

Title: Educating for a Sustainable Future: Mediating Between the Commons and Economic Globalization

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In thinking about the role of the educator in an era of economic and technological globalization that is contributing to the further degradation of the Earth's ecosystems, it is important to avoid the mistakes of past and present Western educational reformers. The most prominent of the mistakes made by John Dewey, Paulo Freire, and others in the constructivist tradition of educational reform was to assume that there is one-true approach to learning (Bowers, 2005). For Dewey, it was the experimental method of inquiry while for Freire it was critical reflection--which he claimed would enable students to emancipate themselves from the control of previous generations by continually renaming the world. And for the current proponents of the constructivist approach to learning that is now influencing educational reform in both Western and non-Western countries, students are expected to construct their own knowledge. In arguing that knowledge cannot be transferred from one generation to the next, these educational reformers failed to take account of the ecological crisis. They also ignored the differences in the knowledge and value systems of the world's diverse cultures. In addition they failed to take account of how the Western cultural assumptions they took-for-granted—such as a linear view of progress, a human-centered world, an autonomous form of individualism, an evolutionary view of cultural development—are also the basis of the West's industrial culture that is a major contributor to the deepening ecological crisis.

If educators are going to contribute to a sustainable future, and to improving the lives of hundreds of millions of people mired in poverty and contaminated environments, they will need to avoid following in the footsteps of these Western educational reformers. This will require a different set of understandings. First, they will need to recognize that there are as many cultural ways of knowing as there are spoken languages—which linguists now estimate at close to 6000, with many (perhaps a third) on the verge of extinction. Linguists are also beginning to recognize that many of these languages encode the intergenerationally acquired knowledge of the characteristics of the local ecosystems that the cultural group depends upon (Nettle and Romaine, 2000). And in terms of the major religions that guide the lives of huge numbers of people, and are the basis of their value and knowledge systems, there is a

growing interest in clarifying how human/Nature relationships are understood. (Tucker, 2003).

Second, future educational reformers must take account of the vast number of bioregions that make up the world's interacting ecosystems. The bioregions, with their distinctive cycles of renewal and vulnerabilities, need to be taken into account in making decisions about what students need to learn—and from whom. For example, in countries where the curriculum still reflects the history of Western colonization, learning what British students are taught about their literary traditions should be replaced by having the students learn about the limits and possibilities of their bioregions, along with the narratives that help to renew the land ethic of their own culture. To cite another example, Guillermo Bonfil Batalla writes about how the state sponsored schools of Mexico introduce students to the geography of other regions of the world, but not the geography of the students' local bioregion (Batalla, 1996). There are many other examples that could be cited where the state sponsored curriculum and methods of teaching are borrowed from the supposedly more “developed” cultures. That is, developed in the sense of being more industrialized and dependent upon a money-based economy.

Common Challenges in a World of Diverse Cultures and Bioregions

While poverty and environmental degradation may have their roots in the beliefs and practices of local cultures, there are two major challenges to achieving a sustainable future and to reducing the world's massive scale of poverty that educators need to address. The first is the cultural roots of the ecological crisis, with the second major challenge being the globalization of the West's industrial culture and the consumer-dependent lifestyle that is required for its continued expansion. They can be identified as separate challenges, but on closer examination we can see that they are closely related. In fact, it would not be incorrect to say that economic and technological globalization is one of the major contributors to the rapid acceleration in the degradation of the natural systems that all forms of life depend upon. Numerous scientific studies now identify the industrial system of production and consumption as the primary cause of the increasing rate of global warming that, in turn, is changing the characteristics of local habitats—changes that threaten the prospects of survival for many species. The loss of topsoil can be traced to many sources, as is the case with the

decline in the major fisheries of the world. The overuse and misuse of fresh water, along with the increase in population pressures on already marginally productive environments, must also be added to the list of challenges. These challenges are widely recognized and discussed—but their scope is beyond what can be addressed directly through educational reforms. But what educators can address are the long-term implications of the rapid integration and thus transformation of the world's diverse cultural commons into the global networks of industrial production and consumption.

