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Editorial

Economics, Aesthetics, and Educational Reform

The primary engine for educational reform in the United States over the past decade has been economic. Despite the apparent variety of "educational" initiatives (in terms of tightened regulations, toughened academic expectations, and increased mandates), the driving force of reformation has been the politically appealing and unquestioned assumption that education is both the direct source of and the salvation from our economic woes.

The discourse of reform, in focusing on supposed direct connections between educational quality and national economic productivity, has simultaneously deflected public consideration of the economic, domestic, social, and foreign policy issues that are central to the well-being of our economy, and dangerously narrowed our conception of education itself. While our failure to come to grips with primary issues of national policy has contributed to what may be the deepest recession of the second half of the 20th century, the reform efforts themselves failed to achieve any discernible increases in student test scores. These scores are considered all important to reformers, despite a lack of evidence of their significance in terms of either eventual student academic achievement or national economic productivity.

Recognizing the failure of the reform efforts of the 1980s, President George Bush presented a new blueprint for educational reform: America 2000. At its core, this plan for the future of education reasserts without argument or question the need to achieve "world class" academic standards as a means of revitalizing the nation's economy. America 2000 also calls for the establishment of "break the mold" schools that will ensure student achievement at desired levels and sets the stage for the creation of the New American Schools Development Corporation. This nonprofit corporation, headed by corporate leaders from throughout the United States, was created to provide funding for the establishment of "break the mold" model schools.

On February 2, 1992, the *Wall Street Journal* ran an article entitled, "Teams Vie to Redesign U.S. Education." The article explains that a wide variety of individuals and organizations have created partnerships to develop model school projects to seek funding from New American Schools Development Corporation. One of the teams applying for funding is comprised of Apple Computer, the National Center for Education and the Economy, the Harvard Project on Effective Services, Xerox, and the National Alliance of Business, as well as a number of state departments of education and local school districts. Marc Tucker, president of the National Center of Education and the Economy, is quoted in the article: "We're trying to rebuild the whole system. You can't reach the performance of a Toyota or a Honda without rebuilding the whole organization. And that's what we are about."

Indeed, what the new American Schools Development Corporation and the teams such as the one described are all about is the economically driven reformation of the schools to serve American business. Here is the core of reform — not the transformation of education relative to the needs, interests, or capacities of children; not the transformation of education relative to dynamic insights into the nature of learning or teaching; not the transformation of education relative to an understanding of the complex social organization or functions of schools; not even the transformation of human sensibilities or moral dispositions to sustain an effective economic syste; but the redefinition of education, pure and simple, as an economic function. We have, without recognition of the full import of our assumptions, reduced the idea of the student from the "individual" to the "citizen," and from the "citizen" to the "laborer" — from a respected, autonomous person to a functionary (with white or blue collar) in a system of production and service.

This is not to suggest that educational reform, if successful, will result in schools of crushing uniformity or numbing routine; some may be active, creative, and exciting places. Rather, it is to suggest that the significance of particular educational innovations will pale in comparison with the institutionalization of the concept that education is meant to serve the economy before all

else. In this context, schools will be designed to meet, secondarily and with economic reference alone, the needs, interests, and emerging abilities of children.

While it may be argued that schools have long been designed and assessed relative to the needs of corporate America, the current educational reform movement may succeed in transforming the language of education so that the concept of the dignity and freedom of individual children escapes not only our thought but also our memory. With every success of reform, we are likely to see corporate America strengthen its proprietary interest in human beings who, at least in thought or rhetoric, are more than public, let alone corporate, property.

In a context such as this, it is unlikely that schools will recognize children as whole human beings — individuals who will not only take jobs, but also assume the task of creating a more peaceful, humane, and morally sound world; individuals who must not only direct companies, but assume responsibility for their individual and collective moral, ethical, and spiritual destinies; individuals who not only accumulate or produce wealth, but who must in some way come to grips with who they are and how they have contributed to the human enterprise.

Should we expect that art and music in our schools be only diversion or mere expression rather than an access to profound, yet subtle, domains of human experience — domains that can give life ineffable richness and direction? Should we expect that the schools of the future will provide experiences of wonder, joy, gratitude, reverence, or a sense of unity with all life — experiences derived from an embrace of the world rather than a desire to control it? Should we reasonably expect that curricula will be designed to respond to a child's search for coherence in what he sees and meaning in what he does or that assessment will be sensitive to the unfolding of the totality of the child? Should we expect that teachers will seek to help children see the world in the light of a moral imagination, rather than mere problem-solving techniques? Should we expect that children will develop the freedom born of self-mastery wed with love or simply the freedom that comes with disposable income?

It is in this context that this issue of the *Review* addresses the educational importance of aesthetic understanding, one of the missing elements of much of the rhetoric of educational reform. America 2000 does not contain any reference to the arts or aesthetics. Such omissions are consistent with the economic parameters of so-called educational excellence. If the rhetoric of reform is successful, we will likely see the artistic and aesthetic dimensions of human experience diminished to using crayons to fill time. Instead of expanding the understanding of the formative role of the arts and aesthetic education, we are likely to reduce them to their cash value.

In reading through this issue, I ask the reader to bear in mind the concept of the arts and aesthetics not only in terms of expression, but also impression. The word, *aesthetics*, is derived from the Greek *aisthetikos* which translates to "perceptive by feeling." As we attend to the meaning of a piece of music beyond the notes or the significance of a child's actions beyond behavior or the creative spirit in nature beyond empirical phenomena, we *can* address aspects of ourselves and the world around us that might otherwise remain hidden. Aesthetic experience deepens our understanding of what lies within ourselves and beyond. This deepening insight helps to shape our character (from the Greek *charakter* meaning "engrave" or "imprint") — to make an impression and give us truly human form.

Aesthetic understanding of this sort need not only relate to works of art or artistic processes, but also includes creative perceptions of various aspects of individual and social experience. Such perception is keenly elaborated in the articles by Larry Brendtro (with reference to Native American insights into education of troubled youths), Carlos Aceves (an exploration of the creative potential of myth), and Dan Millman (a broad stroke portrait of holistic education including physical education).

Clifford Knapp's thoughtful interview with Michael Nitai Deranja, as well as the articles on the arts in education by Stephen Sagarin, Aostre Johnson, Jay Seitz, Alister MacRae and John Allan also call our attention to this essential missing element in the economic paradigm of educational reform. They are intended to help us remember what we, in the name of practicality, so easily forget. With the failure of our collective memory, our educational successes may be more devastating to our children, culture, and economic system than our current dilemma. True practicality requires that we remember, and keep clearly in our minds, the fullness of human experience and the full measure of our responsibilities as educators.

— Jeffrey Kane, *Editor*

Dancing with Wolves:

A New Paradigm for Reclaiming Youth at Risk

Larry K. Brendtro

A Native American perspective on working with youth considered to be at risk focuses on the empowerment values of belonging, mastery, interdependence, and generosity.

Goethe once observed that everything important has been thought of before, but the difficulty is to think of it again. In our book, *Reclaiming Youth at Risk* (Brendtro, Brokenleg, & VanBockern, 1990), we propose a model of youth empowerment based on contemporary developmental research, the heritage of early youth work pioneers, and Native American philosophies of child care.

Cross-cultural and historical perspectives challenge entrenched assumptions in one's "folk psychology" about childhood (Rogoff & Morelli, 1989). My cross-cultural mentor is Dr. Martin Brokenleg, chair of sociology and social work at Augustana College in Sioux Falls, South Dakota. Martin's grandfather was a Lakota Sioux medicine man who never cut his hair or spoke English to a white man. As Kevin Costner portrays in the movie, *Dances with Wolves*, an encounter with tribal culture can be radically transforming.

Anthropologists have long known that Indians reared courageous, respectful children without using aversive controls. Nevertheless, Europeans coming to North America tried to "civilize" indigenous children in punitive boarding schools, unaware that Natives possessed a sophisticated philosophy of empowerment education. These approaches are now being validated by contemporary child research.

Table 1 compares Coopersmith's (1967) bases of self-esteem with both Native American empowerment values and with values of the dominant Western culture. In Indian culture, (1) significance was nurtured in a community that celebrated the universal need for belonging; (2) competence was insured by guaranteed opportunity for mastery; (3) power was fostered by deep respect for each person's independence; and (4) virtue was reflected in the preeminent value of generosity.

Editor's Note: This paper was originally presented at the Ohio State University College of Social Work in February 1991 as the Sixth Annual Robert J. O'Leary Memorial Lecture. We are indebted to Richard E. Boettcher, Dean of Ohio State University College of Social Work, for permission to reproduce the lecture.

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The ideas in this article are developed in greater depth in the book, **Reclaiming Youth at Risk: Our Hope for the Future,** *by Larry Brendtro, Martin Brokenleg, and Steve VanBockern. Dr. Brendtro is also co-editor of a new journal that brings a holistic perspective to the problems of youth, entitled* **The Journal of Emotional and Behavioral Problems: Reclaiming Children and Youth.** *Both of these are publications of the National Education Service, Box 8, Bloomington, IN 47402. 1-800-733-6786.*

In contrast, consider Western values:(1) hyper-individualism heightens the alienation of children and adults; (2) competitive education is a zero-sum game, enthroning "winners" and ensuring an abundance of losers; (3) those who wield power to dominate deprive others of power; and (4) a society that equates worth with wealth provides its young a script for selfishness. Surprisingly, European youth work pioneers often challenged these patriarchal views, expressing concepts similar to the empowerment of Native culture.

Table 1
Empowerment Versus Patriarchal Values

Foundations of Self-Esteem	Native American Empowerment Values	Western Patriarchal Values
Significance	Belonging	Individualism
Competence	Mastery	Winning
Power	Independence	Dominance
Virtue	Generosity	Affluence

A note on terminology: By *youth at risk* we refer to children in danger of failing in school or life. The term *reclaiming* is from Yochanan Wozner (1986) of the Tel Aviv University School of Social Work, who suggests that the key distinction among youth programs is whether they are reclaiming or nonreclaiming. *Reclaiming* environments meet the needs of both the young person and society. *Nonreclaiming* programs only perpetuate the system.

The central feature of a reclaiming environment is a unifying theme — a set of shared values grounded in the needs of children. School or treatment cultures based on patriarchal values are inherently nonreclaiming. Therefore, we propose a unifying theme based on the Native empowerment values of belonging, mastery, independence, and generosity. This unifying theme is portrayed in the medicine wheel (see inset), a sacred Native symbol for the wholeness of life. The art is by a young Lakota, George Blue Bird, who is serving a life term in the South Dakota State Prison.

Belonging

Native American anthropologist Ella Deloria (1944) described the core value of belonging in Indian culture in these simple words: "Be related, somehow, to everyone you know." Treating others as kin forged powerful social bonds of community that drew all into relationships of respect. From earliest childhood, a youngster experienced a network of attachments in which every older member of the tribe — adult or youth — felt responsible for the well- being of younger members of the community. If a stranger entered the tribe, a rite of adoption ensured that the newcomer would feel part of the circle of relatives. The sense of belonging also extended to nature, in the belief that all of creation must live in harmony as relatives.

Two centuries ago, Johann Pestalozzi gathered vermin-covered throw-away children in the conviction that love was the essence of education. Early in this century, August Aichorn and Anna Freud pioneered with wayward youth, replacing punishment with affection since this was their primary unmet need. But as our field became more technical, the significance of relationships was for a time overlooked. Now, scholars from many disciplines are reasserting the importance of attachment and belonging.

Urie Bronfenbrenner (1986) stated that every child needs at least one adult who is irrationally crazy about him in order to develop properly. In this world of poverty, disrupted families, and stressed parents, millions of children are deprived of their minimum daily dosage of human attachment. Karl Menninger (1982) warned that when the family, school, and church fail to meet the child's need to belong, youth will desperately pursue artificial belongings.

The factory school is not a belonging place. Large, impersonal structures foster estrangement between teacher and child, and students who cause trouble receive "nonbelonging" punishments. Many schools are taking exciting initiatives to reverse this alienation with the new ethos that there will be no disposable children. Studies by Whelage (1989) on dropout prevention showed that the crucial factor is creating climates which foster "membership," namely, a network of positive human bonds linking students, teachers, and parents.

Attachment theory research by Ainsworth (1989), Sroufe (1989), Brazelton and Cramer (1990), and others is expanding our knowledge on the antecedence of secure and insecure human relationships. For example, we know that fetal poisoning with alcohol or crack can interfere with the infant's earliest attempts to connect to adults and thus create devastating lifelong problems with learning and social behavior. At this moment, volunteer senior citizens in hospitals across this land are gently holding tiny crack babies so that they might someday learn and laugh and love.

Henry Maier (1987) noted that what was once seen

as attention-seeking behavior may be better understood as attempts to rebuild damaged attachments. We also know that guarded youth are potentially more receptive to human attachment in times of crisis, since attachment behavior is an in-built protective response often triggered by threat. Thus, crisis situations become windows of opportunity for attachment rather than problems requiring punishment or exclusion.

Scholars such as Carol Gilligan and Nancy Chodorow have identified gender differences in attachment. Girls are generally more connected than boys, but when their female caring voice is not validated, problems in achievement, self-esteem, or even mental illness may ensue. Furthermore, males often fear intimate attachments. The once-celebrated virtue of individualism increasingly looks like a mythical male euphemism for failure to develop interdependence. This may be a powerful explanatory variable in the many problems encountered by adolescent boys in our present culture.

Writing of *Black Students and School Failure*, Jacqueline Irvine (1990) of Emory University concluded that African Americans manifest a distinct culture more ancient than European culture and contradictory to it. Although there are differences between

Artwork by George Bluebird

Native American and African traditions, these tribal cultures share fundamental values including social connectedness and the belief that responsibility to fellow humans transcends individual privilege.

Theologian Martin Marty observed that throughout history it has always been the tribe, not the nuclear family, that ultimately ensured the survival of the culture. Though parents might falter, the tribe was always there to nourish the new generation. The problem today is not just the weakness of the nuclear family, but more importantly, we have lost our tribes. Schools and community agencies must become the new tribes to support and nurture families and children.

Mastery

The first lesson in traditional Native American culture was that one should always observe those with more experience to learn from them. The child was taught to see someone with more skill as a model for learning, not as a rival. One must always celebrate the achievement of others, while the person being honored must accept this with humility. One must strive for personal mastery, not to become superior to an opponent. From earliest years, children were given important tasks to perform, as seen in this account by Deloria (1944):

> A grandmother tending a baby wrapped in a blanket on the ground calls her five year old son. "I need to go, so watch this baby. He is so small, so see that nobody steps on him, he is so tiny, and shoo the flies away. Until I return, you are his new father." Some time later, the boy is standing guard. His friends are playing nearby, but he does not leave his post because a father does not desert his son. (p. 29)

Fostering achievement was also a goal of pioneers in education and youth work. Pestalozzi decried learning isolated from experience, a theme echoed a century later by John Dewey. Maria Montessori castigated obedience-oriented education, which imprisoned disadvantaged students like mounted butterflies pinned to their desks. Anton Makarenko created therapeutic communities for gangs of street youth who ravaged Russian cities after the Revolution and he taught them a curriculum of work and joy.

Harvard psychologist Robert White coined the term *competence motivation* to refer to a powerful innate drive in all humans to master their environment. When mastery attempts lead to success, the desire to achieve is strengthened. But for many children, continued failure has created learned helplessness or has prompted them to seek success in unacceptable ways.

Traditional educational approaches were developed centuries before there was any scientific understanding of the human brain. With increased knowl-

edge on how the brain functions, we can restructure school so that it is less "brain antagonistic." Leslie Hart (1983) synthesized brain research and concluded that the brain works best in nonthreatening, active, and social situations. Using these principles, we propose the design of "brain friendly" education.

The sterile curriculum of traditional schools is being challenged on many fronts. Wilderness education programs build on the spirit of adventure in youth; when one struggles against the elements of nature, even the most resistant youth has no need to defy the law of natural consequences (Bacon & Kimball, 1989). The Eckerd Wilderness Educational System operates a network of 30 such programs across the eastern United States. While totally abandoning the traditional classroom structure, they are able to make formidable academic and social gains with previously nonachieving youth.

The cooperative learning revolution is the most dramatic embodiment of our recognition of the essential social nature of human learning. The chair of the English department in one of Chicago's wealthiest school districts recently told me that the most powerful course she ever taught was introduction to television. Her class wrote and produced a regular cable show, and everyone was totally involved. "I never labeled it as cooperative learning," she said, "but that is exactly what it was." In a similar vein, Frank Smith proposes a curriculum of "learner's clubs." Once invited to belong, trusted to learn, and made to feel secure, children will learn. Interaction with others who share common interests creates more potent learning than possible with planned instruction.

As my family traveled last year in Scandinavia, we were struck by how far American schools have to travel to become "brain friendly." My children were amazed that students help teachers design their courses in Norwegian middle schools. In Denmark, the school law encourages teachers to spend up to 30 days a year on educational excursions called "camp schools." Over 200 facilities in the country welcome such study groups, and students often travel with teachers to sites throughout Europe.

The hyper-competitive model of education that developed from our patriarchal tradition cannot be defended by scientific data or democratic values. Gilligan, Williams, and Hanmer (1989) questioned the kind of education that teaches us to trample others to win. A faculty member said, "To compete against another person, my students felt they needed to separate from that person. To beat you in competition meant that I could not know you or care about you." Competition must be redefined so that one can master skills, celebrate achievement, and enjoy the spirit and company of those we share competition *with*, rather than *against*. The model of competition passed down from the European patriarchy was the duel to the death. As we rediscover a more human — and authentically American — form of competition, we become partners rather than enemies. Our pedagogies, games, and grading systems will never be the same again.

Independence

Traditional Native American culture placed a high value on individual freedom. In contrast to "obedience" models of discipline, Native education was designed to build "respect" and teach inner discipline.

We propose a unifying theme based on the Native empowerment values of belonging, mastery, independence, and generosity.

From earliest childhood, children were encouraged to make decisions, solve problems, and show personal responsibility. However, in contrast to Elkind's hurried child of modern society, this autonomy did not involve any lessening of the human attachments with adults. Adults would continue to model, nurture, teach values and provide feedback, but children were given abundant opportunities to make choices without coercion.

Harsh punishment was virtually nonexistent, but an errant youth would get many gentle "lectures" from her relatives. The focus of these talks was to set expectations and offer feedback on how the behavior was seen by others. Lakota writer Luther Standing Bear (1933) stated that he had never heard force with anger behind it until he met white teachers in boarding school. "My father would never say, 'You must do this.' Instead he would say, 'Son, someday when you are man, this is what you will do.'"

The self-actualization theories of Abraham Maslow were strongly influenced by his early observations of the child-rearing practices of Blackfoot

Indians. Hoffman (1988) gave this early account by Maslow:

> I can remember ... a toddler trying to open a door to a cabin. He could not make it. This was a big, heavy door, and he was shoving and shoving. Well, Americans would get up and open the door for him. The Blackfoot Indians sat for half an hour while that baby struggled with that door, until he was able to get it open himself ... and then everyone praised him because he was able to do it himself.

The twentieth century's leading advocate for youth empowerment was social educator Janusz Korczak. The cornerstone of his philosophy was giving youth responsibility. Lawrence Kohlberg credited Korczak with inventing the prototype of the "just community school." Korczak attacked deeply ingrained attitudes of ageism, declaring that the lack of respect for children is no different from the oppression of the woman, peasant, or slave of earlier history. Korczak mocked the patriarchal notion that all-knowing adults should impose their will on children, declaring that only adults who abandon the assumption of superiority can be effective with children. Korczak predicted that self-governance would in 50 years become an integral part of the modern school (Brendtro & Hinders, 1990).

The most dramatic developmental change during the middle years of childhood is an increase in autonomy, but this change is not matched by corresponding increases in responsibility. Instead, schools respond with harsher punishments and treatment programs institute restrictive "level systems" to force submission to institutional authority. The young person is told that by being obedient he will show his responsibility. But obedience and responsibility are an oxymoron; as W. E. DuBois said, only responsibility builds responsibility. Youth work pioneers long ago discovered that building higher walls only makes wall climbing a sport.

Empowerment is reciprocal, and adults who respect the autonomy of youth find their influence enhanced. Osgood and colleagues (1985) at the University of Michigan Institute of Social Research assessed the autonomy of 50 residential groups of delinquents. When young people saw adults as trying to control them, they responded by developing a powerful negative counterculture. When adults were receptive to the voice of youth, young people were open to the legitimate authority of adults. Similar findings were reported in research by Bill Wasmund. Adults in a control-oriented treatment program believed they were in charge, but the sub rosa culture was in fact marked by greater chaos and disorganization. The empowerment program was actually better controlled, since youth shared the treatment goals of staff.

In their book, *Expelled to a Friendlier Place*, Gold and Mann (1984) challenged the common practice of employing highly developed formal codes of conduct to manage behavior. Their research showed that effective alternative schools are able to adapt flexibly to the needs of youth rather than make every decision "by the book." The emphasis shifts from punishing rule violators to building mutual respect. As the director of a successful alternative school put it, "I hire only teachers who agree to treat students with respect at all times and I discard those who, despite their good intentions, infantilize or ridicule students." (Gross, 1990)

Authoritarian patterns of education are a cultural remnant of the long patriarchal history of Western civilization. Even with the advent of democracy, the degree of one's freedom is still limited by economic and racial status. Research by Anyon (1983) showed that schools serving the elite encourage critical thinking, decision making, and independence, while schools of lower class minority students emphasize rote learning, teacher control, and obedience.

Competition must be redefined so that one can master skills, celebrate achievement, and enjoy the spirit and company of those we share competition with, rather than against.

A colleague from Michigan told me that in 1924 (the year George Bush was born) parents who were surveyed on what values they wanted to teach their offspring indicated they desired "obedient and religious" children. In 1988, parents asked the same question wanted children who were "independent and tolerant." Although the nation is still ruled by white males of George's generation, a new era may be dawning when children will be bonded to adults by respect rather than obedience. To paraphrase Carl Jung, When love rules there will be no will to power.

Generosity

A central goal in Native American child-rearing is to teach the importance of being generous and unselfish. In *The Education of Little Tree*, Forrest Carter (1976) recounted his childhood reared in the mountains by his Indian grandparents. The philosophy of his grandmother was, "When you come on something good, first thing to do is share it with whoever you can find; that way, the good spreads out where no telling it will go." A person who accumulated property for its own sake was distrusted. To give away what one cherished the most was one of the highest expressions of courage.

At the end of the nineteenth century, William James wrote of the need of young people to move outside of themselves and contribute to some important cause. He saw community service as a means of replacing self-seeking behavior with civic discipline. In England, Kurt Hahn, founder of Outward Bound, decried the malaise of contemporary youth who suffer from the "misery of unimportance." His prescription was to involve young people in some "grand passion" where they become committed to a cause outside of themselves.

Although youth pioneers recognized the importance of teaching altruistic behavior, their concern was not shared by mainstream psychology. Preoccupied with deviance and deficit, the prevailing "scientific" view of human behavior has been that children and adults are basically self-centered and aggressive. Now, a growing body of research on altruism and empathy is correcting this gloomy viewpoint, and it appears the human animal is by nature a compassionate beast. (Hunt, 1990; Kohn, 1990).

Diane Hedin (1989) concluded that young people have never been more self-centered and consumed with money, power, and status. She cited research studies on the positive outcomes of volunteer service, including increased responsibility, self-esteem, moral development, and commitment to democratic values. The Carnegie Foundation has strongly supported the implementation of service-learning as part of the curriculum of all American schools. Students are asked to spend time with the elderly, younger children, the sick, the lonely. The benefits of such prosocial activity are particularly pronounced with troubled adolescents. A staff member from the Pathway School in Philadelphia shared her experiences in developing a community service club for such youth. As the group was returning from an afternoon helping children in a preschool, they were euphoric on how well they had been received. Young people who were accustomed to being told,"Don't come around here again," can scarcely believe it when adults ask them to come to help another time.

Our own earlier work on peer group treatment is in the tradition of empowering youth to care (Brendtro & Ness, 1983; Vorrath & Brendtro, 1985). Similar ideas have extended to many public schools in natural peer helper programs. As youth decenter, they learn to empathize with others. In helping others, they create their own proof of worthiness: they have the power to make a positive contribution to another human life.

