Education for a Postmodern Age

Ron Miller

E-mail: ronmillervt@gmail.com

Received August 2022 Accepted for publication Sep. 2022 Published Dec. 2022

Abstract

Ron Miller founded the original *Holistic Education Review* in 1988. His book *What Are Schools For?* (1990) traced the intellectual history of holistic pedagogy in the U.S. This paper is a slightly edited version of a chapter added to that book's third edition, published in 1997. It situates the rise of the current holistic education movement in the particular intellectual and cultural milieu of the period around 1970-1990, when dissidents in various fields explored more "organic" approaches to thinking, living, and teaching. The worldview underpinning modernism was questioned by various "postmodern" understandings that sought a fundamental cultural renewal. One strand of this critique was a "constructive" (as opposed to the more widely known "deconstructive") postmodernism, which emphasized context, interconnectedness, and the possibility of transcendent (i.e. spiritual) dimensions of reality. Holistic education, in its diverse expressions, is rooted in this cultural critique.

Keywords: holistic education, public school, MA program in Holistic and Integrative Education

In the mid-twentieth century, the cultural historian Lewis Mumford wrote a series of brilliant studies on the evolution of the modern age. His central hypothesis was that modern society—the interlocking complex of science, technology, capitalism, and national governments with their huge military power—comprised a "megamachine" that has voraciously been replacing the organic, human-scale institutions that had served human cultures for centuries. In The Transformations of Man (1956), Mumford concluded that the megamachine was becoming dangerously powerful, destructive, and antithetical to human values, and needed to be eclipsed by a new phase of civilization if humanity was to survive in a decent manner. Other dissident scholars of the time, such as C. Wright Mills, Herbert Marcuse, Erich Fromm, and Paul Goodman, made similar claims.

These and other countercultural voices found an eager audience in the 1960s. In that quintessential decade of protest and rebellion, American society was subjected to the most searching criticism in its history. For the first time, large numbers of people began to question the very foundations—the underlying worldview—of American

society. Simultaneously, the civil rights movement, the women's movement, a rising environmental consciousness, opposition to the Vietnam war and militarism in general, experimental lifestyles and sects, a fascination with non-Eurocentric religions and philosophy, and the stirrings of the "human potential" movement opened up the possibility of a radical alternative to the megamachine. A new generation of scholars and social critics took a penetrating look at every societal institution, including education.

Some of the education critics drew from traditional sources of dissent, such as Marxist and other left-wing critiques. A literature that came to be known as "critical pedagogy" emerged after the publication of Paulo Freire's Pedagogy of the Oppressed in 1970; theorists such as Henry Giroux, Peter McLaren, Stanley Aronowitz, Ira Shor, Michael Apple, and others focused on the persistent inequality, injustice and racism of modern capitalist society and argued that education should enable students to deeply question the assumptions and structures of their culture. This line of attack failed to generate a popular movement for social or educational change; instead, in the "conservative"

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restoration" that began with the Nixon administration and continued with the rise of the religious right, the leftist assault was largely rebuffed.

However, cultural dissent also embarked upon another path in the 1960s, influenced less by economic and political analysis than by an unfulfilled spiritual longing and a budding ecological awareness. Sociologist Theodore Roszak chronicled and endorsed the rise of this "counterculture" in several books between 1968 and the 1980s, documenting how Mumford's vision of cultural transformation seemed to be taking shape. As he saw it, significant numbers of people were searching for wholeness, an expanded sense of meaning, and a deepened consciousness of reality outside the boundaries of the mechanistic, reductionist worldview of modernity. An active network of retreat centers and adult education for personal growth, publications and spiritual practices that were launched during the "human potential" movement of the 1960s and 1970s and expanded by the so-called "New Age" movement in the following decades seemed to be the popular expression of a serious, thorough rethinking of modernity.

Following the lead of Mumford and Roszak, a diverse group of competent thinkers—philosophers, scientists, theologians, sociologists, historians, essayists and educational theorists—have articulated a postmodern vision of culture grounded in spiritual and ecological wisdom, democratic community, and a deep appreciation for the organic and developmental aspects of human existence. Philosopher David Ray Griffin (1993) explains why it is not enough to simply reform institutions and practices within modern society: "Going beyond the modern world will involve transcending its individualism, anthropocentrism, patriarchy, mechanization, economism, consumerism, nationalism and militarism... [T]he inclusive emancipation must be from modernity itself" (p. xiii). In other words, the postmodern critique extends to the core cultural themes, the sources of meaning, that ultimately define how a society views the world. Many scholars now view this critique as an "intellectual and conceptual revolution in Western thought, . . .a broad and pervasive mind shift that will bring with it challenges to find new ways of thinking and doing in all fields of human endeavor" (Soltis, 1993, p. ix).

