

Education Imagination and Social Transformation



Mali Burgess

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Iris Institute
www.irisinstitute.net
irisinstitute@irisinstitute.net

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In 1971, the Architecture Department at UC Davis designed a walking tour for prospective students that progressed through the rolling grounds of the campus based on the question: What social issue most needs to be addressed to create a sustainable future? Inquiries along the way explored issues related to ecology, governance, architecture, and energy resources. The path led to their answer both figuratively and literally: education.

Education is a key component of social change. A world faced with serious challenges to the development of a more sustainable, humanitarian, equitable, and wiser global community informs the question: In a society based on a collaborative, self-organizing, synergistic, creative, and sustainable approach to learning and living, what form would education take?

Learning is a living process imbued with the excitement of discovery, the joy of creating, the ecstasy of visionary revelation, and the awe of transformation. Individuals flourish when they follow their self-evolving interests, express their inherent creativity, develop their abilities, listen to their intuition, actualize their insights, mature through self-discovery, value their dreams and visions, and fulfill their potential. It is not surprising that when individuals do what they love, their psychophysiology changes in life-enhancing ways (Boehmer 2005).

Learning is integral to living in the natural world. Nature is synergistically cooperative, and locally and nonlocally informed. It is inclusive. From a specialized perspective that has isolated information and separated learning, living, and working, it would be interdisciplinary, omnidisciplinary, transdisciplinary. When the biologist Mark Moffett found a universality of structure in scale after discovering that the natural architecture of rain forest canopies was similar to the structure of a one-inch lawn, a microbial canopy of pond algae, and a bacterial biofilm community, he realized that due to scientific fragmentation, experts had missed the similarities that transcended scale and the parallel similarities among systems,. He subsequently co-organized the first-ever formal discussion between experts on marine and terrestrial canopies (Moffett 2002). In 2005 at Princeton University a new freshman science course, reviewed as trailblazing because it incorporated a multidisciplinary approach to its subject matter by integrating concepts from the chemistry, physics, and biology departments, required serious curriculum reform, even though Princeton had offered an independent major for over thirty years for students interested in bridging departments. A faculty member had pointed out that because the advancement of science currently demands cross-fertilization among a number of different disciplines, courses needed to integrate concepts in mathematics, computer science, physical sciences, and biology. President Tilghman agreed

that the next generation of scientists needed to function in a more multidisciplinary scientific setting (Mendels 2005).

After a century of dissecting the cortex into smaller and smaller bits, we're learning that the highest functions of the mind - creativity and imagination - are emergent properties of a brain working as a whole (Silberman 2003).

The deleterious consequences to individuals and society of industrialized, standardized, and specialized approaches to learning have been addressed by numerous individuals, including Alfred North Whitehead, Noam Chomsky, John Taylor Gatto, Ivan Illich, Alfie Kohn, Derrick Jensen, and Buckminster Fuller, who in his 1962 essay *Education Automation* wrote that the solutions to society's most pressing problems were being left to those least able to solve them (Yen 1999). Independent learning and Innovative programs in private, public, charter, independent, Waldorf, Montessori, and home schools and have provided alternative approaches. In her 1990 documentary *Why Do These Kids Love School?*, Dorothy Fadiman highlighted eight innovative public and private school programs for children around the U.S. One of them, the Peninsula School for Creative Education, was founded in 1925 by educator Josephine Duveneck and a group of parents when they were unable to find a school environment in

which learning was joyful and exciting and independence and group cooperation were highly valued. Duveneck felt the aims of a progressive school could be summed up by two ideals, individual development and social consciousness or conscience, each on one side of a scale that was perfectly balanced (Peninsula School 2005). The Peninsula School emphasizes discovery, self-motivation, self-development, and social interaction. Important educational components common to all the school programs Fadiman documented were communication, relevance, flexibility, cooperation, service, participation, and leadership. Fadiman found that when teachers, parents, students, and administrators were involved in creating vibrant, supportive, educational environments, what emerged was the importance of humane values, strong student and faculty morale, improved test scores, and students with the capacity for self-directed learning.

Paolo Friere, Marchall Rosenberg, Manfred Max-Neef, Derald Langham, Gregory Bateson, and Gunter Pauli are amongst those who have recognized the importance of relationship, communication, human potential, inquiry, nature, and ecological systems thinking in education. The Brazilian educationalist Paolo Freire, known for his pedagogy of the oppressed and pedagogy of hope, believed in situating educational activity in the lived experience. Placing emphasis on dialogue rather than curricula, he was concerned with dialogical praxis: action

informed by values and understanding that made a difference in the world. This dialogical process was based on respect and cooperative activity leading to informed action that enhanced the community, justice, and the development of consciousness. Freire also sought out words that generated new ways of naming and acting in the world for the purpose of conscientization, a term he initially used to refer to the development of consciousness with the power to transform reality (Smith 2005).

