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REVIEW OF *ABUNDANCE:*

THE FUTURE IS BETTER THAN YOU THINK

by

Peter H. Diamandis and Steven Kotler

2012 Viking Press

In spite of the appearance of recent books such as *The New Digital Age* by Eric Schmidt and Jared Cohen (2013), *Facing the Intelligence Explosion* by Luke Muehlhauser (2013), and *Radical Abundance: How a Revolution in Nanotechnology will Change Civilization* by K. Eric Drexler (2013), *Abundance: The Future is Better than You Think* by Peter H. Diamandis and Steven Kotler remains the most important book as it acknowledges both the environmental challenges and the "doom and gloom" environmentalists who, as Diamantis and Kotler claim, want us to return to the lifestyle of the Amish. What makes *Abundance* stand out from the others is that the authors make the boldest prediction of what the digital revolution will achieve over the next few decades. As Diamandis and Kotler put it, "Humanity is now entering a period of rapid transformation in which technology has the potential to significantly raise the basic standards of living for every man, woman, and child. Within a generation, we will be able to provide goods and services, once reserved for the wealthy few, to any and all who need them. Or desire them. Abundance for all is actually within our grasp" (p. 9).

As their futurist predictions are likely to fall far short, with the digital revolution strengthening the likelihood of living in the panoptican world of a police state, and engaging in perpetual warfare over resources, sectarian/religious conflicting agendas, and efforts to resist Western colonization, it is important to evaluate the optimism of Diamandis and Kotler in light of the silences that run throughout their book. It is also necessary to recognize that the more recent books on the digital revolution, as well as the curriculum of Singularity University (which is the brainchild of Ray Kurzweil and Diamandis) exhibits the same silences as well as a libertarian ideological orientation.

Where the Diamandis and Kotler vision of providing abundance for everyone goes off the tracks is in how they define the three levels of human need. The first level is the physiological need for sufficient food, water, and shelter. The second level is for energy, education, and information/commuication. And the third level of human needs that are to be met by the digital revolution includes health care, and the tools for exercising freedom. The problem is in how they frame the different human needs. They ignore that the phrase "human needs" is basically a misleading abstraction in that this is a world where close to 6000 languages are still spoken—which means there are many different cultural ecologies that prioritize the behaviors and values that are understood as appropriate to meeting basic needs. In short, the diverse cultural ecologies the govern everyday life are more complex than the abstract definitions of Diamantis and Kotler.

In addition, Diamandis and Kotler do not consider the differences in cultural ways of thinking that in many instances are more intergenerationally centered than the form of individualism reinforced by digital technologies. Digital technologies reinforce a mindset that assumes that change requires the overturning of traditions. And the reliance upon the technology of print is ethnocentric by virtue of how it marginalize the importance of oral traditions. Yet another oversight is that they do not take account of the differences in the political economy of these diverse cultures—with many being more dependent upon a barter and mutual exchange system than a money economy. The digital technologies they propose as meeting the basic "human" needs such as in the area of potable water, sanitation, reliance upon artificial intelligence, robots, digitally mediated learning, and so forth, would also have to be modified to take account of the vast differences in the resources of different bioregions.

The problem of assuming that all human needs are met in the same way can be seen in a new Lab-on-a Chip, or LOC technology, Diamandis and Kotler view as meeting the health care needs of billions of people. As they describe it, it can be packaged into a cell phone size device that is highly portable, and will allow doctors and even the patients themselves to take samples of their own bodily fluids. As many diagnostic tests can be performed immediately and as the LOC is tied into the Internet, data about the illness, such the swine flu, can be shared on a global basis and stored in the cloud. For all its descriptive advantages, it would quickly require fundamental changes in how different cultures understand both the non-biological and biological causes of diseases, and the forms of knowledge, community involvement, and traditions that come into play in the process of healing.

The other technologies they describe in the section labeled "A Trip Through Tomorrowland" shows the same tendency toward reifying digital technologies as though they are both the expression of evolutionary-directed progress and at the same time as culturally neutral. Among the technologies that will lead to abundance for everyone, including those living in non-Western cultures, include artificial intelligence, robotics, digital manufacturing, nano materials and nanotechnologies. Only the positive uses of these technologies are discussed, with no mention of what different technologies amplify and reduce in terms of human experience and cultural traditions—which again vary widely. By not basing their well intended recommendations on a deep ethnographic based understanding of cultural differences, they are unable to recognize when their one-technology-solution-fits-all-situations, such as the one laptop per child global effort of Nicholas Negroponte, becomes yet another form of cultural colonization.