The term "postmodern" has become widely used in various academic disciplines, from literary criticism to architecture, and it refers to many styles of critique. The most often quoted postmodern thinkers (such as Michel Foucault and Jacques Derrida) are radical skeptics; they call for the

"deconstruction" of all modern belief systems so that individuals and various identity groups (e.g., ethnic and linguistic subcultures) can free themselves completely from the homogenizing power of the megamachine. Deconstructive thought is hostile to any so-called "metanarrative"—any attempt to describe universal truths that transcend language or communities. Although liberating in some ways, this vision of a disjointed culture of spontaneity and local meaning denies the reality of a spiritual or archetypal dimension of human existence that would connect persons in an ecology of meaning (Smith, 1989). Griffin, therefore, argues for a "constructive" postmodernism; while still seeking to dissolve the mechanistic grasp of modernity, the emphasis is not on detached individuals and the separation of human groups but on transcendent meaning and the evolutionary purpose of human consciousness within an ecological context.

Griffin and his circle are part of a larger intellectual community that has begun to envision a postmodern civilization built on spiritual and ecological understandings. A great deal of substantial, sophisticated thinking emerged in the 1970s and 1980s in support of this more holistic worldview, including books by Joseph Chilton Pearce (The Crack in the Cosmic Egg, 1973), Gregory Bateson (Mind and Nature, 1979), Morris Berman (The Re-Enchantment of the World, 1981, and Coming to Our Senses, 1989), Fritjof Capra (The Tao of Physics, 1976, and The Turning Point, 1982), Carolyn Merchant (The Death of Nature, 1980) and a string of provocative titles by Ken Wilber, such as Up From Eden (1983). Theodore Roszak continued to interpret this counterculture in books such as Where the Wasteland Ends (1972) and Person/Planet: The Creative Disintegration of Industrial Society (1978). These and similar works provide a compelling historical analysis of modern epistemology and its alternatives. They draw upon insights from diverse fields including philosophy, physics, biology, systems theory, Jungian psychology, and mystical traditions from both the East and West.

I use the term "holistic" to refer to this worldview in order to embrace diverse expressions of humanistic, spiritual, and ecological understanding. Just as there is no single "postmodern" perspective, there is no one complete philosophy of holism. Any interpretation of the world, in any field of thought, may demonstrate a holistic sensibility to a greater or lesser extent; it may be considered holistic in some aspects even if it is not in others. This flexible definition is particularly important to my interpretations of dissident educational movements: I look for holistic qualities

in a wide range of educational approaches, and do not claim that there is any one true example of "holistic education." Indeed, most of the educators I include in the family of holistic education never used the term themselves.

My aim is not to promote a particular educational fashion but to explore the congruence between culture and education; specifically, I argue that the modern worldview has generated an approach to schooling that is likely to become incongruous and irrelevant in a postmodern culture. If this emerging culture takes on the qualities that "constructive" (spiritual/ecological/holistic) postmodern thinkers say are vitally important, then educational approaches in this new era will become more holistic. We can see what diverse forms this sort of education might take by considering the pioneers and precursors of holistic education who have dissented from modernist schooling during the past two hundred years.

Holistic thinking challenges the positivist worldview that characterizes modern civilization. Based on the ideas of Francis Bacon, Rene Descartes, and subsequent generations of scientists and social engineers, this worldview enjoins modern people to manipulate, control, and improve what we find in nature according to rational, utilitarian calculation; it is, at heart, a desire for power over natural processes, to direct them according to ends we choose based on economic, political, or psychological needs as we define them. Historians acknowledge that at the dawn of the scientific revolution, this new attitude toward the world represented the liberation of human reason and energy from dogmatic authority. In important ways, science and technology have reduced pain and drudgery and opened vast new horizons of inquiry and adventure to humanity. Nevertheless, a postmodern worldview is emerging at this time because we are now beginning to recognize the tremendous damage that a ruthlessly utilitarian relationship to nature has caused to human life and to the entire ecosystem. The literature on humanity's alienation from the natural world, and the literature on the alarming decline of the earth's biotic environment, are by now both voluminous and compelling.

