ENCOUNTER

EDUCATION FOR MEANING AND SOCIAL JUSTICE

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Table of Contents

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Editorial

Education and the Cultural Imperative

Jeffrey Kane and Dale T. Snauwaert

The Twin Towers are down and we are at war with an enemy quite unlike any we have ever known before. American troops are on the ground in Afghanistan controlling airports and searching cave-by-cave for Osama Bin-Laden. Occasionally, our jets attack radar sites and missile installations in Iraq. But al-Qaeda and, more generally, terrorist organizations are everywhere and nowhere. From far-off Indonesia to hometown Indiana, there are cells awaiting nothing but opportunity.

They do not represent a nation; they do not close ranks to protect their land or their people. The concept of "nation states" does not apply here as it did with our enemies in the twentieth century. As a consequence military engagement will soon prove more dangerously ambiguous than an effective expression of national commitment or intent. The simple fact of the matter is that the new battle lines trace the intersection of cultures with values, beliefs, and traditions more than the borders of nations.

Globalization—the effort to breakdown the fences separating nations—has removed many barriers separating cultures and exposed some challenges that may threaten them with extinction. Free trade homogenizes culture; advances in technology open ideas, values, and belief to question in the particular idiom of Western rationalism. Information technologies derive their power from the separation they offer from the local and immediate. As terrorists are everywhere and nowhere, so are our ideas, beliefs, and values, ubiquitous but invisible only to ourselves. We in the West, so enamored with the idea of economic progress—new consumer markets and supplies of labor—often fail to recognize the relationship of land and people. We fail to see how cultures have adapted to place and how ways of life are bound up with social relationships, patterns of kinship and ultimate commitments about the purpose and meaning of life. Even as we may confine ourselves to career and property as the defining elements of life, other cultures may not. Some will conform rapidly, others slowly and yet others only with resistance.

Shortly after September 11, President Bush, in an address to the nation, exclaimed with genuine incredulity, "What could they have against us? What could they have against us?" He perceived, and continues to perceive, America as a peaceful nation dedicated to liberty and prosperity. He is not alone. One need only watch cars passing in the street or walk through a neighborhood to lose count of the flags proudly displayed.

Although many would argue that the United States has a long history of oppression and self-interest, where economics reigns central, such interpretations of policy (modeled in the early twentieth century) fail to account for the power of the root cultural metaphors that are embedded and carried actively in corporate culture and in expanding informational technologies. Corporations, international in focus, are concerned with nations only as they represent power and power only as it translates to profit. Governments, including our own wedded to relief from trade barriers and economic prosperity through globalization, carry such active ideas in their policies and actions. Our notions of self, individual choice and

responsibility, worldly possessions, spiritual meaning, respect for nature, the guiding principles of moral choice and the like may seem to us more self-evident than culturally generated. We take them for granted but often others see them, to the extent they are imposed through globalization, as threats to their own identity, understanding, and way of life.

The root metaphors undergirding education and our schools, if explored, may lead us to new insights into ourselves and the powerful ideas, values, and beliefs carried in international policy.

It is ironic that we, living in an age of information, in a time of unparalleled intellectual ability, so little understand the power of ideas. Nations will continue to set the global agenda; corporate and economic interests will continue to weave across the globe. But neither politics nor economics alone reduced the World Trade Center to rubble. The buildings were symbols not only of power but ideas, root cultural ideas at the core of Western action and at the core of hatred in the hearts of terrorist.

None of this is to suggest that the attack on the Towers was anything less than a heinous crime. None of this argues against the military response to al-Qaeda. Whether military action was appropriate or necessary is not at issue. The point here is to understand and to stem the sources of terrorism. For all the waving flags, we need to critically reflect on the ideas and ideals that shape our international policies. So long as we think only in terms of nationalism, we will not be able to grasp fundamental cultural frictions that are just beginning to generate heat.

What has all this to do with education? Our point is this: Just as we fail to recognize the cultural dimensions of world events—in terms of profound, unspoken, and active root metaphors (ideas and ideals)—we mistakenly define schools as economic and political rather than cultural institutions. Educational policy debates focus on standards, tests, outcomes (read "output"), competitive markets, and schools as marketplaces. Our actions are based upon the desire for qualified labor, affluent consumers, and personal prosperity for those who achieve. Our educational choices inculcate root cultural metaphors: We teach children how to define themselves and the world; what is to be valued and what is not (by exclusion if nothing else); how to think and what to think about (limited, again by the mutual exclusion of aesthetic or meditative experience); what has meaning and purpose and, again, what does not.

It is these metaphors carried in the assumed, in the everyday, that shape who we are as individuals and what we are as a culture. In other cultures, the specifics may vary, but the process is the same. Education and schools are powerful progenitors of culture. The root metaphors undergirding education and our schools, if explored, may lead us to new insights into ourselves and the powerful ideas, values, and beliefs carried in international policy. We may also recognize the sources of possible cultural conflict before extremists reveal them for us.

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The War on Terrorism may have begun with military action, but such action in and of itself, will prove hopelessly cyclical, alternating terror and retaliation. Peace requires that we begin to embrace the power of ideas and ideals as both a primary source of conflict and its resolution.

Truth, Values, and Decompressing Data

Seeing Information as Living Words

Tobin Hart

In educational practice, what we know is rarely treated as fluid; it is typically presented as packaged and complete. The risk is that this may create within us a body of knowledge that is understood as the Truth. Recognizing and integrating four kinds of truth is a useful way to mitigate this risk.

At the end of the nineteenth century the great American psychologist William James remarked that the ideal of every science, and often of education, is the creation of a "closed system" of truth (James 1956, 332). At least in the United States, I fear that there are increasing contemporary pressures to emphasize closed rather than open systems of truth. In educational practice, what we are to know is rarely treated as fluid; it is typically presented as prepackaged and complete. Through scientism and the quest for certainty, we tend to confuse knowledge with truth and perception with fact. The risk is that this may create within us a body of knowledge that is understood as the Truth: proven, measured, and closed. As a result, this consensus content begins to shape a consensus consciousness as we are invited to swallow the same content in the same way without question. While there have been many glorious advances from this position in education, today's standardized testing pressures and the overwhelming demands on teachers in general may inadvertently reinforce closed systems of truth.

The great texts of the wisdom traditions are often taken as inspired words. But most agree that these are "living words" that require exploration and personal engagement. They need to be considered again and again so that new understanding may be discovered according to the quality of our awareness. The same notion of "living words" can be applied to the knowledge and information that students encounter in school. One of the great fears regarding public education is that students will be tainted and propagandized. We fear the imposition of someone else's values, especially religious values, hence the abolition of school prayer and the general separation of

The present article has adapted some material from Hart, T. (2001), *From Information to Transformation: Education for the Evolution of Consciousness* (New York: Peter Lang).

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church and state. However, a data-downloading approach to teaching most typically presents a closed system of truths and values. The message is that this information is to be memorized and repeated as truth, often without opposing points of view and without consideration of its significance within the student. Public education has fallen into an error identical to that of some reactionary religious groups. That is, the presentation of a text (written or otherwise) is considered as the literal and definitive truth. As educators (and the educated) we risk becoming interpretive literalists who present dead, closed systems of supposed facts rather than giving students the tools, encouragement, exposure, and guidance to find truth for themselves and to use data as living words with the potential to open into new knowledge. Many teachers know better, but in light of current curricular demands, few teachers have the time and encouragement to engage the material beyond memorization (as truth) or basic utility for the examination.

Instead of thinking of information as akin to truth, it may be more usefully thought of as the surface appearance of compressed data. Words, ideas, even objects represent the tip of the iceberg; they serve as the symbol or marker that provides a point of focus. But the surface is not the essence; the explicate order, in physicist David Bohm's (1981) words, only hints at the implicate. The spelling of a word, "joy," for example, contains within it a host of meanings: a cultural history, a sound, reference to an inner state that is both universal and individual, perhaps a particular event, and so forth. Likewise, a gesture or facial expression is laden with depth; a concept from a textbook holds within it material about the writer, the culture, and much more. Ancient Sufi texts (see Khan 2000) suggest that even mystical experience can be encrypted in words; and in Christianity the mystery of the faith is encoded in the symbolic blood (wine) and body (bread) of Jesus Christ. The words or the symbols represent compressed and encrypted data.

But compressed data requires decompression for it to be understood. Data compression in computer information transmission has been enabled by fractal geometry.

And while a computer analogy falls short in capturing the richness of human complexity, it may provide a helpful image for education. Just as we would find the compressed data of an email attachment of limited use until it is decompressed, information exchange in education consists of compressed bits of data needing to be "unstuffed" for full usefulness and understanding. To misinterpret the surface as the full offering is to mistake the wrapping for the gift.

Today's standardized testing pressures and the overwhelming demands on teachers in general may inadvertently reinforce closed systems of truth.

We form a dynamic system with information within a living universe; in order to decompress the data and open into layers of pattern and meaning, we must enter into relationship with the symbols and signs and allow ourselves to be open to them and be further opened by them. This is like a key opening a series of locks that lead simultaneously into ourselves and into the data. For the Sufis, uncoiling the mystical data that has been encrypted in words comes from *knowledge by presence*, which involves critical introspection, that is, through examination not just of the data but also of ourselves. Similarly, in other traditions understanding is revealed only through a change in the perceiver (i.e., opening the heart or the mind). In Aramaic, the words "heaven" and "leaven" were sometimes used interchangeably. Matthew (13:33) reports that Jesus said "The kingdom of heaven is likened unto leaven." Leaven causes dough to rise, to expand. In other words, the kingdom is an expansion of consciousness, an awakening—the mind of Christ in Christian language, enlightenment in many Eastern traditions. Heaven may be thought of not as a place in the clouds but as an inner space (Luke 13:34); it does not exist in the distance but it is "at hand" (Mark 1:15), available here and now through an opening in consciousness. Likewise, the notes on the board, the textbook, the world (including ourselves) are compressed data—living words—awaiting expansion in

order to be more fully realized and understood. Their richness already exists here and now but must be realized inwardly. The symbol and surface (whether a holy book or a textbook) will disclose itself only to the degree that we can simultaneously open and expand ourselves.

Education and information can catalyze the expansion of ourselves and our perspective of the world, but typical downloading and regurgitation make little room for meaningful and enduring expansion. The assembly line metaphor of the industrial age has been replaced today by data downloading, but the emphasis on filling students up with bits of information and skills remains predominant. In such an approach, there tends to be a distortion and fixation of view instead of an expansion; the forest is lost for the twigs.

Instead of thinking of information as akin to truth, it may be more usefully thought of as the surface appearance of compressed data.

Even in the realm of science, we discover that it is not massive amounts of information but "freedom in the presence of knowledge" (Whitehead 1967, 30) that enables insight and discovery. Drawing conclusions about his research on the education of great scientists, Roe (1953, 53) suggests that "once intellectual independence was really tasted, nothing else mattered much pedagogically; bad teaching was only an irritation." Freedom in the presence of knowledge allows us to open up closed systems. As David Bohm (1981, 13) writes, "After the mind is … freed of certain blocks that are inherent in its accumulated knowledge, it is able to operate in new ways." This does not imply at all that students should avoid mastering the formula or the material; but if we assume the material to be Truth, then we do not invite the freedom to dialogue, play with it, and create new knowledge from it; we make it into an idol and education risks becoming the practice of idolatry.

