Ecological Intelligence: How Knowing the Hidden Impacts of What We Buy Can Change Everything by Daniel Goleman

Reviewed by Thomas Joseph Doherty

In *Ecological Intelligence: How Knowing the Hidden Impacts of What We Buy Can Change Everything*,[1] psychologist and science journalist Daniel Goleman draws on Howard Gardner's (1983) theory of multiple intelligences to propose ecological intelligence (EI). In his conception of EI, Goleman combines naturalist intelligence with emotional intelligence: EI melds pattern recognition skills with empathy for all life. At times using language evocative of a holistic, ecopsychology perspective, Goleman describes EI as an "all encompassing sensibility" (p. 44) that reveals the interconnections between human actions and their impacts on the planet, human health, and social systems.

Although Goleman proposes an important, ecologically valid way to think about the construct of intelligence, *Ecological Intelligence* is not primarily a psychological work, in the sense of clarifying the influences or abilities that make one ecologically smart. The content focuses on the transformative role of information technologies in the marketplace. Goleman argues that information about product impacts from the new field of industrial ecology, readily available on websites such as Goodguide.com and Cosmeticsdatabase.com, will create "radical transparency" (p. 79) allowing shoppers to know the environmental, health, and social consequences of what they buy. He envisions a world where shoppers use point-of-purchase ecological comparisons (accessed through in-store displays or downloaded on cell phones) to guide their purchases, shifting market share to healthier and more socially and environmentally benign products. Along the way, Goleman does provide some interesting speculations on ways to understand EI, along with associated cognitive processes such as active attention and mindfulness, and the neuropsychology of emotions involved in making purchasing choices.

A psychologist and former *New York Times* science journalist, Daniel Goleman is perhaps best known for popularizing psychology research on emotional intelligence (Goleman, 1995). He has also written about the psychology of self-deception and meditation, and published dialogs with the Dalai Lama on healing and destructive emotions.

Ecological Intelligence spans multiple subjects and falls under the heading of what may be called popular scientific psychology (e.g., Gladwell's *Tipping Point* and Gilbert's *Stumbling on Happiness*), a genre Goleman's own work helped to create. *Ecological Intelligence* is also at home with more recent works on neuroeconomics (e.g., Thaler & Sunstein's *Nudge*), other nonfiction focusing on environment and health (Steingraber's *Having Faith*), and the back story on the food system (Schlosser's *Fast Food Nation*). Given that it is also written about and is appropriate to sustainability-minded entrepreneurs and advertisers, *Ecological Intelligence* also caters to business audiences.

Defining Ecological Intelligence

In conceptualizing EI, Goleman combines intelligence (the capacity to learn from experience and deal effectively with our environment) with ecology (an understanding of organisms and their ecosystems). Goleman envisions EI in the context of cognitive psychologist Howard Gardner's (1983) theory of multiple intelligences (e.g., linguistic, musical, or bodily-kinesthetic intelligence—unique talents that have proved adaptive for the human species and that continue to provide continued benefits). Just as social and emotional intelligence build on the abilities to take another's perspective, empathize, and show concern; ecological intelligence extends this capacity to all natural systems. According to Goleman,

[1]Broadway Books, New York, New York; 2009; 288 pp; $26.00.

DOI: 10.1089/eco.2009.0017

we display empathy when we feel distress at the "pain" of the planet (p. 44), or resolve to make things better. It is empathy, added to a rational analysis of cause and effect, that creates the motivation to help. To tap into this intelligence, Goleman advises readers to "get beyond the thinking that puts mankind outside nature; the fact is, we live in enmeshed ecological systems, and impact them for better or for worse—and they us" (p. 45).

A Grand Self-Deception

Goleman has written about the psychology of self-deception, and in *Ecological Intelligence* he gently but clearly exposes what he calls "a grand self-deception" (p. 4) in modern consumer lifestyles—that decisions in people's material lives are of no great consequence, and what they do not know or see does not matter. Thus:

> We go through our daily life awash in a sea of things we buy, use, and throw away, waste or save. Each of these things has its own history and its own future, back stories and endings largely hidden from our eyes, a web of impacts left all along the way from the initial extraction or concoction of its ingredients, during its manufacture and transport, through the simple consequences of its use in our homes and workplaces, to the day we dispose of it. And yet these unseen impacts of all that stuff may be their most important aspect. (p. 2)

For Goleman, it is not simply the case of greedy corporations or consumer as victim. Humans are enmeshed in systems of commerce and manufacturing that perpetuate our problems—collective habits and technologies inherited from, he politely notes, "a more innocent time, when life could more readily be lived without regard for the ecological impacts of our own activity" (p. 39).

Goleman believes that humans are at risk for a wide range of perils in large part because the web of connections between what consumers buy and do and the resulting adverse impacts remain hidden. Even as some consequences grow dire, habits continue that intensify the perils. The information, although not always new, is unsettling and at times tragic.