Our technicist knowledge has made the world dangerous to life. We now live under the permanent threat of nuclear, chemical, and biological weapons; the gradual poisoning of the earth's water, soil and air by toxic chemicals and radiation; the elimination of thousands of species of plants and animals along with most remaining areas of the planet's wilderness; and the possibility that the atmosphere can no

longer protect us from global warming or carcinogenic radiation from space. In our time, human power to fashion a manufactured world extends to "artificial intelligence" and "virtual reality," and most frightening of all, to genetically altered life forms.

A holistic orientation calls us back to a more organic relationship to the natural world. It is a recognition that utilitarian reason lacks the wisdom to manipulate nature with such self-assured power, without catastrophic consequences. An organic relationship to nature starts with Ruskin's statement that "there is no wealth but life"; while we may dazzle and entertain and pamper ourselves in the short run with our technological prowess, ultimately, we are exhausting the very source of all that sustains and enriches life. What holistic medicine, organic agriculture, Green politics, steady-state economics, creation spirituality, and holistic education have in common is an underlying belief that human existence is delicately cradled in the womb of nature and ultimately depends upon intricate, often unconscious and nonrational connections to the natural world for physical, psychological, and spiritual nourishment.

Moreover, the living world is not the mindless, mechanical system that reductionism portrays. For three centuries, any field of inquiry aspiring to be "scientific" was forced into the mold of atomistic physics: only matter, properly quantified, could count as real, while such things as purpose, meaning, and relationship could not. Thus, we have a serious and well-established school of psychology—behaviorism—that utterly denies the very essence of its field of study—the psyche or soul. Holistic science, on the other hand, recognizes that the world is vastly more complex and filled with meaning than this simplistic reductionism can allow. The evolution of life is, if not actually miraculous, literally awesome. A new generation of biologists, building on the work of holistic predecessors who were largely disregarded (a situation analogous to that of holistic educators), is now insisting that the processes of life are best described in terms of purpose, self-organization, interconnection, and complexity (Capra, 1996; Laszlo, 1993; Sheldrake, 1991). For understanding the realm of human life, such an approach to biology is a more appropriate framework than mechanistic physics (though quantum theory has dramatically introduced a holistic perspective into this field as well).

If the natural world is, in fact, more complex and interconnected than our gross positivism can know, then we simply do not realize what far-reaching effects our manipulation might have. By fertilizing crops, we over-enrich

lakes and rivers, leading to overgrowth of algae that suffocates them. By using antibiotics widely, we promote hardier strains of bacteria that resist them. By splitting atoms to power our electric appliances, we expose hundreds of generations to potent carcinogens. How can we possibly understand the impact of introducing genetically altered plants and animals into the ecosystem? In education, the more we regiment and standardize children's intellectual development, thinking that our national goals are so terribly important, what effects might we be having on their emerging personhood? We hardly know, and dulled by reductionism, we do not even think to ask.

In his groundbreaking book The Holistic Curriculum (1996), John P. Miller clearly states the organic perspective of holistic education right from the beginning:

"Holistic education attempts to bring education into alignment with the fundamental realities of nature. Nature at its core is interrelated and dynamic. We see this dynamism and connectedness in the atom, organic systems, the biosphere, and the universe itself. Unfortunately, the human world since the industrial revolution has stressed compartmentalization and standardization. The result has been the fragmentation of life" (p. 1).

Miller emphasizes that holistic education is essentially concerned with making connections between those areas of life that have become fragmented and polarized, such as mind and body, rational and intuitive knowing, self and community, human society and the earth, and the personal ego and the "true nature" or spiritual essence of which the world's sages have always spoken.

Let's look more closely at this spiritual dimension of holistic thought. Miller, like other holistic thinkers, associates contemporary holism with the ancient "perennial philosophy" —the core of virtually all the world's spiritual and religious traditions. Anna Lemkow (1990) identifies the principal teachings of this worldview as "the oneness and unity of all life; the all-pervasiveness of ultimate Reality or the Absolute; the multi-dimensionality or hierarchical character of existence" (p. 23). She says that "wholeness is the clue to this philosophy" (p. 24), meaning that it is fundamentally non dualistic and non reductionism. In an ineffable sense (that is, beyond the grasp of language and rational thought), there is some all-encompassing dimension of reality that transcends all distinctions and contradictions;

it is immanent in all facets of existence and thus deeply connects them.