Valuing

The activity of gaining knowledge is defined as recognition or becoming aware, and this involves a process of valuing. That is, inherent in gaining knowledge, one inevitably places priorities on one technique or one idea over another. The chef fillets the fish in a particular style because he has placed a greater value on a specific outcome, for example, speed, safety, visual or gustatory aesthetics. The student forms a perspective regarding her geography lesson because it has been valued in a certain way for very individual reasons (e.g., she wants a good grade on the test or her family is traveling to the region of interest this upcoming summer). As fallout from the quest for scientific absolutes, knowledge (like information) is often understood as existing independently from values and the process of valuing, thus remaining "pure," "scientific," and "True." However, gaining knowledge is ultimately entwined with valuing. That which we select to learn or master is selected in a way that gives a certain value or priority to one view or one approach as opposed to another. When we gain knowledge, we co-construct content and worth through our presuppositions, our perceptual filters, and our intention. So knowledge, rather than being simply a static, abstract entity, is both laden with value and remains in flux; it is an "undivided whole in flowing movement" (Bohm 1981, 9). "Knowledge is an *active process*, which is present not in abstract thought, but which enters pervasively into desire, will, action, indeed into the whole of life" (p. 11). The implication is that attention to the subjective process of valuing is integral to the development of knowledge.

By making the valuing processes explicit (e.g., unpacking the motivation or assumptions behind a particular choice), we begin to attend not only to how we construct knowledge based on our values but also to how we use it. Sai Baba (see Gokak 1975) suggests that information and knowledge by themselves are half-sighted; "politics without principles, education without character, science without humanity and commerce without morality are not only useless, but positively dangerous" (p. 116). Bohm (1981) contends that the fragmentation of knowledge and the separation of knowledge from values has "helped to lead not only to a dangerously irresponsible use of

knowledge, especially scientific, but even more to a general loss of meaning in life as a whole (p. 8). Knowledge and values "are inseparably interwoven in a single undivided process" (p. 22). Our own subjective process of valuing, which is in turn shaped by culture, shapes our selection, perception, and construction of knowledge. Therefore, attention to and exposure of our values are central to an education that invites leavening of information and ourselves.

Four Kinds of Truth

Related to the elevation of knowledge to the status of Truth, contemporary education often tends to teach as if the "objective" scientific fact provides the only valid source of information and knowledge. This leads to a kind of tyranny of truth. Rather than valuing and validating only one particular kind of truth, we can consider four distinct kinds of knowledge, each with its own validity claims or requirements for truth. I will draw from Ken Wilber's (1995) synthesis.

Exterior-Individual

The empirical, behavioral knowledge that we are most familiar with comes in the form of observable, material events. This is the empirical investigation and explanation of what is "out there," including the construction of a taxonomy of plants or the investigation of serotonin levels in the brain. This approach gathers data through observation and often measurement (e.g., through a microscope or an EEG machine) and seeks explanation through theory (the "rational" side of rational-empiricism). When we study the observable world of individual objects, the world of nature, or human anatomy, we emphasize the observable parts and functions of the body or the bug, the *exterior* and the *individual*. This objective approach seeks explanations "conceived as the development of theories that identify lawful or lawlike regularities and causal connections between variables" (Rothberg 1990, 175). This is the familiar and dominant realm of conventional scientific method and rational-empiricism. When our concepts or maps of this observable world appear to match our observations, we find "truth."

Exterior-Social

When the inquiry as to what is "out there" considers interacting systems, instead of focusing primarily on individuals, it explains individuals in terms of their functional fit within an objective network. This is the realm of systems theory, networks, holistic wholes, "empirical" web of life approaches to truth. Essentially, this approach understands the observable components as parts of a web or system and describes the behavior and structure of that system. So while it may be "true" from an individual point of view that a cell performs certain functions, it is also true from a systems perspective that it operates as a component of a larger system, a collection of cells, an organ, and this single organ exists within an organ system (e.g., the heart is part of the cardiovascular system), and this system coordinates with other systems in the functional operation of an individual person, a society, or the biosphere of the planet. This *exterior-social* view of knowledge and truth considers explicit structure and observable behavior, whether this is the economic structure studied by conventional sociology or the ecological structure of a watershed. In studying a school (or family, organizational, ecological, or political) system from this vantage point, the emphasis is on behavior, explicit rules, structural hierarchies, organizational charts, and so forth. Both the individual and the systems/social view of knowledge emphasize what is observable in the exterior world and entirely ignore the interiority of life.

Interior-Individual

When awareness is turned inward, we find the world of subjective experience, consciousness, and meaning. From Freud to Buddha, this inward path inquires into the depth of what makes us human. While the objectivist inquiry studies the brain (e.g., neurotransmitters) and observable behavior, the inward focus studies the mind, our interior states, dream content, thoughts, and feelings. When we look at a piece of art or a beautiful sunset, feel deep compassion or moral outrage, have a moment of revelation and insight, we experience some quality of meaning and value within us that we cannot adequately reduce to a measurable quantity. While science most often claims objectivity, we understand

that our perception of the objective world is just that, a perception, a representation or construction based on the perceiver and the perceived. What we see depends on what we are looking for, what we have seen before, and what we expect to see. The observer is a living perceptual "instrument" and our awareness of the capacities and limits of the instrument will enable us to be more trustworthy reporters of both the subjective and the objective world. A student's unfolding awareness and ability to sort out his or her impulses, projections, values, and biases is profoundly significant for the development of this kind of truth. One's unrecognized projection may distort the lenses of perception of the objective and subjective worlds. Truth or validity in this domain involves how trustworthy we are as reporters of interior, subjective experience, how clearly we see it, and how well, accurately and sincerely, we can represent it. So the third kind of truth involves the *interior-individual* world.

Interior-Cultural

The subjective world of the individual exists within and is influenced by culture. When we consider the shared values and mythology of a people, we learn about their culture. Individuals are inevitably shaped by their culture including language, customs, and worldview. Therefore, in order to understand the individual, we need to appreciate the cultural context, or the *interior-cultural* world. One cannot "see" culture like behavior; it is subtle and interior. Worldview, attitudes, style, and the like live "between the lines" of social structure. Inquiry in this domain attempts to understand how individuals fit together in acts of mutual understanding. This mutuality forms implicit cultural agreements about meaning. We may recognize the intersubjective agreement in our own family as we share ways of making meaning about the world, or we may notice a "generation gap," which is a gap in intersubjective understanding. When Western medical interventions are attempted in the Third World, one of the biggest obstacles is getting individuals to use the medicine or the intervention in the way prescribed because there may be competing value systems and incongruent worldviews. A culture may value large families for agricultural needs, status, and so forth while First World representatives may emphasize contraception to slow population growth. This is not a clash of individuals or social structure but a clash of cultures. The "truth," from this intersubjective perspective, begins in mutual understanding.

Integrating Four Kinds of Truth

Could we create an educational practice that regularly moves in and out of these different perspectives? A multidimensional approach to truth tells us that the world is not just a singular "it" to be measured, as scientism and reductionism have led us to believe, but that it also exists as a system and social structure, as individual subjective experience, and as cultural patterns and more. Honoring these different kinds of truth means recognizing that no one view can take in the whole picture. Multiple and integrated perspectives are essential in the approach to knowledge. Learning activities can be approached from any of these vantage points; borderland disciplines might overlap two quadrants or more. An integral approach recognizes the validity of each kind of truth and moves from one to another or combines perspectives as is most relevant for the particular inquiry.

My fourth-grader had science homework a few nights ago. The assignment was to read several pages about the solar system and moon phases and answer in writing the questions at the end of the section. This is a standard and valuable way to practice reading comprehension and was allegedly intended to explore science. My daughter's book had pictures of moon phases with explanations. These seemed abstract, a little over her head and, in fact, I found myself unable to get much out of them. I glazed over, yet I enjoy astronomy. On the other hand, the moon looked spectacular that evening; what phase was it in? If she and her classmates had compared the sky over several nights with the book information they might have gained a real foothold in understanding. But I suspect few, if any, in the class made the comparison between what was overhead and what was in the book in any meaningful and lasting way. It was just homework to get through, and the trick was to memorize and repeat only what the text was asking for.

The main part of her assignment asked her to "name four systems." The student had to simply repeat what was written (in bold) in the text (basic in-

formation recall, valuable but limited). However, the assignment seemed to miss the opportunity for expanding this data. We may hear that students cannot tackle more complicated questions until they have the basics, but the basics are often mastered when applied and contextualized. In this particular assignment, the concept of a system is really a linchpin for understanding the pattern of the knowledge. But what is meant by a system is not brought down to earth. Why are the planets part of a system (i.e., gravitational influence on one another)? Are there other systems that we can think of (e.g., your family, you and a classmate working on a project together, this class, the biosphere, the school)? What makes them a system (a kind of relationship that could be explored in class)? While my daughter can copy the words "solar system," remarkably there was not even any explanation in the assignment that the world "solar" means sun. By going just below the surface we discover that the solar system is a sun system and planets are operating in a relationship to the sun because of gravitational influence. There was no time—I checked—taken in the classroom for any exploration of suns, systems, moon phases, or the sheer beauty of the moon. No mention or explanation of the solar eclipse that had just occurred. Recalling the basic facts was the goal, and it missed the chance for expanding into the patterns of knowledge.

What if part of the assignment had been to "hang out" with the moon for a bit that evening and perhaps for the next few nights, just before bedtime? "Sit alone in silence under the moon, and simply take note of your observations, as well as your own experiences including feelings and thoughts (e.g., curiosity, fear, convenience of the light, mystery, beauty, fascination). The great scientists find a way to meet the object of their inquiry, and they regularly describe their fascination, wonder, and deep relationship with the object. We invite fascination when we open to direct contact with knowledge and treat it as alive. "Imagine traveling to the moon." "Write a story or a poem about the moon." "Make a picture." "What is the system of you and the moon?" "What poetry is there about the moon?" "What can we find out about the moon landings?" "What would happen if there were no moon? How would our planet be different?" "Interview each other about your moon experiences." A solar system/ moon lesson could easily have cut across all content domains: spelling, mathematics, history (e.g., the space race, the shift to a heliocentric worldview), and so forth. But curriculum teams rarely talk across disciplines, and so the curriculum becomes fragmented rather than naturally integrated. Teachers are required to push on with the flood of curricular demands and the pressures to teach toward a standardized examination. The surface treatment of a subject can change when learning asks for more than memorization, integrates rather than fragments knowledge.

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Asking about the empirical facts of the moon phase looks to the exterior-individual quadrant of knowledge and truth; considering various systems (e.g., solar, earth-moon) in interaction, including casual mechanisms (e.g., gravitational influence), touches on the exterior-systemic; inquiring about the student's subjective experience of sitting under the moon and perhaps asking for poetry, asking open-ended questions, or fantasizing touches the individual-interior; and digging into our shared attitudes about the moon, for example, by comparing cross-cultural stories about the moon and its mythology, we peek into the interior-cultural. Each has validity, each is true in its own domain, and each serves the development of knowledge. The development of structures such as the liberal arts curriculum is an attempt to respect different domains. However, the segregation of disciplines and the domination of a positivist orientation across most disciplines has lead to the undervaluation of a multi-dimensional approach to truth.

As we broaden the consideration of what we teach as truth and fact, we begin to help students see that truth in the consideration of information comes in many dimensions and is intimately intertwined with values. As we teach a more fluid form of truth and inquiry, information moves from relatively inert data to living words whose richness and depths are realized only through our relationship with them and with ourselves.

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The Reduction of Teacher And Student Autonomy

An Essay on Technology and Classrooms

Jane B. Johnsen and William D. Taylor

The rationale and inner logic of programmed instruction has, over the last 25 years, burgeoned into an expert/ accountability system that fragments human relationships and powerfully redefines human roles within schools.

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The fog comes
on little cat feet.
(Carl Sandburg)

Throughout the twentieth century, particularly the last five decades, the yoked technologies of structured curriculum and instructional design have gradually and inexorably, like an incoming fog, redefined American classroom life. The traditional definition of technology that we use views technology as a process rather than simply a product (Mesthene 1968). For instance, instructional technology is not only an instructional appliance, such as a projector or a computer, but is the total process of instruction from content selection to its design, delivery, and evaluation. Tightly structured curriculum and instructional design depend on decision-making power vested in a human source. *Which* human source is the question at issue in this essay.

