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The Digital Revolution and the Unrecognized Problem of Linguistic Colonization

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There is a growing awareness that the computer keyboard is like to two edge sword; that it leads to many forms of empowerment in carrying out difficult tasks that were nearly impossible before, and that in the hands of people who operate beyond the reach of the law it becomes perhaps the most dangerous weapon humans have created in that everybody can now be hacked, and subject to cyber-attacks. There are other aspects of the digital revolution that will make it more difficult to address the cultural/linguistic roots of the ecological crisis. This essay addresses what educators need to know about how computer-mediated learning makes it difficult to recognize the misconceptions continually reinforced in classrooms and in the larger society: (1) that the words appearing on a computer screen reinforces the conduit view of communication and thus hide that the words are metaphors that encode the cultural assumptions taken for granted in earlier eras; (2) that print encodes the taken for granted interpretive framework of the writer and thus is not the basis of objective knowledge, and what is mistakenly assumed by the reader to be factual and objective is also influenced by the reader's taken for granted interpretative framework; (3) that computer-mediated learning also undermines the importance of face to face communication which is essential to sustaining the intergenerational knowledge and skills of the cultural commons that enable people to live less consumer-dependent lives.

A combination of forces are preventing a wider awareness of the ways in which the digital revolution represents a colonizing force in the world today. While its promoters claim it to be a progressive and modernizing force, an examination of just one of its colonizing characteristics reveals that

it is undermining the world's diversity of intergenerational knowledge of how to live less consumer dependent and thus less environmentally destructive lives. The failure of universities to promote an understanding of a number of language issues that have a direct impact on exercising ecological intelligence also contributes to the widespread failure of both computer scientists and their supporters, as well as the general public, to understand how the digital revolution is changing the world's cultures in ecologically unsustainable ways. The silences on the part of universities make them complicit in another feature of the digital revolution: namely, that computer scientists, programmers, and the growing army of technological entrepreneurs do not understand the cultures into which their technologies are being introduced and thus are unaware of their cultural and environmentally destructive nature. What goes unrecognized is that the same progress-at-all-cost, individually-centered ideology that provided conceptual guidance and moral legitimacy to the first industrial revolution now guides the digital revolution.

The complex network of cultural and natural ecologies that support everyday life, which are characterized as emergent, relational and interdependent, are both sustained and undermined by the multiple forms of communication integral to all ecological systems. In terms of the world's diversity of cultural ecologies, the communication takes many forms—ranging from the spoken and printed word to learning from what is being communicated by changes in the natural environment. In the West, the primary forms of communication that pass forward the traditions of a culture and sustain what people take to be “reality” are the printed and spoken word. While there are other patterns of communication experienced as taken for granted sources of information and meaning, and which are marginalized by what cannot be digitized, the focus here will be on how the digital revolution undermines the importance of oral communication while reinforcing the more problematic characteristics of print.

What is Problematic About Print and Data Based Cultural Storage, Thinking, and Communication:

Print has many important, indeed, essential uses, but it is also limited in representing the primary characteristic of all living cultural and natural

ecologies. These emergent and relational life forming and sustaining processes have been misunderstood by the West's philosophers and social theorists who represented the world as made up of autonomous entities such as things, abstract ideas, individuals, events, plants, animals, and so forth. That is, because the philosophers privileged abstract thinking they left a legacy of ignoring that nothing exists free of relationships within the larger cultural and natural ecologies. As the digital revolution relies upon the printed word and other abstract systems of representation it reproduces key features of the printed word. Print, even when used by the most gifted writer, can never fully represent the emergent, relational, and interdependent nature of an experience. For example, print can never fully represent the experience of watching a wave crashing against the rocks or trying to engage a libertarian/market liberal in a discussion about the connections between putting billions of tons of carbon dioxide into the atmosphere and the growing rate of acidification of the world's oceans.