That is, educators cannot directly change the capitalistic systems and the decisions made in corporate board rooms about where to outsource production facilities-- nor can they directly affect the growing number and size of cars that are spilling tons green house gases into the atmosphere. But they can play a more responsible role in helping to limit the spread of economic and technological globalization by introducing changes in the curriculum and ways of learning that help to strengthen what remains of the local cultural commons. The local traditions of knowledge and patterns of mutual support that enabled communities to be relatively self-sufficient represent what can be called the cultural commons—which are, in turn, dependent upon the environmental commons. While the nature of the cultural and environmental commons are as diverse as the world's cultures and bioregions, what they have in common is that they represent what has not yet been monetized and brought into the industrial approach to markets. In effect, the cultural commons represent cites of resistance to the spread of a money and consumer dependent lifestyle—and thus to the spread of a world monoculture and to the further spread of poverty for those who lack the means to participate in a money economy. Third world activists, and even social groups within the West, are resisting the loss of their cultural commons, but the dominant trend is that the cultural traditions of preparing and growing of food, of healing, of mentoring in the arts and participating in ceremonies, of self-reliance in the practice of craft skill and knowledge, are being replaced by industrial produced products and services that require participating in a money economy—which, in turn, contributes to the degradation of the environment. Even widespread reliance on the cell phone and the computer are examples of how such basic aspects of human existence as thought and communication are dependent upon being able to participate in a money economy—and to becoming addicted to acquiring the latest technology.

The environmental commons are also being undermined by the logic of the market and corporate ownership. Water, which previously was freely available to the members of the community, is rapidly being a commodity that must be purchased. Access to sources of protein and fiber are similarly being incorporated into a money-based economy. The use of Western technologies, including the genetically engineered seeds, is increasing the cost of growing food as well as contributing to the further contamination of local sources of water. Depending upon the traditions of the culture, other examples of how what remains of the cultural and natural commons are being transformed into new products and markets can easily be cited.

The globalization of the West's culture is widely justified on the basis that it is the expression of progress and modern development—and that it contributes to spread of freedom and democracy. While these neo-liberal words mask the spread of poverty as the industrial mode of production and consumption undermine the local knowledge systems that were the basis of less consumer dependent lives, there is another characteristic of the West's industrial culture that goes largely unnoticed—yet has very important implications for how educators think about educating for an ecologically sustainable future. As Kirkpatrick Sale observes, in order for the industrial culture to expand it needed to bring about fundamental changes in the world's cultures—changes that would increase dependence upon Western technology and consumerism. Sale explains the changes that were and still are required in the following way:

All that 'community' implies—self sufficiency, mutual aid, morality in the marketplace, stubborn tradition, regulation by custom, organic knowledge instead of mechanistic science—had to be steadily and systematically disrupted and displaced. All of the practices that kept the individual from being a consumer had to be done away with so that the cogs and wheels of an unfettered “machine” called the economy could operate without interference, influenced merely by the invisible hands and inevitable balances and all the rest of the benevolent free-market system. 1995, p. 18

To explain the cultural transformation required by the incessant drive to create new markets, which we now refer to as economic globalization, it was necessary to emancipate individuals from the intergenerational knowledge of their communities. Thus, the current goal promoted by many educational reformers of fostering autonomous individuals who supposedly

constructs their own knowledge turns out to be what is required by the industrial, consumer-based culture. Later, I shall explain more fully how the increasing reliance on computer mediated learning in classrooms also contributes to the form of individualism required by the industrial culture.

As mentioned earlier, what remains of the cultural commons is dependent upon the intergenerational knowledge that is the basis of a community's traditions of self-sufficiency and mutual support systems. The community's traditions that enable plants, fiber, other natural resources to be turned into healthy meals, clothes that have been adapted to local weather patterns, and sustainable and energy efficient technologies and buildings, are passed on through face-to-face communication, mentoring relationships, embodied learning, ceremonies, and so forth. Due to the failure of educational reformers in the West to understand that the word "tradition" is as broad and complex as the word "culture", traditions became viewed as constraints on individual self-expression and autonomy. This led Dewey to argue that traditions are habits that enslave the individual "just to the degree in which intelligence is disconnected from them". Dewey further claimed that "routine habits are unthinking habits" and thus must be continually reconstructed through the community's reliance upon the experimental method of inquiry (1918, pp. 58-59).