Although the rise of technology in the classroom has been attended with excitement and promise, we speak to the possibility of resisting an historical trend toward the nullification of teacher and student autonomy that has been fostered by the imposition of sophisticated classroom technologies. Specifically, we will be looking at the values that accompany the rise of classroom technologies: structured curriculum, instructional technology systems and appliances, and more recently, accountability systems supported by proficiency testing. A November 26, 1999, front page *New York Times* article, "Teachers in Chicago Schools Follow Script from Day 001," is worth considering.

> Although almost every American school district has begun, in just the last three years, to

> check student progress against specified academic standards, the nation's third largest, in Chicago, has gone a giant step further this year: supplying every teacher with a virtual script, a detailed, day by day outline of what he or she should be teaching—and when—in the language arts, mathematics, science and social studies.

The adoption by the Chicago City Schools of a structured curriculum demonstrates the way in which technologies are used to restrict and control autonomy at the classroom level.

Popular mythology aside, classroom technologies have not sprung up in our classroom lives value free or outside of history. Rather, their presence consolidates and builds upon a number of technological values that have been gaining strength for decades in our schools. Raising critical questions about these technological values often has been dismissed too quickly as resurgent Luddism. Granted, some writing critical of technology has been overly pessimistic, but some has not. Unfortunately, the indiscriminate appellation of the Luddite label to all critical writing has inhibited important lines of inquiry. With this essay we seek a prudent criticism of technology in classroom life that neither falters on a despairing pessimism that assumes technology to have already foreclosed on the human option nor apotheosizes a nostalgic return to an earlier day in our history when technology seemed less pervasive and threatening.

Technology Seen as Progress in American Cultural Tradition

The Luddite stigma, in part, has impeded an analysis of technological values and assumptions undergirding the deployment of systems of instructional technology. In our culture, technology is so pervasive and hidden from our direct consciousness that informal attempts to engage in an examination of its effects defeats many people. That each of us has our private ways of dealing with the effects of technology, often attaching our hopes to its unfolding dynamics, gives rise to differing definitions and concepts of technology. For similar reasons social critics from Karl Marx to Donna Haraway, while making technology the leitmotif of their social analysis, have struggled to chart a full measure of technology's complexity.

A recurring theme for many writers engaging in a critique of technology is the American penchant for equating technological change with human progress. Because we link these two notions in a society traditionally marked by technological change, we assume our history to be one of progress. The study of technological change has not been a major part of the social dialogue, in large part because Americans accept the ideology of change as "progress." What drives our eagerness to transmute change into progress? One of the ideological engines is affluence: Over the past two centuries the material abundance flowing from the technological cornucopia has eclipsed discussion of technology's negative effects. Today, many critics hold we have too quickly opted for material abundance, "progress," at the expense of human dimensions which through neglect or denial have been allowed to atrophy. In the name of progress, the impulse to change, fueled by a "can do" attitude, has seldom been encumbered by moral discussions of "ought." We continually have been blind to this "technological fallacy" (Raitz 1984).

It seems the preoccupation with this simple equation of change-to-progress has diverted most of us from seeing technology and progress in any other terms than quantification of material goods and processes. Historian Daniel J. Boorstin considered technological change to be so pervasive in the American experience that he titled the summary volume following his trilogy on the history of the American people, *The Republic of Technology*. Each succeeding generation, including our own, has assumed that it has experienced change unlike any previous generation. Each generation celebrates what it assumes is its unique contribution to the march of progress (Boorstin 1978). The case can be made, however, that in our era technological change, at least in terms of quantity, is similar to change that occurred during earlier eras.

History bears this out. A person born in the 1850s witnessed a society undergoing profound social and technological changes. Over the span of this individual's lifetime steam powered a railroad across a continent newly freed from slavery. The Industrial Revolution mushroomed in concert with corporate meth-

ods of capitalization, interchangeable parts, mass production, the coupling of science to technology, and the "scientific management" movement. America's inventive spirit was charged by the dynamo of electricity which in turn brought incandescent light, telephone, cinema, and radio. World War I accelerated the development of the internal combustion engine which altered human concepts of mobility. The war years institutionalized the prerogative of the expert to label humans: People were sorted using a new technical tool called the standardized test. The point of this short chronology is that the notion of linkage between technological change and progress runs deep in our historical experience. It is important to remember ours is not the only generation to live with constant change.

There is a qualitative difference between the change experienced by our forebearers and the changes played out in our current era. Today, there exists a sense of finality about technological processes and products—a sense that the immense size, resource consumption, centralization of control, and destructive potential of our tools has outrun the capacity to understand and control them (Heidegger 1977; Winner 1977). Our current consciousness of the irreversible spread of technology proves a sobering alternative to the idea of technological change equaling progress. Murray Bookchin (1982, 219) articulated this growing tension about the mid-twentieth century's Faustian bargain with technology:

> In trying to examine technology … we encounter a curious paradox. We are deeply riven by a great sense of promise about technical innovation, on the one hand, and by a thorough sense of disenchantment with its results, on the other. We are puzzled that the very instruments our minds have conceived and our hands have created can be so easily turned against us, with disastrous results for our well being—indeed, for our very survival as a species.

Someone born in the 1850s may not have felt the need to ponder this paradox. But we can no longer afford the luxury of viewing all technological change as progress. For our reality includes the legacy of instant devastation visited on the people of Hiroshima, the global spread of nuclear radiation spewed from our fallible reactors, and, currently, the politicians in Washington clamoring to extend these nightmares throughout the heavens. Closer to home we are vexed by brown air, yellow rain, and green rivers, truly a technological rainbow of a different stripe. Newer concerns, such as the destruction of rainforests and the melting of the Arctic ice pack, overwhelm the old issues. Many people continue to question the remorseless cycle that seems to hold the human future hostage to our technological handiwork.

While there is legitimate anxiety about environmental degradation and the insanity of arms proliferation, many people continue to believe that technologies are merely value-free tools. But all technology is of human design, springs from human values, and its development is motivated by the desire to control, whether that control is of the physical world or the social environment. A position that persists in considering technology in terms of value-free products and processes fails to recognize that a fundamental aspect of technology in our culture lies in the realm of human-to-human relationships, and ultimately, how humans control other humans. Technology is neither ahuman nor value free. By placing human beings at the center of conceptions of technology and making the dynamic of human interaction with technology more visible, the transactional relationship between humans and their technology can be brought to the fore. Correlationally, understanding relationships between people within structured organizations is pivotal to an understanding of technology. According to John McDermott (1969, 29),

Many people continue to believe that technologies are merely value-free tools, but all technology is of human design and springs from human values, and its development is motivated by the desire to control.

> Technology, in its concrete, empirical meaning, refers fundamentally to systems of rationalized control over large groups of (people) events and machines by small groups of technically skilled (people) operating through organizational hierarchy.

Technology and American Schools

The technology of social control, dependent upon the top-down exercise of power, is particularly relevant when one begins to consider the interplay of technology with classroom life. The "technologizing" of schools undergirds the history of schooling in this century. At the turn of the century the scientific management movement and the ascendancy of the factory model atomized the school setting and established precedents for the way we continue to hierarchically organize schools. The component which rested at the bottom of this hierarchy was the individual classroom unit: one teacher and one group of students. However, not even this "final" unit was considered inviolate.

Throughout the first half of the century educational theorists and reformers prescribed changes that steadily encroached upon the autonomy of teachers within their individual classrooms. Critics pressured for reforms in school aims, curriculum, teaching methods, and teacher preparation (Bode 1972; Tom 1984). By and large, however, the day-to-day responsibility to live the educative moment with their students still fell to teachers. They retained space, albeit diminishing, in which they were expected to make decisions about what was to be taught and how human interaction was to be structured. Though increasingly less autonomous, teachers still managed to make decisions within the context of what they judged to be appropriate for their particular students.

The threat to the autonomy that teachers exercised in their classrooms became much more critical at the end of the 1950s. In 1957, the Soviet launching of Sputnik I, the first orbiting satellite in space, provided the impetus for challenging and transforming the very core of the American educational process. Classroom technologies of management, accountability, and testing, along with technological means of curriculum creation and delivery, redefined teacher responsibility for classroom life.

The "Sputnik revolution" provided the occasion for a host of new technologies to enter unchecked into the world of the classroom. These technologies were built on the powerful reductionist rationalities then being expressed within the growing academic disciplines of information theory, behavioral psychology, cybernetic systems, and management science. Firmly anchored within a positivistic scientific worldview, these disciplines drew their legitimacy from the obvious success of their newly articulated technical systems which were to permeate and structure the nation's institutions of defense and commerce.

Embroiled in the post-Sputnik paranoia, a reactionary response by a nation presumed to be in imminent peril, Congress passed the National Defense Education Act in 1958. This act positioned the schools as a subset and servant of our competitive national military and economic institutions. Small groups of technological experts, well grounded in the academic discipline of human control, were in effect asked to "save" the schools as part of the heady cause of saving the nation. These technological experts provided new planning imperatives for curriculum development and lesson creation based on the systems approach. Innovative instructional appliances and techniques for the mechanized delivery of curriculum were also being engineered and studied in selected classrooms. These powerful technologies and the rationales that seemed to legitimize the power of the external expert brought a new reality to classroom life.

The university arts and sciences professorate, rallying beneath the banner of the "knowledge explosion," used the newer technological developments and rationales to launch or greatly expand the federally funded discipline-centered curriculum movements. The professors sought to determine and control the selection of school curriculum and to foster their external control of classroom life by supplying and using the newly available technological means for the delivery of classroom curriculum and instruction.

The introduction of externally generated technology into the classroom began to erode the traditional relationship between teacher and student. The carefully defined materials of instructional technology

potentially allowed the expert to bypass the teacher and deal directly with youngsters. The value of teachers judging the appropriateness of curriculum and instruction for a given group of children was eclipsed. With the teacher conceptually pushed into the background, the experts, barring constraints of limited funding and local political structures, were given the opportunity to administer their instructional treatments. Few checks were placed on their activities and teacher complaints seldom coalesced into an effective challenge to these technological intruders. While the technological encroachments in the 1960s were more conceptually powerful than realized, the latter was soon to change.

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In the 1980s, schools were engulfed by the swelling tide of gratuitously promoted new technologies. Why this pressure to press onto school children the latest technological innovations, be they new methods of curriculum generation or technology-based instruction systems? Historically, one major reason was that much of what was done in schools was done ultimately in the name of national defense and security. Several national reports on education, such as *Nation at Risk*, which called on us to "re-arm," illustrate this phenomenon. In many ways our nation has been kept on war alert, a state of perpetual crisis, since December 1941. That the security threat is real can be seen in the weaponry so many nations now aim at one another. But it is just as true, as Eisenhower warned the nation when leaving the presidency in 1960, that the security threat is maintained and manipulated by the military-industrial elites with their great pools of capital and hegemonic privilege.

During periods of crisis, careful reflection on the assumptions provided by crisis leaders is seldom undertaken even though these assumptions are provided as the rationale for curtailing human agency. Sputnik proved a particularly important stimulant to the nation's continuing preoccupation with national defense. These social and educational effects provide a lesson in understanding the power that crisis managers wield: Sputnik allowed a small group of men operating within a cold war crisis to foist their ideas onto the schools.

National Security as Rationale to Curtail Teacher and Student Autonomy

According to historian Lawrence Cremin, in 1957 "a shocked and humbled nation" following the launch of Sputnik "embarked on a bitter orgy of pedagogical soul-searching" (Cremin 1961, 347). In 1958, Admiral Hyman G. Rickover, an engineer and nuclear submarine designer writing about educators and school curriculum of the day, said:

> None of us is without guilt. But now that the people have awakened to the need for reform, I doubt whether reams of propaganda pamphlets, endless reiteration that all is well with our schools, or even pressure tactics will again fool the American people into believing that education can safely be left to the "professional" educators.… The mood of America has changed. Our technological supremacy has been called into question and we know we have to deal with a formidable competitor. Parents are no longer satisfied with life-adjustment schools. Parental objectives no longer coincide with those professed by the progressive educationists. I doubt we can again be silenced. (Cremin 1961, 347).