This dimension is hinted at in leading-edge scientific thought; physicist David Bohm's theory of the "implicate order" is an especially important contribution to our understanding of the holistic worldview. Still, for many centuries, this glimpse into the Absolute, the ground of being, has come within the domain of religious traditions, and is most commonly identified as the "spiritual" realm, whether it is termed "the Tao," or "Brahman" or "Nirvana" or "God." The true nature of this transcendent realm remains a profound mystery to all but a handful of seekers and mystics. It is incomprehensible to the reductionist worldview of modern science. The modern worldview generally dismisses the possibility of its existence; a holistic postmodern approach remains open to exploring it.

Holistic thinking acknowledges, with a deep sense of awe and reverence, that human life has a purpose, a direction, a meaning that transcends our personal egos and our physical and cultural conditioning. It accepts the possibility that humanity is connected, in a profound way, to the continuing evolution of life and the universe, and that the energies of this evolution are unfolding within each human soul. In this view, the huge gulf placed between the human and the divine by many theological systems and by modern science is an artificial barrier to the realization of our deepest nature. Theologian Matthew Fox has argued for a "creation spirituality" that dissolves this barrier, asserting that human beings are, through our creativity, compassion and sense of wonder, intimately involved in the ongoing evolution of the universe.

Religious conceptions do not appeal to all critics of modern society. An organic framework is not always explicitly "spiritual"; one can be concerned with the integrity of habitats and species, for example, or with natural methods of healing, without ascribing transcendent meaning to the complex relationships of the natural world. John Dewey and the progressive education movement provided an organic (relational, evolutionary, ecological) alternative to industrialized schooling while carefully avoiding more mystical speculations. Still, when we take into account the insights of ecological wisdom, quantum physics, Jungian and transpersonal psychology, and the numerous manifestations of the perennial philosophy across ages and cultures, the luminous reality of a much more vast wholeness begins to shine through the cracks of our reductionist ways of knowing.

A holistic worldview does not confine spirituality to the sectarian dogmas and rituals of churches, but recognizes that the very act of perceiving and naming and knowing one's environment (which is, of course, at the heart of education) is a spiritual act, because it is a communion between person and world—it is how a human being engages with the wholeness of the universe. To bring spirituality into education does not mean injecting religious teachings into the curriculum; rather it means encouraging students to engage their world with a sense of wonder through exploration and dialogue and creativity. Religious writers such as Thomas Merton and Martin Buber have spoken of this communion, and several writers on holistic education focus on it specifically, including Joseph Chilton Pearce, Douglas Sloan, Parker Palmer, Krishnamurti, and Rudolf Steiner (Palmer, 1993; Sloan, 1993). I believe that this epistemological challenge to the modern worldview is at the core of the holistic perspective.

Treating education as a spiritual endeavor rather than as the calculated imposition of social discipline is the crucial difference between holistic and conventional education. By dwelling on discrete facts rather than wonders and mysteries, by standardizing learning processes and assessing them quantitatively, by turning children away from their passions and intuitive insights, and in many other ways, modern schooling cuts the child off from knowing the world in its wholeness. As long as modern schooling is dominated by a dualistic epistemology, as long as schooling serves the interests of corporate employers rather than the souls of children, such an education will not be widely available.

An Outline of Holistic Thinking

Rooted in an epistemology of wholeness, context and interconnectedness, holistic thinking asserts that all phenomena are meaningful, and hence most fully knowable, in terms of contexts that hold their relationships to other phenomena. Nothing is whole in isolation. As the well-known saying goes, a whole (a phenomenon-in-context) is always greater (more complex, more integrated, more meaningful) than the sum of its parts. This may seem like common sense, but it flies in the face of the dominant epistemology of the modern age. Reductionism is atomistic and fragmenting; it argues that we know what is fundamentally real by dissecting things into component parts.