For example, Goleman notes that only a fraction of the many thousands of man-made chemical compounds used yearly for things such as food flavoring have been tested for health effects on adults, let alone on fetuses or infants. Further, the United States Environmental Protection Agency has exempted approximately 62,000 industrial chemicals from testing or review. (This, Goleman notes, is in contrast to policies by the European Chemicals Agency that seeks to have all chemicals in use tested for health effects.)

Steps Toward Ecological Intelligence

For Goleman, ecological intelligence is being intelligent about the ecological impacts of how one lives. He observes that consumers are faced with a predicament: If someone wants to buy a product that is best for the environment, for their health, and for the well being of those who made it, it is largely impossible to get comparative information. Goleman finds steps toward this intelligence in the new field of industrial ecology. This includes life cycle analysis (LCA), a method that allows for a systematic analysis of any manufactured item into its components and their subsidiary industrial processes, and to measure with "near surgical precision" (p. 14) their impacts on nature from the beginning of their production to their final disposal.

Life cycle analysis exposes information lost by the concept of the value chain (how each step in a product's life from extracting materials and through manufacturing and distribution adds to its worth) and tracks the product's ecological negatives—quantifying its environment and public health downsides at each link—in Goleman's word's the product's "de value chain" (p. 28). This counteracts the "information asymmetry" (p.73) of the marketplace: the inequality between consumers' and company's access to key product data.

Tools of *Ecological Intelligence*

According to Goleman, radical transparency and ecological intelligence will be fostered by sources of product information that are authoritative, impartial, and comprehensive. An example of the next wave of product information sources aimed at consumers is Good Guide Inc. (www.goodguide.com), which is designed to provide product information at the customer's point of purchase. Resources for businesses include the prototype Earthster.com, a free open source web-based program that allows businesses access to LCAs, which can be used to upgrade their processes and track the environmental, health, and social impacts of their suppliers.

Greenwashing and Radical Transparency

Goleman believes that accurate product LCA can help to counteract the tendency toward "greenwashing." Here it is defined as "the selective display of one or two virtual attributes of a product meant to impart goodness to the whole thing" (p. 25). As Goleman notes, green marketing in today's marketplace is "a narrow slice of goodness among the myriad unfortunate impacts of all manufactured objects" and today's standards for greenness will be seen as tomorrow's "eco-myopia" (p. 26).

In an alternative to selective green marketing, Goleman proposes "radical transparency" (p. 79): Tracking every substantial impact of an item from manufacture to disposal—not just its carbon footprint and other environmental costs, but its biological risks, as well as its consequences for those who labor to make it—and summarizing those impacts for shoppers while they decide what to purchase.

Goleman believes that radical transparency can lead to a "virtuous cycle" (p. 243), to the extent that transparency allows shoppers to vote with their dollars for more ecologically intelligent technologies, ingredients, and design—and shift market share toward them—commerce will reform, not just in the name of responsibility, but in pursuit of profit. Goleman cites examples in which increased health information available to consumers shifted in the market away from food products containing hydrogenated vegetable oils (i.e., so-called "trans fats") and from sport-utility vehicles that had high rates of rollover accidents.

Evaluating *Ecological Intelligence*

Ecological Intelligence showcases on how 21st century information technologies offer potential for unprecedented transparency—and a form of ecological literacy—in the marketplace. Goleman posits a synthetic variation on intelligence that would typically be at-home in academic fields like cognitive psychology or environmental studies and gives it, literally, real world currency. In Goleman's conception, EI works powerfully within the logic of the market place. Access to the previously hidden back-story of products becomes a source of empowerment for individuals as conscious consumers. Radical transparency becomes a blueprint for socially and environmentally conscious manufacturing and ethical marketing. There is a clear message for businesses: those who capitalize on transparency will demonstrate corporate social responsibility and benefit the bottom line. Businesses who choose to ignore the transparency wave endanger their reputation and their long-term viability.

Ecological intelligence, as a work, does have its flaws, and I share the following in the spirit of caveat emptor. Given that the book comes from the person who has done most to popularize the idea of emotional and social intelligences, it is notable that *Ecological Intelligence* lacks an emotional impact statement. Some of the information, such as research on ubiquitous environmental toxins and their "bioaccumulation" (p. 147) in the human body, is downright troubling. As Goleman notes, information available on websites such as Bodyburden.org "creates the creepy feeling that nothing is safe" (p. 146).

Ecological Intelligence is a dense and demanding read at 264 pages including endnotes. Chapter headings are evocative rather than descriptive and the book does not lend itself to a skim. Also, the book lacks diagrams or figures and readers would benefit from graphical representation of concepts such as LCA and supply chains and screenshots of the websites that are described.