Paulo Freire's emphasis on the need for each individual, and thus each generation, to rename the world of the previous generation also was based on the idea that there is only one legitimate approach to knowledge: namely critical reflection. To quote him directly, in Pedagogy of the Oppressed, he writes that "to exist, humanly, is to name the world, to change it. Once named, the world in its turn reappears to the namers as a problem and requires of them a new naming" (1971 edition, pp.76.). He along with his current followers are promoting educational reforms that would, if put into practice, undermine the knowledge systems of other cultures and thus their cultural commons as sites of resistance to the West's messianic agenda of economic colonization (Bowers and Apffel-Marglin, 2005). Other educational reformers who have borrowed from Dewey, Freire, and recent promoters of various interpretations of progressive education the idea that students should construct their own knowledge and values are also contributing, insofar as their reforms are being implemented, to a world monoculture that is both environmentally destructive and increasingly dependent upon consumerism. Ironically, they use the same language to justify

the undermining of the cultural commons that the Western educated elites use to justify their colonizing agenda: freedom, emancipation, individualism, progress, development, democracy.

The increasingly widespread use of computers in the classroom, which I referred to earlier, also contributes to undermining the local cultural commons—which is often a source of knowledge of how to live within the limits of the local bioregion. As I explain in Let Them Eat Data (2000), which has recently been translated into Japanese and Chinese, computers are not a culturally neutral technology—which must be taken into account in thinking about educating for a sustainable future. Computers are useful—indeed, now indispensable—in many areas of cultural life. They are even useful in terms of enabling students to access information and ideas that would not otherwise be available to them. However, there are two inherent characteristics of computers that have gone largely unrecognized. First, computers reinforce a pattern of thinking that is also the basis of the West's industrial, consumer-oriented culture. These patterns include: (1) thinking of language as a conduit in a sender/receiver process of communication; (2) viewing the individual as constructing knowledge that is based on data and information accessed through the computer; (3) thinking of abstract, out-of-context data and information as being free of cultural influence; (4) thinking of the past and future as matter of the individual's subjective judgments and shifting preferences; and (5) viewing moral values as individually chosen. In short, the pattern of thinking reinforced through the use of computers, while being highly useful in many areas, contributes to undermining the world's diverse cultural ways of knowing—and thus the cultural commons.

When we consider how the cultural commons are renewed in ways that reduce the human impact on local ecosystems, we find the second characteristic of computers that reflects the limitations of what can be digitized without being fundamentally transformed. A summary of what cannot be digitized without being transformed in ways that reflect the forms of representation that have high-status in the West also turns out to be a summary of the shared characteristics of renewal within the world's diverse cultural commons. What cannot be digitized and communicated through a computer—and, by the same token, what is essential to the intergenerational renewal of the cultural commons includes the following: (1) the different mythopoetic narratives and metaphorically layered languages that carry forward

the knowledge and values systems of the world's diverse cultural commons; (2) the importance of cultural and place-based contexts that have a profound influence on the meaning of what is being communicated; (3) the narratives and other face-to-face communication that reproduce the culture's traditions of moral reciprocity; (4) the traditions of the community that are re-enacted and modified as part of everyday life—including the importance of mentoring relationships; (6) the moral codes that are intergenerationally passed along in the process of being born into a language community. Summaries are never adequate, and this summary fails to mention the traditions of intergenerational knowledge that are sources of injustice, oppression, and ignorance of the behavior of natural systems. But it does highlight the inability of computers to make available to students the forms of knowledge and embodied relationships that are integral characteristics of how the cultural commons are renewed and passed on to the next generation. Computer mediated learning enables the student to access vast sources of abstract information, but it cannot provide the student the experience of learning in a mentoring relationships—and it is a poor source of local knowledge. In effect computers reproduce the problem that concerned Batalla; students learn about an abstract and distant world, while being conditioned to ignore the forms of knowledge, patterns of mutual aid and moral reciprocity, and the characteristics of the bioregion that their own community depends upon.