Nor have they yet been silenced. Teachers whose interpretation of educational purpose was at odds with the growing criticism of American education such as the position reflected by Rickover's statement soon found their views muscled to the side and their voices muted. It has remained difficult to critically examine the nature of crisis in our society and how this concept is maintained and manipulated in the school setting as a technological change agent. The "educational crisis" precipitated by Sputnik was cast in terms of national military survival. The purpose of education, or perhaps more to the point, the very purpose of children had to be redefined so that they could be made fit enlistees in the national effort to combat our enemy's presumed advantage: children as *Homo sparticus*.

In the 1990s the collapse of the Soviet Union and the end of the cold war modified somewhat the military discourse on children. Thereafter another role was imposed when national security was more broadly defined to include economic competition. National defense and economic survival were seen as two sides of the same coin, both being cast in terms of national security. Vitriolic reports calling for educational reform in the 1980s and 1990s—such as *Nation at Risk*, *A Nation Prepared*, and *Goals 2000*—used war metaphors to harness economic competition to military preparedness. Thus, children as *Homo sparticus*, Janus-faced, were joined by children as *Homo economicus*.

The rhetoric of these reports reflected the position of the power establishment. These arguments did not go unchallenged by educators. Dialogue intensified throughout the decade of the 1980s. Critics of the reports thought it important to understand these crisis imperatives that were engendering and manipulating human and educational purposes (Giroux 1983; Greene 1988). They raised incisive questions flavored with the language of the day. What better purposes might we hold for children? What shape would a more appropriate education for them take? What would a future education be like that was not motivated by the specter of imminent global military and economic collapse? What would we teach? Can we foresee a vision of the future in which children appear as something other than conscripts securing our international position? Can we countenance a life where our children's future is not held hostage by the escalating multiple debts of maintaining our current privileged way of life? Will we now be able to envision children as something other than craven warriors marching in defense of the gross national product?

The military/economic purposes assigned to children, triggered by the Sputnik-Rickover era, caused deep changes in the way children have been educated since then. The experts of that era prescribed the way in which human relationships were to be technologically restructured within classrooms; instructional technology systems were to provide the framework for this restructuring. How these systems would provide the conceptual framework for defining other classroom technologies is a less told tale, one that we turn to now.

Replacing Teachers?

The second issue identified by Rickover in the quote above is that life-adjustment curriculum needed to be abandoned, since it was deemed unacademic and detrimental to our capacity to maintain our country's global position. This attitude contributed to the discipline-centered curriculum reform movement of the late 1950s and 1960s, the intention of which was to remove curriculum determination and implementation from the hands of "professional" educators and entrust it to the expertise of the university arts and science professors.

A central question posed by the professors developing the "new" physics, "new" math, and "new" biology focused on the classroom delivery of instruction. There was no question as to what content was to be delivered since the professors assigned that decision-making role to themselves. But the power of the new technologies of instruction then currently under development—programmed instruction, teaching machines, instructional film, and instructional television—for the first time began to make the replacement of teachers a viable possibility and an issue for heated debate in American education. At question was whether or not curriculum materials and associated instructional delivery systems were to be developed that would aid teachers or replace them.

By late 1959, the Physical Science Study Committee was producing a "New Physics" course for high schools based upon a series of instructional films. The PSSC curriculum report noted that

> every film produced by the PSSC must meet two conditions. It must (1) further the presentation of the PSSC course as a whole, and (2) set the tone and level of the course. For the PSSC film is part of a complex that includes also the text, the laboratory, the classroom, the student, and the teacher.

As to the role of the teacher, the report says, "These films present the entire substance of a course, and are designed to minimize the need for a teacher." The Committee did express concern that the teacher, in a diminished role, ought to be granted enough activities so as to retain the respect of students (Bruner 1960, 85-86).

By the mid 1960s, programmed instruction technologies provided the design rationales and practical means for completely replacing teachers. Programmed instruction integrated the determination of curriculum, as well as its delivery, within one interdependent system. Curriculum and instruction were delivered technologically to children without the intervention of teachers. In programmed instruction, teachers were reassigned the function of managers of the system, managing the classroom environment so that students could interact efficiently with the structured curriculum.

During the 1960s, programmed instruction, based on behaviorist psychological principles, was one application of the new science of systems that seeped into every element of American life. System rationales assumed that any worthwhile human endeavor, from the manufacturing of a machine screw to the education of a child, could be divided into its component parts. System rationales required that each individual component be assessed diagnostically and manipulated according to the contribution made by that component to a set of pre-established system goals.

Programmed instruction based on the systems approach was often referred to as closed-looped instruction. No component in a programmed instructional system had an open ended assignment. Rather, each component—diagnostic testing, content selection, student response range, post-testing, and teacher function—was carefully predetermined and integrated into the delivery technology by the instructional technologist prior to the deployment of the system. All contingencies of instruction were thought to have been designed into the materials. The various components were then orchestrated to produce predetermined and convergent levels of achievement. The efficacy of the system was based on the assumption that all students could meet these levels regardless of how many times some students needed to repeat the program. However, the understanding was that levels of achievement might not be obtained if any single component was disregarded or allowed to go its separate way, thus invalidating the "integrity" of the system. By tacit agreement between design agencies and school authorities, achievement levels could be guaranteed only if the system was managed exactly as stipulated.

Programmed instruction and the rationales invented by the system designers initiated the conceptualization of educational environments in which the teacher was seen primarily as a management component. Some technological theorists even assured us that the new instructional delivery of technologies would make the teacher's management role superfluous (Heinich 1970). It would be only a matter of time before the teacher could be totally side stepped.

The quaint idea of teachers individually creating classroom learning experiences, whose outcomes were idiosyncratic to any one group of students, was judged by external experts to be neither efficient nor scientific.

Closed-Looped Instruction

Programmed instruction, in a sense, was launched with Sputnik. Within months of the satellite, B. F. Skinner (1958) had published in *Science* his now-famous essay on teaching machines. From a soon-to-be celebrated lab near Harvard Yard, Professor Skinner proffered his prototype machine—an apparatus to facilitate the use of programmed instruction—and hoped to disseminate it to every classroom in the land. For the first time since psychologists took up the question of learning, they were able to directly link their scientific laboratories with school classrooms. As the assumption that psychology was to be the new fountainhead of educational theory and research methodology spread, many believed we were on the verge of a true science of instruction. By the early 1960s, instruction as science became the banner of the programmed instruction movement, generating unrivaled excitement about learning until the advent of microcomputers in the 1980s.

During the 1960-1961 school year, for instance, 21 state departments of education, using newly available federal funds, held a total of 291 workshops and conferences for teachers and school administrators on programmed instruction and the concept of technology-based learning. The majority of educators surveyed in a study of 38 states rated their interest in programmed instruction and teaching machines either "very high" or "moderately high" (Noel 1966). During this period, many powerful leaders both inside and outside of education assumed we were on the verge of an instructional revolution. The quaint idea of teachers individually creating classroom learning experiences, whose outcomes were idiosyncratic to any one group of students, was judged by external experts to be neither efficient nor scientific. The experts claimed that the new programmed instruction technologies would both guarantee standardized outcomes and enhance levels of student achievement. But for this to happen, the experts warned, decision making relating to curriculum and its delivery first had to be removed from the hands of teachers and placed instead in the hands of those who were to create and control the delivery technologies.

One measure of the power of these arguments and the excitement of the times generated by preprogrammed instructional materials can be seen in the way American businesses responded. When it became evident that the external delivery of instruction was likely to become a huge new market, big business moved into action. Corporate giants maneuvered to gain a foothold and nail down their position in the impending instructional "revolution." Corporate America's assumption came to be that curriculum was malleable and that existing curricular materials could be reshaped for delivery via the new technologies of instruction. Firms such as General Electric, Westinghouse, IBM, Xerox, CBS, and Time-Life bought up the smaller companies that had previously developed and marketed school curriculum materials.

The arguments of the proponents of programmed instruction have been far reaching in education. Systems of teacher accountability and competency testing for teachers and students are examples of the legacy of this movement. In order to appreciate the origins of these examples it is helpful to look at the shift in the way the value of classroom credit is determined. We are referring here to the conceptual difference between the Carnegie Unit and what we might call the Technological Unit.

From its introduction in 1909, the Carnegie Unit was used as a way of communicating and transferring among schools and colleges the value of classroom work taken on by students. The precise definition of what constituted a Carnegie Unit was enlarged and redefined several times since its establishment (Boyer 1987). The unit that came to measure academic attainment at the collegiate level eventually incorporated several elements. Fifteen hours of student contact spread over fifteen weeks with a qualified professor, was one Carnegie Unit, or what we call today one semester credit hour. Other provisions of the Carnegie Unit included the currency of the text materials, the breadth of the library, the amount of hours spent studying out of class for each contact hour in class, and so forth.

By the mid-1960s programmed instruction proponents were arguing that the Carnegie Unit was inappropriate to the newly defined realities of instruction. The problem as they identified it was that the Carnegie Unit was concerned with the resources, the input, used in instruction leaving uncertain the outcome, or output, of instruction. Generally, for instructional technologists, the output of instruction or education for that matter was equated to measurable learning gains. They argued that the important thing in instruction was not the resources put into it (i.e., the number of hours spent in class, the materials used, the nature of homework, and so on) but the yield, that is, the amount learned by the student. With technologically delivered instruction a student could repeat the program endlessly to meet the prespecified achievement level, or yield. Under the Carnegie Unit, time was the constant, learning was the variable, but under the technological unit, learning became the constant while time was the variable (Heinich and Ebert 1976).

All systematic, closed-looped instructional programs such as programmed instruction depended on yield as a central emphasis. This emphasis was embedded in the assumptions of the new technological unit and pervaded schooling beyond any particular program. These assumptions gave rise to a set of

practices in education including criterion referenced instruction (such as mastery systems), competency based testing, and more currently, proficiency testing. Another example was seen in teacher accountability systems which were premised on holding the teacher responsible for the yield of instruction.

Accountability/Responsibility

In the early 1970s, the term *programmed instruction*, which had come to symbolize the failures during the 1960s of primitive teaching machines and expensive mainframe computers, went out of vogue. While these particular instructional delivery technologies failed, at least in terms of their 1960s applications, the central conceptual structure of the programmed instruction movement did not. The ideological assumption that the organization of curriculum is best left to experts beyond the classroom and that instructional technologies should deliver the curriculum to young people via pre-designed, pre-specified, and individualized, all-inclusive curriculum packages continues to this day. That this goal has not yet been reached in American classrooms is not a critique of the goal. As the power of management technologies grows in concert with the sophistication of delivery technologies, such as technology-based systems, the goal can be more easily imposed.

The teacher thus becomes a component who manages the implementation of education materials—materials conceived and designed by others. At least at the implicit level this has been accepted as an appropriate model. As Eleanor Duckworth notes, "the assumption seems to be that teachers are a kind of civil servant, to be 'trained' by those who know better, and carry out the job as they are directed to do, to be assessed managerially, to be understood through third-party studies" (Duckworth 1984, 17).

This brings us to the current Chicago Schools' policies and practices of virtual teaching and teacher as test-coach. These grant the teacher a façade of decision-making power even as instructional authority recedes from the classroom. Within this framework, teachers, in order to be fit managers and civil servants, will undergo increasingly a deskilling/reskilling process. Michael Apple (1981, 150 and 151) describes this process as a situation in which

> the skills [teachers] used to need are "taken from them," broken down and pre-specified at the level of conception and then given back. The [teacher's] work is rationalized. His or her role is transformed into merely an executor of someone else's plans.… What [teachers] are to do is neatly programmed into the way the technology operates.