Conclusion

The history of Western civilization is replete with accounts of the powerful subjugating the weak, and children were always powerless. A century ago, clear voices for compassion challenged "soul murder" of children, but now the patriarchal voice of "justice" is once again in vogue. Phrased in sexist rhetoric, a "hard headed, get tough" mentality is vaunted, and caring is ridiculed as "soft" and "emotional." But, as Durkheim once observed, whatever the rationalization, punishment is first and foremost an instinctive, emotional reaction to threat. Those who cry for retribution testify to their own cowardice, or seek to exploit the emotions of others. In contrast, to empathize with another is a higher order cognitive skill, and to align oneself with the powerless is an act of great courage.

As youth decenter, they learn to empathize with others. In helping others, they create their own proof of worthiness: They have the power to make a positive contribution to another human life.

Montessori once said that a teacher must be humble enough to learn from the child. She was challenging a culture in which childhood meant inadequacy by the standard of power. The word *child* is a pejorative in the English language. A racist calls a black

man "boy," and a sexist addresses an adult female as "girl." Such words can only be prejudicial in a culture in which children are of lesser value.

At the South Dakota premiere of *Dances with Wolves*, I sat behind several rows of Indian children and families. While they listened in awe to voices in their native Lakota language, my eyes followed the dialogue in English subtitles. When the English word *child* was printed on the screen, the Native youngsters heard something else, since the Lakota word for child is literally "Sacred Being." In the spirit of *Dances with Wolves*, we must all become as little children:

> An old Indian man plays on the ground with a baby. "Grandfather, what are you doing down there?" he is asked. "My relatives," he replies, "this little one has just come from the spirit world, and I think very soon now I will be going to the spirit world. So, I am down here to learn from this Sacred Being."

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Mythic Pedagogy:

An Approach

Carlos Aceves

The mythic process (deification, harmony, truth, and mystery) by which we experience the world can provide the basis for a new pedagogical approach to early childhood education.

That humans experience the world mythically is not a novel idea. Scholars such as Joseph Campbell have introduced us to the universal mythic process. Campbell asserted that what was most valuable about myth was its "pedagogical function, of how to live a human lifetime under any circumstances" (quoted in Flowers, 1988, p. 31). Atencio (1976) in his seven years of work in community education in Dixon, New Mexico, through La Academia de La Nueva Raza noted that the role of myth to culture is that of a catalyst to a chemical reaction.[1] The myth of finding an eagle perched on a cactus devouring a serpent guided the Aztecs to build the capital of their civilization, Mexico-Tenochtitlan, in the middle of a lake. It is the several-thousand-years-old mythic symbol of the *Dao* (Yin and Yang) that is still the inspirational shield of martial artists all over the world.

Can we, collectively or individually, use the mythic process to consciously initiate a societal and personal transformation to enhance our existence? Critical pedagogist Henry Giroux (1990) alluded to this when commenting on the writings of black feminist authors whose use of myth is integral to their works: "The development of stories in this literature becomes a medium for developing forms of historical consciousness that provide the basis for new relations of solidarity, community, and self-love" (p. 23).

This article suggests that early childhood education may provide a good forum for the development of a mythic pedagogy — a process that allows expression of the intuitive and introspective side of human nature through the use of symbols and interaction within a ritual context. Because childhood, more than any other stage of our lives, gives us the opportunity to fully experience the multiple realities of our existence through a metaphorical perception of the world, it becomes a unique time to reintroduce the mythic process into our society.

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As children, when we are asked to fly we simply unfold our arms like a plane or superhero and off we go. As adults we are likely to follow the request by the clarification, "You mean, pretend to fly." It is not that as children we are not aware of limits. Most children who "fly off" when asked to do so know that they cannot actually fly. None of them would jump off a multistory building. What children possess, and what most adults have lost, is the ability to naturally interact metaphorically with their environment (Sobel, 1991).

Piaget (1954) showed in his research that while a child's perception of reality seems to follow the mechanisms of an adult's, upon closer examination the former is a qualitatively different process. Children do not merely observe, but actually create their reality through perception. A child constructs his reality by extracting parts of an earlier experience in a montage catharsis that eventually produces a new reality. A skunk is seen as a black kitty that has the ability to smell bad — quite a mythic process, although Piaget never labeled it so. This is evidenced by the name-giving process of mythically based societies of early North America, which produced names such as Bad Thunder or Dances With Wolves.

Validation of these perceived realities is important to the child. Bruno Bettleheim (1976) urged parents and school authorities to enhance their children's fantasy life through the use of fairy tales. Selma Fraiberg (1959) attempted to ease the anxiety of parents about dealing with children's fantasy-based episodes of reality and realizing their importance in understanding their emotional problems. Research also links children's perceptions of reality and pretend play to their intuition and the importance of the learning (Peterson, 1991). There is a need to explore the use of children's pretend play as a mythic process that becomes a pedagogical tool as an adjunct to child development in education.

Mythic behavior as pedagogy

Mythic behavior is a mode of activity in which a child, believing she is the embodiment of a natural or psychological phenomenon, will express through a series of actions what she perceives to be the will of that phenomenon. Although the action seemingly has no purpose other than to vent emotion or achieve some psychological or physical enjoyment it provides a basis for developing understanding. This is very similar to how and why myths are created and acted out in ritual by mythically based societies. The beauty of these acts by children is that they are often done spontaneously for the pure fun of it. Yet they contain a serious purpose for the child and an important message for all of us — one that goes unnoticed, unappreciated, and obviously not subjected to any quantification of value in the educational process.

Mythic behavior is a mode of activity in which a child, believing she is the embodiment of a natural or psychological phenomenon, will express through a series of actions what she perceives to be the will of that phenonmenon.

Campbell (1968) described the pedagogical aspect of the mythic process as consisting of the metaphysical, which maintains our sense of awe and respect for Creation; the cosmological, which maintains our connection to the universe as our home; the social, which sets our responsibility to the world in an ever-changing moral order; and the psychological, which centers and harmonizes us through spiritual experience. Below are three examples of behavior in children that exemplify this mythic pedagogy.

Example 1: A Dance with death. Recently I went hiking with my three children. As we were climbing up and down a series of rocky hills, I noticed my daughters ascending and descending these mounds at their steepest angles.

"Why don't you just climb them through their sides," I counseled. "It's easier."

"We like it this way," was their response.

"Why?" I asked, "it's even more dangerous."

"But that's the point," they said, "we want it to be dangerous."

"Yeah," said another, " We want to look at death in the face!"

Observing that their climbing patterns posed no significant danger, I continued my trekking pattern and allowed for theirs. After about half an hour, they were moving along the way I was. "What's the matter?" I asked. "You don't like danger anymore?"

"No," said the eldest, "me and death are tired."

From my observation and conversation with them I realized that what they were having was a dance with death, as ritualistic and significant to them as any tribal dance performed, but one through which they could have fun. The mythic elements of the death dance were all there: death was given a physical location (the other side of the hills), death was challenged (ascending steeply and swiftly), death was given human form ("look death in the face"/"me and death are tired").

Example 2: Clay sings. On Catholic Ash Wednesday, Irma took her children to get a cross painted on their foreheads with ash. She and her children had done this for years, but this time her children let her know something was different. They had recently read a children's book entitled *When Clay Sings* (Baylor & Banti, 1972), which featured a Native American story about the importance of respecting pottery because it is made of the flesh of their ancestors turned to clay. This year when the priest said "of dust you were made and to dust you will return" the children's eyes sparkled and told their mom, "Now we know why this is important, because of what the book says." To these children, a social ritual of great moral importance had lost its meaning until they were able to center it through Native American myth.

Example 3: The worry dolls. Betsy had been worried because her nine-year-old son was stressed out causing him a lack of sleep and irritability. Betsy was divorced and her ex-husband had no contact with the children. Betsy's son, being her oldest, felt responsible for the family. Betsy held a doctorate in early childhood education, and she tried various ways of engaging her son's behavior without success. She asked for my advice, and I suggested Guatemalan worry dolls. Guatemalan worry dolls are miniature dolls dressed in Indian garb that come in sets. Each set has a miniature box where the dolls can be kept, and the idea is to periodically assign a worry to each doll, place it in its box, and let the doll take care of the worry. Betsy marveled at how well her son responded to the intervention of the worry dolls. For this child the dolls were deities, and through them he was able to transcend a psychological problem that might have taken many therapy sessions.

These examples suggest that children possess an innate ability which allows them to achieve a needed balance with themselves and the world, and that this balance is obtained by transcending a one-reality mode to one that perceives multiple realities. They also suggest that this transcendence is done through the use of symbolic interaction with phenomena and that this interaction actually creates new realities for them.

The valuable hidden message

Of all Creation's creatures, humans are the only ones able to define our relationships with Creation (universe). Our survival is dependent on our ability to learn how to interact with other life and natural phenomena. We are not like the beaver who is born with the knowledge of building dams or birds their nests. Our technology is derived from our experience with one another and the world. To look at human civilization is to realize how unprepared we are to carry on a relationship with one another and the natural world.

What children possess, and what most adults have lost, is the ability to naturally interact metaphorically with their environment.

I believe that the treasure hidden in the mythic behavior of children consists of a pedagogy by which to learn *relationship* — maintaining a balance with one another, with all life, and with all natural phenomena through an appropriate expression and resolution of the contradictions inherent in all physical, emotional, and spiritual interaction. Latent in our adult behavior is the basic give-and-take process inherent in all relationships. We currently refer to dysfunctional relationships as those between mates or families. *Dysfunctional* simply means an inability to transcend our contradictions and find a balance that allows for spiritual growth. But this state of dysfunction is applicable to our relationship with nature as well. It is no accident that the Pre-Columbian American civilizations, which are today commended for their ability to live in harmony with nature, were civilizations whose lifestyle was mythically based. These societies possessed skills that allowed them to transcend the contradictions between humankind and the rest of nature. The same skills were used by the children in the cited examples.

The mythic process

The elements of myth are many, but the process can be divided into four basic elements. These are: *Deification, Truth, Harmony,* and *Mystery.* This process is not linear; the elements do not fall into a progression but are integrated into a common whole. Initiation of the mythic process does not begin with any one of these but with a desire to give some expression to our interaction with natural or spiritual phenomenon (Eliade, 1975). Humans intuit a higher power at work in themselves and the universe. The inability to explain this higher power increases our need to express its presence. Mythic pedagogy places importance primarily in providing for that *expression.* The meaning of myth comes with an individual who finds certain comfort and understanding in the product of deification or with a group that establishes cohesive customs, institutions, or rites. Mythic pedagogy's point of departure should be first to validate a child's need for introspection in a safe environment that allows for creative thinking and second to find appropriate meaning in the process.

Deification

Creation of deities, inherent in the spiritual expression of phenomena, is carried out by individuals and groups every day regardless of their theological or technical sophistication. Some deities survive longer than others, but all are products of a need to give human-like form to natural or spiritual phenomena for the purpose of working out a relationship between the individual or society and that phenomenon.

Main deities initially revolved around the four elements of nature: water, air, earth, and fire (Hopkins, 1969). The deification of Earth into Mother Earth promotes a different relationship with our environment than simply thinking of it as a "planet." Individual deities are also created, usually through personal ritual. When Carlos Castaneda's (1968) sorcerer Don Juan refers to his *ally,* he is referring to a personal deity. Deities are as much a personification of God in nature as they are of ourselves (Hartshorne, 1948). The mythic process need not necessarily be tied to a belief in God or religious proselytism — something that is forbidden in public education.

Children express their creation of a deity when they acquire an invisible friend or discover that a monster is living under their bed. The acquisition of a deity, a creature with human-like qualities but able to transcend physical limitations, in some way allows a person or group to explore their place in Creation. It is an exploration requiring intuitive as well as rational thinking. Modern-day psychotherapy has successfully incorporated forms of deification when patients are asked to verbally reassure the "child within" and through use of metaphors that seemingly have no connection to the actual psychological problem (Bradshaw, 1990; (Dolan, 1986).

In the Zen tradition, the attainment of a state of oneness with the universe requires no words to express it. This state simply *is.* As a species, society, or community we are not yet able to achieve this oneness with the world. But we have a need to strive toward it. This is one of the ways that our intuition of the workings of a higher power motivates us. Deification is a vehicle by which we can train to eventually reach this state. Deities allow the exploration of ourselves in the universe in both physical and spiritual realms. Yet it does not require that we abandon rational thinking, our words — only that we balance their use with the undefinable essence of the experience.

The "child within" can simply be a metaphor that allows us linguistic contact with our past. But the "child within" can also be our re-created selves, the new us that our higher power is shaping. Deities work at both levels, but their essence is from the unknown, the unexplainable, the realm of our higher power, *God.*

A useful classroom exercise would be to create a classroom deity: a character whose characteristics are defined through dialogue and consensus, and one which will have a "power" that will allow it some movement outside the physical realm. Once agreed, the class would proceed to give physical representation and place it prominently in the classroom. Each day the class would take a few minutes, again through dialogue and consensus, to place their character in some social situation. Together, students and teacher figure out what X character will do, how it will handle moral dilemmas, how it uses its power to interact with people and nature. This process may eventually yield other mythic creations. Inevitably X character would become a vehicle for the creation and telling of stories.

What this deity provides is a safe psychological and physical theater in which students and teacher can explore themes that in "real" life would expose them to danger, ridicule, or condemnation. A deity also helps transform the classroom into a mythically based community that, under careful guidance of the

teacher, can explore critical issues in a forum of safety (which educators continually point out as being very important to a child's confidence and self-esteem).

Truth

Truth is often viewed as a commodity to be owned, usually by those possessing sociopolitical and economic power. The mythic process views truth differently. The *truth* of a situation or phenomenon lies in the totality of that situation or phenomenon. Without being able to perceive it in its totality, we are unable to perceive its truth. Individual human beings by nature are unable to perceive the totality of anything. We are limited to partial perception and therefore acquisition of only partial truth. It is also our nature to be seekers of truth; indeed to build entire institutions based on the perceived acquisition of a *truth*.

Since myths are records of true events but do not require factual information, they provide an excellent vehicle for perceiving and seeking truth. The mythic process is important to this quest because it allows an individual or a group to participate fully with a spiritual or natural phenomenon. The acquisition of truth of a situation or phenomenon requires we become one with that situation or phenomenon. Since we cannot at this stage in our evolution achieve this state of oneness, we are able to perceive only visions of truth, not truth itself. The mythic process is a guide to acquiring these visions. Such a state of perception requires that we go beyond the rational.

In the Native American tradition, a vision became whole when it was shared. In the process of sharing, community members became participants in it, and ceremonially this one vision of truth was completed by the community. In the Western tradition, a vision of truth becomes a weapon by which to impose an individual or group will on others. What the mythic process teaches is a respect for truth as something that cannot be individually owned, but only communally "completed" through ceremonial participation.

For a classroom setting, the question of group perception of truth is most important. Remember that everyone in the class, including the teacher, holds a piece of that perceived truth. This little piece of truth one holds dear and sacred. To arrive at a group perception, each person must share her little piece through dialogue and finally arrive at a consensus. In the scheme of things, some individuals may alter their little piece of the truth; others may abandon it completely; others will hold on to it whether or not it coincides with the group truth.

A classroom exercise in *truth* acquisition would go as follows. The teacher brings in a cardboard representation of an animal but does not allow the students to see it before placing it in the middle of a circular seating arrangement. The animal has prominent eyes, nose, ears, tail; its color varies considerably. Its left side is one color, its right side another. Its ears are red on the outside, blue on the inside. One eye is pink, the other orange. Its left eyebrow is green, its right brown. Through dialogue and without the students moving from their assigned chairs, the group develops a complete description of the animal. No single individual, with the exception of the teacher moving around can perceive the totality of the animal. A student on one side may say that the animal is black, and his statement will be true. Another will say that the animal is white, and her statement will be true. This exercise can evolve to defining characteristics of the animal, which may not be as easily discernable as color.

These examples suggest that children possess an innate ability which allows them to achieve a needed balance with themselves and the world, and that this balance is obtained by transcending a one-reality mode to one that perceives multiple realities.

Harmony

Death and destruction are not usually associated with harmony; peace and prosperity are. Harmony is actually a process of balance more in the context of the Daoist notion of the unity and struggle of opposites (Girardot, 1983). Simply put, *harmony* is the mechanism of give and take so necessary to any relationship. Although we may equate the absence of conflict to the state of harmony, quite the opposite is true. Conflict is an integral part of harmony. That is the way things even out, the way consensus is reached.

The attitude or value judgement we place on conflict determines to a large extent if things actually even out, if consensus is ever reached. Viewing conflict as something bad leads to behavior that resolves conflict through domination or avoidance. Conflict is the playing out of contradiction. In an intimate relationship between a man and a woman it is inevitable that the needs of the two conflict. To resolve this, the conflict must be played out to reach a compromise. If the woman fears that expressing her desire to have her needs met may result in termination of the relationship, she may avoid the conflict and remain unhappy with her repressed emotion. On the other side, the man may resort to establishing a superior position in the relationship so that through the imposition of his will he can avoid entering into conflict with his partner. In both situations, what remains is an unbalanced and therefore unhealthy relationship.

When conflict is seen as a valuable tool for achieving harmony, we can enter a relationship that avoids domination and seeks growth through consensus. How is this related to the mythic process? Harmony as a continually balanced cycle of destruction and creation is the mythic way of dealing with the contradiction we all share, that all of us suffer from a terminal condition called life. On a very practical plane, life is a journey toward death. At each step of our lives, death eats away at us through aging, accident, and disease until we must give away the totality of our being.

This fundamental contradiction is handled by our society in the same way that we approach conflict. Death is something to be conquered, usually through medical science, or is a subject to be avoided. Mythically based societies ritually include death in their lives as a force that ensures, not destroys, harmony. The death of all living things replenishes the Earth's fertility. The old gives way to the new. Death is an ally to enhance life, not an enemy to defeat or avoid (Flowers, 1988).

Native American societies, which are mythically based, incorporate the idea of the *Give-Away* (Storm, 1972) or human sacrifice into their cultures. The Give-Away is based on the offering of flesh or blood to deities or rituals. It also involves the giving of personal items as gifts. Sometimes, it takes the form of constructing an intricately beautiful sand painting and then destroying it by returning it to its original sand form. The act of giving away voluntarily is to ensure that a balance continues. Avoided are the involuntary Give-Aways that come through death, famine, or moral disintegration of society.

The mythic process projects harmony as the ability of letting go, of being able to voluntarily give away, not as a tragic act but as one of renewal. This can be extended to the process of letting go of hatred, trauma, and things that cannot be controlled.

The element of harmony, more than the other elements of the mythic process, involves a wide range of emotions that require expression. The emotional truth of each participant in the Give Away must be valued. If a group of students creates a sand painting for a mythic activity, most of them will feel sadness at seeing it returned to its original sand form. A serious mistake would be to encourage students to deny their feelings during these exercises.

Educators, like parents, so used to saying, "Don't cry, don't feel sad, it's not that bad" might inevitably find mythic pedagogy extremely difficult because one of its elements requires embracing feelings rather than suppressing them.

A useful exercise in harmony is a game similar to tag. It involves two students at a time. One wears a skull mask, representing death; the other represents life. In this game, the first student to touch the other with his hand wins, and the loser assumes the skull mask. Then another student rises to challenge death.

What the mythic process teaches is a respect for truth as something that cannot be individually owned, but only communally "completed" through ceremonial participation.

This death dance is a mythic representation of harmony — the unity and struggle of opposites as well as the inevitability of death. In this game the last two players will probably bring out a more intense emotional participation from the winners and losers of the audience. The game will also raise questions in the minds of the students that they may consciously or unconsciously deal with in time. Why did I cheer for death over life, or vice-versa? Why did I make

more of an effort when I played death, or vice-versa? These are simple questions of conflict that so complicate our lives.

Death is a subject that requires great care and caution, especially where children are concerned. I recently introduced this exercise to a local kindergarten classroom. First, I allowed each child to talk about death and ask any questions about it. Sensing that none of the children had any traumatic feelings about death (several told of deaths in their family, death of pets, etc.), I prepped them for the exercise. To my surprise, everyone preferred being death rather than the challenger. It is an exercise they thoroughly enjoyed.

However, when I introduced the subject of death to a fifth grade class I discovered that many of the children had traumatic feelings about it. We spent over an hour in an emotionally charged atmosphere where several children cried and others expressed anger over death in their families. The teacher and I carefully gave closure to the discussion by helping the students to appreciate the solidarity they expressed for one another and value death actually gives to life. Although I have not introduced the death dance exercise to this class, I have a strong feeling that because of the discussion on the subject it would not pose a psychological danger to them.

Mystery

Native American scholar Jack Forbes observed that the fundamental difference between Western civilization and Indian culture is Western inability to accept mystery.[2] It is this acceptance of mystery, Forbes pointed out, that is a cornerstone of Native American spirituality.

Mystery is basic to the mythic process because it allows for the asking of questions that have no answer. Whereas our society's questions are valid only if they have the possibility of answers, the mythic process simply places validity of asking questions that have no answer in the mere exercise of asking. Saying "I don't know" is not a surrender to ignorance, but rather a surrender to our own human limitations.

Is the universe infinite? We can assume that it is or we can assume that it is not, but given our limits we will never know. What is the validity of asking? Because the question, not the answer, is a confrontation about our place in the vastness of Creation. Such confrontations inspire our intuition and creativity. When will I die? What is love? Is the world going to end? Does God exist? Why was I born? How come my friend and I had the same dream? What's going to happen tomorrow? Is there life after death? Why is there evil? How many stars are in the sky? Asking such questions points to an important element of human life: the validity of faith, the need to believe. Mystery points out our frailty within Creation; it is a policeman that arrests the self-righteousness we humans often use, mistakenly thinking it strengthens our faith. Mystery allows two or more truths to exist at once. Mystery is the realm of possibilities. Mystery is our gateway to go beyond our limitations — a gateway that can only be opened mythically.

When conflict is seen as a valuable tool for achieving harmony, we can enter a relationship that avoids domination and seeks growth through consensus.

Acceptance of mystery is an attitude fostered by acknowledging that it is alright not to know, that it is appropriate to ask questions that have no answers. The best inducement to creativity is to admit, "We don't know, so let us imagine." Mystery favors a personal view of the Creator as opposed to a prescribed one. It fosters respect for another's theological views. It is only when mystery is removed from religion that we enter the realm of domination — the faithful vs. the infidels, the Christians vs. the pagans. But when the Creator is part of the Great Mystery, then God becomes a concept in mystery itself, opened to multiple possibilities, as varied as each individual imagination. Respect of personal vision is integral to mythic pedagogy.

The most obvious classroom exercise is to take time out every day and list three things that we do not know and probably never will know. These questions can deal with the universe, the world, the state, the community, or the individual. At first the class will find it easy to fill the list. As time goes by it will probably get more difficult but equally more interesting. Dialoge about why particular questions are or are not part of the Great Mystery provides an excel-

lent forum to explore the nature of humankind's place in the universe. To explore nature and its wonders within this context can provide an excellent spiritual grounding for students and teacher.

Conclusion

Development of a pedagogically sound approach to the mythic process will require creation of a multitude of exercises that can be integrated into a curriculum. What would be introduced is an exploration process into the magical, childlike part of ourselves. I believe that mythic pedagogy can empower children to deal with trauma, stimulate their intuition, and motivate their learning — and may be a significant investment in our civilization.

If we accept the notion that humans define the values of their relationship to Creation mythically, then it is easy to see how ignoring the mythic process means ignoring our increasing inappropriateness of relationship to the environment. Consequently an involuntary Give-Away (decline) takes place. History teaches us that civilizations rise and fall. It also shows us that new civilizations rise from the same ground where others have fallen. The fall of a civilization is not caused simply by a scarcity of material resources. Somewhere along their history these civilizations failed to maintain an *appropriate* relationship with their environment, and that failure led to overpopulation, overtaxation of the land, inequitable distribution of wealth, or lack of preparation for cycles of drought. Mythographer William Doty (1986) warned that the "culture that fails to take its mythgraphic task seriously stands in danger ... to loose valuable resources for its own renewal" (p. 130).