There are a number of implications that educators should consider when the students' learning is being mediated by this colonizing technology. Helping students understand the cultural non-neutrality of computers is essential if they are to have the ability to know when computers should and should not be used. If students are left with the idea that technology, including computers, as a culturally neutral tool, decisions about their use will more likely be dictated by the Western assumption that equates the use of technology with a modern, and progressive way of thinking. To counter this taken-for-granted way of thinking, educators should continually engage the students in a discussion of the cultural amplification and reduction characteristics of computers by giving particular attention to what aspects of the cultural commons are being marginalized. Expanding the discussion to include a consideration of the differences between computer mediated communication and accessing of information. and the experience of face-to-face, intergenerational patterns within their own as well as other cultures, will help the students to recognize the Western conceptual patterns

reinforced through this technology. For example, students should be encouraged to consider the difference between obtaining abstract information about how to build something and perform as task, and learning that is based on a mentoring relationship. They might also be asked to consider the difference between reading about a ceremony and participating in one, as well as the difference between reading about a narrative in the abstract and participating in the culture's way of passing on and renewing its collective memories.

Educators also need to be aware of the cultural assumptions that are taken-for-granted by the people who create the educational software. Students are not just encountering simulated events and problem solving situations that appear on the monitor. Rather, they are entering the conceptual and moral world of the people who create the software—as well as the mind-set of those who did the basic computer engineering and wrote the programs that run the educational software. The authority of print and other abstract systems of representation that appears on the computer monitor is enhanced by the cultural assumptions held in the West; namely, that what appears in print is factual and objective. The educational uses of computers, in effect, help to perpetuate the same Western biases that represented print as the basis of high-status knowledge, and the oral tradition as a source of cultural backwardness and superstition. And if educators are to foster an understanding of those aspects of the cultural commons that represent alternatives to market-based consumerism and its environmentally destructive effects, they will need to help students to recognize the importance of the community's oral traditions that include stories of environmental mistakes as well as stories of how to adapt cultural practices to the sustaining characteristics of the bioregion.

Educating for Sustainability Within a World of Diverse Cultures

Differences in cultures, as well as differences in how the environmental crisis is impacting different regions of the world, do not alter the role that teachers should now take on. The Western industrial, consumer dependent culture now has a global reach. This means that, regardless of how intact the traditions of different cultures are, Western products and approaches to production, language, corporate logos, and patterns of thinking are becoming visible and increasingly relied upon in even the most distant regions of the world. This may take the form of Western fast food outlets, television programs, advertising, cell phones,

computers, clothes with corporate logos-- and even the desire to move to urban areas where opportunities for work and thus participating in a money based economy seem the escape route from poverty.

While there are important differences in the degree that the world's diverse cultural commons have been influenced by the colonizing nature of the West's industrial culture, the basic reality is that educators, whether in a classroom in Bolivia, South Africa, or Taiwan, must now understand their role as that of a mediator. That is, their responsibility is to mediate between the influence of the Western industrial-consumer oriented culture and the ecologically sustaining traditions of the local cultural commons. Mediating involves clarifying what is otherwise taken-for-granted within the local cultural commons as well as what is taken-for-granted about the presence of Western technologies, values, and patterns of thinking. Mediation in this sense also involves providing students with the language that is needed for understanding and making decisions about which aspects of both the local cultural commons and the foreign influences that contribute to reducing poverty and social inequities, the growing dependence upon a money economy, and the self-renewing capacity of the local ecosystems.

The problem with this recommendation is that few educators acquire the necessary background knowledge from their university experience that is necessary for their role as mediators between cultural traditions, and between the forces of modernization and the self-renewing characteristics of natural systems. The following represents a more specific list what educators need to be prepared to clarify and thus to help the students to examine in a more balanced and ecologically informed manner.