Marshall Rosenberg, realizing that systems based on reward and punishment engender fear, insecurity, guilt, and shame which contribute to physical and nonphysical violence, developed Nonviolent or Compassionate Communication based on empathy and human needs. Rosenberg recognized that the language of moralistic judgment had been used by outside authorities to support hierarchical and domination societies, and to control individuals and large populations. He observed that life-alienating communication that encouraged judgments, comparisons, labels, and demands was rooted in views of human nature that had exerted their influence for several centuries. These views stressed human deficiency and the need for education to control what was viewed as humans' inherently undesirable nature. He found education based on these views led individuals to question whether there was something wrong with the needs and feelings

they experienced, whereas an awareness of individual feelings, needs, thoughts, and actions generated personal responsibility (Rosenberg 2003. 23).

Manfred Max-Neef, working together with a number of institutions, developed what has become known as the Human Development Theory which proposes a form of development based on the adequate satisfaction of fundamental human needs (Max-Neef 2003). Max-Neef ascertains there are nine fundamental needs: subsistence, protection, affection, participation, leisure or recreation, creation, identity or meaning, understanding, and freedom or transcendence, which he relates to being, having, doing, and interacting (RIC 2005). Rather than arranging needs in a hierarchical pyramid as Maslow did, Max-Neef feels that apart from the need for subsistence (water, food, shelter, etc.), needs can be understood as a system and seen as interrelated and interactive. He believes that fundamental human needs are finite, few, classifiable, and the same in all cultures and historical periods, and thus are universal. He suggests that what changes over time and through cultures is the way or means by which needs are satisfied. He delineates five categories of satisfiers: destroyers, pseudo-satisfiers, inhibiting-satisfiers, singular-satisfiers, and synergistic-satisfiers, and points out that satisfiers are not just economic goods, they can be forms of organization, political structures, social practices, subjective

conditions, values and norms, spaces, contexts, types of behaviour, and attitudes. One of the satisfiers (the inhibiting-satisfier) he relates to the over-satisfaction of a given need which thereby hinders the satisfaction of other needs, such as an authoritarian classroom which may over-satisfy the need for understanding and hinder the satisfaction of the need for participation, creation, identity, and freedom (CCM 2004). Max-Neef believes there can be no real progress on sustainability until the language of economics and the way economics is taught and applied are changed, because conventional economics does not take into account the laws of thermodynamics, biological processes, and how living systems behave. He believes if economics is taught as a more holistic systemic discipline, as ecological economics, the world will change because the way economists are educated is decisive for what happens in the world (Max-Neef 2003).

The agriculturalist Derald Langham utilized direct communication with nature to develop plant potential. This, along with his genetic work with transgressive segregation and the crossing of the strongest and weakest plants, led to his concept of the flexible middle. He worked with what he called the Four-Is: instinct, intuition, insight, and inspiration. His interest in human potential led to his application of the flexible middle in education, which involved motivating students to become their best selves through being, knowing, and valuing. Together with

the processes of becoming, he felt it was important for individuals to make themselves and their immediate environment an integral part of their learning experience (Langham 1969).

Gregory Bateson was concerned with learning and the limits of the cultural determination of truth. He recognized that questioning answers was essential to the creative processes and the development of metaperspectives. What he called first and second level learning involved trial and error and contextual learning, while third level learning involved questioning the certainties of culturally, socially, and individually agreed upon world views and aspects of character, which under specifiable conditions could be transcended. Third level truth involved learning that submitted cultural truths to more complex learning such as the intimate knowledge of two different cultural systems (Bateson 1972 and Levy & Rappaport 1982).

Gunter Pauli founded and directs the Zero Emissions Research and Initiatives Foundation (ZERI), a global network seeking solutions to world challenges, including those that others consider impossible or too complex. Zeri is involved in projects in business, architecture, ecology, agriculture and education. The goal of Zero Emissions production and consumption is to imitate nature's design principles by using the output from one process as the input for another, thereby