In education, we are told that IQ or SAT scores tell us something important about intelligence or knowledge; we are told that learning is most effective when it is parceled out in "units" according to a carefully planned curriculum. Modern education emphasizes information—a quantitative gathering of facts. Holistic thinkers point out, however, that despite the flood of information now available to us, we desperately lack meaning and purpose; we lack a social vision that enables us to recognize which information is appropriate to the needs of human life and which is degrading or dangerous (Roszak, 1986; Purpel, 1989; Oliver & Gershman, 1989).

Holistic thinkers emphasize that complex wholes emerge from the dynamic relationships of their parts. Where reductionism sees closed systems mechanically following physical patterns of cause and effect, holism sees open, self-regulating systems that respond creatively to changes in, and challenges from, their environment. This is the force behind the evolution of life, of civilization, and of human consciousness itself. As a system (be it a cell, an organism, a population in a certain ecological niche, a culture) rearranges its pattern of internal relationships to adapt to its environment, it may make a creative leap to a new level of organization, complexity and meaning. This new level has qualities, characteristics and abilities that were not capable of formation in the less complex organization; a higher-order level of organization possesses "emergent properties" that are not identical to the characteristics of the lower order. This is why reductionism cannot adequately account for complex and dynamic phenomena such as living beings, the process of learning, and mystical experience; they are incomprehensible in terms of simpler, physical phenomena and mechanical action.

Earlier I quoted Anna Lemkow referring to the "hierarchical character of reality" posited by the perennial philosophy. Now we can see what this means; it is not an endorsement of societal hierarchy or a value judgment about "higher" and "lower" entities. Rather, it is a recognition that some phenomena are more complex and integrated, more inclusive, providing a larger context of meaning, than other phenomena. Some holistic thinkers use the term "holarchy," trying to suggest that all of reality is comprised of wholes within larger wholes within still larger wholes. Those that are more complex do not cancel or destroy those that are "lower" in evolutionary development, but incorporate them, build on them, give them deeper significance. Many aspects of nature can be understood in atomistic and mechanistic terms, hence the enormous achievements of modern science and technology. Holism argues, however, that the knowledge or material gains achieved in particular contexts

will have entirely different consequences when a greater scope of interconnectedness is considered. Technical achievement—an increased ability to manipulate the physical environment to obtain utilitarian goals—is increasingly showing itself to be ecologically and spiritually destructive because it ignores the larger contexts within which life and culture exist. We cannot understand this until we recognize that reality is organized hierarchically.

Modern schooling has aimed for what early twentieth-century educators termed "social efficiency" —the employment of human capital to serve the needs of industrial society. At one level, we can treat human beings as cogs in an economic machine and produce the desired results. We can accept as real only their drive for material wealth and occupational status. But at what cost? As Douglas Sloan argues, "Our conceptions of knowledge often give rise to views of the world that provide little support for human values and for an education in which persons and the values of persons remain central" (1981, p. 2); "If we impose only quantitative concepts and mechanical images on the world in our attempt to know her, a quantitative and mechanical world we shall have—and eventually, thinglike, mechanical selves to go with it" (1983, p. 171). The more complex emergent properties of human nature—our aesthetic, creative, and spiritual qualities, our need for meaning and purpose in life—are callously ignored when we focus education solely on subject matter with an economically utilitarian value, or run schools on the industrial model turning out their specified products.

A holistic conception of education recognizes the holarchical character of human development. Educators might begin by focusing on the thinking or learning process as such, or on brain research that points to the relationship between right and left hemispheres and adopt teaching practices that stimulate the whole mind or brain. Recognition of "multiple intelligences" and diverse learning styles reflects this level of holistic teaching. The next step would be to recognize that this brain or learning process is contained within a more complex system—a human person, who is an integrated set of emotional, physical, social, cultural, and spiritual realities, and not only a cognitive consumer of education. The 1970s saw the emergence of "humanistic" or "affective" education, which emphasized "concern for students as persons—for their mental health and self-development, for their interpersonal skills and potential roles in society, and for their joy in learning," according to one leader of the humanistic education movement, Jerry Allender (1982). Holistic educators are concerned with the "whole person,"

which means seeing each child as a feeling, aspiring, meaning-seeking individual rather than merely as a machine-like processor of information.