But long before any major social catastrophe, individual involuntary Give-Aways occur and countless individuals find themselves, as Thoreau put it, living lives of quiet desperation. Self-actualization, when defined strictly in material terms, negates that all-important part of humankind, its spirit.

The mythic process aids the human spirit by allowing its keeper an empathy with Creation. Through myth, the universe becomes a home where we belong instead of a cold, dark dungeon where we are lost. The mythic process is innate, for as children we seem to be adept at its workings. Likewise, childhood seems to be the most opportune time to be introduced to its pedagogical value.

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Endnotes

1. For seven years Atencio directed La Academia de la Nueva Raza, a community education project in Dixon, New Mexico. Students at the *Academia* would talk with residents of the community during the day and then gather in the evening to have a roundtable discussion with other students about each other's conversations. Atencio believed this process allowed the *Academia* to have a continous dialogue with the community. Periodically the *Academia* would publish *cuadernos* (booklets) condensing some of the information gathered in this process.

2. Jack Forbes is the director of Native American Studies at the University of California at Davis. He is the author of several books and numerous articles on Native American history and culture.

Art in a Waldorf School

Stephen Sagarin

In a Waldorf school, each grade's art curriculum is a means to develop the students' capacity to observe and distinguish the vital forces in nature and in themselves.

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In a Waldorf School, art is taught primarily to aid a child in the natural self-development called growing up. This article examines specific art class projects in grades 6 through 12 from the Waldorf point of view of a Waldorf teacher.

Of the many aspects of Waldorf education, it is perhaps its unique approach to the arts that distinguishes it most from other educational philosophies. The purpose of this article is to describe the teaching of art in a Waldorf school, and the focus is on grades 6 through 12, the grades I teach. These grades are of particular interest because they bracket and include adolescence.

Before I describe projects that, for me, epitomize the artwork in these grades, it is essential to note that although all Waldorf schools derive their pedagogy from the writings and lectures of Rudolf Steiner,[1] Waldorf schools are not peas in a pod. They are more like individual people, each with his particular characteristics. This individuation of method is also true of teachers themselves. Adherence to Steiner's philosophy means little if the teacher has not personally transformed concepts into imaginative insights.

Art in Waldorf schools in general is not intended to be cathartic, to provide an opportunity for children to express "pent up" feelings. Neither should students' work be "original" in the manner of gallery or museum art. The primary purpose of the artwork often relates to the development of children's capacity to observe and distinguish vital forces in nature and in themselves. The active experience of a creative idea is more essential than the art "product" itself. The development of the student herself is key.

Sixth grade

Sixth graders paint with premixed watercolors on paper that has been soaked in water for a few minutes and then sponged dry. I paint in front of them, but I don't tell them what we are going to paint. At a certain point each day, the subject finally reveals itself to one of the students, and then most of them see it immediately. I simply say, for example, "Cover

the top two-thirds of your paper with this yellow [demonstrating]. Have it fuller at the top and thinner as you get closer to the center of the paper. Put it on like this [blotchy], or like this [smoothly side to side], depending on which looks better to you. You can leave some white streaks showing through if you like." We proceed shape by shape, starting with large (1") brushes and proceeding often to smaller brushes (#8 sable) for some details when the paper is drier and the painting is nearly done.

Although the students copy what I do, their paintings do not look like mine. Some students paint with a fully loaded brush, really slathering the paint onto the paper. Others paint with delicate, watered-down colors. Even if I say, "Make the shape in the lower left corner darker than the one on the right," every student's work will still vary from mine and the other students'.

By keeping the subject of the painting a secret, at first, students learn to see in a new way. Rather than seeing in the conventional, undeveloped sense of what they *think* they see, they learn to see things as they are. All of a sudden, what was merely a long, thin triangle may become a river. They would probably not have thought to paint a river in this particular way, and if I had said, "Paint a green river at the bottom of the page," most of them would not have been able to do this in a convincing manner. As the shapes that we paint add up to a complete image, the students become more and more enthusiastic, hazarding guesses as to what this painting is. Often, even when one has guessed correctly, there is still one student who cannot "see" the composition. Then I, or better another student, point out how the various elements add up in the work.

After the paintings have dried overnight, we often return to them to paint in details that would have blurred too much if painted on the wet paper. For instance, we may have painted a picture of an oasis in the desert — red and orange sky, white sun "unpainted" from it (by drying a brush and removing wet paint, one can leave a more or less white "unpainted" shape on the paper; clouds can be done this way as well, for example), yellow sands, and blue-green trees huddled near the horizon. When we approach the dry painting, we aim to place a few crisp brush strokes to bring out the trunks and leaves of the trees in the oasis, and perhaps to make the edge of the sun crisper. This work takes only a few minutes of the class, and then we can turn to a new painting.

We work on a new painting virtually every day of the "block."[2] We begin with simple color harmonies and contrasts, two at a time. Students who have been in our school for a long time have done this since nursery school, but not on the same conscious level with which we now approach our work. Our first painting may use yellow and blue to make a painting of a green hill under yellow sunshine. We often use a lemon yellow to start, then intensify it with gamboge (Indian yellow) or even cadmium orange. The next day I ask the students if this painting is balanced, if they are satisfied with it. Some say yes, but more often than not they find it weak, too light, or too "wimpy." I ask them how they would make it stronger, and the answer often is to add some blue, a darker color. By talking about the painting in terms of balance, the balance of light and dark, warm and cool, we approach a sense for color harmony and discord. Some students are particularly fond of discordant paintings — works in purple and red, for example — others like the symmetry and balance of a painting in all three primary colors.

We begin the course with paintings in two colors, but progress to three, four, five, and, finally, six colors (three primaries and three secondaries). I give the students various cool and warm reds, yellows, and blues, but if they want green, especially, they must mix it themselves. For one thing, green from a tube is rarely as lively as green mixed on the paper.

More important, however, the primary colors, according to Johann Wolfgang von Goethe (1970), arise from the interaction of light and dark, and green is a mixture of two different spectra. In a nutshell, Goethe described the warm colors — red, orange, and yellow — arising when light passes through a darkening medium, such as when the sun sets through the atmosphere. The cool colors — blue and purple — arise in the opposite case, when darkness is seen through a light-filled medium, such as when we see the blackness of space through the sun-filled atmosphere at midday. Green occurs in a rainbow or occasionally during a sunset when these two spectra overlap. (The opposite overlap, of purple and red, produces a magenta or peach-blossom color that can be seen easily through a prism.) When all of the colors just described are painted in sequence around a circle, we obtain a color wheel. This color wheel arises from Goethe's theories of light and color.

As the course progresses we often "step out" of the color wheel for a day or two to include black (a volcano erupting at night) or brown (an aqueduct over a sluggish, muddy river in the heat of a Roman summer). As much as possible, we paint scenes that

arise from the students' main lesson study at the time of the course (see note 2). Often this is the study of ancient Rome, although it can be the geography of the north (tundra, fir trees, icy mountains, ice floes) or other subject. The point of the course is to deepen the children's capacity to see the world as a formation or product of color.

Seventh grade

Seventh graders spend much of the year at a Waldorf school studying the world at the time of the Renaissance, so it is appropriate that they learn linear perspective — an artistic and intellectual development of that age — in their art classes. Seventh graders are just on the borderline of puberty and have a special fascination with the Renaissance. (Although some will argue that the onset of puberty is much earlier, I am more concerned with the emotional, behavioral, and intellectual changes that occur in the sixth and seventh grades than with changes in the body alone.) In a way, many of them are (or strive to be) Renaissance people themselves. Many see no limitations on their abilities, and are involved in virtually every aspect of school life: music, sports, art, academics, drama, and so on. Only later do they discover that few of us can excel in all things simultaneously. The world is open to them the way it was to the thinkers and explorers of the Renaissance. The discoveries of linear perspective challenge seventh graders, but they persevere readily. "It's so 'cool' to be able to draw buildings and roads that look 'real'."

We begin the art class with one-point perspective and focus on how the "vanishing point" appears to move with the observer. Each student at his desk has one and only one vanishing point at infinity that corresponds to his gaze. If he shifts his gaze, then the vanishing point shifts as well. This discussion ties each student in very concretely with his vision and perception of the world. For the time being, we leave aside the question of whether or not such a view is actually "correct." For a time during the Renaissance, this view of the world was deemed correct, and, from one point of view, Waldorf education recapitulates the history of humanity for each student.

Once again, students copy what I do before them, and once again their works are nonetheless as individual as they are. I draw a road vanishing into the distance. So do they, but some draw a dirt road with cart tracks in it, while others draw a black asphalt strip with a double yellow line down the middle. I construct a row of vertical lines vanishing into the distance next to the road. I turn mine into telephone poles. Some students do the same, but many choose to draw trees or streetlights, instead. Finally, when it comes to coloring the drawing, I may color mine to show a setting sun on the horizon. Some students copy this, but others draw midday, with its short, dark shadows, while still others choose the mysterious shadows of midnight. Although I teach the rudiments of shading and mixing colored pencils, the quality of each student's work varies from that of the other students, and reflects to a great extent the character or nature of that student.

Artwork by Sean McGee.

Eighth grade

One of the projects that the eighth grade undertakes each year is to model caricatures of human faces in clay or papier-maché. At this time, when the changes of puberty are rapidly occurring, and each student is likely to be painfully aware of her own individuality, it is healthful for students to concentrate on character and caricature. By imaginatively creating or re-creating the character of others, students begin the process of sorting out their own personalities. Eighth grade history and science, for example, focus on the personalities and biographies of great men and women as well as on the events and discoveries of these disciplines. Through the exam-

ples that the biographies of great humans provide, students can gradually find their own places in the world.

In order for students to be able to complete a caricature, in order to be able to exaggerate features of the face, they must first know the general or average proportions. We usually spend some time drawing faces from the front and from the side, concentrating on the relation in size between one feature and the next. We can also see what makes a face more masculine or feminine, more Caucasian or Negroid, for example. I show students how we all recognize the stereotype of an "egghead" by his large forehead, of a sensitive "artiste" by her long nose, and of a "jock" or "G.I. Joe" by his square jaw. Although we cannot apply these generalities to our experience of real people, we can use them in the production of recognizable types in sculpture. Then we set to work in clay. Students use three to five pounds of clay each, depending on the size of their hands. This amount allows them to sculpt a nearly life-size face. Smaller amounts are unsuccessful because students simply can't work finely enough with their hands to produce reasonable detail. I discourage students from using tools, at least at first, so that their experience of the clay is more direct and immediate.

At first, students should be able to hold the clay and work with it in their hands, without setting it down. This way of working establishes the three-dimensionality of the clay for them. They begin by molding as perfectly round and smooth a sphere as they can. This exercise familiarizes them with the clay and aids their appreciation of its dimensionality. Students must declare at the outset which features they will exaggerate. Otherwise, many students will putter around without a plan and choose only to exaggerate what has already been malformed by their efforts.

The first effort is especially revealing of the student's own personality. Not only do many of their works look like them (and this is usually instantly recognizable to the rest of the class but not to the student herself), but they also often portray qualities of the student. A student who sees herself as an intellectual in the class will almost always choose to exaggerate the forehead to begin with. A student who has little self-esteem or considers himself "dumb" will often sculpt a face with an exaggerated, slack jaw. After their initial efforts, students must choose a second part of the face to exaggerate, and then a third.

Finally, students must pick an emotion or expression — pain, sorrow, joy, mirth, boredom, curiosity — and mold it in clay. This requires exact observation of a photograph or, better, one of their classmates assuming the expression for them. When they have finished this, if time allows, I ask them to model the opposite of the expression they have just completed. In this way, they are allowed to express exactly what they wish, but they also must confront the opposite, the other pole of human experience. It is certainly good for someone who is melancholic to immerse himself in modeling some melancholic expression (which he will usually choose to do), and then have to model the opposite — either great joy or fiery intensity.

Ninth grade

One of the marked characteristics of boys and girls in puberty is their tendency to see the world in extreme terms. Things are either good or bad, to be loved or to be hated. There is no middle ground, and adolescents are loathe to compromise with anyone about anything. They have a tendency to see adults, who are able and willing to compromise, for example, as weak. They lionize those who died for what they believed in. They are greatly idealistic.

Working in black and white — making block prints, for example — ninth-grade students can both express this view of the world, albeit it unconsciously, and also learn to reconcile polarities (black and white) to complete their work. Although students are reasonably free to select whatever subject they wish, I encourage them to choose something from the human or animal world. I discourage them from depicting something manufactured (e.g., a car or a gun), first because the medium doesn't generally support these subjects as easily as it does more natural ones, and second because I would like the focus of their works to be the natural world — either the place of humans in the world, or some aspect of the world itself. I try to get them to picture their first work, at least, in terms either of a lighter object on a darker ground or a darker object on a lighter ground. Zebras and skunks are difficult in this regard, for example (not that they cannot be done well by enterprising students), because part of the animal will blend into the background. The picture should also include something of the natural surroundings of the animal — desert, cliffs, jungle, and so forth, or else put humans in a recognizable context, such as canoeing on a river or peeling potatoes in a cottage doorway.

Students often begin with a sketch in white chalk on black paper or with a small scratchboard drawing to accustom themselves to working in reverse. They are already familiar with adding a dark pencil line to a light sheet of paper. To make a block print, they

must learn to add light lines (eventually carved) to a dark surface. We discuss the world in terms of light and dark. Through previous courses in black-and-white drawing they know that, in terms of light and dark, objects do not have dark lines around them, as Mickey Mouse's hand does, but consist of surfaces and edges that meet, overlap, or blend into one another. At this age, students in a Waldorf School have had a course in art history,[3] and we look at the wood and linoleum prints of artists from Dürer to Picasso. We pay careful attention to the various ways artists have portrayed textures. Students come to realize that, although they must work only in carved strokes of white, they can achieve a tremendous variety of shadings and textures by varying the character and orientation of their strokes.

The patience and attention to detail necessary to practice calligraphy offer an antidote to sophomoric tendencies.

Students work on basswood blocks that are about 11" × 14". Students have a variety of blades with which to work, from a narrow *v* to a broad *u*. Some students carve extremely quickly and finish in a couple of hours. Others treat each stroke as a ritual and take more than a week to finish. One cannot erase a carved line, so students really have to plan their work carefully and think about every step of the carving. I have had many students who have ruined blocks by carving out what should have been left in. They then have to sand down their blocks and start again. The carving process, almost painful for some students, during which one must be conscious of every move, every stroke, helps students become conscious of the effects of their labor. We strive for self-consciousness, not in the sense of stage fright, for example, but for a healthy sense of self in relation to the world.

Tenth grade

As high school teachers know, the term *sophomore* is an appropriate appellation for most tenth graders. Sophomores have weathered the onslaught of puberty and are, for the most part, now riding it out. They have also had a year to adapt to high school and now sometimes feel too much confidence. The patience and attention to detail necessary to practice calligraphy offer an antidote to sophomoric tendencies. On one hand, the challenge of calligraphy is humbling, tempering sophomoric hubris; on the other, it is fairly easy to master the rudiments of calligraphy, which imparts a genuine feeling of accomplishment.

I teach basic Roman calligraphy to tenth graders. I have taught the italic alphabet, which is arguably more versatile because it can replace cursive script if the letters are linked, but pen-written Roman letters are the precursors of the type you are reading right now. Also, Roman letters require more rigorous attention; each must conform to specific, defined proportions.

We begin by learning proper posture and hand position, and proceed to basic practice strokes. For this alphabet, the nib of the pen must rest on the paper at a constant angle of 30° from horizontal. Some students take to the specific manual requirements of calligraphy easily; others have to struggle just to get an even flow of ink onto the page. Because of the subtle and precise gestures necessary to draw letters well, perceptual problems often manifest themselves here, and I believe the practice of calligraphy aids development of two-dimensional awareness in ways that the other arts cannot.

Teachers and parents often believe that calligraphy will improve students' handwriting, but, unfortunately, this is not generally the case. Italic writing possibly could address the problem of poor handwriting, but handwriting has little relation to the careful drawing of letters to precise proportions that Roman calligraphy involves.

Eleventh grade

In conjunction with their study of medieval romances, eleventh graders often construct stained glass windows. In the past they have made them with lead channel or copper foil and solder, but recently time and monetary constraints have forced us to jury-rig them by cutting and gluing stained glass onto clear glass, then filling the gaps with black glazing putty. If necessary, students paint details in black.

The windows are designed to investigate color (consistent with Goethe's color theory) as something unique and characterful in itself, separate from the objects to which it is "attached." In this regard, a study of atmospheric color is particularly useful. We look at paintings by Turner, Monet, and others, find color photographs that reveal atmospheric color and phenomena, and, finally, work up color sketches of the windows. Stained glass cannot be blended the way that

atmospheric color blends gently from hue to hue, but, by interspersing small pieces of one colored glass among pieces of another color, one can achieve a blended effect. The luminous quality of stained glass, unique to this medium, warrants wrestling with this limitation. This hindrance, however, has led me some years to pursue the same aesthetic objectives by having students paint on large, primed Cellotex panels. Here, the blending of color can be handled easily, but the luminous quality of stained glass is lost.

The work of the eleventh grade recapitulates the work of the paintings done in sixth (and seventh) grade, but with more emphasis on the theoretical elements of Goethe's conceptions of light and color. Also, a theme of the junior year (unspoken to the students) is *metamorphosis*. Because most of them are nearly through puberty, their schoolwork in general can help them to look back at who they were, and forward to who they will become. By observing atmospheric color in the stained glass class, they experience a daily and seasonal metamorphosis from which they can learn.

Twelfth grade

Twelfth graders sculpt life-size busts in clay. In a way this is a mature recapitulation of the work begun with caricature in eighth grade. Here, however, *character* rather than *caricature* is the aim. Students choose among three possibilities. The first is to sculpt a bust of a specific person: a relative, someone famous, someone whose face they like. (One student, working from photographs, modeled a beautiful head of his father, who had died when the boy was young.) The second choice is to sculpt a particular emotion or expression, down to the smallest crinkle of flesh. (A recent student chose to model a stockbroker shouting in glee as he raked in the money.) The final choice is to copy the head of a sculpture that already exists. (The result of another student's work was a magnificent copy of a bronze head of Poseidon.)

This sculpture is often done in conjunction with twelfth-grade study of history through architecture. In this way we can lead to a discussion of architecture as, in one sense, an outer expression of our own inner structure, both physical and metaphysical. In a sense, the face we choose for our own is a face we have built or sculpted for ourselves. One can speak of the architecture of the head in general terms of bones and muscles, and also in specific terms of folds and pockets of flesh that lend intelligible expression to our demeanor. Waldorf education is unabashedly human centered, and the senior head sculptures represent in many ways a culmination of this approach to education.

The ages of my students span puberty, and the art I teach aims in subtle but not uncertain ways to help students find their way through this often difficult change in a healthful manner. I do not transform the students; they are in the process of transforming themselves. The work they do in art aids this transformation.

Artwork by Saisha Jaroff.

Reference

Goethe, J. W. (1970). *Theory of colors*. Cambridge, MA: MIT Press. (Original work translated 1840).

Endnotes

1. Rudolf Steiner (1861–1925) was an Austrian philosopher, scientist, and educator. He was the founder of the Waldorf school movement.
2. Main lesson. All Waldorf schools teach many subjects through the 90-minute to two-hour "main lesson" with which each day begins. These courses change every three to six weeks. At the Waldorf School of Garden City, New York, main lesson and art courses are generally taught in three-week blocks. Art courses meet for one hour, three or four times per week depending on the grade.
3. Most Waldorf high school curricula include courses in the history of humanity through art, language, music, and architecture (grades 9 through 12), respectively). These courses, as well as all main lessons and most other courses, are required of all students.

The Development of Creative Thinking in Childhood

Aostre Johnson

The traditional cognitive development perspective for understanding early childhood thinking is too limited. The roots of adult "genius" can be found in the unique forms of creative thinking during infancy and early and late childhood.

> Believe me, Southey! A metaphysical solution that does not tell you something in the heart is grievously suspected as apocryphal. I almost think that ideas never recall ideas, as far as they are ideas, any more than leaves in a forest create each other's motion. The breeze it is that runs through them — it is the soul, the state of feeling. (Rugg, 1963, pp. 197–198)

Samuel Taylor Coleridge wrote these words in a letter to a friend. Coleridge's idea, that intellectual thought is powered or run by "the soul," by feeling, is remarkably similar to John Dewey's (1931) theory about thinking. Dewey described two types of thinking; one is the "ground" out of which the other arises. Dewey named these two types of thought *qualitative* and *quantitative*. Qualitative thought is like the breeze, an emotional power that shapes intellectual thought as wind rearranges leaves on trees.

My theory about the developmental stages of creative thinking is based on these two contrasting types. They can also be referred to as different modes of knowing. Similar dualities have been suggested by other theorists using various terms. These include Paul Tillich's *ontological thought* and *explicit knowing*, Jerome Bruner's *intuition* and *logical thought*, William James's *pure experience* and *reflective thought*, and the Buddhist concepts of *conditioned* and *unconditioned mind*.

I propose that there is a mode of knowing that is prior to logical and quantitative thought processes. This mode of knowing is our earliest and most direct experience of reality, whether that reality is seen as "ultimate" reality or personal reality, or some combination of both. It is experienced as an emotion or an intuition.

Quantitative thought is the secondary thought process that gives us indirect knowledge about our experience. This information is necessary for complete understanding. Quantitative thought defines and delineates experience by dividing it into distinct objects, properties, names, and relationships.

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This paper is part of a larger, more cormprehensive work on a theory of the development of creative thinking throughout the human life span, along with recommendations for appropriate ways to structure educational environments to nurture and support creative thinking at each stage of development.

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Qualitative knowing precedes and makes possible logical or quantitative thought. Every explicit thought is derived from an underlying, prior feeling-intuition. Qualitative thought has a shaping and integrating power that provides the *meaningful context* for quantitative thought. Qualitative thought energizes and guides quantitative thought along lines that allow us to make explicit sense of our experience. As in quantum physics, where particles have no significance as isolated entities but have meaning only when seen against the framework of interconnected waves, quantitative thought becomes meaningful only when seen against the background of qualitative thought.

We cannot fully understand self and world without quantitative thought, just as we cannot make sense of quantitative information without the underlying qualitative thought. Qualitative and quantitative thought together allow us to make meaning of our experience. Taken in its fullest sense this process of making meaning is the process of creative thinking.

The making of meaning as creative experience

> The making and surrendering of meaning, it is suggested, is a "universal" activity; but not because Someone remembers to make each person this way. It is universal because it is a single activity, there where the dance is, an activity which may itself be the Someone. (Kegan, 1982, p. 437)

I believe that to be a human being is to desire meaning and to attempt to make meaning, or more accurately, as psychologist Robert Kegan (1982) said: "Thus it is not that a person makes meaning, as much as that the activity of being a person is the activity of meaning-making" (p. 11). There are myriad variations and levels of depth meaning-making, from habitual perceptions or the dry memorization of word meanings for a vocabulary test to profound experiences in which one suddenly grasps the meaning of one's existence — "conversions" that literally change one's life.

Meaning-making is always an emotional and intuitive experience as well as a cognitive one. Or, in the terms developed above, the making of meaning involves both quantitative and qualitative thought. Thoughts vary in strength of the quantitative. Thinking that is strongly rooted in the qualitative, using varied quantitative forms, allows full participation in life; it is creative, which is to say that it is involved in making, inventing, producing, and discovering fresh avenues of understanding and expressing meaning.

Creative experience involves bringing something into being, discovering a form that appropriately conveys information. We can be creative in any number of ways, such as with words, perceptions, mathematical symbols, artistic symbols, body movements, or human relationships. A creative experience is not necessarily one that has never been experienced by anyone else before. It is creative because it contains meaning that is fresh and new for a particular individual. I can perceive the tree outside my window habitually without really experiencing it, or I can perceive it creatively, a novel and emotional experience every time I look at it. Each three-year-old child who finds that blocks or stones stack one on top of another to make towers is making a tremendously exciting personal discovery, even though this discovery has been made millions of times before.

Thinking that is strongly rooted in the qualitative, using varied quantitative forms, allows full participation in life; it is creative.