Today's sophisticated instructional systems, with built in pre- and post-tests prespecify—via the accompanying teachers' guide or program documentation—the exact actions to be taken by the teacher and the range of acceptable responses to be made by the students. The goals for those who would specify curricula and design instruction beyond the classroom are based on the assumption that the compelling decisions about content and its methods of delivery should be determined before materials and delivery technologies are made available to the classroom teacher (Apple 1981; 1999). Currently, many state education departments are in the process of shaping and implementing policies that comprehensively "dictate teachers' enactment of curriculum" as the statute of one state puts it ("Review of California's Reform Policies" 1990). While the function of a manager is to ensure that an organization delivers on its preconceived goals, in contemporary school systems the goal most visible to the public and the most animating of the school hierarchy is gains in standardized test scores. The degree to which teachers deliver student standardized test score gains has become the dominant method of holding the teacher-manager accountable. Testing, the mechanization of compliance, has become the vehicle for operationalizing this accountability within schools. Can teachers simultaneously be responsible for the educational opportunities of their students and be accountable to experts and authorities beyond the classroom who have prespecified goals? Within the premises of the rationality of systems control which has developed over the past 25 years, *yes* has been an obvious answer.

Responsibility and accountability generally have been accepted as different terms for the same concept, the assumption being that accountability means being responsible for prespecified behavior. However, responsibility and accountability are very different concepts engendering different modes of

thinking and acting. Robert Craig (1982) characterized the distinction as follows: responsibility presumes humans have the potential to act as free moral agents guided by deliberation and internal sanctions when choosing their acts in light of the consequences. Responsible action can be intense and is never mindless. Accountable action can be intense but is often mindless. Accountability means being subject to giving an account to an external agent who has pre-specified a minimum standard to be achieved. Responsibility, on the other hand, requires freedom to make choices: accountability requires constant surveillance. The responsible teacher's concern is with the student: the accountable teacher's concern is with the expert. Responsibility and accountability are opposing concepts.

Today, most teachers are denied responsibility for the conceptualization of curriculum while being held strictly accountable for its execution. This notion of accountability underlies the deskilling/reskilling process. Teachers are no longer allowed to conceive formal curriculum and are not considered skilled enough to be involved in the development of their conceptualizations. Teachers are trained to manage the curriculum plans of others. Befitting their newly assigned management roles teachers are trained to be highly skilled in behavioral technologies that will assure the proper level of student contact with the packaged materials. As the ideology of accountability grows, teachers and students become more and more dependent on these materials for structuring, pacing, and controlling the total instructional effort.

A tightly woven accountability net uses standardized test scores both to measure student progress within the system and to provide feedback data on the performance of teachers (Salganik 1985). The ramifications of this dynamic don't stop with the teacher; they also sit at the desk of every student in the classroom. When teachers are not granted the freedom to exercise responsibility, then neither are students. Sixty-five years ago, John Dewey wrote,

> Freedom of teachers is a necessary condition of freedom for students to learn. Freedom of teaching and learning on the part of instructors and students is imperatively necessary for that kind of intelligent citizenship that is genuinely free to take part in the social reconstructions without which democracy will die. (Dewey 1936, 165)

Recalling McDermott's definition, technology is viewed as rationalized control by small groups of people over larger groups of people lower in the hierarchy. Applying this definition of technology to schooling, accountability systems, then, are ultimately the power of this technology used by the experts to insure compliance by teachers and students. The expert beyond the classroom—hierarchically superior to the teacher—manipulates the system to control for improved test score levels.

Experts apply their expertise at some remove from the classroom and depend upon standardized scores for what is in effect a secondhand summation of classroom activities. The focus is on instructional resources (inputs) and test scores (outputs). Inputs and outputs are judged ultimately by using a calculus of cost analysis based on a criterion of efficiency. Increasing the efficiency of a system is considered tantamount to "making progress." Inevitably, stricter accountability techniques will be forthcoming as the experts attempt to "fine-tune" school organizations for increased efficiency. Educational activities become increasingly rationalized under this technical system of control; these activities and the purposes they serve are restricted to goals and purposes deemed feasible within the system. Anything which diverts from these goals and purposes is considered irrelevant or even detrimental to the maintenance of the system. This rationalization demands materials that are carefully designed to support the system and facilitate accountability. Rationalized curricular materials require that student responses be predetermined and measurable. The content of this kind of instruction becomes necessarily limited to the domain of technical or instrumental reason: the ubiquitous curricula of skills training.

Instrumental reason, driven by the quest for efficiency, is evident in both the design and use of materials. In the design process the most parsimonious organization of means has evolved enabling the user to efficiently realize the instrumental goals and the solution of problems stipulated in the materials. In the process of instructional design, a technical skill or "fact," is identified and then the most efficient instructional route to it is laid out. Materials, which are

designed in a time and place other than the time and place of use, require that the topic of instruction remain unquestioned by the teacher or, more importantly, by the student. For students to challenge substantively the "truth" conveyed through the materials requires a discussion with the creator of the material. Any potential for this discussion, however, has been eliminated by the imperatives of the technology, specifically the time and place severance between designer and student.

Accedence to this technological imperative, particularly as accountability becomes stricter under state laws, effectively bars the design of materials that incorporate anything controversial and promotes single convergent answers sanctioned by the dominant culture. When school knowledge is reduced to a curriculum of convergent, measurable answers it is rendered merely instrumental. If the design is to be workable, responses not prefigured into the materials—that is, the creative responses of students—cannot be accommodated. Thus the opportunity for students to exercise responsibility for collectively engaging in the creation of knowledge is seriously diminished.

Vulgar Efficiency

Materials designed for closed-looped instruction tend toward outcomes of decontextualized rote learning. While rote learning does have a justifiable niche role to play in instruction (Damarin 1988), more valued knowing, knowing triggered by divergent questions of "why," requires answers that can break the loop. For instance, the potential for restoring dignity to devalued ways of knowing, often metaphysical, must be surrendered if the integrity and efficiency of the closed-looped design is maintained. In the geography of instructional design there is simply no conceptual space to explore between the Cartesian rock and the Aristotelian hard place. In effect, design-imperative instrumental reason colonizes a curriculum via systems of expert/accountability. These are dependent upon teacher- and student-proof materials that are assumed to be efficient and value-free instruments of delivery.

When concern for the efficient operation of the system takes precedence over concern for the expansion of human responsibility, then technological systems rather than people are perceived to have needs. When the criterion of efficient operation takes precedence over concern for the exercise of human agency, this is dehumanizing.

When experts base productivity decisions on their perceptions of the needs of technology while remaining indifferent to human needs, efficiency kites into vulgar efficiency. Vulgar efficiency demands that a course of action be consonant with the presumed "inner logic" of the technology itself. Inherent in the logic of vulgar efficiency is an if/then imperative that prescribes scripted actions while simultaneously proscribing autonomy. Furthermore, it assumes that the imperative of the expert to "control" the system is to be perpetually expanded (Goulet 1977; Wirth 1983).

This tendency toward vulgar efficiency, basing decisions not on human need but on the imperatives and the inner logic of the technology itself, must be resisted in order to allow for "intelligent citizenship that is genuinely free to take part in the social reconstructions without which democracy will die" (Dewey 1936, 165). We must also counter the trend toward vulgar efficiency and control that supposedly justifies hierarchical systems. The potential is real for a simple classroom computer to be used by school authorities as a cog in an expanded expert/accountability system, wherein responsibility for the creation of a learning environment that is attentive to human needs and purposes is removed from the very people who must use the environment to achieve those purposes. Autonomy should reside with people, not technology. Educators and parents need to challenge the notion that teachers and students are components to be manipulated by system functionaries.

In the past 25 years, the rationale and inner logic first expressed by the programmed instruction movement has grown from a simple technological method, thought to be useful for the delivery of expert generated curriculum, into a burgeoning expert/accountability system that fragments human relationships and powerfully redefines human roles within schools. The latent effects, which can be understood now as the main effects, of the programmed instruction movement have coalesced and come into full view. The inner logic of the pro-

grammed instruction movement prescribes an autonomous course of action that profoundly transforms the very institution it had been designed to benignly serve. It is not yet apparent how the newer technology-based instructional systems will change education or what their ultimate effects will be. For a time, the excitement generated by a new technology effectively blocks most critique. In addition, because the infusion of a technology slowly reconfigures our lives in unforeseen ways, it defies our attempts to develop methods for forecasting its possible ramifications, which in turn gives credence to the notion of autonomous technology and ascribes to technology a sense of overwhelming momentum, in the face of which human resistance appears quixotic (Taylor and Johnsen 1986).

Critique will move forward as awareness grows concerning human interaction with technology, in its various expressions, and its reciprocal effects on our ontology, politics, and history. Educators and young people might then entertain the prospect of developing technologies which do not render them atomized components vulnerable to manipulation by experts.

Bowing to King Dat-ahh

Some claim that technology will improve as a matter of course and that the humanization of technical systems will evolve as the technology becomes more accessible as, for example, with multimedia and the Internet. Many argue that current access to interactive, Internet-based technologies serve to disrupt the trend towards centralized instructional authority characteristic of closed-looped instructional configurations as described above.

The Internet, in our view, offers a variety of surface activities that unchecked can lead to a winnowing away of the responsibility of teachers and students to structure a local community of meaning. The Internet is presented as a way to foster student-centered learning, and this phrase, intoned as if an immutable axiom of learning theory, carries the inevitable rider that, finally, we can move beyond teacher-based learning toward a teacher-as-peer model. But, the teacher-as-student-peer ignores a child's longing for a structure with meaning and a basis for grounding belief. Dewey's position quoted earlier provides a counter-current to the growing tidal wave promoting classroom uses of the Internet. We agree with Dewey that the survival of our democracy depends on the freedom of teachers and students to join in the creation of a learning community dedicated to the exploration and critique of their own culture. This sense of freedom is specifically situated in the local realities of particular learning communities.

Bits of data, factoids, and information, relieved, as it were, from the burden of context, will not bring about an understanding of the local culture. Nor will it consolidate into structure. Many proponents see the Internet as a window through which we will be released from the limitations of parochial settings, allowing us to step into a new worldwide web with seemingly limitless horizons. Students and teachers are invited to roam independently and freely in this virtual realm, clicking their way along electronic pathways in search of some higher plain of knowing that results from a continual exposure to more information. Who signaled the idea that shortage of information was a central problem in education? Did the lack of information problem emerge, like so many other problems in education, as a function of aggressive marketing by outside experts and vendors? Is the Internet, in short, like a key in the search of a lock, an example of an answer in search of a question?

The Internet, like other instructional technologies already in place, represents a new turn in instructional strategy. But this is a strategic move inside an ongoing theory of education and fails to challenge the direction of pedagogical purpose that has grown over the past century. Unless and until the underlying assumptions of our theories of education and premises of pedagogy that sustain closed-looped instruction are critiqued and dismantled, these Internet technologies will fail to significantly change the current values framework. The Internet as another version of the "technological fix" fails to problematize the values that fragment and dehumanize our lives in the first place.

Electronic technologies are still in the early stages of their life cycle in the classroom, poised at the cusp of mainstream instruction. No one can predict with any certainty the latent impact these machines will have on education over the long haul. We believe that educational appliances, such as computers, have a place in the classroom if they reflect the collec-

tive ends of students and teachers. Is there, however, a compulsion to act upon the inner logic of our instructional technologies regardless of how those actions might distort human ends and change human relationships? There is a need to understand precedents established by earlier technologies, such as programmed instruction, that have been pressed into educational service. While this understanding will not necessarily allow the prediction of the latent main effects of technology-based instructional systems, it should serve to counter impulsive boosterism, even as it sensitizes us to the vigilant posture needed to construct a thoroughgoing critique.

Conclusion

Technological values underlying closed-looped instructional technologies and accountability procedures tied to proficiency testing are in place; indeed, they are nearly mainstream. What remains to be done is to harness these two technologies into one inclusive system. The Chicago Public School system, with fog-impeded vision, has set a course in this direction.