Educational approaches based on romantic or libertarian beliefs tend to rest at this point, content that they have done their job if they can send healthy, self-confident individuals out into the world. But holistic theory urges us to continue working our way through the educational holarchy, acknowledging that no person is an island, that we need healthy families and communities in order to fully develop our personhood. A holistic education looks closely at the community life of the classroom, the school, and the neighborhood, to see how meaningful relationships between students and these environments can be encouraged. Beyond the local community, the next layer of meaning is the society at large—the political, economic and social institutions that strongly influence the quality of life for both communities and individuals. Whether a given social order is democratic and cooperative, or elitist and competitive, will steer human relationships in one direction or another. A holistic education, then, shares the concern of critical pedagogy theorists and social reconstructionists (historically, the more politically engaged branch of the progressive education movement) who insist that education must serve democratic purposes and enable young people to critically question the values and institutions of their society.

This is perhaps the least developed aspect of holistic education, however, because most of those drawn to the movement (including myself) were originally concerned with issues of human potential and spiritual development rather than economic analysis and were not well versed in reconstructionist or critical theory. The work of David Purpel (1989; 1991; 1995) has provided an important bridge between these approaches. He calls upon educators to stand firmly against injustice, violence, and exploitation, yet he grounds this call in a moral and spiritual vision derived from Biblical prophets and contemporary religious writers, rather than simply from ideological opposition to capitalism. A similar vision has emerged in Michael Lerner's concept of "the politics of meaning." It is a call for justice based on the conviction that human beings are made in the image of God—an effort, with roots in the New Left of the 1960s, to reclaim wholeness through social and political action.

There is still another layer of meaning beyond the institutions of a society—the worldview or culture that upholds those institutions. Here is where holistic theory

addresses the realm of epistemology, or how a society determines what is ultimately real, knowable, and therefore potentially valuable. A holistic education does not simply indoctrinate students into the existing culture, as does nearly all modern schooling; rather, it gives students a vantage point for examining and evaluating the otherwise unconscious assumptions that would guide their lives. In his work, C.A. Bowers (1993) has described how the deeply embedded assumptions of modern culture are problematic; in particular, they enable us to inflict tremendous damage on the global ecosystem without fully realizing the extent of our destructive activity. Bowers has identified a series of epistemological assumptions that have been handed down from the Cartesian/

Newtonian scientific worldview:

"Briefly, they can be summarized as the myth that knowledge is the result of a thinking process that occurs in the head of an individual; the myth that autonomy (freedom) is the realization of the individual's fullest potential (to be self-determining); the myth that language is a neutral conduit (individuals put their ideas into words and get them across to someone else); the myth that "man" is separate from nature; and the myth that change, when rationally directed, is progressive,,, What the myths put out of focus are the encoding processes that make up the patterns of a culture, and how these patterns are reenacted—even by individuals who consider themselves to be thinking in a culture-free way" (p. 40).

Bowers observes that changing myths is a difficult task, precisely because cultural patterns are taken for granted—they are assumed to be fundamental characteristics of reality. He argues that education is essentially about introducing young people to the patterns of culture and is therefore the proper social arena in which to pursue a deep examination of our epistemological assumptions.

Environmental education theorist David W. Orr makes a similar case. "The crisis of sustainability," he writes in Ecological Literacy (1992), cannot be solved by the same kind of education that helped create the problems. Against the test of sustainability, our ideas, theories, sciences, humanities, social sciences, pedagogy and educational institutions have not measured up... The goal of ecological

competence implies a different kind of education and a different kind of educational experience (pp. 83-4).

Orr explicitly recognizes that "this different kind of education" would reflect a "postmodern paradigm"; Orr, too, is advocating a cultural or epistemological transformation involving education. As does Douglas Sloan (1983), who calls for a "cultural transformation" starting with a rejection of modernity's technicist and materialist view of the world.

"A thoroughgoing utilitarianism does not aim for the liberation of the human spirit: It provides individuals with no inner resources for a self-directed life, no basis for distance from enmeshment in the immediate social circumstances, no channels for the creative expression of their own vital energies and insights, no inner resistance to the low-level enticements and sedatives of an entertainment-consumer culture, no capacity for rational criticism of the society or of its leaders. It fits individuals to the given social arrangements. It is not an education for citizens, it is an education for servants" (p. 200).

