in his assertions about change. Transformation does not just come from a narrow conceptualization of formalized education or monologically instructive practices. Rather, it arises from dialogical reciprocity, community values, legislation, and examples of "successful adaptations" that can be "imitated" or replicated. We have to transform the institutions and communities that are the value carriers and transmitters of society. It is through these avenues of communication (among myriad others) that the resumption of right relationship can occur. Though it would be nice to have the ease of a flower's magical juice (that caused both the hilarity and resolution of Titania and Oberon's rift) to remedy our current crisis, I trust humanity's capacity to recognize its place within and responsibility for its biospherical home.

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