The inner logic of technology is not limited to simply "uploading" the results of student work at the classroom level which allows the teacher/manager to monitor individual student "progress." The technology makes it feasible to upload individual student or pooled classroom results to the school district level. This allows the experts to more carefully monitor the effectiveness of the system and more efficiently specify and manage teacher behavior with respect to the needs of the system. Through this kind of networking capability, computer software will eventually give system managers the opportunity to fully capture data on user activity, down to the last mouse click. Data could then be used to alter the software to insure that user behavior thereafter is more in line with the pre-specified objectives of the system. This use of computer technology for surveillance has already become commonplace at the American worksite where employees routinely face multi-axial evaluation, including audits of the sediment left behind in the datastreams their work creates. An adult population increasingly enculturated in such an environment will likely accept this practice as an appropriate arrangement in American classrooms for the purpose of monitoring teacher and student performance.

Under arrangements like these, the teacher becomes a civil servant, accountable to system bureaucrats for managing the environment where the mouse clicks are made and proficiency test answer sheets are bubbled. The same inner logic of uploading and possibility of networking that moves control of student results from the classroom to the district level, in turn, can easily move control to the state level. The precursor of this trend is evidenced by the statewide use and publicity of standardized proficiency test results for individual school and district report cards. In the name of efficiency, in the name of progress, is there anything to keep the power of curricular and instructional decision making from migrating totally to the state level to insure that each individual teacher and student is finitely responsive to the desires of the state legislature? No. And what will keep teachers from becoming petty bureaucrats accountable to state functionaries and assigned to the electronic nether regions somewhere between the students and the capitol? Nothing.

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An Ecology of Learning

Connecting to Self, Community, Earth, and Spirit

Mike Seymour

An integral, flow state of mind can have profound implications for education.

How can society in its vision for education evolve a new, integral frame of mind embracing humanity as one earth family with a common destiny? How do we nurture cultural conversations about the global cooperation and interdependent thinking needed to address the spiritual, social, economic, and environmental issues which are the defining test of humanity in our times? This and other writings are my modest attempt to begin exploring these questions. This paper ponders a conceptual framework for learning that supports the emergence of an integral consciousness, nurturing love of life, individual purpose, communal engagement locally and globally, and a compassionate relationship to earth, our home. The sections in this paper discuss, respectively, a theory of interdependent knowing, the role of love and calling, a description of integral consciousness and concludes with an ecology of learning connecting learners to self, community, earth and spirit or higher meaning.

Interdependence in Learning

In whole learning, the learners learn about themselves and become part of the subject. One does not just learn, for example, a piece of history, but also an aspect of oneself revealed in that encounter. A whole lesson, at the very least, concerns both self and subject in an interdependent relationship. We separate them, as happens in disembodied education, at the peril of our humanity.

Let's continue to teach a broad spectrum of specialized knowledge, but let's not teach knowledge for knowledge's sake without meaning in reference to humanity and the world in which we live. The fruit of the tree of knowledge was forbidden in recognition of the human tendency toward hubris in wielding god-like powers such as knowing and naming. Grounding knowledge in a context of fun-

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damental human values is the only basis for a sustainable, responsible, and moral education.

In contrast to this interdependent learning, the dualistic paradigm which informs current views of learning sees the teacher, learner, and subject as discrete, separate entities. Teachers deposit knowledge, students receive, and act upon subjects through listening, reading and writing. Despite the fact that educational theorists have debunked this oversimplified model of teaching and learning for years, the actual practice in too many K-18 classrooms betrays the tenacity of this objective approach to teaching and learning. Some call this approach "abjectifying," for the inhuman state it leaves us in, further disconnected from our own essence and the moral and social implications of our learning. Paulo Freire (2000, 72) called this "banking" concept of education (commodifying children by making deposits for future withdrawls) one of the cornerstones in a pedagogy of oppression.

Grounding knowledge in a context of fundamental human values is the only basis for a sustainable, responsible, and moral education.

In fact, the learning experience is far more complex. Modern physics suggests the inseparability of the observer and the observed, as both are influencing what is perceived. When a particle is viewed it acts as if it is being observed, showing a form of consciousness, though rudimentary, not unlike that of the human observer. Where, then are the consciousness and the perceiving? It can be fairly said to take place "somewhere between" the viewer and the viewed, or the learner and the learned. When sense and sense object co-arise, a reality event occurs. For instance, I present myself to the tree, and it presents itself to me. This mutual relationship forms the conditions for reality and learning. Thus, we can say that learning is relationship or making connections.

The nature of this "somewhere between" has been the subject of much speculation over the last 20 years, led by thinkers like David Bohm, Fritjof Capra, biologists Varela and Maturana, deep ecologists, and other contemporary systems thinkers. This progressive scientific thought explains reality as having field-like qualities, implying a larger, unseen environment in which observable, space-time events occur. In the case of learning, the learner and subject coevolve a reality within a field, as in Bohm's "implicate order" (1980, 149-171) in which each shapes and is shaped by the other in the course of their everchanging relationship.

Teilhard de Chardin (1976), David Bohm, Joseph Chilton Pearce, and others show a remarkable similarity to more classical notions of reality as being one meaningful whole in which the parts are interconnected. The evidence from Tart, Puthoff, and Targ's remote viewing (1979), non-local connectivity and theory of a implicate order, parapsychological experience, healing prayer, and similar phenomena not explained by modern science all point to a dynamic, unified ground of being underlying apparent, observable reality. This ground of being is explained as (a) interpenetrating and connecting all; (b) being beyond time, such that past/future dichotomies do not exist except as human constructs; (c) simultaneous; and (d) coherent, in that every part reflects the whole.

Pearce, Mindell, and others suggest fields of knowledge that can be accessed and changed by our interaction with them, much like a client computer logs onto a mainframe database and manipulates the data and, in so doing, alters the data-field and everyone's subsequent experience of it. The hundredth-monkey phenomenon (Watson 1979), parallel discoveries among scientists ignorant of each other's work, Pearce's (1992, 3) explanation for the idiot savant's specialized knowledge, and other kinds of non-referenced knowing suggest not only specific dimensions or energy fields in which information accumulates, but a human capacity for accessing and altering that field.

Taken together this view of reality, the nature of experience and perception offer profound implications for the theory and practice of education. A spiritual, non-scientifically provable dimension of reality and knowing is never acknowledged in conventional education, nor is our deeply intuitive nature given expression. Even in religious schools, which

talk about God and spirit, learning is often limited by orthodox beliefs, which deny experience outside doctrinal boundaries. So too, nonrational ways of knowing are largely repressed as naïve, unscientific, and not academically rigorous for failing to stand the test of scientific proof. Having "closed the doors to heaven" and created a mind–body dualism, we have lost our ability to experience ourselves and the world as a multi-dimensional, dynamic and living whole. Therein lies one of the root causes of our spiritual, social, and ecological problems.

Love and Calling

If learning is about relationships, what are the forces and forms that guide them? I would like to introduce two ideas here: *soul*, or our sense of calling, and *eros*, or the energy of attraction, that which draws us to someone or thing. The proper work of education should be to *educare* or draw forth our calling by nurturing eros, our natural attractions, and maturing eros from its self-centered, sometimes destructive expression to agape or universal love and compassion. Everything else we learn about culture, reading, writing, and math should occur against this larger backdrop of love and calling, but by no means overshadow this most significant learning about being human.

In *The Soul's Code: In Search of Character and Calling* 1996, 8), James Hillman uses the biographies of gifted people to explore the notion that each person is born with a calling in the form of a soul image or genius, and that fulfillment comes from actualizing this deep calling. Referring to Plato's *Republic*, Hillman writes:

> The soul of each of us is given a unique daimon before we are born, and it has selected an image or pattern that we live on earth. This soul-companion, the daimon, guides us here; in the process of arrival, however, we forget all that took place and believe we come empty into this world. The daimon remembers what is in your image and belongs to your pattern, and, therefore, your daimon is the carrier of your destiny.

It is this soul image, or daimon, which, Hillman says (1997, 10) acts like a guardian angel operating behind the scenes in "… hints, intuitions, whispers and the sudden urges and oddities that disturb your life and that we continue to call symptoms." This theme is echoed anecdotally by parents the world over who have perceived idiocyncratic gifts and tendencies in their young children which cannot be explained by either nature or nurture.

My own children bear witness to this truth. My oldest was a cholic and difficult baby, up every two hours for feeding. He showed precocious tendencies at 18 months, learning the alphabet by using a board with wooden letters, and was oppositional and argumentative, particularly with his mother. He did well in school, and gravitated toward debate, at which he excelled, loving the chance to do research, build and make cases, and hone his verbal arguing ability. In ninth grade when I asked him to close his eyes and imagine what he would like to be when he grew up, I was less surprised by the answer than the fidelity with which he reported it. After pondering for a few moments he said "I want to be a Justice of the Supreme Court." Where did this come from? Certainly not from me who has always been highly skeptical of lawyers and the judicial system. I acknowledged his vocation and wondered by what hand of fate this young man was inhabited by a spirit for justice. Today, he has held true to that calling and is entering law school for a career around issues of social justice.

For every child who has a clear sense of calling, there are many more who languish in a barren landscape of numbness to their own essence or, equally bad, grab some off-the-shelf identity from peers, jobs, and societal norms. The deep sense of calling Hillman speaks about is not about work, although one will find work that gives the soul its expression. It's about our deeply felt sense of self which defies static forms and which often retreats through the disregard, ignorance, stereotypic cultural programming, or trauma found in too many home, community, and school contexts. The consequence is social dysfunction, regardless of the level of so-called social adaptability. Less adaptable youth get into trouble while kids who learn to work the system have an appearance of happiness which disguises the reality of their having made, unknown to themselves, a Faustian bargain trading soul for success. I say unknown because the land of soul was sold out from under them by successive generations who let it slip away in the press of wars, depressions, and mitigating

hopes for the good life based on material progress through free market economies.

Restoring passion and aliveness in life and learning is the only way to open the channels to our soul image and to provide a truly sustainable way of being and living for individuals and communities. The recognition and channeling of eros to individual and social ends is a continued balancing act between the chaos of individual, uncontrolled narcissistic impulses and the psychic death wrought by forceful intrusion and system overcontrol of the life-giving energy of eros. Only parents and teachers who have dealt courageously and honestly with their own soul energies can provide a container for the authentic emergence(ies) occurring in children and youth.

The same eros that leads to the expression of soul is also the fire in learning; it is the force behind the coupling, detaching and reconnecting of self and world, which gives rise to both self and the environment (Maturana and Varela 1987). Life is the world loving itself through particularities, the wave-connecting force in which particles, however remote in physical time and space, inhere. Eros is tidal, breathing in and out, following the ebbs and flows, taking in and expelling through a constant breaking down and regeneration which is the cycle of life.

Educators recognize the importance of intrinsic motivation, tapping student curiosity, the notion of student-oriented education and degrees of student-directed learning, all of which encourage enthusiasm, commitment, and the flow of eros. But attempts for a truly liberated learning environment are undermined by the enduring structures of pedagogy like large class sizes, mandated curriculum, 50-minute subject periods, teaching from texts, too much lecturing and an inordinate focus on testing. Despite our slogans of "being there" for kids, these practices speak louder than words and are the subtext which tell students that their own yearning and curiosity have little place in school.

Moving Toward an Integral State of Mind

To fulfill our intentions for a more whole learning experience will require us to envision a new state of mind. To experience learning as relationship within an infinite ground of being in which love is calling us into a deeper experience of life is to step into a flow state of being. Mihaly Csikszentmihalyi in *Flow: The Psychology of Optimal Experience* (1991) speaks of flow as an altered, heightened state of awareness characterized by singular focus and absorption into patterns and rhythms as with expert rock climbers or a top NBA basketball team like the former Chicago Bulls.

Flow has integral characteristics in that the inner and outer worlds are apprehended simultaneously. By marrying perception of inner feelings, intuitions, and sensory input with simultaneous awareness of the outer world, integral consciousness emerges. Here we are move away from a dualistic world in which awareness and self are focused outward and stuck in the material world. Integral mind stabilizes with open access to our imaginal and feeling world, with trust in our intuitions and perceptions, and a capacity for wonder at the beauty in even the smallest things in life.