Print is useful in storing and communicating information and data, but it also contributes to the tradition of abstract thinking that has been such a powerful reality shaping force in the West. That is, what is encoded in print immediately becomes dated (given the emergent nature of reality), cannot provide a full account of contexts, reinforces the misconception that there are ideas, things, individuals and so forth that are autonomous (print, like English nouns, is inadequate in communicating ongoing relationships), reduces the importance of learning from all the senses and giving special attention to local contexts. In addition print fosters a taken for granted acceptance of the surface knowledge that print represents. This surface knowledge, given the dynamic contexts that print cannot represent except as data, information, and other abstractions, leads to a culture of abstract and surface thinkers. Evidence of this can be seen in the print-based rational process of most Western philosophers who were ethnocentric thinkers, and whose theories seldom addressed cultural issues except when providing a culturally uninformed explanation of the nature of private property, of free markets, and why rational thought is superior to face to face experience and narratives. This legacy can be seen in how much of daily (especially political) discourse relies upon words such "freedom", "individualism", "technology", "data", "intelligence", "progress", "competition", "growth", "conservatism", and so forth. Their abstract use can be seen in how actual

cultural and natural contexts are ignored. Thus, so called “conservatives” are not held accountable for the traditions of community self reliance they undermine in order to expand markets and profits. And abstractions such as “individualism” and “tradition” do not take account of the different linguistic/cultural ecologies that influence taken for granted patterns of thinking and values within different cultural contexts.

As data is acquired through various approaches to observing and measuring behaviors of natural and cultural processes, it shares the same abstracting limitations as print. Instead of considering the deeper implications of the surface nature of what data actually represents, the immediate concern of the technocratic/market oriented mindset is to interpret its importance in terms of how it can be used to achieve greater efficiencies or to solve a problem that reflects the interests of the person or organization that collects the data.. In short, data is unable to fully represent the emergent, relational and interdependent nature of the cultural and natural ecologies, such as the ecology of workers and the ecology of those living below the poverty line. Data is unable to account for the worker’s inner experience of being replaced by a robot and the emerging network of relationships that must be negotiated if food and shelter are to be available. Unfortunately, data which is inherently an abstraction has become high-status knowledge, with the more complex and context-based knowledge that comes from lived experience becoming represented as inferior to data as it lacks being “objective”. Yet the word “objective” is another abstract metaphor that precludes considering the culturally influenced ways of knowing and values that determine what is to be observed and measured—and how the supposed “objective data” is to be interpreted by people who are seldom aware of the deep cultural assumptions they take for granted.

This critique of how the digital revolution promotes abstract thinking should not be interpreted as suggesting it has not led to many benefits. The printed word appearing on the computer screen, and the data driven models and decisions have led to important gains in the quality of life, and in learning about the changes occurring in natural systems. The problem is the lack of a balanced understanding of the beneficial and destructive uses of digital technologies. In addition to how the computer scientists and cowboy capitalists think primarily in terms of progress, profits, and of bringing cultural and natural processes under the control of the Internet of Everything

(which is a code phrase for bringing all aspect of daily life under total surveillance), it is important to identify other ways in which the digital revolution is undermining the prospects of an ecologically sustainable future.

The Conduit View of Language and the Loss of Awareness of the Metaphorical Nature of Language:

In 1979, Michael Reddy published a paper critiquing what he referred to as the conduit view of language. This view of language, or more accurately how we use language in what we assume to be a sender/receiver process of communicating data, information, rational ideas, has been central to a number of myths perpetuated at all levels of education—and now by the digital revolution. The conduit view of language is essential to maintaining the myth of objective knowledge and that the rational process is free of cultural influences—two criteria that have importance in colonizing other cultures. What the conduit view of language marginalizes is one of the most important characteristics of written and spoken language that have especially important implications for addressing the cultural roots of the ecological crisis. That is, it undermines awareness that words have a cultural history, and that most words are metaphors whose meanings were framed by analogs settled upon by earlier generations of Western thinkers who were unaware of environmental limits—including the silences and prejudices of their era. We now recognize how the meaning of the word “woman” was framed by the prejudices and other misconceptions of earlier eras, and how nature was viewed as dangerous and in need of being brought under human control. Most of our vocabulary are metaphors, including words such as “property”, “traditions”, “free markets” and so forth, that reproduce the earlier constituted analogs that become the basis of thinking of succeeding generations—which leads to the problem Einstein identified when he warned against relying upon the same mindset to fix the problems that created it. The biographical variations in people’s lifestyles, including awareness of the discrepancies between how the inherited metaphorical vocabulary fails to take account of the emergent realities of everyday life, may lead to old metaphors being challenged and reframed in terms of ecologically and culturally informed analogs. “Wilderness” and “woman” now have different meanings than in earlier eras. Given the ecological crisis, we now need to

identify ecologically and culturally informed analogs for the meaning of such metaphors as “intelligence”, “tradition”, and “progress”. (Bowers, 2011, 69-92)

What appears on the computer screen, whether as a YouTube presentation, information and data on a website, a computer-mediated curriculum unit, or an email, will not include the warning that the words appearing on the screen or heard on an iPhone have a history, and that they too often carry forward the meanings framed by the analogs settled upon in the distant past. That is, the digital revolution reinforces the conduit view of language and thus carries forward the taken for granted assumption that words refer to real events, knowledge of objects, behaviors, data, information—with no references to their linguistic histories that encode different cultural ways of knowing. Printed words, because they share the limitations mentioned before, further reinforce abstract thinking. It is the taken for granted acceptance of abstract thinking that leads computer scientists, programmers, the growing army of technological entrepreneurs, as well as the general public mesmerized by digital technologies, to overlook the cultural traditions that are being undermined.

Other Aspects of Culture Not Understood by Computer Scientists and Their Supporters:

The scope of the deepening ecological crisis—which includes the growing acidification of the world’s oceans, extreme climate changes, droughts and wildfires, loss of species and habitats, and the poisoning of natural systems with the millions of tons of toxic chemicals—needs to be taken into account in terms of how progress is understood. That the digital revolution is the driving force in expanding markets and thus consumerism that will deepen the ecological crisis, and in introducing other life altering changes such as replacing workers with computer driven systems, it is necessary to consider other digitally driven changes that further undermine the prospects of an ecologically sustainable future. For example, what is not recognized by the proponents of the digital revolution is that the world’s diversity of cultural commons represent alternatives to a consumer dependent existence that is environmentally destructive. People are beginning to turn to these largely non-monetized community-centered

cultural commons as they recognize how the industrial/consumer-dependent lifestyle cannot be sustained by natural systems now in rapid decline.

The cultural commons vary from culture to culture, but share common features. The main one is that the intergenerational knowledge and skills that carry forward traditions of mutual sharing in growing and sharing food, healing practices, ceremonies and narratives that carry forward the moral templates that guide human/nature relationships, creative arts and craft skills, games, knowledge of local ecosystems, are intergenerationally renewed through face-to-face communication. That is, the oral traditions are essential to the processes of mentoring and to the formation of personal identities and values. It is the oral traditions, rather than print, that connect the current generations to the knowledge and skills that have been refined over generations of how to live in mutually supportive and non-commoditized relationships. (Bowers, 2012)