achieving efficient production for all the goods and services society needs without any form of waste. Zeri is committed to working towards a new paradigm based on the creation of a global consciousness rooted in the search for practical solutions based on sustainable natural systems. They believe that appropriate solutions are only possible with an acceptance of the interconnectedness of local and global issues, and microscopic cellular and supra-global scales, since each affects the other in subtle yet profound ways. They feel a narrow technological approach to addressing poverty issues in an open market is unlikely to be successful. Rather they feel that social and business communities need to be enabled to value the richness of their environment and to work with nature's design principles on projects that demonstrate true diversity, true diversity being the appreciation of individual uniqueness and the celebration of interconnectedness to generate livelihoods for everyone (Zeri 2004). Recognizing that children are the next generation of leaders, Pauli began writing fairy tales that embodied sustainable principles, and science that informed the workings of nature. This led to the creation of The Zeri Educational Initiative which supports children, adolescents, and young adults in learning science with an academic understanding at the same time that they develop emotional awareness that allows them to better understand themselves and relate to others. The initiative supports the generation of new ideas that interrelate and integrate concepts into the context of the ecosystem. It supports the

development of artistic expression as a communication system that goes beyond words. The Initiative builds on leadership that affirms the creative potential of each child and their unique contribution towards the development of themselves and their communities, rather than on leadership by power and control. The initiative provides a culture of inquiry working in harmony with nature, and supports the creation of sustainable livelihoods for a present and future generation that is capable of responding to the basic needs of all living species. Zeri designs cluster industries, and engages children in the thinking and design processes of sustainable development of local industries within their communities (Zeri 2004).

My educational experience involved nine years of dispiriting K-9 academic pressure. In my sophomore year I finally changed high schools. It was not until my junior year, when a modular system was progressively initiated, that I begin to flourish. In college I designed a degree program that combined the only available individualized program at the university, with their independent major program. When I met with the committee chairman to inquire why my program had been denied, he told me that the university had been educating individuals for over one hundred and fifty years and they knew how to educate me better than I did. I reapplied. When the proposal was again denied, though I considered dropping out, I applied

one more time. The approval committee personnel had changed, and the program was finally approved. I once again flourished, graduating summa cum laude. In graduate school, when the university I attended abandoned their independent program under accreditation review, I continued my studies independently. I was eventually granted Master's equivalency and designed my own doctoral program in the only accredited university graduate program in the country that offered an interdisciplinary degree for self-directed learners, a program they too later abandoned under accreditation review.

Students today continue to survive competitive academic pressure and the faculty, departmental, and interdepartmental politics endemic to educational life, only to enter 'the real world' of highly competitive economics. This segregated, competitive approach to learning and living self-reinforces the assumption that individuals need to be motivated by competition and fear in spite of observation, commonsense, and historical precedent. Contemporary research confirms that when individuals are motivated by discovery, curiosity, and excitement, they are happier and healthier (Boehmer 2005). Charles Mann (2005) wrote that communities at various times, such as the Iroquois confederation, have been able to create a social balance between autonomous and collective responsibility, and individual and collaborative learning, where individuals are taught to think for themselves and to act for

others. Interconnection is fundamental to sensitive dependence in dynamical systems and quantum nonlocality. It is the basis of the African understanding of *ubuntu*, the connection of one person to another, and every person to the human community. It is understood that when one individual hurts another, it hurts not only both those individuals, it hurts everyone in the world (Peacock 2004). Likewise, because individuals cannot disconnect themselves from others, because livelihoods are dependent on local and global neighbors, everyone benefits when individuals respect differences and treat each other with dignity (McKinnon 2005). When education is based on life-controlling, hierarchical, coercive, and uniform approaches it becomes detrimental to the community as a whole. When education is based on life-enhancing, egalitarian, supportive, and creative approaches that value individual learning processes, individuals flourish, which benefits the community as a whole.

In futuring processes, participants often envision a future society that is collaborative, self-organizing, synergistic, creative, and sustainable. They envision education benefiting from collaboration, communication, and wisdom shared between the individuals involved, which in turn nurtures the larger community. In this shared vision, information flows within a stable yet adaptable, innovative, flexible, and responsive system, and approaches to learning are imaginative, resourceful, and

respectful of nature. The probability of this envisioned future depends upon present choices, just as the consequence of continuing to choose uncooperative, uncreative, and unsustainable systems threatens global evolution. When so many pressing ecological and social imbalances need to be addressed, and the limits of hierarchical and judgment-based systems have become globally apparent, replacing industrialized, institutionalized, standardized, and commodified education with creative, life-sustaining new approaches has become essential.

In a society based on a collaborative, self-organizing, synergistic, creative, and sustainable approaches to learning and living, what form *would* education take? One answer is that learning would involve creative, innovative, visionary, and natural approaches to learning as a living process. Learning would be based on a deep, sustained respect for, and interactive cooperation and communication with nature inspired by the wisdom, mystery, and beauty of life. Education would incorporate evolving, self-organizing, inclusive, approaches to learning based on humanitarian and equitable values, and an integral approach to living and learning processes. An integral approach would include an inclusive understanding of ancient, current, and emerging knowledge and wisdom traditions, systems thinking, ecological phenomenology, integral and healing arts, the arts and sciences, engaged economics, the subtle and the sublime, consciousness, and evolutionary aesthetics.