All types of experience, including intellectual experience, are potentially creative or aesthetic. Aesthetic experience is characterized by its immediate quality. Ideas, no matter how complex, must be immediately and intuitively felt and sensed if they are to be fully understood. Creative thinking involves relations of qualities, not just signs and symbols. Intellectual experience is different from artistic experience only in its symbolic expression. Both are based on emotional, imaginative thought. Scientific, philosophical, and artistic creativity all proceed by "means of meanings that exist immediately as feelings having qualitative color" (Dewey, 1958, p. 193).

In *Art as Experience*, Dewey (1958) was concerned with aesthetic experience and thought, in contrast to experience and thought that has become mechanical, lifeless, and routine. He saw aesthetic experience as natural, and ordinary experience as the result of the artificial conditions of modern times that have separated art from life. Dewey believed that human beings are "programmed" so that all thought and experience should be creative, characterized by full immersion in the qualitative and appropriate expression in the quantitative. In other words, all thought and experience is intended to feel meaningful.

Aesthetic experience is the conscious fulfillment of the human being in her attempts to make meaning of the world. For fulfillment to occur, successive parts must flow together, must form a unity: "There are no holes ... when we have an experience" (Dewey, 1958, p. 36). The unity is constituted by the qualitative background, which unites emotion, senses, perception, intellect, body, purpose, interest, and action in a single experience, the expression of a form. The form may be a thought or concept, as in the intellectual experience; it may be the body, as in athletics, dance, or theater; it may be material substance, as in painting, sculpture, or architecture; or it may be a relationship with a living being. In any case, aesthetic experience implies full participation in and communion with the world around us. Self and object cooperate so fully in experience that each disappears. Dewey (1958) quoted Goethe: "Nature has neither kernel or shell" (p. 297).

Another way of saying this is that qualitative thought provides the underlying unity that guides creative production in the quantitative domains. Or, in Polyani's (1962) terms, tacit knowing shapes and integrates explicit creative discoveries. Or, in Bruner's (1982) words, "Intuition ... aids principally by giving us a basis for moving ahead in our testing of reality" (p. 102).

Creative thinking and stages of development

> Every child is an artist. The problem is how to remain an artist once he grows up. (Pablo Picasso, source unknown).

I agree with Dewey in his understanding of aesthetic experience, or creative thinking, as a natural, "given" human ability that, nevertheless, does not seem to characterize the thinking of the majority of adults. Creative thinking is commonly recognized as being strongly present in two groups of people: outstanding contributors to disciplines of human knowledge or artistic creation, such as gifted dancers, artists, writers, or scientists — and young children. As Gardner, (1982) who studies children's creativity, said: "The preschool years are often described as a golden age of creativity, a time when every child sparkles with artistry" (p. 86).

Many researchers have been intrigued with the link between the artistic thinking of young children and adult masters. Gardner (1982) has researched aesthetic cognition in children and adults for many years. He wrote: "Almost without exception, youngsters barely out of diapers will produce drawings and paintings that, in their use of color, richness of expression, and sense of composition, bear at least a superficial kinship to works by Paul Klee, Joan Miro, or Pablo Picasso" (pp. 86–87).

Cobb (1977) spent many years searching for the childhood roots of genius in autobiographies of well-known creative adults. In *The Ecology of Imagination in Childhood* she suggested that there is an "ecology of imagination in childhood from which all later creative activities evolve" (p. 18). Since it is the genius who is responsible for leaps in human consciousness, it is the creative thinking of childhood that is the root of human evolution.

What is the relationship of creative thinking to the human developmental process? Why do many children and adults seem to lose their ability to think creatively as they grow older? Could this loss be prevented by appropriate education? These are some of the questions that I will attempt to address.

Developmental stage theory

> But infants are qualitatively different from older children and should not be conceptualized as having less of some quality than ten year olds possess. (Kagan, 1984, p. 14)

Historically, developmental theorists from diverse perspectives have postulated stages of human development, with passage from one stage to another marked by the acquisition of a set of characteristics rather than by simple change of chronological age. These characteristics are seen as significant changes in constellations of behavior. They are not merely quantitative — children do more and different things as they grow older — but qualitative: Each stage is characterized not merely by more or less of a variety of characteristics; it also has a different feel to it.

At the root of my theory is the idea that infants come to the world equipped to think qualitatively.

Many of these theorists have also agreed on the approximate ages suggested as transition times for developmental stages: the first, infancy, lasting from birth to around two years of age; the second, early childhood to six or seven years; and the third, school-age or late childhood to eleven or twelve years. I cannot fully discuss the fourth stage, adolescence, in the scope of this article. The chronological ages are

approximate, and it is the sequence of the stages, not the exact age of change that is of most significance.

Research is challenging the validity of developmental stage theory. Areas or domains of development are now seen to proceed at varying rates; for example, a child may be far more "developed" cognitively than emotionally. Even within a given area, such as cognition, mathematical understanding may lag behind musical conceptualization. In addition, individual children of any given age may be at extremely different points on any developmental continuum.

However, taking into account these reservations about stage theory, I believe that there remains enough validity to its basic premise (as characterized in the quotation by Kagan) to use it as a rough guideline. My developmental theory employs the developmental stages named above.

This theory is about the development of thinking, and, even though I am asserting that thinking has an emotional base, I am not attempting to discuss the development of emotions or social relationships. Although it is true in a holistic sense that these cannot really be separated, I believe that it is intellectually necessary to tease apart the strands of development as well as to allow them to flow together.

Because this is a theory about thinking, my conversation will be with cognitive developmental theorists, those who assert that the mind is the major organizing force in the developmental process. Piaget, the dominant theorist of the approach, charted stages of mental growth resulting from the interaction between the internal structure of the mind and the outer environment. Piaget believed that thinking develops in stages through the dialectic between the inquiring human mind and unresolved questions in the environment. His careful scientific observations of infants and children over many decades and his brilliant theorizing about his observations have contributed immensely to our understanding of the developing mind. Although this article is in part a critique of Piaget's theories, it is also a tribute to him because it is based on his work.

Piaget viewed thinking as the organizing and developing force in all human experience. His conception was limited to what I am referring to as quantitative in nature: the ability to abstract reality into symbols, to analyze it into smaller component parts, to delineate it into objects, properties, distinct names, and relationships.

The cognitive developmental perspective is a hierarchical one. Newborn infants do not really "think," but they gradually develop the ability to do so. Thinking proceeds through sequential, ordered, increasingly complex stages. As Kohlberg and Mayer spoke of this perspective: "The educational goal is the eventual attainment of a higher level or stage of development in adulthood, not merely the healthy functioning of the child at the present level.... A more developed psychological state is more valuable or adequate than a less developed state."

Piaget and other cognitive developmental theorists completely omit the qualitative dimension of thinking. This has significant implications for understanding the thinking of infants and young children — and the development of creative thinking.

Infancy

> "It's only the idiotic way they have of talking," said John. "I don't believe I'll ever understand Grown-ups. They all seem so stupid. And even Jane and Michael are stupid sometimes...."
>
> "For instance," John went on, "they don't understand a single thing we say. But worse than that, they don't understand what other things say. Why, only last Monday I heard Jane remark that she wished she knew what language the wind spoke."
>
> "I know," said Barbara. "It's astonishing. And Michael always insists — haven't you heard him? — that the Starling says 'Wee-Twe—ee—ee!' He seems not to know that the Starling says nothing of the kind, but speaks exactly the same language we do. Of course, one doesn't expect Mother and Father to know about it — they don't know anything though they are such darlings — but you'd think Jane and Michael would — "
>
> "They did once," said Mary Poppins, folding up one of Jane's nightgowns.
>
> "What?" said John and Barbara together in very surprised voices. "Really? You mean they understood the starling and the Wind and — "
>
> "And what the trees say and the language of the sunlight and the stars — of course they did! Once," said Mary Poppins. (Travers, 1934, pp. 138–139)

The conversation between Mary Poppins and her two infant charges serves as a metaphor for the process of qualitative thinking in infancy. At the root of my theory is the idea that infants come to the world equipped to think qualitatively. I am not arguing that this gives them access to aspects of an underlying "ultimate" reality that most adults have lost touch with, although this may be true. I am simply suggesting that qualitative thinking provides a powerful context for making meaningful sense of the world. In other words, it is the background that unites emotion, body, senses, perception, and action in the infant's quest for understanding. This is the

form that creative thinking takes in infancy. The central task is the construction of personal knowledge of the fundamental properties of the physical and social world, a quantitative "map" of reality.

In Piaget's system, this is called the stage of sensory-motor intelligence. The name refers to the idea that intelligence grows and is demonstrated through experiences of the senses and body movement. Piaget believed that the baby begins life with merely some reflex movements. It is out of these reflexes that intelligence gradually develops. However, Piaget did not see this as the gradual accumulation of isolated reflex responses into an ordered intelligence, as behavioral theory would. Rather, he saw each reflex as representing an adaptive behavior that continually grows stronger and more functional in response to events in the environment. In this sense the reflex is the first *scheme*, a behavioral structure that allows generalization to similar environmental circumstances.

Thus, the scheme is a behavioral structure that becomes a mental structure. The body adapts to the environment in exactly the same way that the mind comes to organize the environment. Essentially, intelligence is adaptation for Piaget. Adaptation and organization are not seen as separate processes but as two complementary processes of a single mechanism, one internal and external.

How does mind develop out of reflexes? How does a behavioral structure become a mental structure? Piaget (1963) concluded that intelligence begins with an inherited organic propensity toward adaptation that presupposes the interaction between organism and environment. This propensity must be realized in the relationship between organism and environment:

> Intelligence does not therefore appear as a power of reflection independent of the particular position which the organism occupies in the universe but is linked, from the very outset, by biological priorities. It is not at all an independent absolute, but it is a relationship among others, between the organism and things. (p. 19)

Thus Piaget posited some a priori mechanism that allows intelligence to arise from the interaction of organism and environment. This mechanism is an inherited organic or biological propensity. But I would argue that theorizing an organic base does not explain the root of the mechanism. This explanation reduces psychology to biology.

My position on this issue is the one that Piaget refuted above. I am arguing that intelligence does begin as an independent power of reflection, an innate ability to know, which I am calling qualitative knowing. Quantitative thought, the secondary thought process, rises out of qualitative thought as soon as the infant begins to make meaning of her experience.

A large body of research data on infant thinking has been accumulating since Piaget, and it is clear that early researchers greatly underestimated the amount and sophistication of infant knowledge. In discussing this Gardner (1991) stated: "The experimentation of the past decades reveals how the human organism has been designed so that it can readily make sense of the world" (pp. 48–49).

What picture of infant meaning-making emerges from recent experimentation? The infant functions well in all sense modalities from birth or before. She can see, hear, smell, and taste, and feel touch, pain, and changes in physical position. In addition, she can use this information for fine discriminations. Kagan (1984) wrote:

> The infant can detect the difference between a pattern composed of stripes only one eighth of an inch wide and a completely gray patch, between vertical and oblique gratings, between linear and curved lines, and between richly contoured, in contrast to minimally contoured, designs. In the auditory mode, the young infant can discriminate between the musical notes C and C sharp and between the spoken syllables "pa" and "ba," and is acutely sensitive to rate of change in sound energy during the first half-second of an auditory event. (pp. 30–31)

Furthermore, wide research shows that infants have an innate capacity for amodal perception, the ability to take information received in one sensory channel and translate it directly into another. For instance, using two different kinds of nipples, researchers discovered that infants can recognize the nipple that they previously sucked without seeing. This is not accounted for on Piagetian theoretical grounds, which would require the construction of

The baby's qualitative thinking provides the shaping and integrating power necessary for the quantitative understanding of the world.

two separate schema, and then a coordinated visual-haptic schema. Commenting on this, Stern (1985) stated: "Clearly, the infants did not in fact have to go through these steps of construction. They immediately 'knew' that the one they now saw was the one they had just felt" (p. 48).

Thus the infant enters the world with immense meaning-making potential, fine sensory discrimination ability, and rapidly increasing body movement skills. These capacities are coupled with a wide emotional repertoire. The baby's exploration of the world is fueled by great curiosity; this is often described as wonder and awe. As Stern (1985) pointed out, it is impossible to separate affective and cognitive processes. "In a simple learning task, activation builds up and falls off. Learning itself is motivated and affect-laden. Similarly, in an intense affective moment, perception and cognition go on" (Stern, 1985, p. 41).

In my terms, the baby's qualitative thinking provides the shaping and integrating power necessary for the quantitative understanding of the world. She begins an intensive and continuous exploration of the people and things around her, with impressive results.

At the end of this stage the baby emerges as a child with a firm grounding in knowledge about the physical and social world. She understands that objects exist independently of her actions and knows a great deal about their nature. She grasps means-end relations and can anticipate proximate events. She knows a great deal about the world of numbers. She can speak some language and understand much more. She can communicate in a variety of ways.

The child is prepared for the central creative thinking task of the next stage: the development of greater complexity in her ability to express her quantitative knowledge in symbolic forms, through the medium of playful exploration. Of course, she will also continue to add to her knowledge at an incredible rate.

What is the difference between this conception and that of a cognitive developmentalist, even that of a "neo-Piagetian" who increasingly respects the complex capacities of the infant's mind? Earlier I stated that the cognitive developmental perspective is a hierarchical one. As such it regards the infant as being "at the bottom of the totem pole" in terms of intellectual development. From my perspective the infant is regarded as having a fully functioning ability to make meaning of the world. Although her quantitative understanding of the world is just beginning to emerge, her capacity for qualitative thinking, for meaning making, is immense. In this sense, she knows something that many adults may have forgotten.

I will not fully discuss educational implications of the theory in this article, but I will make a few suggestions. Infants need a loving, responsive adult and the freedom to safely move and explore with all of their senses a variety of materials. This is essentially what a cognitive developmentalist, and many parents, would say.

But my perspective also implies complete respect for the infant as an equal whose lack of experience with the world naturally means less developed quantitative knowledge of it, but whose capacity for understanding reality *in her own way* is as complete as the adult's. Since our attitudes influence our actions, I believe that this way of regarding the infant has a subtle but profound effect on her development.

Early childhood

> As I lay in the field looking up at the bright dark sky,
> "Oh-oh, I think its going to rain!"
>
> As I was safely inside: "Pitter-patter, pitter-patter,"
> Went the soft raindrops. (Sarah Johnson, personal communication, 1981)

Piaget (1981) called this period of development *pre-operational*. He defined an operation as "an internalized system of actions that is fully reversible" (p. 5). An operation allows a person to understand the reciprocal relationship between two sets of events or ideas. Piaget called the child in this period pre-operational because the child does not understand these reciprocal relationships. Piaget studied the development of mathematical and scientific reasoning and concluded that young children do make incredible advances in these areas.

Yet I believe that Piaget missed the most salient characteristic of the thinking of this stage. Not only was his view limited to quantitative thinking, but it was specifically based on the Cartesian rationality that underlies the mechanistic science paradigm of Western culture. He showed little interest in artistic or aesthetic thought.

About the age of two the child's thinking makes a shift that seems to be based on rapid growth in the ability to express knowledge about the world in symbolic forms and then reflect on those forms. The child can tell you "Birdie flying" and pretend that he is a bird flying. He can scribble on paper and invent a story about the bird. He can fashion one from clay. He has entered Gardner's "golden age of creativity." The world seems to shift partially from laboratory to

stage; creative symbolic play becomes the preferred activity. The child continues to add to his scientific knowledge about the world, but often this happens as he plays.

Piaget (1968) saw symbolic play, and artistic activity in general, as based on an aberrant type of thinking:

> There are numerous examples, playing with dolls, playing house, etc. It is easy to see that this symbolic play constitutes a real activity of thought but remains essentially egocentric. Its function is to satisfy the self by transforming what is real into what is desired. The child who plays with dolls remakes his own life as he would like it to be. He relives all his pleasures, resolves all his conflicts. Above all, he compensates for and completes reality by means of a fiction. Symbolic play is not an attempt by the subject to submit to reality but rather a deforming assimilation of reality to the self. (p. 23)

Rather than a "deforming assimilation," I suggest that symbolic play is the unique task and gift of this period, and, along with Cobb (1977), I believe that it is the prototype of later genius.

A perspective on symbolic thinking worth noting in this context is Gardner's theory of multiple intelligences. In *Frames of Mind* Gardner (1983) suggests that the human mind has areas of specialty different intelligences or problem solving abilities around which thinking is organized. Each of these intelligences is expressed in a unique symbol system. From my perspective, these intelligences may be understood as the varieties of expression of quantitative thinking, with qualitative thinking underlying all of them. Like Piaget, Gardner does not postulate an innate unifying power of reflection, fueling all of the intelligences.

Gardner's (1983) scientific criteria for qualifying a specialty of thinking as a separate kind of intelligence are rigorous; he suggested that his list is probably limited by a lack of data and that someday other intelligences may be identified. His seven current intelligences are: linguistic, spatial, musical, logical-mathematical, bodily-kinesthetic, and two personal intelligences (knowledge of self and of others).

Young children spontaneously use a variety of media in their symbolic representations in the various intelligences. As Gardner pointed out, their drawings and paintings tend to be colorful, expressive, and aesthetically composed. They can take any natural or manufactured material — clay, sand and water, stones, blocks, cereal boxes and tape — and structure imaginative and intricate forms. They can use virtually any object, from dolls to tin cans, for props in their symbolic dramatic play. In addition, they can communicate superbly and elaborately with one another in these complex imaginative dramas. Their natural dances, songs, stories, and poems are often effective artistic expressions. The poem that begins this section is an example, spontaneously spoken by my daughter when she was four years old.

Young children can also show amazing perception in their ability to grasp and express subtle philosophical and religious concepts. These would overlap with Gardner's logical-mathematic, linguistic, and personal intelligences. At age three my daughter offered these insights at different times: "I understand! God controls everything in the world except people, and He lets us do whatever we like so we can be like Him." ... "The difference between Elsie [the cow] and me is that even though God is inside us both, she doesn't know it, but I do."

In his book *Philosophy and the Young Child,* Mathews (1980) discussed young children's ability to reason and to grapple with complex philosophical issues. He wrote:

> In fact, such evidence that I have been able to assemble suggests that, for many young members of the human race, philosophical reasoning — including, on occasion, subtle and ingenious reasoning — is as natural as making music and playing games, and quite as much a part of being human. (p. 36)

Mathews, a philosopher, critiqued Piaget's *The Child's Conception of the World* (1983), a study that asked young children philosophical questions such as; What is thinking? What things are alive and what things are conscious? What are dreams and where are they located?

At the age of six, Mathew's own son said: "Papa, how can we be sure that everything is not a dream? ... Well, I don't think everything is a dream 'cause in a dream people wouldn't go around asking if it was a dream" (Mathews, 1980, p. 23). This is an example of the kind of subtle reason that Piaget missed.

Piaget's usual technique was to chart the stages of children's progress in thinking about a concept and then to group them in the age-appropriate stage based on their responses to the questions. Mathews believes that the technique is problematic because, first, philosophical understanding is unusual in people of any age; and second, no one, child or adult, makes regular, predictable progress on philosophical questions. Third, Piaget disregarded deviant responses, the very ones most likely to be philosophically interesting. Fourth, Piaget distinguished responses that he felt were convictions from those that he felt were "mere romancing." Mathews called this a false distinction, since to philosophize is to

invent, explore, joke, and "romance." He showed how Piaget actually discouraged children from doing philosophy in the way he asked the questions.

But an even more basic problem lies in the way that Piaget ordered the stages. For example, Mathews noted that each of Piaget's three stages on the notion of thinking correspond to a valid classical theory of thinking in philosophy. Piaget would have had to place many adult philosophers in his lowest stages.

Whereas Piaget believed real understanding of philosophical issues cannot take place until the stage of adolescence, Mathews asserted that five-, six-, and seven-year-old children are more likely than children of twelve, thirteen, or fourteen to be able to "do philosophy." He suggested several reasons for this. First, philosophical thinking calls for an innocence that is natural to children. Real philosophical questions are the basic and important ones about life that young children naturally ask and which may come to seem naive as we grow older and are socialized not to raise.

Young children ... show amazing perception in their ability to grasp and express subtle philosophical and religious concepts.

Mathews (1980) defined "doing philosophy" as "simply to reflect on a perplexity or conceptual problem of a certain sort to see if one can remove the perplexity or solve the problem" (p. 83). He suggested that adults and children do philosophy well together because although the adult may have a better command of language and concepts: "It is the child, however, who has fresh eyes and ears for perplexity and incongruity. Children also have, typically, a degree of candor and spontaneity that is hard for the adult to match" (p. 85).

I would suggest that it is the child's connection to the qualitative domain that allows for continual freshness and spontaneity and lets him grasp the underlying connections that reveal the incongruities. Everyday discoveries and explorations are exciting and purposeful. In addition, the child's ability to express quantitative meaning symbolically is exploding. The qualitative and quantitative make a fertile combination for creative expression.

The ideal educational environment for children at this stage encourages freedom to experiment extensively with a wide range of materials and experiences utilizing all of the intelligences. Respectful adults support students' explorations and sometimes engage with them in mutually satisfying activities such as "doing philosophy" or creating stories.

Late childhood

> S. drew a complex robot today. She said he will be "a maid." I asked if he will do our housework. She replied: "If I get him built before I'm old enough to move out—it will take years." She wrote about it: 'Inside the robot is a bonch of whells and othr thegs. I miself do not undrstand these thegs but I will learn. This is what I think a robot loks like but some thegs are not rite ... vary confuseg ... not whte it relley loks like ... it is like little people are telling the robot whte to do.' " (Sarah Johnson, personal communication, 1985)

Piaget called this the period of "concrete operations" because the child can use mental operations only to solve problems using real, observable objects. According to Piaget, she cannot yet use an operation on an abstract problem. She can think logically only about concrete things.

Children in this stage are often described as being literal, conventional, concrete, realistic, and ruleoriented. The *Guiness Book of World Records* is a favorite book at this stage. This is the prototypic period of collections, including baseball cards, butterflies, stamps, model horses, dolls, and bottle caps. Conformity to peer norms and "playing by the rules" strongly influence social behavior.

Psychologists and educators interested in creativity frequently note that the creativity so evident in the previous stage now appears to recede dramatically. Opinion is divided as to whether this is an inherent part of the developmental process or due to outside corrupting forces, such as a materialistic society, rigid educational systems, and too much television viewing, computer game playing and other passive pursuits.

Gardner (1982) wrote that it is at least partially the nature of the stage:

> Although artistic work by children appears impoverished during this period, the common disparagement of this "literal stage" seems to me misguided. Far from being the enemy of artistic progress, literalism may represent its advance vanguard. That concern with realism that pervades the literal stage may be a crucial phase of development — the time for mastering rules. (p. 88).

In other words, the temporary price of spontaneous creativity may be literal realism.

All over the world and throughout history cultures have seen this as the ideal stage for teaching values and skills deemed appropriate and necessary. Children are both interested and ready to learn these if they are presented in a way that is consistent with "real life" experience, that allows for aesthetic thinking.

The purpose of this stage in terms of creative thinking does seem to be a connection with the "real world," including understanding its concrete physical nature and mastering skills that allow for growing competency in accepted social and aesthetic standards of the various disciplines and intelligences. However, I do not believe this means that spontaneity and creativity must be sacrificed. In other words, although quantitative thinking may be emphasized, it can still be deeply rooted in the qualitative.

When my daughter was seven years old, her creative efforts became less oriented toward fantasy and more based in scientific exploration. The introductory passage illustrates this, along with the following observations made during a one-week period.

> This afternoon S. "played scientist." She lined a shelf with empty bottles, plastic containers, a thermometer, measuring cups, string, tape, magnifying glass, herbs and spices, etc., then she began to devise her own experiments and to record the results on small pieces of paper. She was completely engrossed in this activity for several hours, without comment or help from me. Here are several of her records:
>
> "If y pote watr ina cler plastek contanr and ethr pote it on the hot t.v. or pote it unr the lite it will evaprate." ["If you put water in a clear plastic container and either put it on the hot T.V. or put it under the light, it will evaporate."]
>
> "If you have some watr and you add a late it stas the same tamprechr. It works the same way if you-." ["If you have some water and you add a lot, it stays the same temperature. It works the same way if you subtract."]
>
> S. and her friend R. "played scientist" with S's "scientist shelf." They spent half an hour concocting "medicines" out of herbs and spices and liquids. They announced that these medicines would cure any ailment, including diabetes, cold hand disease, and "spelumuk." After this they invented a better-smelling, cleaner-cleaning hand soap.
>
> Today S. drew an elaborate "car for kids." She did the outside and the interior and said she would do the engine tomorrow. (Sarah Johnson, personal communication, 1985)

When this child moved into the concrete stage, her creative output did not decrease. But it became increasingly governed by her interest in the physical world and her knowledge of the rules of physical reality.