The digital revolution undermines the oral traditions essential to the intergenerational renewal of the cultural commons by reinforcing the West's long history of privileging print and other abstract systems of representation as having higher status. The long-standing bias against oral traditions can be seen in how the word "illiterate" carries the connotation of backwardness and ignorance. The more immediate impact of the digital revolution now being experienced in cultures that are still predominately based on orally shared intergenerational knowledge is that their youth are being indoctrinated into thinking that the Internet provides access to the excitement and information necessary for a modern existence. This is leading to the alienation between generations, and thus to the digital generation of youth failing to learn the knowledge and skills that enabled the older generations to live in mutually supportive relationships within the limits and possibilities of their bioregions. Contrary to current misconceptions, the revitalization of the cultural commons does not involve returning to the lifestyle of earlier centuries, but rather learning the current largely non-monetized traditions being carried forward in every community. The current cultural commons practices, which differ significantly between ethnic groups, provide alternatives to a future where employment will become even more limited as the vision of progress that drives the digital revolution promotes replacing workers with robots and computer systems. A further way in which the digital revolution undermines the cultural

commons existing in every community across America can also be seen in how much time is spent playing video games, texting, surfing the Internet, and communicating on social networks. These activities lead to a further disregard for learning about the differences between ecologically sustainable and unsustainable traditions—including how the political economy of the local cultural commons provides for the discovery of personal talents and skills that are denied in consumer-dependent relationships.

It is important to recognize that digital technologies are used within different cultural commons activities that range from the local farmers' markets (now having doubled in number in the last few years), to communicating with mentors and scheduling events where intergenerational knowledge and skills are shared, to learning about the changes in natural systems that need to be kept in focus. Again, it's a question of balance and of knowing the appropriate and inappropriate uses of digital technologies—just as it is a matter of recognizing when to rely upon the printed word and when to recognize when it reproduces the misconceptions and silences of earlier generations.

A point made at the outset needs to be emphasized in judging whether the digital revolution is the progressive force that many now claim it to be. If we consider the specialized education of the computer scientists, as well as the printed-based and thus abstract education received in most areas of higher education—including the current idea that students should decide what they want to learn, we find that increasing numbers of graduates encounter the same surface knowledge of their own culture as encountered by people whose education is limited to public schools. That is, they do not have an in-depth understanding of the cultural assumptions underlying their own culture, and how the metaphorical language they take for granted reproduces these assumptions.

The higher students go in the formal educational process the more they are indoctrinated to accept the misconceptions of the Enlightenment thinkers of the 17th century. That is, the emphasis in higher education on progress, innovations, new ideas and values, and abstract thinking, leads to viewing traditions, including those that sustain the cultural commons, as impediments to progress and innovation. But this Enlightenment way of understanding traditions, which the digital revolution reinforces, represents

yet another set of traditions that have deeply problematic implications. As Edward Shils noted, the anti-tradition traditions of scientists, technologists, capitalists, and proponents of critical thinking view the emancipation from all traditions as ensuring a prosperous and progressive future. (1981) Unfortunately, they have not learned to consider which traditions contribute to an ecologically sustainable future and carry forward important achievements from the past—such as civil liberties, gains in social justice, and in other areas of the cultural commons.

This lack of awareness on the part of the promoters of the digital revolution of the traditions that need be intergenerationally renewed should be a major concern. Yet there are few people who are protesting the loss of a number of important traditions due to the technologies created by computer scientists and their promoters. These traditions include the loss of privacy, personal security now so widely compromised by hackers, safeguards from foreign cyber-attacks, expectations that employment will survive automation, non-militarized police forces still under civil control, and the knowledge that one's behaviors are not being monetized by corporations selling the data to governments and businesses—with the latter now adjusting their online prices in ways that take account of one's economic circumstances. People with a strong sense of social and eco-justice also valued the tradition of resisting the colonization of other cultures, but this tradition has now yielded to the idea that progress dictates that the global spread of the digital revolution.

Given the rate of environmental degradation and the loss of the intergenerational knowledge and skills essential to revitalizing the cultural commons, it would seem that conserving species, habitats, and the diversity of cultural traditions that have a smaller adverse ecological impact would become a primary focus of our educated elites. In reading the computer futurist writers such as Eric Schmidt, Ray Kurzweil, Peter Diamandis, among others, there is no mention of the ecological/cultural crises—only the need for experts to replace human capabilities with computer systems.

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