Diamandis and Kotler do not rely upon evolutionary theory to the same degree as Kurzweil. Rather, they have merged it with the West's long held assumption that change is inherently progressive in nature, and that there is nothing in the past that should be conserved. Their silence on what needs to be conserved (that is, intergenerationally renewed) is especially important and will be discussed later in relation to the need to revitalize the diversity of the world's cultural commons. Kurzweil, on the other hand, relies upon Darwin's theory of evolution to give scientific legitimation to his culturally revolutionary technologies, including his argument that the highpoint of evolution was the development of the human brain to the point where it was able to transfer its intelligence to self-programming digital technologies. According to Kurzweil, the emerging of this era of singularity where computer intelligence becomes thousands of time more intelligent than humans signals the end of the biological phase of the evolutionary process. By way of contrast, Diamandis and Kotler rely upon the theory of evolution when it serves to strengthen their overall argument about the exponential nature of global technological progress.

Diamantis and Kotler argue that the exponential technologies that are transforming today's world reflect a combination of forces: the power of connectivity that builds upon the intelligence and the technological genius of others, the coming age of the do-your-own thing innovators (DIY), and the new breed of technophilanthropists who back cutting-edge technologies with millions of dollar. That the internet has now overcome the limitations of time and space, thus creating a world market for new technologies, is also viewed as a major transforming force. The X Prize Foundation, of which Diamantis is chairman and CEO, is given as an example of the technophilanthropists' power of using incentives to drive

technological innovations such as engineering a car that gets a 100 miles per gallon, designing a robot that can land on the moon, reducing the time and cost of sequencing genomes, and so forth. The list of cutting edge technologies that Diamantis and Kotler cite as examples that contribute to the abundance for everyone becomes increasingly divorced from the basic needs of the billions of people they cite in the early sections of the book.

The main shortcoming in their thinking is that they are far more knowledgeable about the digital culture in which they are immersed than they are about other cultures where they are dependent on the data on the number of people who lack clean water, adequate diets, shelter, and live on a few dollars a day that preclude them from moving beyond cell phones to owning a robotic nurse, building vertical gardens, and owning a 3D desktop printer. This lack of knowledge of how other cultures are being transformed by the digital revolution can be seen in how Diamantis and Kotler ignore the many cultural traditions that are being lost.

Their indifference to what is being lost can be seen in where in the book they discuss several of the most pressing issues that bring into question the digital revolution they celebrate in the main part of the book. In the afterword of the book, which suggests what is an after thought for them, they include a two and a half page discussion of cyber crime, a four page discussion of bioterrorism, and a similar number of pages to "Robotics, AI, and the Unemployment Line" as they put it. This is followed by a section titled "Unstoppable". Their concluding thought on these problems is that "putting the brakes on technology just won't work" (p. 303). The final sentence of the book is also revealing: "Sure, there are always going to be a few holdouts (again, the Amish), but the vast majority of us are here for the ride. And, as should be clear by now, it's going to be quite a ride" (p. 304). For the millions of people who are being displaced by the computerization of the workplace, and have lost the ability to earn a living and to practice a craft, and with unemployment among certain groups in America and in other countries ranging upward toward 40 percent, the concluding remarks of Diamandis and Kotler is similar to the famous "Let Them Eat Cake" statement wrongly attributed to Marie Antoinette.

As Diamandis and Kotler push the technological imperialism agenda beyond what is found in the later books by technological futurist thinkers it is important to identify other examples of their lack of understanding of cultural differences, as well as the ways in which ecologically destructive patterns of thinking are hidden by reliance upon computer mediated learning. First, a basic cultural issue that should have been addressed following their brief mention that the American consumer lifestyle is degrading natural systems at an unsustainable rate is how to reduce the level of consumerism that the digital technology industry is hell-bent on expanding with a flood of new uses of digital technologies—including wearable and personal technologies. If Diamandis and Kotler had understood their own daily cultural practices, as well those of other cultures, they might have recognized the fundamental differences between the cultural practices that require participation in the money/consumer economy, and those that are part of the gift economy that has been intergenerationally handed down as part of what can be called the cultural commons.