In this as in any stage, the ability to think creatively is governed by the combination of quantitative and qualitative thinking. In this case thought is often directed toward mastery of knowledge and competencies. The intensity of the qualitative dimension allows for the degree of creative thought. Older children can continue to be highly creative. But this stage also coincides with formal schooling, which usually does not encourage aesthetic experience.

In *The Unschooled Mind*, Gardner (1991) suggested that schools for children in this stage should resemble children's museums and be based on projects, apprenticeships, and technologies utilizing the various intelligences, with well-trained teachers to act as mentors. This is similar to the type of education that Dewey envisioned over 100 years earlier when he said,

> I believe that education is a process of living and not a preparation for future living. I believe that the school must represent life — life as real and vital to the child as that which he carries on in the home, in the neighborhood, or on the playground. I believe that education which does not occur through forms of life, forms that are worth living for their own sake, is always a poor substitute for the genuine reality, and tends to cramp and to deaden. (Miller & Seller [1990], p. 70)

I advocate this type of "real life" education that allows children to experience guided in-depth projects utilizing the intelligences in various interdisciplinary themes and discipline-based experiences. This approach to learning has the potential to foster the type of creative thinking appropriate for the developmental challenge of the stage.

But I would also emphasize the necessity for consciously nurturing qualitative aspects of thinking. Even an educational methodology based on "real life" could be perverted and misused. Gardner specifically advocates a certain amount of student choice in projects and emphasizes qualitative student and teacher evaluations. However, I can easily envision superficially similar schools that are entirely teacher directed and evaluated, with an emphasis on quantity and measurement of outcomes.

The recognition of qualitative thinking is nurtured by a sense of relaxation and unhurried time. Each student deserves the freedom, time, and encouragement to discover her own talents and to become deeply involved in projects of her choice. The lack of this opportunity leads to a decrease in aesthetic experience.

If developmental needs during late childhood have been met, then the child enters adolescence with knowledge and skills and confidence in her abilities to use them. She has developed her own

particular gifts and is ready to use them in meaningful ways for the benefit of herself and others.

The importance of nurturing creative thinking in childhood

> The interpretive framework of the educated mind is ever ready to meet somewhat novel experiences, and to deal with them in a somewhat novel manner. In this sense all life is endowed with originality and originality of a higher order is but a magnified form of a universal biological adaptivity. But genius makes contact with reality on an exceptionally wide range: seeing problems and reaching out to possibilities for solving them ... the work of genius offers us a massive demonstration of creativity. (Polyani, 1962, p. 124)

The stages of development of adolescence and adulthood, which can also be subdivided, each have their unique contribution to the potential for creative thinking. Although a full discussion of these stages is not included in this article, I will make a few comments about their relationship to the previous stages.

The adolescent continues to develop and refine quantitative skills in his areas of ability and interest and begins to put them to novel uses. The dual qualities of criticism and idealism characterize adolescent thinking. The adolescent begins to critique accepted standards and to push the boundaries of what is possible in all areas of human living. Ideally, he experiences a sense of mission and purpose that becomes more defined as he grows older. This is a critical period for identifying a sense of "calling" with the dual purposes of fulfilling oneself and making the world a better place. This outcome is possible only if both quantitative and qualitative aspects of thinking remain strong.

The transition from adolescent to adulthood, in terms of this theory, may be marked by a more realistic understanding of the ways in which human boundaries can be expanded and problems solved, and the capacity for greater sustained dedication to one's sense of purpose, whether this be artistic activity, intellectual exploration, or living well with other beings. Ideally, thinking remains alive qualitatively and grows in mastery and complexity in some disciplines or intelligences, in Gardner's sense.

The opening passage to this section by Polyani (1962) characterizes genius as "a massive demonstration of creativity." In terms of this theory, I would characterize genius as qualitative depth and quantitative mastery and complexity. In this sense, I believe that most adults are capable of aesthetic genius in some area and that this is the basis for creative evolutionary contributions to humanity.

The roots of this genius are found in the unique forms of creative thinking of the previous childhood stages. The ability to think creatively begins at birth, and all of our experiences influence this capacity. Obviously the ways that we choose to raise and educate our children determine whether or not the capacity for full creative thinking will survive the developmental process. We are "programmed" for aesthetic thinking, but the environment must support it. Both the qualitative and quantitative aspects of thinking must be recognized and nurtured in unique ways at each stage of development to support not only deeply meaningful personal lives, but also human evolution toward more aesthetic and just ways of living for all.

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The Development of Bodily-Kinesthetic Intelligence in Children:

Implications for Education and Artistry

Jay A. Seitz

Body-gestural movement in artistic dance is a form of intelligence that has significant implications for education generally as well as the cultivation of the "artistic intelligences." From such a perspective, the educational needs of the whole child become more readily apparent, and the role of aesthetic education infuses the very foundations of learning.

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Traditional tests of intelligence purport to measure general intellectual competence, assessed via paper-and-pencil tests over a relatively short interval. It is has been increasingly argued, however, that the tests measure a comparatively narrow range of intellective functioning, emphasizing linguistic and numerical competence at the expense of a broader range of intellective skills. As a consequence, formal education, at least in Western societies, has devalued a wide range of abilities that hitherto have not been thought to be constituent of higher order cognitive skills. A case in point is the development of bodily-kinesthetic intelligence as evidenced in the artistic realm of dance movement. My purpose here is to explore the growth of body-gestural skills as a form of "intelligence," tease out their core cognitive components, and map out their relation to aesthetic abilities in a broad sense. From such a perspective, the educational needs of the whole child become more readily apparent, and the role of aesthetic education is thus argued to be central to academic learning, infusing the very foundations of education.

Consideration of bodily-kinesthetic skills as a form of intelligence is warranted for a number of reasons. For one, movement occupies a central position in human activity (Laban, 1975), and it is a central feature of early learning (Piaget, 1952). According to the latter view, sensorimotor experience comprises the principal focus of the infant's early knowledge of the world. The advent of symbolic thought (e.g., language) occurs when sensorimotor experience is internalized in mental representation. For example, the eighteen-month-old infant can now use language to request recurrence (e.g., "more milk") or signal nonexistence (e.g., "all gone!"). Speech is thus built on prior sensorimotor knowl-

edge. Similarly, scientists who study the brain suggest that motor behavior is not a subsidiary form of higher mental functioning but serves the important function of bringing refinement, goal-directedness, adaptiveness, and survival value to the human organism (Ewarts, 1973). How could this be? Evidence from study of the brain is suggestive here.

It is known that neural pathways from the cerebellar cortex (involved in the coordination of voluntary muscular movement) project to the frontal association cortex (involved in intellectual functions) and could conceivably enable the "skilled manipulation of ideas," not just the traditional control of motor functions subserved by the cerebral motor cortex (Leiner, Leiner, & Dow, 1986). In effect, it appears that we "think" kinesthetically, too.

Other scientists who study the development of cognitive skills suggest that the growth of knowledge can be seen as the emergence of more elaborated and increasingly flexible skills, so-called knowledge-as-skill (Fischer, 1980). These observers see the process of "thinking" as possessing the same qualities as revealed in physical manifestations of skill (e.g., Bartlett, 1958). Nonetheless, so-called instrumental intelligence has been given short shrift in theories of intelligence and abilities. Recent evidence, however, has been marshaled in support of a separate bodily intelligence (Gardner, 1983; Johnson, 1987). Bodily-kinesthetic intelligence involves two components: masterful coordination of one's bodily movements and ability to manipulate objects in a skilled manner (Gardner, 1983).

On a more molar level, then, the central skill in bodily-kinesthetic intelligence is the ability to imitate the movement of others. Kinesthesis, or "muscle memory," provides the engine behind the capacity to imitate.

Moreover, bodily-kinesthetic intelligence has several signs that distinguish it from other forms of intelligence as a distinct ability profile valued within a particular cultural setting. Evidence indicates that these skills (a) are selectively impaired by brain damage, suggesting a separate neural architecture (Geschwind, 1975); (b) occur in individuals with exceptional talent (e.g., choreographers, athletes); (c) have a distinct developmental history (Bruner, 1973); (d) possess an evolutionary history (only primates engage in tool use, the capacity to use objects skillfully) (Jerison, 1976); (e) can be defined by a set of core operations (e.g., motor logic, kinesthetic memory) (Seitz, 1989); and (f) can be embodied in a symbol system (e.g., Labanotation). Of particular interest to art educators is the role of the core subskills in body-gestural expression.

Core cognitive skills

There are three central cognitive skills in bodily-kinesthetic intelligence: motor logic, kinesthetic memory, and kinesthetic awareness (Seitz, 1989). All three are important components of dance. Motor logic comprises the child's neuromuscular skill with regard to the articulation and ordering of movement: what one could call the "syntax" of movement. Scientific support for this component comes from studies of ideational apraxia in which damage to the brain results in the dissolution of the "plan" or "idea" of movement (Roy, 1982).

The second component, kinesthetic memory, enables the child to think in terms of movement by mentally reconstructing muscular effort, movement, and position in space. This designation shares some very important characteristics with what researchers of human cognitive capacities call procedural knowledge — knowledge of how to do something (e.g., ride a bicycle). Scientific corroboration for this component arises from the investigation of ideomotor apraxia, in which injury to the brain results in loss of memory for movement sequences.

The last component, kinesthetic awareness, is the kinesthetic sense proper, providing the child with on-line information on the extent, direction, and weight of movement. The kinesthetic sense operates through proprioceptors in the body that relay information to the brain with regard to pressure, position, and stretch of muscles and tendons. This information provides conscious appreciation of posture, movement, and changes in bodily equilibrium, as well as knowledge of resistance, position, and weight of objects.

On a more molar level, then, the central skill in bodily-kinesthetic intelligence is the ability to imitate the movement of others. Kinesthesis, or "muscle memory," provides the engine behind the capacity to imitate. The capacity to express one's ideas and feelings aesthetically through movement — the "forms of feeling," as Langer (1953) has instructed us — is another crucial, but not well understood, skill. This skill is located in the special realm of the "artistic intelligences."

Dance as a form of artistic intelligence

It has been said that the first artistic "impulse" is through movement (Anderson, 1986; Martin, 1939). Children first express themselves through their bodies, that is, through facial expression, gesture, and posture. Because the sensory receptors that signal movement are directly connected to the part of the brain that generates emotion, the child's first movements have emotional connotations (Gellhorn, 1964). Even depictive gestures at around two years of age, such as learning to bow, or ritual gestures performed in religious ceremonies, have emotional overtones for children. Following on the heals of depictive imitation, children become quickly sensitive to dynamic-vectorial qualities of movement such as direction, force, rhythm, enclosure, and balance (Werner & Kaplan, 1984). Children's body-gestural skills are consolidated in development through play and ritualized games (Bruner, 1973).

The artistic impulse, however, is far more than just feeling. Movement is also goal-directed action in the following way: Small skilled acts or subroutines are incorporated into larger motor routines or movement sequences inextricably intertwined in a system of feedback and feed-forward mechanisms (Bruner, 1973). In this sense, then, the orchestration of a set of motor skills can be thought of as problem-solving in a bodily sense, that is, as knowledge-as-skill. There is a mental representation of the desired goal or intended state that gives rise to a "hypothesis" about how to fulfill the given intention (e.g., execute an arabesque) under a set of given conditions (e.g., perform steps in rhythm). The results of the intended movement are checked against the intended state in a match–mismatch process. The artistic impulse is therefore a confluence of both "cognitive" skills and affective meaning.

Thus artistic creativity, in this vein, arises from (1) the repetition of a movement "idea," (2) its integration into a larger whole, or (3) recomposition from a set of motor units (Bruner, 1973). More broadly, one could say that the mental processes underlying the movement integrate the sensory, emotional, and intellective experiences of the individual, allowing for the selection of aesthetically appropriate movements (Turner, 1971).

Ballet and modern dance, in particular, are forms of bodily-kinesthetic intelligence that capitalize on both nonaesthetic and aesthetic properties of movement. Nonaesthetic features of movement may be naturalistically observed and their aspects described in terms of a direct analysis of motor skill, as is traditionally done in describing any type of body-gestural behavior (Arend & Higgins, 1976; Argyle, 1988; Rosenfeld, 1982). Aesthetic features of body usage, however, include the ability to use one's body to express an idea or emotion, create a spatial design, or fashion a more extended choreographic product over space and time (Cohen, 1965; Schonberg, 1988; Seitz, 1987).

Charting the child's emerging sensitivity to aesthetic properties involves attending to four central aesthetic components, or "symptoms," that are essential to describing any artistic product (Arnheim, 1974; Goodman, 1976). These "symptoms of the aesthetic" include repleteness, exemplification, expression, and composition. *Repleteness in movement* refers to capacity of the body to articulate physical aspects of experience such as volume (e.g., extension into space), line (e.g., curvature of the limbs and torso), and texture (e.g., undulating motion). *Exemplification* is the ability of posture or gesture to refer to something else, such as rhythms and shapes. *Expression*, on the other hand, is the capacity of movement to display one thing in terms of another (e.g., a bent arm to denote sadness). It involves a metaphorical "twist" on exemplification such that a gesture or posture no longer merely exemplifies but is symbolic of a feeling or concept. A fourth symptom, *composition*, refers to the ability of the human body (or bodies) to realize aspects of symmetry and balance in movement. For the choreographer as well as the dancer, however, it is important to have some kind of "memory aid" in order to preserve features of aesthetic movement and convey principles of body-gestural motion to others.

A system of notation for just this purpose has evolved based on the work of Rudolf Laban (Davis, 1979; Dell, 1977; Laban, 1975). Unlike language, dance notation has few conventional signs, although it is quite complex given the vagaries of human movement. Even more recently, videotape and other

celluloid and computer technologies have been used to record dance movement and have been used in teaching and choreography. Nonetheless, although such technological advances aid immensely in learning and teaching, the pedagogical function of artistic dance has been obscured in modern times from its central role in classical Greek education. As Plato tersely remarked, "Anyone who cannot take his place in a choir [i.e., as both singer and dancer] is not truly educated." (quoted in Marrou, 1956).

Role in education

In terms of the arts and arts education, there has been no serious attempt to investigate the development of movement abilities in children, particularly with regard to the growth of the child's expressive capabilities. Historically, the literature on "motor learning" has ably documented how the body is involved in movement (e.g., throwing and catching an object) but with limited regard to how higher cognitive functions control and direct bodily skills. Movement is considered only as action without reference to its constituent role in intelligence itself (e.g., Magill, 1989). Similarly, the psychoanalytic literature has adumbrated patterns of change with regard to bodily functions but with practically no consideration of the role of intellective processes in bodily movement (e.g., Kestenberg, Marcus, Robbins, Berlowe, & Buelte, 1972). On the other hand, traditional theories of cognitive development have narrowly treated the endpoint of development as exemplifying the competencies of the mature scientist who excels at skills in manipulating numerical and logical symbols. This state of affairs has resulted in a preoccupation with the study of logical problem-solving skills in children, with a consequent neglect of the development of artistic abilities in the realms of musical, literary, visual, and movement arts. Indeed, the study of the arts and arts education as a whole has received relatively little attention, and aesthetic features of movement have been wholly neglected.

The artistic impulse is therefore a confluence of both "cognitive" skills and affective meaning.

This is surprising when one considers that participation in the arts is widespread among American youth — from the sundry forms of popular music and dance, the high school band, and the neighborhood art school — and constitutes a central phenomenon of human experience. The endpoint of the development of bodily-kinesthetic intelligence in the realm of dance movement has been referred to as culturally patterned sequences of nonverbal behavior — inherently rhythmical and possessing aesthetic qualities, social and other values (Hanna, 1979). These skills are the mature capacities of an accomplished "expert" in artistic movement and have the most significance for contemporary education.

Dance, thus, has important implications for education in the humanities. Despite the expressive power of dance it has not been central to elementary and secondary education. There appear to be two primary reasons for this. There is, on one hand, the traditional prejudice against modern and balletic dance forms and, on the other, the geographic isolation of educators from dance centers in the United States. Of the latter, such exclusion has affected the training of educators, ultimately affecting their participation in emerging trends in the field.

Whereas sports are concerned with the results of actions, the study and performance of dance is concerned with the role of movement itself. Through dance movement the child cultivates aesthetic sensibility in relating the self to the physical world. In group movement the child develops socially by experiencing relationships with others in an atmosphere of mutual exploration, thus gaining confidence in communicating imaginatively. The child thereby acquires the ability to structure and communicate concepts, feelings, and events through movement.

This strengthens the spontaneous faculties of expression, enabling the child to integrate instrumental abilities with other forms of intellective functioning. For instance, the act of drawing would appear to include the translation of body-gestural depictions of people, objects, and scenes, in addition to representations of solely visual properties. Similarly, dance requires the integration of other skills, including interpersonal, spatial, and musical abilities. Moreover, the art of movement allows the child to experience movement from the perspective of both performer and audience member (as well as critic), thus cultivating the child's aesthetic preferences and discrimination.

Finally, dance education has the potential for de-

veloping the child's concept of space. Young children first learn laterality (left–right), which becomes the basis for concepts of the coordinates of space as well as the establishment of the line of gravity through the body. As the child develops, up–down and front–back are differentiated, at which point a three-dimensional space is established as part of the child's "kinesphere." At about the same time, the child is learning the concept of directionality. Hence, the child's knowledge of her immediate "kinesphere" is projected onto outside space. The "projected space" is therefore established along three spatial coordinates or dimensions. This latter development allows the child to explore the space outside her immediate body and interact with other people and objects in the world through movement.

It is a difficult undertaking to convince others of the importance of the arts and arts education in our society. Nonetheless, the assessment and study of bodily-kinesthetic intelligence in children offers a unique opportunity: to develop educational methods and foster curriculum changes that will address a broader profile of intellective abilities and allow earlier intervention in nurturing aesthetic growth and artistic development.

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Archetypal Art Education and Children with Learning Problems:

A Comparative Study

Alister MacRae and John Allan

Guided imagery and free drawing activities based on archetypal themes can be effective tools in meeting the socioemotional needs of children with learning problems.

Many classroom teachers find that children diagnosed with learning disabilities have low self-esteem and interact inadequately with their peers (Kronick, 1981). These children often display emotional difficulties as a result of repeated academic failure, disappointments, and frustrations and may, therefore, benefit from art interventions. Bryan and Bryan (1981) suggest that affective aspects of learning problems should be an important area of study, and that planning for a child's emotional well-being should be given as much weight as both cognitive and physical goals. Remedial focus has traditionally been directed at basic academic skills, while the socioemotional needs of learning disabled (LD) children have often been ignored. This article focuses on meeting the socioemotional needs of children with learning problems through an art education intervention.

Art education provides a nonthreatening atmosphere for children to share their feelings and release inner tensions. The art educator encourages children to draw, paint, and sculpt freely — allowing creative ideas to flow without critically questioning or emphasizing a finished product. All original ideas are praised, and the children engage in their work without comparing it with that of others. Various art media may elicit expression of feelings that would not otherwise surface. Dinkmeyer and Caldwell (1970) observed that children are capable of expressing feelings through art activities that they cannot do verbally. Art education may therefore prove to be a valuable technique in helping children with learning problems to explore conflictual emotional themes that could be difficult for them to verbalize. This exploration can heighten the children's self-awareness, enhance their creativity, and positively effect their self-esteem (Ulman, 1975).

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From a phenomenological perspective, it would seem that the majority of the twelve students involved in this study were experiencing difficulty in academic achievement and social adjustment resulting from (a) lack of compatibility between their learning styles and the traditional instructional environment, or (b) emotional maladjustment to school, or (c) both. For purposes of this article, the sample involved will be termed *children with learning problems* because, although all of the children experienced academic and social difficulties, only five met the criteria of a learning disability as defined by the Canadian Association for Children and Adults with Learning Disabilities.

Rationale

This article presents a study conducted by the first author, a learning assistance teacher, in which twelve children experiencing difficulty in school engaged in an art education exercise described in an earlier article (Snider & Allan, 1989). The study is a replication attempting to determine the degree to which findings that emerged from the earlier study would apply to children with learning problems in a population of similar chronological age. Four archetypal themes — Earth, Fire, Water, and Sun — were originally chosen as stimuli for children's drawings because they were considered "relevant to children of all cultural backgrounds and capable of evoking strong associations and images" (Allan, 1988, p. 124). Such archetypal themes are viewed as being universal and can produce intense associations, inspiring the artist to create evocative artwork and deeply affecting the human psyche (Robertson, 1982). A concerted effort was made to duplicate the original study, although it is important to note that the sample size was smaller (12 subjects as opposed to 95 in the Snider and Allan study) and that the age range of the children differed somewhat (ages six to eleven years in this study, as opposed to ages nine to twelve years).

Art and healing

Carl Jung (1964) held that the realm of the unconscious (collective and personal) can be represented in art through images and symbols. These images and symbols are displayed in paintings, sculpture, poetry, music, literature, etc., and emanate from the creative side of the human psyche. They originate in the unconscious, which is the repository of creativity.

Drawings are expressions of the unconscious. Symbols arise from the unconscious in drawings, and the representation of these symbols can work as healing agents. Complexes lying deep within the unconscious can be discovered by analyzing drawings. Examining these complexes, through art education, can bring about the growth of an individual child's psyche. Jung (1930) viewed a complex as "a psychic factor which, in terms of energy, possesses a value that sometimes exceeds that of our conscious intentions. An active complex puts us momentarily under a state of duress, of compulsive thinking and acting, for which under certain conditions the only appropriate term would be the judicial concept of diminished responsibility" (vol. 14, paragraph 200).

Art education involves learning to make conscious what has been unconscious. Symbols can unlock unconscious psychic energy and allow the individual to deal with difficulties and transcend problems. Jung (1930) stated, "In psychotherapy, it often happens that, long before they reach consciousness, certain unconscious tendencies betray their presence by symbols, occurring mostly in dreams but also in waking fantasies and symbolic actions. Often we have the impression that the unconscious is trying to enter consciousness by means of all sorts of allusions and analogies" (vol. 14, paragraph 667). If the child becomes conscious of an issue, he can begin to understand it and a transformation will ensue. Catharsis occurs as part of the drawing process through allowing the symbol to move inner psychic energy from repression to consciousness. It is the act of creation, with all of its struggles and joys, that can bring about growth and inner development.

Archetypal art education

Archetypal art education is a therapeutic approach that uses art as the main vehicle for healing. It operates on the premise that our language during approximately the first eighteen months of life is essentially visually oriented. The young child takes the world in visually (and auditorially), and these images (and sounds) become imbued with emotions, feeling, and eventually meaning. According to Jung (1964), there is an innate predisposition in the psyche to organize these images into positive or negative emotions, which, in turn, eventually directly influence perception, experience, and behavior. He calls this organizing principle the "Archetype of the Self" and sees it as a genetic structure that is programmed for growth and individuation. Embedded within this

structure is also the potential for self-healing. Language is built on top of this pictorial-metaphysical foundation and emerges, in its expressive form, between ten and fifteen months.

When a successful therapeutic alliance is formed, as in the therapist–client relationship or in teacher–student rapport, according to Jung (Allan, 1988; Jung, 1964; Snider & Allan, 1989), this emotionally toned relationship activates the self-healing drive in the psyche — which in turn produces images, dreams, and a sense of wonder in the client or student that enhances growth and learning. In children who feel hurt, the images at first tend to symbolize pain, anger, or loss. If these are represented graphically, as opposed to just talking about them, then there tends to be a movement into symbols of healing — restoration of that which was lost and reparation. For example the hurt in our group of children tended to range from death of parent, to divorce, to severe difficulties in learning.