Learning would encompass educational cooperation that supported mentors sharing what they loved in creative, individualized ways in collaboration with local and nonlocal individuals and groups, fostering personal development, group interaction, creativity, visionary and innovative ideas, sustainable principles, and community involvement. Teaching and learning would be recognized as a co-creative learning processes. Learning would be an engaged part of community living, and community living would value knowledge and awareness gained from the experience of learning. Education would embrace learning for the love of it.

Learning that supports egalitarian, dialogical, quality relationships is based on trust, transparency, and good humor, and the use of compassionate communication and mediation to address the consequences of misunderstanding and human folly. When society supports learning that is based on creative inspiration, personal motivation, and individual development rather than tests, grades, and diplomas, learning and sustainable living become integral processes that deepen awareness. Education, imagination, and social transformation are the foundations of a future informed by the deep human need for freedom.

REFERENCES

Adams, John. Jay Baldwin. *Conversations*. 2005

Bateson, Gregory. *Steps to an Ecology of Mind*. Chandler Publishing Company. New York, 1972

Boehmer, Gabriella. When anxiety causes your brain to jam, use your heart. *Hearthmath*. 2005. Retrieved 11 July 2005: http://www.hearthmath.com/company/proom/archive/encounter_journal_brain_jam.html

Center For Peacebuilding and Conflict Management (CCM). Human Rights. Sep 28 2004. Retrieved 12 July 2005: <http://www.ccm.no/manualen/humanrights.htm>

Fadiman, Dorothy. *Why Do These Kids Love School?* Pyramid Film and Video. Santa Monica, CA. 1990

Langham, Derald George. *Genesa*. Doctor of Philosophy. United States International University. 1969

Levy, Robert, Roy Rappaport. Gregory Bateson (1904-1980). 1982. The Institute for Intercultural Studies, Inc. Retrieved 6 June 2005: <http://www.mead2001.org/IIS/Bateson/biography.html>

Max-Neef, Manfred. The Barefoot Economist. Earthbeat National Radio. Interview Transcript. Sep 3, 2002. Retrieved 13 July 2005: <http://www.abc.net.au/rn/science/earth/stories/s500068.htm>

McKinnon. Don. The Commonwealth and Resurgent Africa: A Strategic Partnership Speech by the Commonwealth Secretary-General Rt Hon Don McKinnon. Commonwealth Secretariat Makerere University Kampala Uganda, 7 April 2005. July 11, 2005. Retrieved: 10 July 2005: <http://www.thecommonwealth.org/Templates/Internal.asp?NodeID=143251&PrintFriendly=True>

Mann, Charles C. *The Founding Sachems*. New York Times. July 4, 2005

Mendels, Pamela, Ed. Freshman Experience 21st Century Science in Trailblazing Class. With One Accord. Princeton University Office of Development Communications. Spring 2005

Moffett, Mark. Conversation. April 2002

Oiwell, Carol. *Gardening From the Heart, Why Gardeners Garden*. Antelope Island Press. Berkeley. 1990

Peacock, Ann, Screenwriter. *Country of My Skull aka In My Country*. 2005

Peninsula School. March 23, 2005. Retrieved 13 July 2005: <http://www.peninsula.school.org/abouttheschool.htm>

Rainforest Information Center (RIC). Max-Neef on Human Needs and Human-scale Development. 2005. Retrieved 20 May 2005: <http://www.rainforestinfo.org.au/background/maxneef.htm>

Rosenberg, Marshall B. *Nonviolent Communication, A Language of Life*. Puddle-Dancer Press. Encinitas, CA. 2003

Silberman, Steve. The Key to Genius. *Wired Magazine*. Issue 11.12. Dec. 2003. NHNE News. Email to Author. 26 Nov. 2003

Smith, Mark K. Paolo Freire. Jan 30 2005. Retrieved 20 May 2005: <http://www.infed.org/thinkers/et-freir.htm>

Yen, Duen Hsi. On Education: Division of Labor: Divide and Conquer.
June 1 1999. Retrieved 20 May 2005: [http://www.noogenesis.com/
game_theory/division_of_labor.html](http://www.noogenesis.com/game_theory/division_of_labor.html)

Zeri. 2004. Retrieved 20 May 2005: <http://www.zeri.org>

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