Those looking for personal development or opportunities for self-reflection, which they may have found in Goleman's previous works on meditation, leadership, or emotional intelligence, will find this book lacking. It is primarily focused on issues outside of the person: products, supply chains, industrial science, and ethical marketing. There is little in the way of human-interest stories or vignettes about how EI can be applied to a person's life.

Goleman suggests a few evocative metaphors. Indra's Net (in which each jewel in the web holds in it a reflection of every other) becomes an image for the endless interconnections within and between systems in nature, as well as in human-made systems like the supply chain. The image of the Ouroboros (a mythical serpent that swallows its own tail) illustrates what happens if you follow a supply chain back far enough: It begins to loop on itself. (For example, it takes electricity to make steel and it takes steel to make and maintain an electric power plant.) However, these metaphors are not developed or carried through the text.

Also, Goleman is soft on the industrial economy and individuals' consumer behavior. Was the perpetuation of environmentally degrading manufacturing processes and masking of the health risks of products simply the result of living in an innocent time? Are unhealthy or environmentally damaging product choices simply a case of missing information? Or is it more to the point that philosophies and policies consciously chosen to promote profits over environmental and human health are now seeing their limits, and are increasingly untenable given information that is now available?

The Construct of Ecological Intelligence: Next Steps?

Unlike the construct of emotional intelligence, which had an existing research base, ecological intelligence, as described by Goleman, is a novel idea. Perhaps future works can help to realize its potential. Goleman's work raises some important questions, perhaps the obvious being how does this ecological version of intelligence correlate with traditional measures of IQ and how can this be measured?

Gardner (1999) described a number of criteria by which to identify multiple intelligences including an underlying neuropsychological structure, an evolutionary history, identifiable core

capacities and a developmental course, and support by experimental tasks and psychological testing. What would EI look like when evaluated under the same criteria? How does EI differ from the naturalist intelligence that Gardner identifies?

In their 2002 work on emotionally intelligent leadership, Goleman, Boyatzis, and McKee (2002) detailed 20 core competencies of emotional intelligence and described how emotional intelligence correlated with better leadership performance and profit among individuals with similarly high IQ. Will ecological intelligence be revealed as a similar discriminating competency?

Readers familiar with ecopsychology and environmental psychology will also have a number of questions. How does the construct of EI relate to theory and research on the ecological self (Bragg, 1996) and concepts such as environmental and ecological identity (Clayton, 2003; Thomashow, 1995)? How does EI interface with environmental ethics (Fox, 2006) and evolutionary perspectives such as biophilia (Kellert & Wilson, 1993)? Is EI compatible with empirically testable frameworks that describe the development of environmentally significant behaviors (Gardner & Stern, 2002)? Finally, how does EI fit in recent work on consumer purchases and advertising (Kasser & Kanner, 2003)?

The concept of emotional intelligence became so popular in part because it addressed the basic human needs for competency, self-esteem, and social acceptance—and predicted material success. Attaining ecological intelligence poses a challenge as it also presupposes a capacity for altruism and empathy for the more-than-human world. However, given the sweeping nature of global environmental change and increasing threats to human health, intelligence—as the capacity to learn from experience and deal effectively with our environment—does call for a need to, at minimum, preserve that environment.

For Goleman, ecological intelligence is being intelligent about the ecological impacts of how one lives. It can begin with smart shopping. Emotional intelligence has become a commonly accepted and respected intellectual attribute. Perhaps Goleman's attempt to bring the concept of ecological intelligence into the culture will have similar outcomes. We can only hope.

REFERENCES

Bragg, E. (1996). Towards ecological self: Deep ecology meets constructionist self theory. *Journal of environmental psychology, 16*, 93–108.

Clayton, S. (2003). Environmental identity: A conceptual and an operational definition. In S. Clayton & S. Opotow (Eds.), *Identity and the natural environment: The psychological significance of nature* (pp. 249–271). Cambridge, MA: MIT Press.

Fox, W. (2006). *A theory of general ethics: Human relationships, nature, and the built environment*. Cambridge, MA: MIT Press.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Gardner, H. (1999). *Intelligence reframed*. New York: Basic Books.

Gardner, P., & Stern, P. C. (2002). *Environmental problems and human behavior* (2nd ed.). Boston: Pearson Custom Publishing.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership*. Boston: Harvard Business School Press.

Kasser, T., & Kanner, A. D. (2003). *Psychology and consumer culture*. Washington, DC: American Psychological Association.

Kellert, S. R., & Wilson, E. O. (Eds.). (1993). *The biophilia hypothesis*. Washington, DC: Island Press.

Thomashow, M. (1995). *Ecological identity: Becoming a reflective environmentalist*. Cambridge, MA: MIT Press.

Address correspondence to:
Dr. Thomas Joseph Doherty
Lewis and Clark College
Sustainable Self, LLC
PO Box 3174
Portland, OR 97208

E-mail: journal@selfsustain.com

Received: July 1, 2009
Accepted: July 1, 2009