Method. The purposes of this project were to (a) compare the two studies in terms of the effect of archetypal art education themes on children with learning problems; (b) verify whether the project would result in the children developing their own imagery instead of relying on copying one another or reproducing stereotyped products; and (c) determine whether or not the project assisted the teachers in gaining insights into the emotional and psychological well-being of the children.

The project was conducted in November 1989 with students enrolled in a diagnostic teaching center located in a small urban town near Vancouver, British Columbia. The children spent half-day sessions at the center for eleven weeks. The students ranged from six to eleven years of age. Every child spent the remaining half of each school day in his or her regularly assigned classroom environment. At the end of the eleven-week session, the students resumed full-time placement in these regular classes.

The children began the project by discussing the meaning of creativity and originality. They were asked to imagine themselves as artists and to brainstorm about how they might portray certain concepts (e.g., hot, worried, thrilled) in various ways. No evaluative remarks to the children's enthusiastic responses were made, but the children were encouraged to keep talking. Any novel comments were remarked on as being different and original. The four main themes of the project were then introduced and the words *Earth, Fire, Water,* and *Sun* were printed in vertical columns on the chalkboard. The children participated in a lively group discussion.

We began with the Earth theme. The guided imagery text used in the Snider and Allan study (1989) was read aloud. This text involved asking the children to close their eyes, relax their bodies, and become aware of their breathing; it was read slowly and softly. At the end of the fantasy journey the children were asked to open their eyes when an image had formed in their minds. They were reminded about the earlier discussion regarding originality in creative work and were discouraged from discussing or looking at one another's work. As Pine (1975) suggested, an atmosphere was created in which the children could relax their defenses, express themselves freely, yet treat others with respect. Then each child was given one pencil, a piece of 12½ × 8" drawing paper, and a container of pencil crayons.

After approximately twenty minutes, the children were asked to hand in their pictures. In a nonthreatening atmosphere, each child presented his or her creation to the rest of the group and was asked: "What can you tell us about your images? Is there a story to your picture? How does your story end? and How does X [character in picture] feel?" The remaining children in the listening audience were encouraged to ask questions and make reaffirming comments. Every effort was made not to analyze fragmented aspects of the drawings, but to allow each child to explain the context of his own creation. Rubin (1978) advised the therapist to be receptive and encouraging to what the client says and does as "genuinely and truly his own; thus the individuality, uniqueness, and originality are prized and rewarded" (p. 82). The entire discussion was recorded on audiotape in order to facilitate evaluation of the project. The same procedure was followed with each of the other three themes.

Evaluation. The imagery of each picture was evaluated by the three teachers as being positive, negative, ambivalent, or neutral. As Allan (1988) explained in the book *Inscapes of the Child's World,* healing, life-giving, and nurturing images were deemed "positive"; damaging, destructive, and painful images were "negative"; images with both positive and negative characteristics were "ambivalent"; and images with no apparent affect were "neutral." We emphasize, again, that categorization of the pictures was based on each child's explanation of his or her work rather than on an isolated analysis made by the

researchers. The results of each category were converted into percentages of the total sample for the purpose of comparison with the Snider and Allan study.

A subjective assessment was also made regarding the originality of each child's work. Creations were considered less original if images were copied from other children or reproduced in a stereotypical manner (e.g., lacking in a sense of individual expression; copied from television images or directly from other children). Each drawing was thus categorized as being "stereotyped or copied" or "original."

Observations. The class participated eagerly in the discussion about creativity and produced a variety of ideas about how an artist could portray particular concepts and objects. The children were very enthusiastic about engaging in a new "experiment" and responded to each of the archetypal themes with involvement and relevant comments.

Five of the children found it difficult to keep their eyes closed during the relaxation phase. These children were permitted to keep their eyes open but were encouraged to rest their heads on their desks. After the second session, all children appeared more relaxed, and most willingly kept their eyes closed throughout the guided imagery phase. None of the children voiced difficulty at finding images to draw, although it was noted that three children paid a great deal of attention to others' work. The students became very involved in their drawings and worked in a quiet atmosphere of concentration. The older students took more time to begin their creations, but all children managed to portray certain aspects of the theme within the allotted twenty minutes. Most of the children in the six-to-eight age range completed their pictures within the time limit. It was brought to the children's attention that, if they were not finished and if they wished to do so, they could complete their pictures during "free play activity time." All of the students reacted to the project in a positive manner, and many looked forward to each session with eager anticipation.

During the discussion phase, each child came willingly to the front of the group, and many took great pride in describing the images and stories associated with their creations. Most of the listening audience's comments and questions were supportive and complimentary. Some of the other children tended to evaluate the presenter's artwork and were inclined to offer suggestions to the artist. These children were reminded about their earlier brainstorming discussion that each artist has his or her own way of representing ideas and that we were to accept each individual's creative expression in a nonjudgmental manner. As Silver (1978) explained, "Unlike a day dream, a fantasy on paper is vulnerable to anyone who sees it and feels qualified to judge it. The child who feels his work will be judged unsympathetically is likely to keep his fantasies to himself" (p. 111). The teacher, through example, helped create an accepting atmosphere — one that facilitated self-confidence of the participants.

The themes

Earth. In the Earth theme session, most of the children chose to represent Earth as a planet in space. Other images included underground caves, mountain climbing, and a boy stuck in the mud. Seven of the pictures were considered to be original, three pictures were stereotyped, and two children copied others. Surprisingly most of the images and words used to describe them were clearly negative in tone.

Fire. The most popular images in the Fire theme were buildings on fire and volcanos. Other portrayals included campfires and the discovery of the "first fire." Seven of the pictures were rated as original, three were stereotyped, and two were copied. Most of the images were either negative or ambivalent in nature.

Water. Specific images in the Water theme included swimming, deep-sea diving, sailing, rainstorms, and tidal waves. Eight of the pictures were considered original, four were stereotyped, and none were copied. Most of the themes were positive in their imagery and verbal content.

Sun. The most popular images in the Sun theme included a hot, sunny day, and a view of the sun in space. Other representations included sunsets, deserts, and catastrophic portrayals of the sun coming too close to the Earth. Nine pictures were considered original, three were stereotyped, and none were copied. A comparison between these findings and Snider

Table 1
Comparative Tabulation of Imagery with Snider and Allan's (1989) Study
(Snider and Allan's figures in parentheses)

Theme	Positive Images	Negative Images	Ambivalent Images	Neutral Images
Earth	9% (54%)	46% (21%)	18% (19%)	27% (6%)
Fire	18% (41%)	36% (49%)	36% (10%)	10% (0)
Water	50% (71%)	25% (18%)	8% (9%)	17% (2%)
Sun	40% (62%)	20% (15%)	10% (9%)	30% (14%)

and Allan's earlier findings (1989) is found in Table 1. After the four sessions were completed, the participants were asked what they had learned from this experience. Some of their responses included: "how to use similar images in different themes," "to think in my own head," "how to use my imagination," and "how creative other kids and myself are."

Discussion of the themes

Similarities are found when comparing this project with Snider and Allan's (1989) study, particularly with regard to archetypal themes. The Water theme generated the most positive reactions in both studies. The Sun theme displayed the greatest number of neutral responses in both projects, and there was less ambivalence in the children's portrayals of both the Water and Sun themes.

During the Water theme session, it was noted that the children were most absorbed in their work and engaged in a minimal number of verbal exchanges. This behavior appeared to create a restful, reflective atmosphere. Snider and Allan (1989) suggested that the calm, soothing effect of the Water theme could have a beneficial effect on the psyche. Although the Sun theme generated the greatest percentage of neutral responses in both studies, many children chose this theme as their preferred picture and depicted topics such as sunny days, recreational activities, and sunsets. The children stated, by and large, that they chose the Sun picture because of the great care they exercised in drawing it. Since the children participated in drawing this theme on the same day as they were asked the debriefing questions, it may also have been possible that the Sun theme was chosen because it was most prominent in their minds.

The Fire theme elicited the least number of neutral responses in both studies. The next least neutral theme was Water. Allan (Snider & Allan, 1989) posited that the themes which generate the least number of neutral themes are those to which the children had the strongest, most definite reactions. Both Fire and Water would therefore be considered the most affect-provoking themes — Fire producing a large percentage of negative reactions, and Water producing mostly positive reactions. As in the earlier study, the Fire theme seemed to serve as a vehicle for expressing inner turmoil and anger (e.g., volcanos and buildings on fire).

One salient difference in the results of the two studies relates to an examination of the Earth and Fire themes. In the present study, the Earth theme generated only 9% positive images. This contrasts greatly with the 54% positive images in the Snider and Allan (1989) study. Most of the negative images in the present study were destructive images such as aliens invading the planet and a boy getting swallowed by mud. The smaller percentage of negative Fire images in this study, in comparison with the earlier study, may be explained by examining the number of ambivalent images. Thirty-six percent of the pictures, which could have been rated as negative, were considered to be ambivalent because they also portrayed images of healing or life-giving. For example, pictures of buildings on fire also had images of ambulances and firemen rescuing people in distress. One artist clarified, during the discussion period, that a character in his picture managed to escape from the dangers of a volcano by changing himself into an amphibious animal and hiding deep in the water, perhaps indicating that he had a way of protecting himself from his parents' fights.

In evaluating the project's value in generating the use and development of original imagery, it is helpful to analyze the results in terms of numbers of pictures stereotyped and copied. Pictures were rated as original if the artist was considered to be communicating authentic messages devoid of preconceived stereotypes. As Kris (1962) stated, "Esthetic creation is aimed at an audience; only that self-expression is esthetic which is communicated (or communicable) to others.... What is made common to artist and audience is the esthetic experience itself, not a pre-existent content" (p. 254).

In both the first and second sessions (involving Earth and Fire respectively), three drawings were stereotyped and two children copied from others. By the third session, although four drawings were stereotyped, none of the children copied. It would appear then that the project encouraged the individuals who copied to learn to depend on their own ideas. It is significant that the number of children who stereotyped or copied were in the minority throughout the project. Two children who produced stereotypes in each of the themes were previously diagnosed as having receptive language deficits and possessed a limited knowledge of general information from experience. They perhaps did not benefit as much from the direction and guidance offered by the researcher as did the majority of participants in the projects.

The aforementioned data, as well as direct observation of the children, brought about a deeper understanding of the children involved in the project. The

three teachers at the center expressed an appreciation of the insights into the personalities and needs of the children brought to their awareness as a result of the study.

In examining the data, we observed that two of the children failed to produce any pictures that were considered positive. These children are described below:

Case 1. This student was an eleven-year-old boy who often refused to follow classroom procedures and "acted out" aggression by destroying other classmates' materials. This student's first picture involved a view of Earth from space (Fig. 1). He described his creation as "an invasion of the planet Earth." He said, "The Earth will lose, and no one will be left alive." His Fire theme drawing represented a house fire, set by someone playing with matches (Fig. 2). The humans are saved but the fire consumes a pet cat. The Water picture portrayed a tidal wave encroaching on an unknown island (Fig. 3). There are no survivors of this catastrophe. The final drawing is a representation of the sun and Earth in space (Fig. 4). No apparent affect was associated with this theme. The student exercised great care in illustrating each picture, and every image was portrayed in a "hard-edge," mechanical fashion. None of the pictures contained any representations of human or other life forms. According to Bowlby (1988), these drawings would reflect a seriously damaged interior life with all of the hurt and anger that accompanies broken attachment relationships.

Case 2. The second child was unique among the group in that each of his archetypal themes was expressed in a distinctly negative manner. He was a seven-year-old boy who was pleasant and cooperative in the classroom but appeared quite withdrawn and shy with adults. His parents were recently divorced, and he had just returned to school from a hospitalization for minor surgery. His Earth picture portrayed a boy stuck in a mound of mud, which eventually swallows him alive (Fig. 5). In the Fire theme session, he represented two volcanoes erupting red lava (Fig. 6). A frowning boy is below one of the volcanos roasting a marshmallow from the heat. The hot lava is spewing onto his arms while his parents escape down the volcano in a car. The parents survive, but the boy is killed by the lava. The Water picture portrayed a boy swimming under water (Fig. 7). He is about to be devoured by a group of sharks. In the final picture, the Sun is casting down magnified rays and is in the process of burning up the Earth (Fig. 8). A frowning boy is being consumed by the sun, and it may be too late for Superman to save him. The images of the rescuer emerge in this final session, but the child chooses to leave the situation unresolved. These pictures show the anger, confusion, and hurt that a child may feel when parents get a divorce.

Conclusion

In discussing the educational implications of the study, the question must be asked, "Why were the children so enthusiastic about the activity, and how can we bring this enthusiasm into the daily instructional process? From the experience of the teachers working at the center, most children have traditionally responded very positively to the inclusion of any creative art activity as part of the curriculum (e.g., storytelling, puppetry, drawing, drama). It is important to emphasize that throughout the study a noncritical atmosphere was created by the nonjudgmental attitudes modeled by teachers and children alike. Each participant, therefore, engaged in an activity that brought about a feeling of success and achievement, which, unfortunately, is not always a part of the school experience.

Creative art activities need to be an integral part of the daily curriculum of the elementary school program. The success of the project was brought about by an atmosphere of "unconditional positive regard," which was sustained by deemphasizing "right and wrong" responses to the final product. We believe that if all the schools became more process oriented and less product oriented, then students would experience more success and would, in turn, react more enthusiastically to school in general. This particularly holds true for children with learning problems who have traditionally suffered from poor achievement in curricula that emphasize "product." The whole language approach, which is now popular in many suburban elementary schools, will hopefully be an effective arena for creative art activities in which all children can experience success and the joys of learning through self-expression.

The results of the Snider and Allan (1989) study regarding the effect of the archetypal themes Earth, Fire, Water, and Sun could be generalized to a population of children with learning problems through analysis of the data provided in this project. The children appeared to develop a sense of originality in their imagery, and relevant insights were gained into their emotional and psychological well-being. The

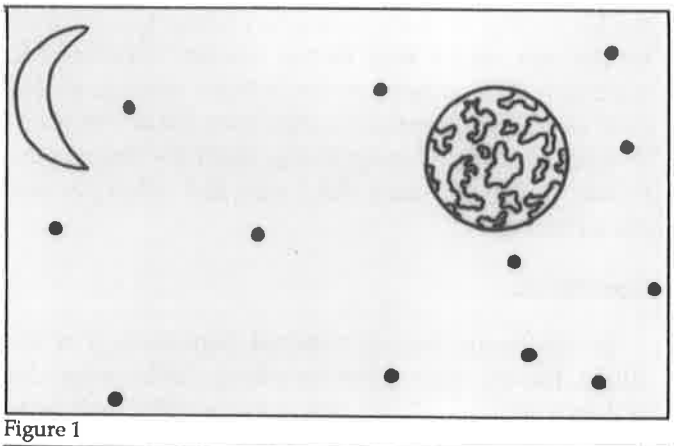


Figure 1

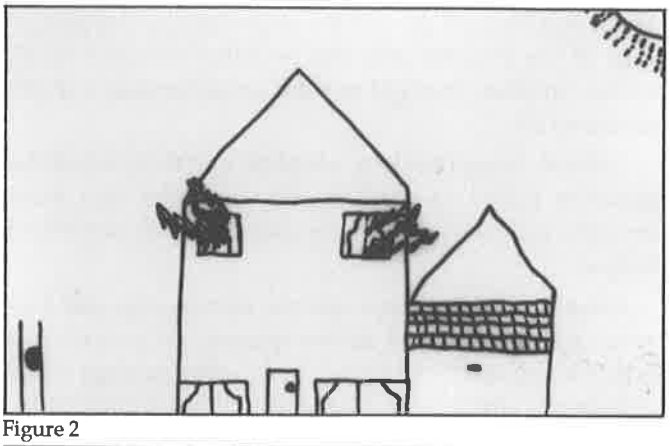


Figure 2

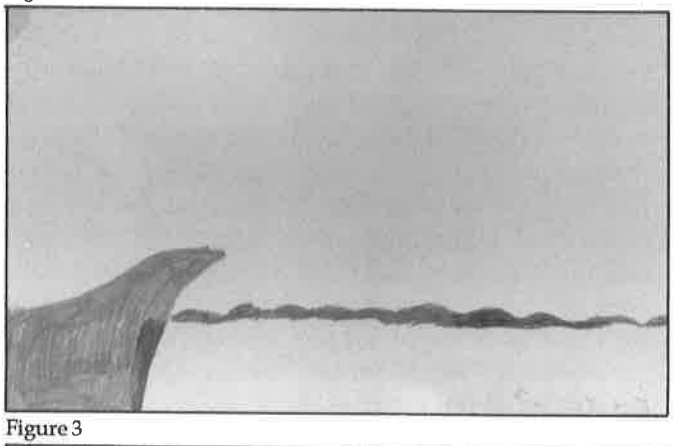


Figure 3

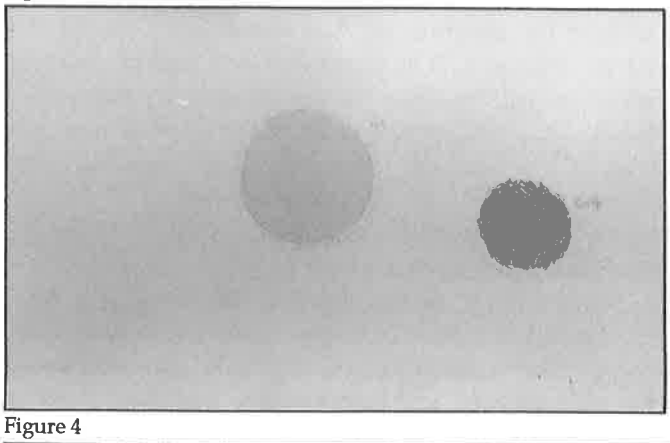
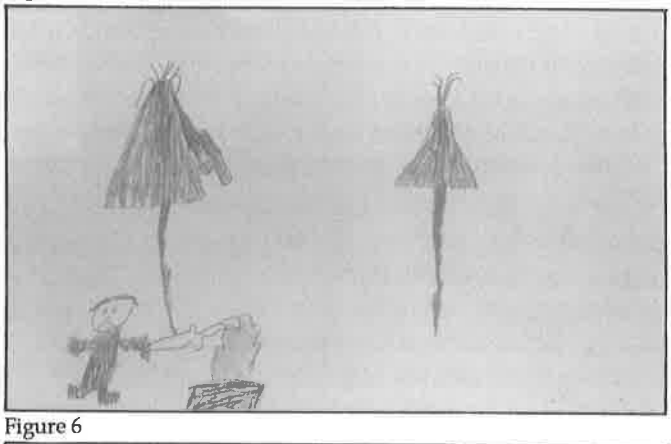


Figure 4

Figure 5



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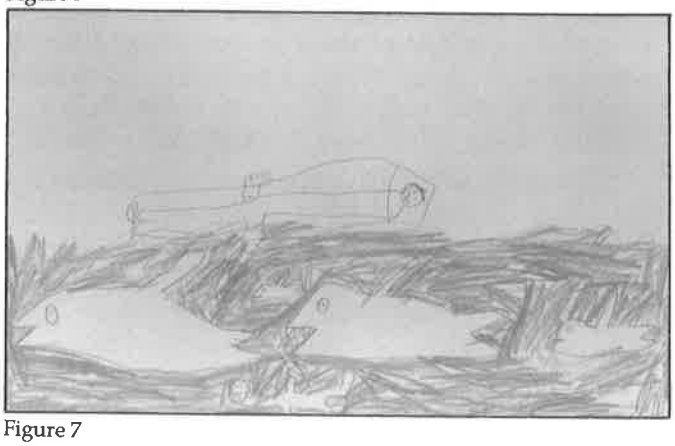

Figure 7

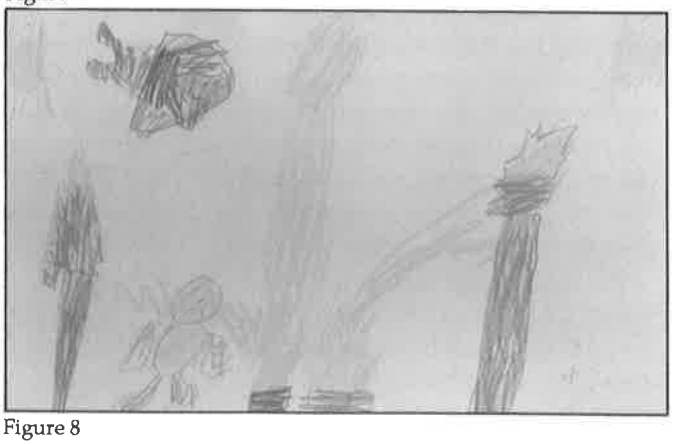

Figure 8

teachers were able to recognize the two cited case examples as children in need of counseling. This identification came about by the teachers' recognition of the "hopeless" themes in both of the children's narrations and of the paucity of positive images in their pictures in comparison with those of the rest of the participants. Significant socioemotional issues were identified for these children (i.e., depression; possible self-destructive tendencies); and, through their involvement in this project, both children were soon provided with regular counseling sessions. This method of art education has the potential to significantly deepen the teacher's and counselor's awareness of the socioemotional needs of all children, including children with learning problems.

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An Interview with Michael Nitai Deranja of the Education for Life School

Clifford E. Knapp

The premise of the Education for Life School is that learning is a natural activity for children whose basic needs — physical, mental, social, and spiritual — are being met.

Clifford E. Knapp is currently a professor of outdoor teacher education in the Curriculum and Instruction Department at Northern Illinois University, Lorado Taft Field Campus, Oregon, IL 61061. During his educational career, he has taught in public and private schools in grades K–12 for 9-1/2 years. Dr. Knapp earned his master's and doctoral degrees from Southern Illinois University and his bachelor's degree from William Paterson College in New Jersey. He has conducted teacher workshops in outdoor/environmental education across the nation and abroad for more than 25 years and has written numerous articles, book chapters, and books on teaching environmental ethics, human relations, community building, and nature awareness.

Michael Nitai Deranja is the founder of the Education for Life School in Nevada City, California. This innovative, private school combines the goals of academic development with personal and interpersonal growth. For twenty years, he and the school staff have promoted the idea of holistic education. Formerly the school principal and director, Mr. Deranja now is working closely with another community member, Joseph Cornell, to conduct nature education programs at the school and around the world.

Patterned after a "How-to-Live" school originated in India in 1917 by Paramahansa Yogananda, the school has evolved a unique curriculum. The premise on which the curriculum was established is that learning is a natural activity for children whose basic needs are being met. These basic needs include the physical, mental, social, and spiritual aspects of life. The curriculum is divided into these four main areas and is approached through themes that organize learning. High self-esteem is emphasized by searching for the goodness within and studying the lives of great people.

Mr. Deranja strongly believes that honesty, cooperation, tolerance, kindness, and calmness are universal truths, the achievement of which are worthy of school time. In this interview, he outlines the background and philosophy of the Education for Life School.

KNAPP: How did the Education for Life School come about?

DERANJA: Before I started the school, I received my teaching credential and taught for a year in a second- and third-grade class in a very typical public school in California. Not a whole lot happened that first year. Some kids learned how to multiply, and maybe some learned how to read better, but as far as

the growth I was interested in, not much had happened at all. Then, in 1972, I moved to the Ananda community (about 150 miles northeast of San Francisco in the foothills of the Sierras) where some parents there did not want to send their kids to the local public school. They wanted an environment that would be more conducive to drawing out children as unique individuals and helping them have a more well-balanced, holistic education. We followed a road map which came from a "How-to-Live" school that had been started in India in 1917 by Paramahansa Yogananda. [We have since changed it to the Education for Life School.] He set down a blueprint, titled "The Balanced Life," which I shared with the parents. It provided a lot of guidelines in developing our school system. How-to-Live education is based on the premise that learning manifests spontaneously when a child's physical, mental, social, and spiritual needs are properly nurtured. We began with only six children. Everything was begged, borrowed, or repaired. We now have children beginning with preschool and extending through senior high school. We also have one branch school which we started on the Pacific Coast.

We want children to be vital, energetic human beings. We want them to be able to approach whatever they do in life with enthusiasm and motivation.

KNAPP: What features make your schools unique and set them apart from most public schools?