1. Clarifying the differences between the local cultural and environmental commons and the industrial culture that continues to expand into more areas of local experience. As most of the students' own cultural patterns are taken-for-granted the need to clarify how they contribute to the self-sufficiency and moral reciprocity within the cultural commons, as well as their impact on the bioregion, is often overlooked. The correspondence between what both the educator and students take-for-granted is seldom the focus of discussion—yet it is the aspects of daily life that need to be examined as sites of resistance to destructive foreign influences, and as sources of environmental degradation. Similarly, the influence of Western products, images of

what constitutes success and happiness, and ways of thinking is usually represented as the expression of progress that too often is also taken-for-granted—and thus not questioned. The educator's task is to provide the language that makes explicit and contributes to the process of clarifying the long-term and eco-justice consequences of renewing local traditions and of adopting what the West represents as progress. In terms of clarifying the different aspects of the local cultural commons it may be necessary to adopt more embodied approaches to learning—including learning from mentors and elders of the community. Bringing all aspects of the taken-for-granted cultural commons under the gaze of critical inquiry can lead to the Western form of individualism, so it is vitally important that the educator recognize those aspects of local knowledge and values that should be part of the discussion of what contributes to a sustainable future.

2. Clarifying how the root metaphors that underlie the West's industrial/consumer culture influence the way of thinking within the local cultural commons. The root metaphors that serve as the basic interpretative framework for understanding how different aspects of cultural life are understood—ranging from education, medical practices, agriculture, architecture, the application of scientific discoveries, and so forth—represent an especially important and difficult challenge for educators who take seriously their responsibility as cultural mediators. Part of the challenge is in recognizing how both the language of the students' cultural commons as well as the language that reproduces the Western patterns of thinking encode and carry forward the deepest symbolic foundations of these two cultures—and how adopting the assumptions of the West represents a form of cultural colonization. In the West, the dominant view of language is that it is a conduit in a sender/receiver process of communication; and this view of language is reinforced when foreign students pursue their advanced degrees in Western universities. The reality is that when a person is born into a language community she/he learns to think in terms of the assumptions and categories that have been passed down over generations through the languaging processes of the culture—and these assumptions and categories are the basis of the person's taken-for-granted experiences. Educators need a more complex and accurate understanding of how the language provides the assumptions that influence how the

students think, as well as what they will ignore.. This means that the educator needs to be able to recognize the dominant root metaphors that underlie the West's approach to economic and technological globalization. These include the root metaphors of mechanism (thinking of everything including organic processes as mechanistic in nature); anthropocentrism (thinking of the environment as a resource for humans); individualism (thinking of the individual as the source of ideas, values, and as essentially free); progress (thinking of change as contributing to a linear form of progress and as in opposition to traditions); economism (reducing activities, relationships, and products to their market value); evolution (thinking of cultures as evolving from a state of backwardness to being developed and modern—with the West as representative of the most evolved). The educator, regardless of the context of the cultural commons, needs to be able to recognize how these root metaphors underlie the various aspects of Western culture that are encountered within the students' daily life—and to clarify how they differ from the basic assumptions of the local culture. Again, the discussion needs to be centered on whether the local or foreign deep patterns of thinking contribute to a sustainable future.

3. Clarifying the assumptions that underlie Western science and its role in the development and expansion of the West's industrial culture. Mediating between the local cultural commons' approach to learning about the limits and possibilities of the local ecosystems and the assumptions that underlie Western science—which too often has led to the development and use of technologies that have degraded the self-renewing capacity of natural systems—is yet another responsibility that has direct implications for whether the diversity of cultures and natural systems will be sustained. The ways in which Western science undermine local knowledge of natural systems, as well as how it leads to technologies that expand the hegemony of the West's industrial culture, need to be clarified and examined as part of the education in both Western and non-Western cultures. Scientists have recently turned their attention to studying the dynamics of natural systems, but Western science continues to be a major contributor to the enclosure of both the local cultural and natural commons.