This is the state of mind needed to inhabit a new ecology of learning, and I believe that we are now at the cusp of explorations in consciousness that are already reverberating throughout learning environments in progressive settings.

I would like to explain these thoughts on integral awareness with several personal stories which will exemplify some of the points I have been making about learning as an interdependent relationship drawn by love and calling.

Sensing and Going With the Flow

I worked with a group of pre-adolescent boys referred to Family Counseling Services for aggressive behavior and in danger of being kicked out of school. Seven playground fighters ambled into our board room late one morning while a woman co-therapist and I waited for them, uncertain of what we were going to do. I noticed the macho stride, cautious looks at us and each other, and the muscles too rippled for 7-to 9-year-old boys. Call it instinct, but I was immediately struck by an image of what the "game" or energy was all about with this group, and asked my co-therapist to help me move furniture aside and get another rug down on the floor. We were going to have a fight, but this time the adults would be in charge. In other words, I decided the best strategy was to go with the flow of energy, which was all about proving who is strongest, by having a wrestling contest. This

would happen anyway, whether I wanted it to or not, or otherwise interfere with our best-laid plans.

The boys were thrilled at the contest and eagerly agreed to our rules of no hitting, head-butting, or kicking and that a winner was the first one to get both his opponent's knees on the floor. After a winner was decided and the energy, for the moment, in our hands, I concluded with a "let's see if you can break out of this one" challenge as I held (from behind) each one of them with my arms and gave them 30 seconds to break free (no head butts, scratching etc.). I came out an exhausted winner with several points made.

First, their eros had a home here. Second, I proved the strongest. Third, and the unspoken communication, their energy (eros) had met with love (agape) and started to be converted, something I didn't realize until later that week when one of the boy's mother called me. She told me how much her son had enjoyed the group session and really liked the "hugs." I puzzled for a moment as I didn't recall hugging any of the boys. Then I remembered the challenge exercise in which I held each one as they tried to break free. This was a memorable experience of "tough love."

Deepening the Relationship

As playground for the imagination, the performing, visual, and writing arts access the soul and its images, demonstrating beauty in the relationship between self and subject. Ideas, images, sounds, and phrases speak to us not so much in meanings as longings. How we tune into and build a container for the flow of longings between self and other is really the story of the love and romance which learning must become if we are to step into our full humanity.

Jungian analyst Russell Lockhart in *Psyche Speaks* (1987) writes about this relationship when he says that just as " … a poem wants another poem; a dream wants dream, as if a poem's desire is another poem; a dream's desire, another dream." It's not about analyzing and taking things apart so we can and understand them, but about eros, communication, and regeneration. The enthusiasm is in the quest, not the conquest. The joy is in following the poem seeking another poem.

In my personal work, I discovered an aspect of my soul image in the wolf, a "power animal" revealed to me in a Native American vision quest ceremony I attended in Seattle. I worked with wolf in many ways, but none more passionately than the clay wolf mask I made one sunny day in my garage. My experience as a potter aided me in cutting the shapes for the jaws and huge teeth I had seen on my vision quest. My fingers ran firmly along the line of the wolf's upper lip to recreate that snarl which so startled me on that first inner journey. As my left thumb grooved out the left upper lip, I started weeping for no apparent reason and felt that, with every push of my hand, I connected to something deeper, more mysterious and enduring in myself.

This was the first time I realized that we are made by what we make. The creations we make want the "creation of us" in our own becoming and drawing out a larger space for our own deep calling. A poem wants a poem, a wolf a wolf, and that wolf was snarling to quicken my own wolf nature.

Working With Dream Figures

Arnold Mindell, former Jungian anlayst and founder of Process Oriented Psychology, writes about the dreambody (Mindell 1989), or the mind-matter field in which personal and world experience unfolds. Mindell implies that people, groups, places, nations, and the world have distinct and interpenetrating dreambodies, echoing Dorothy McLean, a Findhorn co-founder, who similarly speaks of the over-soul in all things, as well as the classical notions of a *animus mundi*, or world soul. Mindell explains that dream figures are soul energies of which we're often unaware and which form a background for our daily lives, noticeable in inner signals, slips of the tongue, obsessions, fantasies, and double signals like saying "yes" verbally but in a faint tone. Wolf is one such dream figure for me. When I first tried to speak of wolf to my therapist at the time, I choked and couldn't talk for five minutes. I got the point that wolf didn't want to talk then.

Working with the dream figures of others ought to be the stuff of teaching and learning if we are to educate for humanity and recover ourselves in the process of learning through the curriculum. We need an integral state of mind to notice both with inner and

outer senses the field of things and energy around us, and the flashes of soul in dream figure appearances. We need to perceive symbolically, which is the way psyche speaks, alert to the tiniest details while also awake to the global movements going on all around. Seeing beyond convention into small idiosyncrasies takes the same kind of eyes needed to see the tiny details of "What's wrong with this picture?" puzzles that stump us in children's magazines. Global apprehension, on the other hand, is more like deciphering a cosmic collage, where the more pieces you see in the vast panorama around you, the more a dawning awareness takes shape in which the truth and whole image are revealed.

Charlie, a 9-year-old boy, is a good example of my need to see small. His mother brought him to therapy for soiling his pants. She sat straight, well dressed with hands folded logically explaining Charlie's problem. While I noticed my boredom with her, Charlie caught my attention out of the corner of my left eye as he was playing with the smallest of my Tyrannosaurus Rex toys. The dream figure wasn't just the T-Rex but also seen in Charlie's silent opening and closing of his jaw as he made faint lunging motions with the toy.

At this point, there's no place for analysis. This is play time. I'm drawn into the play with Charlie and express my interest in what's he's doing. He lights up, comes over and looks into my eyes, seeking, I suppose, direction. "What's that, " I ask. "It's a dynosaurrrrr …," he says, rolling out the last syllables. I gave him the opening he needed when I suggested "do you think he wants to bite me?" As the T-Rex is gnawing on my left arm, I notice Charlie's mouth opening and closing and ask if he would like to bite me. That stops him at first, but then I explain that there is such a thing as soft biting which is friendly and fun and I give him a demonstration on his arm. Then cautiously he does a few soft bites on me.

Later in the session Charlie tells me about a recent dream depicted in a drawing at school which alarmed his teacher and mother, which shows Charlie with a shotgun pointed at his head. Aggressive impulses feel alien in perfect environments like the one his mother and her new dentist husband were trying to create. So Charlie had no way to express his angry feelings except to direct them at himself. Dream figures, like feces in the pants, also makes social commentary, because someone else has literally to pick up the pieces. In the dreamfield of life, we can't get away from the stuff of others, even if they're on the other side of the planet.

Here we see the evolution of dream figures for aggression moving from the disconnected and destructive element symbolized in the shotgun to the more friendly and manageable T-Rex figure, a toy he could manipulate. The opening to bite but do so softly was making a home for eros by growing it into its more loving, socially acceptable expression.

The Environment, Synchronicities, and Sensing the Bigger Field

Mindell speaks of the relationship between individual and group experience and the larger environment as the world channel through which we relate to all about us. Every place has its own soul energy and the environment has something to teach us about whatever we're trying to learn at the moment. Observing natural beauty and receiving a feeling of awe or wonder is a simple example. Synchronicities are another. We should study how to read and learn from our environments.

My class on conflict resolution for a group of teachers and held at the Yakima nation center in Toppenish, WA, shows the importance of being able to interpret and respond to the world when we teach. In retrospect, I saw the logic of so many things going wrong in the environment of the class, as this is exactly what we needed, given the subject being taught. First, our room was mislabeled for a "Smoke-Enders" class, then I unconsciously set up the chairs all facing forward and we had to rearrange them. The requested AV equipment wasn't on hand and the custodial help seemed reluctant to be helpful. Our room had to be changed on day two, and we were put in the huge ceremonial hall where we were freezing as the air conditioning could not be manually regulated.

Despite this procession of problems, the class seemed to manage well but we had not really gotten the lesson we were needing until after lunch the second day. Following is my written account of that time:

> At lunch, I wandered through the Yakima tribal museum. Displays of traditional cultural life ac-

companied poetic narrative telling of Yakima myths, rituals and the radical disruption from their homeland and way of life brought by the white man. Rather than an hostility, I felt a sense of pathos, resignation and something of their pain and sadness. I bought several children's books at the front desk, which told about the Yakima myths and their totemic gods. I wanted to read some passages to the class and then take them home for my two young sons.

I read about the sky monster who would throw people off a cliff, and how he was tricked by a young member of the tribe. I closed the book and noticed that the class was completely silent. The room was pregnant with feeling which I could almost touch with my hand. My throat was full, like when I am in prayer. I said "I'm edgy to say this, but I sense some spiritual or religious presence in the room." Everyone stayed quiet. "Does anybody else," I asked? I looked around and saw many nods, and then the man who had rearranged the chairs the day before spoke up.

He talked about how this room was a holy room and was used for ceremony. He also talked about how the white people had destroyed the Indians and their way of life and how many whites today felt bad about that. Then several others chimed in with similar themes. One man said this was a room for ritual dance and that he felt like moving. I felt something was needed too, but there was little response from the class until someone suggested that we shout. That got a lot of nods and smiles.

We all then stood up and gave our own shouts of joy or war cries, and I and a few others also clapped our hands. This was a tremendous moment of celebration. We had gotten right within ourselves, with each other, and with the sacred place which had been our home for two days.

At that moment, I noticed a dandelion seed floating through the air across the room. It followed a band of afternoon sunlight that ran like a shaft from the clearstory windows up above down to the floor below. "Look," I said, and I heard lots of gasps as all eyes went to the floating seed. After the workshop, a woman teacher came up to me in tears and said,"You know that seed? It landed on my table right in front of me. My mother-in-law is dying, and I felt like leaving this afternoon." She sobbed hard and took a big breath, "But when I saw that seed, I felt it was her spirit leaving, and that she would be O.K."

It was hard for me to restrain my tears."

Through breakdowns and disconnections, the world was speaking to us of our disconnection to the land and its native people. To get right with ourselves and deal with our own conflicts required a reconciliation with place and an honoring of its unique and sacred essence. We were also being asked to atone for the transgressions of our ancestors, acknowledging our responsibility as the beneficiaries of great injustices to our fellow man.

When we live, move about, teach and learn, how can we have an ever-present sense of the sacredness in all that is about us? We need an integral, flow state of mind and a dynamic openness to our own soul.

Finally, I got connected through my experience of the Yakima people's pain, and that's what began to open the world channel to the teaching that it held for us as a group. Before that, like most of us, I had been going about unconnected to the deeper story of these people, which is another way of saying I was not connected to that part of me which is Yakima.

An Ecology of Learning:
Self, Community, Earth and Spirit

Is it possible for education to nurture our relationship with soul, building our capacity for integral consciousness and a deep reverence for all of life?

It is uncertain that integral mind will be realized in any significant way soon, given the forces, values, and pressures dominant in the world today which support progress, the myth of benefits from free market economies, and the supposed good life of material gain that has captured the imagination of people in many societies. On the other hand, there are powerful emerging alternative movements in all areas from how we live, govern, form communities, grow and eat food, transport ourselves, provide energy,

work, relate to others and the earth, and follow some form of spiritual path. As Paul Ray makes clear in *The Cultural Creatives*, over 25% of Americans have been shaped by the major social movements of our times. In consciousness movements the world over, many have opened up to their inner life, responding passionately to social injustices, ecological destruction, and the yearning for the sacred experience in daily living.

In achieving an integral consciousness through a new ecology of learning we experience all of life as sacred.

While the time is ripening for change, there must be first a greater incubation of new thinking before the current paradigm can be seen by a majority for what it is against the example of a new consensus for society. I believe now is a time for intense and sustained dialog, holding ourselves in the often difficult fire of transformation for the old core assumptions and beliefs to be re-visioned.