DERANJA: Most public schools focus upon the intellectual development of children. If students with bright minds can get all the right answers on a test, they're considered a success in that system. This approach is very narrow when you consider the broad range of tools needed for life. Many people get straight A's in school and fail in life later on. Without losing sight of the importance of intellectual growth, we deal with the whole child and set up the curriculum they need to grow in different areas.

Our curriculum emphasizes four areas — the physical, mental, social, and spiritual. Each of those areas has specific goals that tend to go beyond what's asked for in a public education setting. We want children to understand who they are in their total identity, including, for example, appreciating the value of exercising regularly and establishing good sleeping habits. We want children to be vital, energetic human beings. We want them to be able to approach whatever they do in life with enthusiasm and motivation. If students are getting straight A's but are being lazy, they won't just be passed along and patted on the back. They will be challenged to face the part of themselves they are not using to the fullest extent. Unless you are used to giving that and drawing on all your resources, you won't have it when you need it.

Vitality is one of the first things that we encourage. We work on attitudes like perseverance and will power. Children need to know how to make it through the hardest part of anything they start. If people are not trained to use these opportunities for creativity and growth, they will get what I call a TV syndrome. If some things get too hard, they just turn it off, or switch the channel and try to find something else that is easier to do.

We believe that people need to learn how to get along with each other. Children are sometimes not the nicest people in the world to each other. They can be bullies, or just plain mean unless they are worked with. Skilled teachers can bring out their very beautiful qualities of sharing, kindness, and sensitivity. This has to be an important goal for the teacher; otherwise it will just slide by the wayside. If you want somebody to learn calculus, you had better put a lot of energy into teaching them arithmetic and algebra to get them ready. Without a similar attention to social skills, we can't expect people to know how to form lasting, harmonious relationships. Few people put much energy into teaching such skills, and so we have the divorce rate that follows.

We help students recognize that they have a deeper aspect to themselves that will be the source of their strength, creativity, and joy in life. If they lose track of who they are, they are likely to have a midlife crisis later on when they stop and wonder what they have been doing for the last twenty years. Students are taught to be honest and true to their inner selves. We also deal with a quality like aspiration, which means learning to look upward toward the real challenges of life. We will spend a lot of time studying people who have accomplished something

great in their lives. We study Gandhi, for example. He struggled for the first twenty–thirty years of his life. Then he came to terms with himself, saw a need, committed himself to that need, and was able to go a long way toward accomplishing his goal. We try to get children to see that those kinds of values are very important and they can find them inside of themselves.

KNAPP: What are some specific social norms that can be identified by observing the students and teachers in your school?

DERANJA: We encourage children to think for themselves. If we ask a question in class, the norm is that everybody will answer it in their own terms. They won't try for just one answer with everybody falling in line behind the leader.

We also encourage students to be sensitive to each other and more tuned in to other people's needs. If you visit our school you will be able to see that in their behavior. Of course, you won't see perfect human beings, but you'll see people trying to become better at tuning-in to others. One of the norms of the school is that the students gradually learn to take control of their lives and responsibility for their own behavior. They are not just waiting for the authority figure to step in and handle it for them.

Students gradually learn to take control of their lives and responsibility for their own behavior. They are not just waiting for the authority figure to step in and handle it for them.

KNAPP: What specific skills are important to learn about living, and how does the school contribute to these?

DERANJA: One skill is making choices in your life, even at a very early age. Some activities are going to lead to a more fulfilling, uplifted feeling. Others are going to take you into a more nervous, harmful, and negative direction. Learning to make that kind of discrimination is a tool that people need to acquire if they are going to have a successful life. One of the preschool teachers, working with four-year-olds, wanted to teach the difference between what she referred to as calm and crazy energy. Four-year-olds show both kinds and usually are not too conscious of it. She worked hard to help them bring that to their awareness. One day a little girl was standing inside the school at recess time, and a little boy came running up to her. The little boy said, "Let's go outside and throw rocks." At four years old she was able to look at him and say, "I don't think I want to be crazy today. I'd rather just stay here and be calm." To make that kind of choice at an early age is commendable. If you have this skill in later life when you get to other kinds of choices, you don't have to spend so much time in the school of hard knocks.

One of the other skills is even-mindedness or working with emotions. Most people grow up thinking that emotions are something like the weather. A storm comes in and there is nothing you can do but sit there and wait until the rain stops and the sun finally comes out. They believe that if you get up on the wrong side of the bed, you can cross that day off and maybe the next one will be better. With some help, young children can learn to work with their emotions. When they are feeling tense, moody, or angry, there are things they can do to get themselves in a more positive state of mind. We help them understand their emotions more clearly, and step back from them a bit. We teach them to develop some tools, such as going outside and taking deep breaths of fresh air, or anything that will change that energy around. We also make use of what we call affirmations to change a negative attitude into a positive one.

KNAPP: What are some of your beliefs about people and human nature that guide the curriculum?

DERANJA: One belief is that every single child who enters the classroom is unique. They'll each have unique talents, strengths, and weaknesses. Unless we address those unique aspects of a child, we will get a very dull, trivial, and lowest common denominator effect. When you try to cram every child into one particular mold and treat them all the same, you'll find children showing signs of negativity. It is the job of the teacher to find each child's unique potential and bring it out. Another belief is that everybody has the potential to bring out the high aspects of self. We're not all monkeys waiting to grab each other's banana. We have these higher qualities within us that can be brought out,

such as love, truth and wisdom. These traits can be cultivated, because they are latent in everybody.

KNAPP: How do you use the outdoors and the learning potential of the local community in the curriculum?

DERANJA: There is the psychological environment, which we've been discussing. Then there is the physical environment, which is very important to children. If you are in a building that has four walls and everything is artificial, this physical environment does something to your consciousness. You end up losing touch with the more free-flowing energy that happens in nature. Something happens to you when you get out there with a few trees and animals. It seems like you resonate with the vibrations of the environment. We have found a lot of reasons to learn outdoors.

Native Americans had a tradition called a vision quest. When you had finished your childhood you participated in this rite of passage. You would go out by yourself into the wilderness and spend some time completely away from all the usual cues that tell you who and what you are. You'd go out by yourself to confront yourself. This transforming experience would set the tone for the rest of your life. In the Native American culture it would determine the type of work you were going to have in the tribe and even your name in some cases. The tradition has roots in real experience. When people can be alone in nature, and be calm enough to really experience themselves apart from social contacts, they can get in touch with their essential parts. We use the vision quest idea in our schools. We have to help children, especially those who have grown up in the city, to become comfortable being alone in nature. By going on vision quests, kids can open up to themselves, which is one of the goals of education.

The community is also important to use as a classroom. I once visited the Amana Colonies in Iowa [a nineteenth century religiously based agricultural community]. In their school, the morning was devoted to academics and the afternoon was devoted to work in the community. Getting students out of the classroom and having them do community projects to become motivated and involved in learning seems so obvious to me. If you keep fifteen-year-olds locked up in a classroom for six hours a day and they explode occasionally, what else can you expect?

Pushing a pencil all day long can create a lot of tension. One of the things I feel is wrong with our educational system as a nation is that we exclude teenagers from life in the community and push them toward alienation. This trend can be broken down by getting the kids involved and into responsible situations. Every child in our high school has to have a part-time job in addition to other community interactions. In this way, they get involved with the adults in the community and get to know them as real people. In most situations, teenagers have difficulty communicating with their parents. Their teachers usually don't have time to talk with them in any depth. It is even more important then to get out into the community and make those connections with other adults.

When you try to cram every child into one particular mold and treat them all the same, you'll find children showing signs of negativity. It is the job of the teacher to find each child's unique potential and bring it out.

KNAPP: What personal qualities does your teaching staff have?

DERANJA: The teacher's role is to provide students with a balanced curriculum of life skills that will allow each child to manifest his or her highest potential. First of all, they must have a certain level of maturity. A teacher needs to be a kind of psychological pillow — one who accepts children, absorbs their problems, and gives a supportive, loving and, if needed, firm response. I want people who are very attuned to children. If a person has those qualities, I really don't care if they have a degree or not. Some of our teachers have master's degrees, but there are at least two who did not finish college. In a private school in California, you have that freedom to make those kinds of decisions. I want them to be sensitive, helpful, introspective, truthful, discriminating — and to have high aspirations. I want their qualities to be at a level that would enable them to draw out those same higher aspects of the child.

KNAPP: What is the importance of student self-

A Proposal for a Balanced Education

A Broad-Spectrum Plan

An Open Letter to Teachers from Dan Millman

A physically oriented educational approach that fuses Eastern and Western traditions along with ancient and contemporary techniques can achieve a holistic balance.

Dear Fellow Educators,

I am concerned that our educational institutions still offer academics in lieu of education; information instead of wisdom — only a partial preparation for making a living, but not for making a life.

Institutions that profess to educate "the whole person" need to take another look at holistic education — *the equal, balanced, and unified development of all three centers in the human being: the mind, the body, and the emotions.*

> A developed intellect allows us to reason, analyze, and discriminate — to think clearly.
>
> A healthy, relaxed, energized body supports all other endeavors and is essential to sustained, effective action in life.
>
> Open, unobstructed, uninhibited emotions, freely expressed, manifest as powerful emotion/energy to move/motivation. When we listen to and trust our feelings, we gain greater ease and pleasure in our social and personal relations.

Life develops only what it demands — and if any educational institution is to live up to its aspirations of helping to develop a whole person, then I suggest it must make a balanced, formal, structured demand, *through its curriculum,* on training each center in equal measure.

Preparation of the intellect alone — no matter how rigorous — never has and never will prepare young people for the varied demands of life. The problems most of us encounter in daily life are not intellectual ones; they are emotional and physical problems, because those centers are often the least developed.

Although many institutions give some lip service to holistic education, few can deliver; primarily because few school teachers or administrators have had the opportunity to work with and develop their own emotional and physical sides, and often go into teaching due to interest in aspects of the intellect and specific subject areas.

Editor's Note. Portions of this Open Letter have been previously published in a letter to the President of Oberlin College in the *Oberlin Review.* Mr. Millman invites readers with inquiries or interest in discussion to contact him at Peaceful Warrior Services, Box 6148, San Rafael, CA 94903.

Dan Millman, author of Way of the Peaceful Warrior, *has been involved, and most often immersed, in teaching for the past 28 years. Throughout that time, as a director of gymnastics at Stanford and the University of California at Berkeley, and as a professor of physical education at Oberlin College, he has focused on balanced development and education of the body.*

More recently — for the past ten years — his writing and teaching has expanded to include perspectives offered by Eastern spiritual tradition and the martial arts. The scope of his work has become more holistic and emphasizes specific approaches to integrating body, mind, and emotions. A more complete treatment of this topic is included in the author's new book, No Ordinary Moments: A Peaceful Warrior's Guide to Daily Life, *to be published in June 1992 by H. J. Kramer Inc.*

Training all three centers culminates in a kind of wisdom or balanced ability to make a fuller, happier life for oneself and for others. Developing one center can never make up for weaknesses in the other two. A chain breaks at its weakest link, and so do we. Athletes need to focus the mind; intellectuals must learn how to move, and how to move others.

Many of us take issue with national priorities and budgets. The schools have good cause. Wouldn't it be nice if the schools had all the money they needed, and the military had to hold a bake sale to buy a bomber. But the schools themselves, on cursory examination, also need to examine their human and economic resources and priorities to see if they aren't lopsided, weighted toward intellectual development.

Experiential, psychophysical education is still valued secondarily to the theoretical — manipulating the mind in the ivory tower of the intellect. But that tower lacks a heart; it lacks vitality; its foundation, therefore, is shaky.

Tomorrow's leaders, which so many schools profess to develop, will have to master all three centers if they are to provide cohesive, sustained leadership. Close observation of the relative imbalance of the individuals that make up our congressional and legislative bodies are a prime example of the crying need for leaders who have mastered themselves. Yet we persist in giving students information about the world, but too little knowledge about themselves — about their own feelings, their motives, values, priorities, and purpose in life.

It is, of course, easy to point fingers and merely complain. To actually implement a balanced program is another thing altogether. How do we convince educators that they have to go "back to school" and take some remedial courses in opening the emotions and working with their own bodies? If it isn't feasible to retrain teachers and administrators through specific seminars and programs, then new schools, new approaches, and new certification programs may have to be developed.

A great challenge remains before us: to make an evolutionary leap beyond even the pioneer educators, methods, and systems we so highly value, to use them as steppingstones to the next level of education. The times demand it. Our future will accept nothing less.

Developing the mind

Most schools help children learn to reason and think by study of numerous disciplines, including reading, writing, mathematics, history, science, and so forth. In studying these topics, children develop capacities in writing essays, thinking logically — even memorization and concentration skills. However, very few schools expose children to the foundation topic: learning *how* to learn. There are, for example, enjoyable courses and books available to the public that teach specific memory skills — how to memorize phone numbers or people's names, tricks to learn spelling or foreign language vocabulary, and many others. There are also excellent books and training materials on "speed mathematics" — again, tricks to add, subtract, multiply, and divide rapidly.

Most children struggle to remember a variety of data without the benefit of foundation skills. The object of intellectual education should be not only to train children to memorize and think about things, however. They can also look up facts; in tomorrow's world, facts will be as close as the nearest computer terminal (or, for old-fashioned types, as the encyclopedia). Children need to learn to handle the concerned, discursive mind — especially when they reach sixth or seventh grade level. At that point, some form of concentration practice and/or games ("Mental Olympics") might be appropriate — even an introduction to meditation (which can be a practical mental skill, and simply a means to relax and quiet the busy mind rather than a form of religion).

Learning about a variety of subjects has certain practical value, but the topics themselves are only "mental weights" that students lift to develop their basic mental capacities of memory, reasoning, outlining, and so forth. So today's educators may want to take another look at whether we are using the most effective means to train the mind. The mind, like a muscle in this context, develops primarily with demand. The capacity to create will develop most fully where it is given opportunity to be creative; the capacity to thinking critically will develop most fully where it is given opportunity to analyze and synthesize ideas.

Developing the emotions

There is more to say about emotions than I can express concisely here. Let me summarize: If you observe a typical baby who is not cold or hungry or wet or soiled or lonely, then you will see the primary human emotion, which is bliss. Just look in a contented baby's eyes.

Although we have many words for positive emotions, like happiness, joy, peace, and fulfillment, we have many more words for negative emotional

states, like fear, frustration, depression, anxiety, envy, irritation, sorrow, rage, and on and on.

I suggest that there are only three sources of negative emotion — fear, sorrow, anger — and that they blend, like the three primary colors, to form all the other words we have for negative emotions. Furthermore, these are not technically emotions at all; they are actually cramps, or obstructions, to the free flow of emotional (motivational) energy.

Breathing and emotions are one; the breath reflects the emotions. All three obstructions — fear, sorrow, anger — are characterized by imbalanced breathing: Anger, with strong exhale and weak inhale; sorrow with strong, fitful inhale and weak exhale; and fear, with held breath. This remains consistent throughout every culture.

The most natural way to clear the psychophysical obstruction is to remember the breathing and bring the breath back into balance. Once this is done, the body is in a better state (not all choked up) to actually *express* those feelings. I propose that there are three hierarchical levels of emotional health: (a) denial, repression, and suppression; (b) expression or acting out; and (c) transcendence of emotional reactivity (viewing events with compassionate detachment so as to act rather than react).

Expression of feeling enhances the health of the immune system (supported by studies in psychoneuro-immunology) as well as healing interpersonal relations. But the courage to express feelings fully, clearly, accurately, and even passionately is one of the weakest areas in all of our lives. This includes parents, teachers, administrators — anyone over the age of five or six.

Balancing the body: A physical education proposal

Given today's national and state budget crunches and priorities, with attrition in facilities and equipment to support strong physical education opportunities, we need to take a close look at optimizing balanced physical development of children.

Of course, it would be wonderful if our students today all had access to health-club facilities, with indoor and outdoor tracks (for proper running surfaces), well-equipped gymnasiums, and so on. But we have not yet reached such a physical education utopia. So how can we design an efficient program of "conscious exercise" that will help children to express healthy energy, maintain vitality, and free up the blocked energies that manifest as "low-attention," "hyperactivity," and so forth?

Consciously or unconsciously, adults use nine primary means to "blow off" or release pent-up or obstructed energies. These nine avenues are based on "Doors of Compensation" training by Oscar Ichazo of the Arica Institute: (a) alcohol or other drugs; (b) stress-produced illness; (c) overexertion (exercise fanatics, workaholics); (d) crime (kleptomania, etc.); (e) phobia; (f) panic; (g) overeating; (h) cruelty; and (i) sensuality (most specifically, orgasm).

To specifically define each of these areas falls beyond the scope of this letter. But if we take a cursory look at this list, we will see that not all nine avenues of release are or should be commonly available to youngsters. Childhood — particularly adolescence, as every teacher knows — is a time of rapid change, and a time of concerns and dilemmas. Children begin to manifest adult-like needs to release pent-up energies. Although we are seeing more drug use in some areas, the most common specific symptoms of "tension-release" in children and youth are in particular forms: childhood illness; hyperactivity; phobia (fear of insects, the dark, etc.); panic (night terrors, nightmares, bad dreams), overeating (sweets, carbohydrates); cruelty (most common forms are teasing, gossip, name-calling, and ostracizing); and excessive masturbation. In extreme cases, any of these methods of releasing energy, including exercise, can become addictive (when an individual feels extreme discomfort or depression if they are not able to do it regularly, or compulsively).

Some unfortunate children and adolescents get involved with drugs (including smoking tobacco), precocious sexuality, more serious crime, or deeper degrees of cruelty (torturing animals or hurting other children). Often, the means they apply depend on adult role models and (limited) opportunities to choose.

As we can see, some of the means of releasing energy are less destructive or problematic than others. The least harmful, from a social viewpoint, are often overexertion, overeating, and sensuality (specifically, masturbation).

Make no mistake about it: Children, and particularly adolescents, who are inhibited or made to feel guilty or avoid masturbation, who are kept under strict control with respect to eating sweets and so forth, *and* who do not get enough exercise, *are* going use other "release doors" available to them. The point here is not to block emotion, but to experience and eventually master it.

The above description of how children, and

adults, release pent-up energies due to obstructions in body, mind, and emotions is not a pretty picture of life. But a clear examination of our lives will reveal that it is a realistic model.

Given this perspective, *regular, carefully balanced, daily physical exercise is by far the most constructive outlet for children.* This is not a fresh revelation; parents and educators have intuitively known this for generations. Beyond the standard health and fitness rationale, exercise makes everything else work better by providing a means to "ground out" or release pent-up energy. It lessens the internal pressures for children to compulsively overeat, masturbate, tease, have nighttime fears, use drugs, or engage in any other destructive behaviors. For this reason, beyond the standard health and fitness criteria, athletics and exercise have, in a sense, "saved"many adolescents' lives.

However, any kind of challenging, regular exercise discipline requires a period of initiation — a period of discomfort until "the training effect" takes over at three to six weeks and the children notice themselves getting stronger, with more stamina and energy. Until that time, though we tell children that exercise makes them stronger and gives them more energy, they feel the opposite. They get tired and sore; therefore, educators and coaches must be persistent in getting the children through that period of adjustment.

Few school administrators or teachers understand in depth what actually constitutes physical *education* and so assume that children's needs will be served through traditional American games and sports, which offer some development of eye–hand and eye–foot coordination, with random exercise.

Random games and sports might best be considered adjunct activities; the core of a true physical education program involves holistic forms of "conscious exercise," such as well-designed circuit training; calisthenics routines combining movement, stretching, breathing and mental focus; yoga; or a synthesis of these.

Since children have different values, temperaments, body types, and needs, each child should ideally be able to choose. In a school setting, this is not always possible. So, as a practical matter, based on some sophisticated knowledge and in-depth experience. I suggest the following generic physical program for school-age children:

1. A brief but comprehensive warm-up calisthenic routine done as a group, to music (much like the exercise breaks done in China, Japan, and the former Soviet Union).

For this, I would suggest the *Peaceful Warrior Exercise Series* (Peaceful Warrior Services, Box 6148, San Rafael, CA 94903), or a modified version or other calisthenics routine emphasizing movement, deep breathing, and stretching to fit the facility and space — which can be taught with relative ease and takes only about five minutes to perform.

2. A stamina-type "circuit training" such as the *Parcourse* systems, in which students walk or run from one to another "fitness station" and do a variety of exercises at each, such as sit-ups, push-ups, and chin-ups. Ideally, these stations would be built around the school campus, but circuit training can be done with no actual apparatus.

Children could keep track of their overall finishing time, to see how they improve over time. Without setting up competition among the children, they would have the opportunity to choose the easy, intermediate, or advanced level, and so complete a level most appropriate for them. Programs such as these might include the regular or occasional participation of teachers and administrators for their own health, as a means of stress release, and as a good example for the children.

Conclusion

To conclude on an up-beat note, we might contemplate, for a moment, the outcomes of a program of balanced education. Imagine, if you will, children who grow up stronger, clearer, and more open than ever before; relatively untroubled by physical blocks; able to express their feelings with the full acceptance of their teachers and peers with new and efficient memory skills, analytical abilities, and other tools of the intellect.

What might their aesthetic sensibilities be? How might an inspired heart grow naturally from experiences in music, and art, color and harmony, and rhythm? Would they be more open to feeling into the depths of life and of spirit?

Abraham Lincoln once said,"If I had six hours to chop down a tree, I'd spend the four hours sharpening the axe." The three Rs are certainly important and necessary basic skills, but the foundation of holistic education cuts to the source — the balanced education of body, mind, and emotions. This is not a new idea; only one whose time has come. I believe that today's educational systems and institutions are evolving, by necessity, to meet the unique challenges which face us today, and to "sharpen," prepare, and support our children to build a new future.

Book Reviews

The Unschooled Mind: How Children Think and How Schools Should Teach

by Howard Gardner

Published by Basic Books (10 E. 53rd St., New York, NY 10022), 1991, 303 pages, $23.00 hardcover.

Reviewed by William Crain

Howard Gardner is one of today's most widely respected psychologists. A scholar of considerable range, Gardner has pioneered research into children's artistic development, clarified major issues in cognitive science, and introduced a groundbreaking theory of multiple intelligences. In all of his work, Gardner has combined creative insight with a reasoned, balanced perspective.

Thus it is a newsworthy event when Gardner turns his attention to our troubled public schools, as he does in *The Unschooled Mind*. Many educators and psychologists will be eager to know what he has to say. But few will be prepared for Gardner's major recommendation: the revitalization of progressive education.

The central problem with today's schools, Gardner says, is their failure to promote deep or genuine understanding — the kind of understanding demonstrated by experts in a discipline. For example, high school students read about the principles of classical physics in their textbooks, but they frequently cannot apply the principles to new situations. They might read that an object moves in a straight line when no external force acts upon it, but when they see an object shot out of a curved tube they erroneously predict that it will continue in a curved path, as if the tube had imparted some special curved force and trajectory on the object.

To explain such misunderstandings, Gardner first examines early child development. During the first five or six years of life, children spontaneously make enormous intellectual progress. Without formal instruction, but aided by innate constraints that guide their development, children develop basic sensori-motor capacities, acquire key elements of language and other symbol systems, and create powerful theories about the physical and social world. The cognitive development during these years is quite remarkable, and children enter school with creative minds and a zest for learning. But the child's "unschooled mind" also is full of misconceptions, such as the notion of physical motion mentioned above.

One would suppose that schools would dislodge the child's intuitive misunderstandings, but they do not. Schools present material that is so arid and scholastic that students see little connection between it and their own ideas about the world. They memorize the school material to pass their tests, but they do not really understand it; and when they encounter problems outside the text-and-test context, they resort to their spontaneously developed ideas.

Many teachers, Gardner observes, would like to help students achieve a deeper and broader understanding of school concepts, but teachers are overwhelmed by debilitating institutional pressures. "Most schools are burdened with large classes, onerous rules and regulations, disruptive demands for accountability, and students who have many personal problems" (pp. 149–150). Thus teachers settle for "correct-answer compromises"; they ask only that students learn definitions and formulas sufficiently well to pass tests and hope that students will achieve a fuller understanding of the concepts at some later point.