The culture commons vary from community to community, and from culture to culture—but they still encompass the skills, knowledge, and mentoring relationships that are less dependent upon the money economy that has a smaller ecological footprint. They include the inherited knowledge relating to the growing and preparation of food, narratives and ceremonies, creative arts, craft knowledge, games, knowledge of local ecosystems, traditions of social justice, and language itself. Within some cultures, the cultural commons also carry forward traditions of exploitation and discrimination. The world's diversity of cultural commons are intergenerationally renewed through face to face communication, and are being rapidly enclosed by modern pressures such a market forces, technologies—specially digital technologies, and by ideological driven silences.

If Diamandis and Kotler had understood the basic distinction between enacting cultural patterns that are part of the cultural commons and those that have been monetized, thus requiring participation in a money economy that is shrinking for the majority of Americans, they might have asked a different set of questions—including questions about how digital technologies are undermining what remains of the world's diversity of cultural commons. For example, does computer-mediated learning, which relies upon print that fosters abstract thinking, undermine the forms of intergenerational knowledge communicated face to face that enable people to develop skills, discover talents, remember social justice gains, mentor others in ways that create a sense of purposeful identity and meaning? Or will the widespread use of 3D Printers represent an advancement over the genuine human achievements passed forward as part of the cultural commons?

An understanding of cultures as complex ecologies might have also led Diamantis and Kotler to recognize the limitations of their current view of educational reforms where students are to rely upon the Internet to construct their own knowledge and to ask their own questions. Educational reform is especially important to them as they view it as essential to the creation of new technologies that will achieve abundance for everyone, One of the characteristics of both natural and cultural ecologies is that everything has a history that influences current thinking, values, and behaviors. The future depends upon the ability to successfully adapt to changes in the larger interdependent cultural and natural ecological systems. A deep understanding of how the metaphorical nature of language reproduces earlier cultural assumptions and prejudices that, in many instances, continue to frame the current meaning of words such as progress, intelligence, technology, wealth, individualism, and so forth might have led them to recognize that the words appearing on a computer screen are metaphors that have a history, and that reproduce earlier misconceptions and silences.

Their idea of data-based thinking and being IT connected is extremely simplistic. How many students who are increasingly relying upon the Internet are aware of how their most basic assumptions have been influenced by the metaphorical language they learned from their linguistic community? And how many are aware that the digital technologies they increasingly rely upon undermine sensory and memory-influenced awareness of the relational, emergent, and interdependent ecologies that are part of daily experience—and that their interpretations of these life sustaining ecologies have been historically influenced in ways that reproduce the misconceptions of earlier times when there was no awareness of environmental limits?

That the thinking, as well as silences, of Diamandis and Kotler have been influenced by the cultural assumptions encoded in the ecology of language of their cultural group can be seen in the following statement: "When we see through the lens of technology, few resources are scarce; they're mainly inaccessible. Yet the threat of scarcity dominates our worldview" (p. 6). To cite just two examples of the resources of our cultural commons that are being coming scarce— that is, our traditions of civil liberties and the ability to use our skills to earn a living. Both are being undermined by digital technologies that, for the Internet generation that does not value the importance of memory, are increasingly receding from consciousness. While digital technologies enable us to make important gains in many areas of life, the current estimate is that 47 percent of jobs in America can be computerized and thus will disappear in the next two decades in order to increase efficiencies and profits. The metaphor of wealth has a very different meaning within the context of the cultural commons.

The widespread failure of computer scientists and techno-millionaire futurists such as Diamandis and Kotler is that in not understanding different cultural ecologies and how they impact natural ecologies, they are unable to recognize the importance of the cultural traditions that are being lost due to the cultural amplification and reduction characteristics of digital technologies. This major shortcoming in the thinking of Diamandis and Kotler can be, in part, traced to the failure of their university education to provide the conceptual frameworks necessary for understanding the many ways digital technologies undermine other

cultural ways of knowing—especially ways of knowing that strengthen community traditions of self-sufficiency and that have a smaller adverse impact on natural systems.

Recent books of Chet Bowers:

Perspectives on the Ideas of Gregory Bateson, Ecological Intelligence and Educational Reforms (2011); *University Reform in an Era of Ecological Crisis* (2011)*; Educational Reforms for the 21st Century* (2012); *The Way Forward* (2013); *In the Grip of the Past* (2013); *The False Promises of the Digital Revolution* (now in press).