Like other holistic theorists, Sloan sees the wholeness and integrity of individuals within wider contexts—community, culture, ecosystem, and spirit; his argument against reductionism is not simply on behalf of "human potential" or particular oppressed groups, but represents a comprehensive transformation between person and world. "Nature," he points out, has become fair game for being broken down through experimental manipulation into its parts, which can then be reassembled to yield great technological power, but for purposes totally alien to nature's own requirements" (1983, p. 6). Sloan argues that it is only through imagination—a way of knowing that involves the whole person in a receptive relationship to the world—that we can become intimately familiar with "nature's own requirements" for a sustainable society and healthy development of individual personalities.

This fundamental rethinking of culture, this critical look at the assumptions about nature and human nature embedded in all educational practice, is essential for fully understanding holistic education in its various forms and applications. In The Holistic Curriculum, John P. Miller emphasizes the role of educational "orientations," which are sets of epistemological assumptions. His model identifies three such orientations: The "transmission" approach is the

reductionist, atomistic worldview of the modern age, which sees education as a mechanical act of transmitting information. The "transaction" approach recognizes that learners are living beings who need to make sense of their world and so it allows them to take a more active part in their education (Deweyan progressive education reflects this orientation). The "transformation" approach is a fully developed holistic worldview, which recognizes the complexity and fluidity of reality. Miller's point—and my own—is that all theories and practices of education will reflect the orientation or worldview that educators or policymakers hold. Since worldviews are usually held unconsciously, a major part of the holistic critique is to make them explicit.

Yet even culture or worldview is nested within a still larger context of meaning—what we are calling the "spiritual" dimension. Some aspect of human existence transcends all the contexts we have discussed so far and embraces the entire holarchy that constitutes the universe. As Australian educational theorist Bernie Neville (1989) puts it, a holistic teacher would "envision her pupils as the critical point in the universe where evolution is in process, where matter is evolving into consciousness, where universal mind is emerging" (p. 154). One educational tradition based on such an understanding comes from the Religious Society of Friends. The Quakers emphasize the power of the "Inner Light" —a direct experience of the creative Source within each individual—which leads them to respect the unique gifts of each person. As Parker Palmer has commented, "We must commit ourselves to being authentic adults—that is, persons whose lives are built around caring for new life... [because] the children are an incarnation of God's continuing revelation" (1978, p. 18). "Caring for new life" involves a sense of reverence toward the mystery of creation, urging us to devote our efforts as adults to nourish and support the unfolding life of the child. A spiritually rooted education is not simply "child-centered," though; it is life-centered. It is a way of understanding the child in his or her fullness and depth, and a way of responding with appropriate respect.

A holistic perspective, then, challenges modern schooling's fixation on social efficiency and one-dimensional academic knowledge. When we view children merely as "intellectual capital" for the corporate economy, when we define education solely in terms of "outcomes" that can be measured through mass testing, we are in truth sacrificing what is most precious within the human soul on the altar of modernity. As ecofeminist author Charlene Spretnak has

pointed out (1991), "It does not require much imagination to envision the dismal future that will result if ecological depth, critical thinking, and creative unfolding continue to be passed over in a reorientation of our educational system for the narrow demands of the technocratic imperative" (pp. 188-9).

In summary, then, I have sought to demonstrate that a sophisticated postmodern worldview—a constructive or holistic postmodernism—offers a comprehensive critique of American education. Whether or not this critique succeeds in radically transforming the way children are taught in our society remains to be seen. It is entirely possible that we are entering a long era of global corporate capitalism (Mumford's "megamachine") in which organic, ecological and spiritual concerns will become increasingly quaint, or at best, repackaged and sold back to us for profit (there won't be any rainforests left, but we can visit simulations of them in shopping malls or theme parks, or on the Internet). If that is what happens, then holistic educators are a poignant group of dreamers. But if the emergence of holistic postmodernism is a signal that a cultural shift of historic proportions is beginning to take place, then holistic educators are visionaries who understand that human evolution is not yet finished.

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Acknowledgement

Ron Miller, PhD has been an educational scholar and activist, teacher, publisher and bookseller, community leader and philanthropist. He founded the original Holistic Education Review in 1988 and helped gather an international movement for this emerging educational paradigm.

Originally trained as a Montessori educator, he received his Ph.D. from Boston University in American Studies, focusing on the cultural and historical foundations of education. His research led to several books, including What Are Schools For? Holistic Education in American Culture (1992), Free Schools, Free People: Education and Democracy After the 1960s (2002), and essay collections including Caring for New Life (2000), Creating Learning Communities (2000), and The Self-Organizing Revolution (2008), among others.