Gardner does not believe that improving our schools will be easy, but he believes it can be done. The key changes, he says, should follow the leads provided by Francis Parker, John Dewey, and educators in the progressive tradition. Students should engage in activities and projects that are interesting, meaningful, and related to real life. For example, students might produce newsletters or design and construct model houses. Ideally, such projects would be conducted in a manner similar to the ancient apprenticeships, when masters and novices worked together on tasks that had a clear and meaningful purpose. Many projects, in addition, would require several students to work together cooperatively. And during the projects, students would keep portfolios, which would replace standardized tests as the primary means of assessment. The portfolios not only would enable teachers to evaluate students' progress, but would also help students learn to assess their own work.

Gardner believes that the projects approach would help greatly to dissolve students' early misconceptions. School concepts would no longer exist in a separate,

scholastic universe; they would have a direct bearing on students' own interests and ideas about the world. In addition, the cooperative interactions would help students acquire new perspectives on their earlier ideas, and the portfolio self-assessments would encourage students to challenge their own ideas and convictions.

To supplement the projects approach, Gardner would add some modern innovations. For example, he would make use of children's museums, which provide interesting, hands-on experiences. Gardner also would apply his own theory of multiple intelligences. Instruction in any subject would begin with the student's own strongest mode of thinking. Afterward, the student would experiment with other kinds of thinking, and in this way the student would once again examine topics from multiple perspectives.

In Gardner's view, all of the methods mentioned so far would help dissolve the entrenched misconceptions of the unschooled mind, but they wouldn't be sufficient. It would still be necessary to more directly and powerfully confront students' entrenched ideas — a confrontation that should await adolescence. At that time, schools might try some interesting new methods, such as computer simulations that demonstrate the superiority of Newtonian physics over students' intuitive notions.

It is too early to evaluate the effectiveness of Gardner's overall plan. Some pilot projects have shown promise, but Gardner's goal is a thoroughgoing change in U.S. education, and he knows that many practical and political obstacles stand in the way.

On a philosophical level, Gardner's book will be a bit frustrating to readers with a strongly Rousseauian, child-centered orientation — those who urge schools to follow children's spontaneous ways of learning and to give children opportunities to figure things out for themselves. Gardner is, to be sure, sympathetic to this orientation; he knows how much children learn on their own before they enter school, and he wants schools to preserve the young child's creative energy and natural enthusiasm for learning. But Gardner also sees the need for a good deal of adult direction. He believes that educators should set their sights on an adult end point (the expert's understanding) and provide whatever supervision and assistance students need to reach it.

Thus, Gardner writes from conflicting perspectives, and I imagine that educators who adopt his methods will sometimes be uncertain about which direction to follow. In particular, they may not always know how much assistance to give children when their assistance threatens to rob children of opportunities for independent mastery.

In fairness to Gardner, we should note that the same problem emerges from Dewey's writing. And we also should note that a number of increasingly influential theorists — especially those inspired by Lev Vygotsky and dialectical theory — believe that educators can productively address this problem.

In any case, we cannot expect Gardner to immediately solve all of the problems in education, and what he accomplishes in this book is substantial: He makes a powerful case for the principle that genuine understanding comes about when children find learning stimulating and meaningful. This principle is at the heart of progressive education, and one can only hope that it someday becomes a widespread reality.

The Task of Post-Contemporary Education: Essays in Behalf of a Human Future

by Kenneth D. Benne

Published by Teachers College Press (Columbia University, New York 10027), 1990; paper.

Reviewed by David E. Purpel

The work of Kenneth Benne and his colleagues on organizational development and adult education has had and continues to have a significant and positive impact on any number of educational institutions, as well as other organizations involved in training and reeducation. Indeed, I believe that much of this influence is so pervasive that many people may not be aware of the theoretical and experiential basis for what has become by now a widely accepted educational orientation. For historical reasons alone, then, this book of essays is a welcome reminder of the vitality, imagination, and power of this tradition. However, the book has additional values, since it also provides us with Benne's contemporary analysis and interpretation of the significance and relevance of this tradition for what he calls "a deepening and continuing crisis in culture" (p. x).

Although most of the essays originally appeared in the 1970s, they have been revised to give the benefits of the original insight as well as the author's current perspectives. Benne addresses our situation candidly and somberly: "The unintended consequences of a life-style of personal and social irresponsibility are everywhere evident — in gutted resources, in the erosion of support systems for human and other forms of life on earth, in the open, unremitting, and seemingly irreconcilable struggle between various groups of haves and have-nots" (p. 176).

Benne is, however, as unswerving in his hope and confidence in humanity as he is unstinting in his confrontation of our peril.

> Evidence of human power to modify the environment and to reshape people biologically, psychologically, and politically is widely available today.... Human power to build and to destroy is evident in deserts made by human agency into fertile fields, and in fertile fields transformed into eroded and defoliated deserts, with both sorts of projects financed by the same nation-state.... (pp. 176–177)

The essential theme of this work is Benne's deep and abiding faith in *democratic, scientific, sensible planning for the future.* The future, as troubling as it is, does not portend dread and doom for Benne, but rather opportunity, hope, promise, and possibility. However, this is not a hope based on wishful thinking or rooted in simply waiting for the climate to change, but rather one determined by confidence in thoughtful, active involvement in the change process:

> Hope in a shared world culture will come to life only as people of various ages, nationalities, races, classes, and specialisms, become participants in planning, choosing, and enacting a future desirable of all of them. If this is true, the construction and use of an adequate methodology of participative planning and policymaking is a major element in a morality of hope for the future and in educational processes that seek to advance the conception and practice of such a morality. (p. 178)

Of course, what Benne and the research tradition that he represents are most famous for is the "adequate methodology," which involves serious and intense efforts by groups of people willing to confront the personal, social, and intellectual dimensions of responding to particular tasks. Benne helped to found the National Training Laboratories where the famed T (for training) groups emerged largely out of the foundational theory and research of Kurt Lewin. Indeed, the sixth and seventh essays provide extremely interesting and provocative analyses of the theory and practice of what Benne calls anthropology (the education of people) in contrast to pedagogy (the education of children), as well as a very helpful exposition of Lewin's principles of reeducation which emphasize human engagement, participation, authenticity, and the education of the whole person.

This is a very useful book — well-written, insightful, stimulating, and laced with wisdom and perceptiveness. Moreover, it helps to clarify and underline the task that faces the culture in general and the educational profession in particular, both by the illuminating power of his diagnosis of our problems, yet, alas, also by the on the whole inadequate nature of his recommendations and responses to them. In this sense, Benne's work represents not only his own strengths and limitations, but also those of the culture and our profession. We seem to be a lot better at defining the extent and depth of our crises than we are at offering solutions of corresponding magnitude. However, we must, as Benne has so responsibly done in the book, not be daunted by the difficulties, but confront them as honestly and openly as he has. Indeed I offer my reactions in the very probing and critical spirit of his book.

Benne makes his own goal for the book clearly and eloquently: "My book seeks to approach and illuminate the deepening crisis in human cultures from a number of directions — psychological, social, and spiritual. The current crisis is holistic, *and an education adequate to its requirements must also be holistic.*" (italics added)

In addition, the publishers of the book have provided a very useful and cogent summary of Benne's themes:

1. Learning as experiential, dialogue, participative, and oriented toward social as well as individual change.
2. The centrality of "personhood" in education, and the need for exposing and criticizing views of self as passive and determined, rather than creative and emerging.
3. The need to extend the clientele of education from children and young people to alienated persons of all ages who are in need of renewal and empowerment.
4. The need for a morality of hope in an age of deepening human despair.

These two quotations together can serve as a point of reference for my critique. As I have indicated, I believe that Benne has done an excellent job of responding to the first of these goals, that is, to illumine the nature of our crisis in a holistic manner. However, what is not as well achieved is the description of the correspondingly holistic education that is adequate to respond to the crisis. My criticism hinges on the inadequacy of an approach that promises a holistic analysis but instead turns out on examination to be significantly truncated.

There are at least two significant omissions from the thrust of Benne's book as reflected in the quotation on his goal and the publisher's summary of his themes. The first is the omission of the issue of power in the list of themes (although presumably power can be categorized as "social"), and the second is the mention of spirituality as part of the crisis but its omission in the list of themes. Let me hasten to say that this is more than a choice of words or a function of the reductionism of summaries. In my view, this use of language is an accurate reflection of the overall emphasis in the book.

Certainly, no one can fault Benne for his lack of political and spiritual sensitivity when it comes to diagnosis, as reflected in the analysis of the enormous pain caused by political domination and spiritual alienation. However, when Benne speaks to the issue of human agency, his focus narrows to reliance on group planning and dialogue. By no stretch of the imagination is this to be interpreted as discounting the significance of this approach; its grounding in sound theory and re-

search, its moral commitment to democracy, and its faith in human possibility are all powerful, energizing, and utterly persuasive. Indeed, the approach is so powerful, so attractive, so sensible that one inevitably is bound to ask: If these ideas are as good as they appear to be how come we haven't used them more extensively? It is imperative that we address the persistent anomaly of the culture's seeming reluctance or inability to do what seems right and sensible — and democratic planning is an excellent example of this phenomenon. My view is that the reasons are to a very large extent related to the issues of political oppression, social privilege, and spiritual alienation.

What is essential to the dialogic process represented in Benne's work is affirmation, good faith, trust, openness, and the renunciation of coercion and manipulation. The tragedy of our current situation (and Benne also recognizes it as tragic) is that to do so would require a great many people to peacefully give up the advantages and privileges that go with their power. We do not have much in the way of historic precedent for large groups of people to voluntarily give up what they probably think they have worked hard for or deserve. The question in this context then becomes, Under what social conditions can and will people engage in honest and open dialogue? Benne is as aware as anyone is that such conditions must include political equality, social justice, and sense of agency. It surely begs the question to urge us to engage in a dialogue of trusting, equal, and free people when millions of our citizens do not trust, when there is obscene poverty, and when there is such catastrophic abuse of power by a few.

A holistic response to our crises must therefore include a concern for the distribution of power and with it a strategy for achieving justice and liberty for all. Moreover, inexplicably, Benne also limits his concern for the spiritual to diagnosis, namely, as part of the problem but apparently not of the solution. It is clear that there are spiritual dimensions to Benne's approaches — there is faith in the human spirit, commitment to human well being, and affirmation of ineffable forces and impulses usually ignored in a technically and consumerist culture. The only appropriate force that seemingly can move people from positions of power, privilege, and advantage are spiritual forces: deeper and more satisfying notions of what has meaning and authenticity.

To be a whole person means to integrate one's work, station, power, personhood, intelligence, artistry, capacities, situations into a textured consciousness of enduring meaning. Often, such meanings (some call them spirits) emerge in group dialogue, and sometimes such spirits animate human dialogue. However, we are largely in crisis because of the despair and danger that is engendered by the absence of spiritual energy. I am sure Benne would agree that exhortation and invocation to be "spiritual" are not sufficient, but I would have found it helpful if he had addressed the issue of the pursuit of ultimate meaning in a time when so many people confuse meaning with success, when many despair at finding meaning, and when many even urge us to see meaning as itself a delusion. Just as I believe that democratic planning requires a just and equitable context, so also I believe that it requires the spiritual energy that enables passion and commitment.

Kenneth Benne has done an excellent job of describing our crisis in holistic terms, and he has responded creatively and thoughtfully to significant dimensions of a holistic answer. For these important contributions we owe him a great deal. His inability to deal adequately with the political and spiritual dimensions of a holistic endeavor reflects less on his concern and abilities than it does on the inherent complexities and problems of the issues. In addition, Benne has provided us with an admirable model for continuing the struggle with grace, courage, and hope.

Dumbing Us Down: The Hidden Curriculum of Compulsory Schooling

by John Taylor Gatto

Published by New Society Publishers (4527 Springfield Ave., Philadelphia, PA 19143), 1992; 104 pages, $9.95 paper.

Reviewed by Ron Miller

John Taylor Gatto's fiery speech to the New York legislature, upon being named the state teacher of the year, was reprinted in several publications and widely circulated among alternative and radical educators, making Gatto an immediate hero within the alternative education movement. That speech, along with four other essays, are brought together in *Dumbing Us Down*, a book that should further establish Gatto as the most visible contemporary critic of public schooling. Like Paul Goodman, John Holt, Herb Kohl, Jim Herndon, and Jonathan Kozol in the 1960s, Gatto is a morally sensitive and passionate teacher who is thoroughly disgusted by the spirit-crushing regimen of mass schooling, and unafraid to say so. Both Kohl and Kozol are still writing important books that present a progressive/radical critique of schools, but Gatto (like the late John Holt) gives voice to a growing populist rebellion against schooling as such. Whether this rebellion will support or counteract the holistic education

movement is an open question, to which *Dumbing Us Down* may offer some clues.

One thing must be said up front: Gatto is a superb essayist. His writing is not academic or pedantic, but a model of harnessed passion. He builds his argument carefully and smoothly and then unleashes bold attacks that cut right to the core of many problems of modern education. He clearly has a solid understanding of the historical foundations of modern education, but generally makes his own personal interpretations rather than citing sources or scholars. Indeed, his essay "The Green Monongahela" is an intimate account of his own life and how he became a teacher. He tells a simple story from early in his career, of rescuing a young Hispanic girl from the stupid injustice of the system (she later went on to become an award-winning teacher herself), that captures the essence of his moral crusade against institutional schooling.

Gatto summarizes his argument in an introductory chapter:

> Was it possible I had been hired not to enlarge children's power, but to diminish it? That seemed crazy on the face of it, but slowly I began to realize that the bells and the confinement, the crazy sequences, the age-segregation, the lack of privacy, the constant surveillance, and all the rest of the national curriculum of schooling were designed exactly as if someone had set out to *prevent* children from learning how to think and act, to coax them into addiction and dependent behavior.(p. xii)

In his speech to the legislature, he makes this charge explicit, describing seven "lessons" that form the heart of the compulsory curriculum. "These are the things you pay me to teach":

1. **Confusion.** "*Everything* I teach is out of context. I teach the un-relating of everything."(p. 2)
2. **Class position.** "That's the real lesson of any rigged competition like school. You come to know your place."(p. 5)
3. **Indifference.** "Indeed, the lesson of bells is that no work is worth finishing, so why care too deeply about anything?" (p. 6)
4. **Emotional dependency.** "By stars and red checks, smiles and frowns, prizes, honors, and disgraces, I teach kids to surrender their will to the predestined chain of command."(p. 7)
5. **Intellectual dependency.** "Of the millions of things of value to study, I decide what few we have time for, or actually it is decided by my faceless employers.... Curiosity has no important place in my work, only conformity" (p. 8). Gatto says this is "the most important lesson, that we must wait for other people, better trained than ourselves, to make the meanings of our lives."(p. 8)
6. **Provisional self-esteem.** "The lesson of report cards, grades and tests is that children should not trust themselves or their parents but should rely on the evaluation of certified officials. People need to be told what they are worth."(p. 11)
7. **One can't hide.** "Surveillance is an ancient imperative, espoused by certain influential thinkers [such as Plato, Augustine, Calvin, Bacon, and Hobbes]. All these childless men ... discovered the same thing: children must be closely watched if you want to keep a society under tight central control."(pp. 11-12)

And here is the crux of Gatto's critique: In the past 125 years, social engineers have sought to keep American life under tight central control. Compulsory schooling is a deliberate effort to establish intellectual, economic, and political conformity so that society can be managed efficiently by a technocratic elite. "School," claims Gatto, "is an artifice that makes ... a pyramidal social order seem inevitable, although such a premise is a fundamental betrayal of the American Revolution" (p. 15). Along with the media — especially television, which Gatto criticizes harshly in another essay — schooling removes young people from any genuine experience of community, any genuine engagement with the world or immersion in lasting relationships. It robs them of solitude and privacy. Yet these experiences are what enable us to develop self-knowledge and to grow up "fully human," argues Gatto, and he asserts that our most troubling social pathologies, such as drug abuse and violence, are the natural reaction of human lives subjected to mechanical, abstract discipline.

Gatto insistently calls for a return to genuine family and community life by rejecting the social engineering of experts and institutions. In a particularly powerful passage, he rejects the notion that a "life-and-death international competition" threatens our national existence, as *A Nation at Risk* (National Commission on Excellence in Education, 1983) warned. Such a notion is "based on a definition of productivity and the good life" that is "alienated from common human reality." True meaning is genuinely found, Gatto writes,

> in families, in friends, in the passage of seasons, in nature, in simple ceremonies and rituals, in curiosity, generosity, compassion, and service to others, in a decent independence and privacy, in all the free and inexpensive things out of which real families, real friends, and real communities are built.... (pp. 16–17)

And these are the things we have lost in our hierarchically managed, global empire-building society.

In the essay "We Need Less School, Not More," Gatto draws a sharp distinction between true community (in which there is open communication and shared participation) and institutional *networks* (which value the individual only in terms of the institution's particular goals). A network cannot be a healthy substitute for family or community, Gatto argues; it is mechanical, impersonal, and overly rational. Schooling is a prime example of this:

> If, for instance, an A average is accounted the central purpose of adolescent life — the requirements for which take most of the time and attention of the aspirant — and the worth of the individual is reckoned by victory or defeat in this abstract pursuit, then a social machine has been constructed which, by attaching purpose and meaning to essentially meaningless and fantastic behavior, will certainly dehumanize students, alienate them from their own human nature, and break the natural connection between them and their parents, to whom they would otherwise look for significant affirmations."(p. 62)

This is a brilliant, radical critique of the nature of modern schooling. Gatto has certainly earned his heroic stature with his deeply insightful observations into the very essence of what public education has become. His writings deserve to be pondered seriously by holistic teachers and can contribute a great deal of insight and energy to our work.

Nevertheless, there is a fundamental issue at stake here, which could end up sharply dividing the holistic education movement if we do not sensitively address it. Gatto, like John Holt and a great many homeschoolers, holds and defends a *libertarian* social philosophy; in the John Locke/Adam Smith tradition, Gatto argues that a common (social) good arises only out of the free interaction of individuals and intimate communities pursuing their own local good. Individuals and families are seen as the primary human reality, while social forces are generally treated as a distressing nuisance. (The term "social engineers" seems to include anyone who seriously addresses social issues.)

In the spirit of dialectical discourse (honest disagreement leading to a more inclusive synthesis), which Gatto admires and knows to be the heart of genuine education, I wish to oppose the libertarian position with one that is more socially conscious. I am especially sensitive to the nuances of this question, since I spent several of my intellectual formative years as an enthusiastic student of libertarian philosophy and political theory, and still have a great deal of sympathy for it. Gatto is justified in calling for a genuine community life to replace the stultifying power of the state, huge corporations, self-serving experts and professionals, and all impersonal institutions. Like other libertarians and homeschool advocates, however, Gatto throws the baby out with the bathwater by categorically defining "school" as an impersonal network and virtually equating educators and activists with "social engineers."

The problem is illustrated vividly in the book's closing essay, "The Congregational Principle." Here Gatto lauds the Puritan settlers of Massachusetts Bay for organizing their churches and towns largely free of higher authority, thereby bringing about local solutions to social and political questions. He explicitly recognizes the parochialism inherent in such radical localism: He discusses the towns' practice of banishing people whose religious views or personal qualities were discomfiting to the community, and he even acknowledges that dissidents (such as Quakers) were publicly humiliated and whipped (a few were also executed). Gatto's main point in relating this story is to celebrate the fact that New Englanders eventually evolved to a more open, liberal worldview — without compulsory schooling or social engineering.

But Gatto's historical interpretation is flawed by his libertarian bias and is quite unconvincing: He asserts that the colonists enjoyed "nearly unconditional local choice" in a social "free market" (pp. 90–91) — a strange claim to make for a rigidly moralistic society with a single established church! Gatto claims that New England culture was transformed by "something mysterious inside the structure of Congregationalism." (p. 90) (read: Adam Smith's "invisible hand" that magically turns self-interest into common good). But this utterly ignores the distinctly *social* events that *forced* New Englanders to alter their parochial culture in the early decades of the nineteenth century — the nationalistic impulses released by the War of 1812 (which New Englanders had bitterly and futilely opposed); Irish Catholic immigration; enlightenment and romantic movements; the rise of science, industrialism, and urban centers; and the growing tensions between North and South over trade, tariffs, and slavery. More important, it doesn't bother Gatto in the least that the liberalization of New England culture took *two hundred years* and probably would have taken far longer had these crucial societal events not intervened.

Libertarian thinking is a much-needed antidote to the hierarchical, mechanical power that has been amassed by social institutions in the twentieth century. We surely do need to pull the plug on these monstrous organizations. But that is not all we need to do. We live in a society that is poisoned by inequality, racism, and grossly materialistic values. We live on a planet that is threatened with *biocide* within the next decade or two. We simply do not have two hundred years to wait for some "invisible hand" to lead individuals and families and self-satisfied little communities to begin addressing these tremendous issues! We must find a way to incorporate personal and communal independence into a social movement that recognizes our *inter*dependence.

As I see it, this is exactly what holistic thinking attempts to do. Holistic educators are not "social engineers" — we reject the compulsion and fragmentation and alienation of public schooling as earnestly as Gatto — but we recognize that the modern crisis demands a concrete response grounded in certain moral, philo-

sophical and spiritual principles. Holistic politics — otherwise known as the Green movement — explicitly embraces decentralization and personal empowerment, but within the context of severe *social* and *ecological* problems that need to be addressed. In a society of blatant inequality, how will the "free market" provide quality educational opportunity for poor children? In a society driven by addicted consumerism, how will families, on their own, deal with environmental devastation, media brainwashing, or corporate control of resources and jobs? These are problems of a *social* dimension, not solely a personal one. Getting rid of compulsory regimentation in school is an important part of our task, but by no means is it a panacea that will restore our society to some golden age of free people and whole families. A holistic response — not an atomistic one — is required.

The point of contention is this: Is a school *necessarily* an "artifice" as Gatto calls it, an impersonal network, an agent of coercion and social engineering? Or is it an organic social creation that can serve a wide variety of moral purposes, from totalitarian indoctrination to complete human liberation, depending on the predominant values of the larger culture? I hold the latter view. Compulsory, authoritarian schooling is a symptom of our social and cultural sickness, not its cause. Genuine individuality and community are purged from schools for the same reason they are so difficult to find in families today: The larger society is driven by mechanistic, reductionistic, competitive values. But holistic educators — from Johann Pestalozzi to Rudolf Steiner to progressive and whole language educators — have argued that a school *can* be a nurturing community, a place where young people and their families might find respite from the oppressive forces of society. Radical educators — from John Dewey and George Counts to Herb Kohl and Paulo Freire — go further, and assert that school can be an active agent of social renewal and reconstruction by empowering young people to think critically and act cooperatively against the forces that oppress them.

The value of Gatto's position is to raise a crucial question: Can *public* schools — government-run schools — ever truly embrace a holistic or radical pedagogy that threatens the existence of the power structure itself? Steiner raised this question. So did Holt. So does legal scholar Stephen Arons (1983). My own respect for libertarian thinking leads me to take this as a very serious and fundamental question, which holistic and radical educators often overlook. I don't know the answer to it. Here is where the dialectic, the dialogue, between libertarians and holistic/radical social activists needs to begin.

References

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Letter to the Review

Re: On Paradigms and Holistic Debate: "A Critical Look at Holism, Part 2" (Winter 1991 issue)

Dear Editor:

Is it time for a critique of an analysis of a critique? Scholarly discussion and debate can ascend or descend on the basis of ideas and experience or on the shifting and granular forces of opinions and personalities.

Words are powerful symbols used to communicate meanings, actions, feelings, and commitments; descriptions of form, color, sound, smell, and taste; and people use words for all kinds of purposes. It is possible to find sufficient documentation, quotations, and rationale to promote and/or defend just about any view one wishes to promulgate. Important issues are often determined by the actual result, not the theory, hypothesis, or concept. Being aware, formulating, understanding, agreeing, and disagreeing are fine as far as they go. My experience of 55 years tells me that those things seldom go far enough to effect the changes which one strives for within individuals and institutions. However, interaction and engagement as one might "note" or "point out" does help to keep journals and professors and researchers employed in writing, talking, and publishing thoughtful material.

Thank you for the discussions and for providing the medium for interactive developments.

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