4. Clarifying the differences between how technologies are used within the local cultural commons and how technology is understood and used in the Western cultures. In the West, technology is viewed as a culturally neutral tool and, without recognizing the contradiction, as the latest expression of progress. A number of scholars, from Jacques Ellul and David Noble to current critics of the misuse of computers, have pointed out how technologies mediate between cultural traditions through what they reinforce and what they marginalize. The educator's responsibility as a cultural mediator is to help students understand what different technologies reinforce in terms of cultural values, human relationships, forms of knowledge and dependencies-- as well as who gains and who loses. Helping students to focus attention on the practices that accompany the use of different technologies and to acquire the language necessary to thinking and communicating about the cultural and environmental impact of their use is essential for them to develop the communicative competence necessary for bringing decisions about the adoption and use of different technologies into the decision making process of the community. The adoption of computers, genetically altered seeds, cell phones, agriculture and manufacturing machines, and so forth are accompanied by benefits and losses—with the latter being understood as the further enclosure of the commons and thus the expansion of a money-dependent economy.
5. Clarifying the differences between how traditions are understood by members of local cultural commons and by proponents of globalizing the West's industrial culture. If educators understand, rather than take-for granted, the dominant assumptions in the West they will recognize why the elite groups that are promoting a technologically based consumer lifestyle have such a simplistic way of thinking about the nature and importance of traditions. Most graduate students in my university classes associate traditions with holidays and family gatherings, while viewing traditions in general as obstacles to social progress and as a source of backwardness. What is not understood by most graduates of Western universities, and the general public, is that traditions represent every aspect of culture that is re-enacted over four generations—which is the time span that it takes for people to lose sight of the beginnings of the traditions. As a mediator between different internal and external cultural pressures, the educator

- needs to help the students to identify the local traditions that contribute to a less money-based daily life, as well as the traditions that help to sustain previous gains in the achievement of social justice and an environmental ethic. Mediating also requires helping students understand the view of tradition that is held by the promoters of technology and the exploitation of new markets. This is also a tradition, but one that is committed to overturning all traditions in the name of science, progress and increased profits. In addition, the educator also needs to help the students examine the traditions within the cultural commons that oppress certain members and groups.
6. Clarifying the difference between how individualism is understood in the West and in non-Western cultures. The current view of individualism in the West is one of the most powerful and central images associated with modernity and social progress. The educator who is mediating between the way the individual is viewed within the local cultural commons and the image promoted in the West should understand that the way current Western view of individualism has changed over time—from that of a subject in the Middle Ages, to a citizen at the time of the French Revolution, to an individual project of self-creation and expression at the turn of 20th century, to today's emphasis on happiness, material success, and self-realization. The current effort to based educational reform in Western and non-Western countries on constructivist theories of learning represents a continuation of the Western myth that individual should be emancipated from the knowledge of earlier generation—and this can only be achieved as students construct their own knowledge and learn what interests them. In effect, this view of the individual is the Trojan Horse that helps to break down what remains of the local sites of resistance to the West's colonization efforts.

Perhaps an even greater challenge facing educational reformers is in convincing university professors to take seriously their role as cultural mediators between the high-status forms of knowledge that are the basis of the West's industrial culture and the forms of knowledge that are essential to the world's diversity of cultural and environmental commons. Unfortunately, becoming aware of the ecologically problematic cultural assumptions that were the basis of their own graduate studies is especially difficult—particularly since they have been rewarded for basing their academic careers on these

assumptions. But mediating as the local public school level cannot wait for a major shift in the culture of university professors. Educators in the public schools, as well as those who function in other social settings, must begin to address the challenge of clarifying the difference between local beliefs and practices and the most visible aspects of Western culture, including the patterns of thinking and values that accompany the use of Western technologies and consumer fads . And the criteria for assessing what needs to be conserved and thus intergenerationally renewed as well as what needs to be changed or abandoned entirely, is whether it contributes to a more self-sufficient community (that is, less dependent upon a money-based existence), and to a smaller impact on the natural systems that are already in state of rapid decline.

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