The thoughts expressed so far and my proposal to look at education in four inter-related contexts of self, community, earth, and spirit is one such attempt to revision the core purposes of education, providing a values template to educate for humanity. An integral state of mind can be enhanced to the extent that education grounds learners in an experience of being connected to themselves, to others in the local and global community, to the earth, and to some higher purpose that gives life its meaning.

Educating for self helps children discover their full potentials, life meaning and purposes. *Educating for community* grounds learners in relationship to others in the local and global community, emphasizing the experience of life as interdependent and the view of social injustice as unacceptable. *Educating for earth* sustains our natural wonder in nature and a sense of being part of a larger earth family, thereby enhancing the desire to safeguard earth and live in a spirit of inclusive community with all of life. *Educating for spirit* honors the enthusiasm for life, connects us to something bigger that gives life its meaning and fosters respect for diverse spiritual expressions.

This four-fold template of self, community, earth, and spirit can be used to reflect on education in a number of ways.

First, each of the four contexts can become a way of knowing which, when fully inhabited, dimensionalizes self in radical ways. Thorough knowledge of the objective context can be amplified by becoming what we learn through imagination and deep intuition. For example, feeling, thinking, and acting like a Douglas Fir tree brings into our mind/body the essence of that which objective science can only know outwardly. Or debating and taking all sides in an historical incident gives us a fuller experience of the truth. Here, we are adopting lessons from the dramatic arts, and before that, shamanic practices, taking on the energies and mind of that which we are learning. Walking in the shoes of what we study is the ultimate path of reconciling self with the world, much as our native cries and hand-claps in the Yakima ceremonial center reconnected us all to what was essential in that lesson on conflict resolution.

Through this expanding of self we enter a new state of mind connected to ourselves our communities, the earth, and the ground of being underlying all. A new ecology of self frees the limited and isolated "I" into a universal identity of "I" with all things. This involves a deepening relationship to our soul in becoming more open to the inner touch of others, the world, nature, and spirit. We inhabit ourselves and our world in a new way. Self comes out of its isolated, narcissistic closet, as the heart of the world living within brings us into communion with all.

Second, this quadrinity can become a template through which to view and organize current curriculum. The study of self and spirit, which is mostly absent from education today, would hold equal importance to the standard content areas. The study of self would help us lay claim to individual purpose, learning how to trust and use our instincts, intuitions, and imaginal ways of knowing. The study of spirit would help us reconcile our own lives within a larger community of learning in which we are called to honor the rich diversity of spiritual expression and seek the thread that connects us all.

Community would be the context for organizing all the creations of humanity, such as arts, literature, history, social sciences, economics, and the like; all the physical sciences like chemistry, physics, earth sciences, would be grouped under the context of earth for a similar rearrangement of traditional perspectives. Viewing human cultural achievement through the lens of community calls us to examine our knowledge in terms of how it serves our ability to live daily in harmony and community with others. Similarly, we should study sciences with the earth in mind, examining the long-term ecological and human viability of scientific knowledge and technology, and not simply short-term benefits in a non-systemic way.

In such re-ordering I do not want to be reductionistic with, for example, Hamlet or anything else we would study. Let Hamlet stand on its own, and let's admire its beauty and elegance. But at the same time, let's make sure that we always refer back to the thematic threads in our template and ask what Hamlet has to teach us about who and how we are in the world today and what this play says about social organization and its relationship to the environment. If more of us had learned this way, we might have taken to heart the connection between soul, relationship behavior, and the greater world, making our own the lesson that the "something rotten in Denmark" came out of community sin and personal existential crisis.

Third, self, community, earth, and spirit offer us a master rubric by which to evaluate the integrity of any particular learning, examining to what extent a lesson relates to the immediate lives of students, to their communities the surrounding land and the meanings people make in life. Too many teachers are unable to justify the relevancy of their subjects to who we are and how we live, retreating into the indefensible answer that it's part of the mandated curriculum or that it's necessary to get a good job.

Finally, this quadrinity may help resolve the paradox in attempting an integral form of education without the vision and practice that nurtures integral mind. Today education at all levels is rallying around the cry for meaning by relieving subjects from their constraining foci and providing a more systemic, interdisciplinary context. But it's entirely possible that linking fields of knowledge will simply makes us cleverer people without having called us into personal accountability for what we know. If the truth be told, the integration we seek through integrated studies is ultimately of the self, and without self and spirit, integral studies can be a shallow collage lacking personal depth, value, or moral suasion.

Conclusion

In achieving an integral consciousness through a new ecology of learning we experience all of life as sacred. This transformation may hold a promise to safeguard against the inhuman tendency in humans to regulate their fear of the world or enhance self-interests by regarding nature and other people as inert and without essential value and, therefore, the legitimate objects for control or disregard. The inner experience that the earth and all its beings are alive and that our lives are not personal but interdependent makes individual insult to the world a deeply felt insult in one's own being.

If we can come to a time when each one of our thoughts and actions so reverberates within ourselves, we will be well on our way to a world of deep peace and harmony.

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Personal and Archetypal Transference and Counter-Transference in the Classroom

Clifford Mayes

Understanding transference and counter-transference can help deepen our callings as educators and make us better teachers.

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This paper examines a topic that has received surprisingly little attention in the literature on the psychology of education—how the psychoanalytic concepts of transference and counter-transference apply to the classroom. Although some educational scholars and practitioners object to therapeutic approaches and images regarding teachers and teaching, I shall attempt to show how an understanding of "the transference" and "the counter-transference" clarifies important pedagogical and relational issues in the classroom.

Personal Transference: "The Main Thing"

Long after he had abdicated the throne as heir apparent to the Freudian psychoanalytical dynasty to found his own school of analysis, Jung recalled his first meeting with Freud in March, 1907:

> After a conversation lasting many hours there came a pause. Suddenly he asked me out of the blue, "And what do you think about the transference?" I replied with the deepest conviction that it was the alpha and omega of the analytical method, whereupon he said, "Then you have grasped the main thing." (Jung 1965, 8)

What is this "main thing" that underlies so much current psychotherapeutic theory and practice (Arlow 1995), and which, I believe, can be so beneficial in the classroom (Mayes 2001)? Different theorists and practitioners of psychotherapy have varying views of "the transference," depending upon whether they are Freudian, neo-Freudian, Jungian, neo-Jungian or Transpersonal. Greenson (1990, 151) has summarized Freud's earliest views on the transference as

> the experiencing of feelings, drives, attitudes, fantasies, and defenses toward a person in the present which are inappropriate to that person and are a repetition, a displacement of reactions originating in regard to significant persons of early childhood. I emphasize that for a reaction to be considered transference it must have two characteristics: it must be a repetition of the past and it must be inappropriate to the present. (1990b, 151)

In other words, the transference was, as Freud put it in a now famous line, "a new edition of an old problem." In classical psychoanalysis the "significant persons of early childhood" are typically the mother and father, and the "person in the present" is typically the analyst. Hence, a male patient's relationship to the male or female analyst will reflect the nature of the patient's relationship to his own mother and father in the specific Oedipal dynamics that psychically (mis)shaped him in the family romance triangle. The same dynamics are at play for the female patient except that they revolve around the female's Electra desire for psycho-physical union with her father instead of the male's Oedipal desire for psycho-physical merger with the mother. Although the theories of the Oedipal and (especially) Electra complexes have been roundly challenged recently, most views of the transference still revolve around the idea that the patient has symbolically displaced primary emotions about some significant figure in his early life onto someone in the present. Regarding Freud's insistence that the transference of psychic energy by the patient onto the analyst is always "inappropriate," various contemporary analysts have pointed out that the transferred emotions of the patient onto the analyst may sometimes be very appropriate indeed, as responses to the overt behaviors and/or subconscious dynamics of the analyst. But whether transferred emotions are seen as inappropriate, appropriate, or potentially both, most people agree that the transference causes crucial subconscious material to surface which the analyst and patient can use to understand the patient's issues with a clarity that few other techniques can match. Truly, the transference is in many ways the very heart of psychoanalysis.

Freud spoke of the transference as either positive or negative: The patient will project either desiring or hostile emotions onto the analyst depending upon the patient's original feelings toward the figure in his past whom the analyst represents for patient (Freud 1990a, 32). In the early stages of his development of psychoanalysis, Freud insisted that positive transferences, not only to the analyst but to all significant people in the patient's life, "invariably go back to erotic sources" (Freud 1990a, 31). Although later Freudian thinkers like Marcuse (1962)—and, to a certain extent, even Freud himself—expanded the concept of eros/libido to mean not only sexual energy but all psychic energy that is life-affirming, it was Jung and his followers who first saw that the transference might involve the transmission of supra-sexual energy onto a person in the present.

For although the sexual component of the transference was "undeniable," according to Jung, "it is not always the only one and not always the essential one" (1965, 9). The transference involves other "moral, social and ethical components [of the patient's psychic functioning] which become the analyst's allies once they have been 'purged' of their 'regressive components, their infantile sexualism'" (Fordham 1996, 115). In other words, the patient may project "psychic contents" onto the analyst which, although profoundly compelling, are not necessarily (or at least not primarily) sexual. To explore this idea further and extend it into the classroom will require a brief look at Jung's idea of archetypes.

Transpersonal Transference

As an intern psychiatrist who was also broadly read in ancient literature, Jung early in his career observed enigmatic correspondences between the dreams, delusions, and narratives of many of his patients (especially the psychotic ones) and the motifs and images of some of humanity's most ancient myths. Although it was difficult to know how to explain this parallelism, one thing was clear to Jung: The correspondence between the personal and the mytho-religious was so compelling that it forced a break with Freud. Jung postulated that the psyche was better characterized as shifting patterns of various pre-dispositions and needs. In their most basic psychic "form," each of these innate and universal

forces could be pictured as a basic cluster or node of psychic energy that Jung called an archetype. These archetypes and their many combinations permeate not only the individual psyche but also those culturally foundational stories which we call religion and myth. By virtue of our common humanity, we all live, move, and have our being in these shared archetypes. Because they are shared and "objective," archetypes exist in what Jung considered to be an ontologically real "collective unconscious."

This collective unconscious is the bedrock of the psyche, according to Jung, and its archetypes manifest themselves today as well as in ancient times, and individually as well as collectively, in recurring images, motifs, and stories that may as easily appear tonight in an insurance agent's dreams as he lies in the darkness of his suburban bedroom in Denver at 3 o'clock in the morning as on the tablets of an Assyrian epic. Of course, the specific archetypal *images* in which the archetypal energy embodies itself will vary according to personal, cultural, and historical circumstances. Jung never denied the existence of the personal subconscious that had been shaped by each individual's unique history, but that personal subconscious is ultimately just a small boat on the transpersonal psychic sea of the *collective* unconscious.

Emma Jung, Jung's wife and co-author of what has become the classic archetypal interpretation of the Grail Legend, said archetypes are "dispositions or dominant structures in the psyche," poetically characterizing them as

> the invisible potential existence of the crystalline structure in a saturated solution. [Archetypes] first take on a specific form when they emerge into consciousness in the shape of images; it is therefore necessary to differentiate between the unapprehendable archetype—the unconscious, preexistent disposition—and the archetypal images. [Archetypes] are human nature in the universal sense. Myths and fairy tales are also characterized by this universal validity which differentiates them from ordinary dreams. (Jung and Von Franz 1986, 36-37).

In the Jungian view, psychospiritual health is a dynamic balance between ego and archetype (Edinger 1973). On one hand, without the vivifying "mana" of archetypal energy and imagery, the ego literally grows "dis-spirited" in a gray and empty world because it is out of touch with those transpersonal archetypal energies that provide the individual's life with a spiritual sense of connection to history, to others, and to God. This break is the root of alienation and neurosis. On the other hand, a psyche that is overwhelmed by waves of archetypal energy cannot maintain the ego structure necessary to control and communicate that energy in emotionally and morally constructive ways. Edinger coined the term "inflation" to describe this excessive identification of the ego with an archetype (1973, 146). This inflation can lead to psychosis, as with the man who thinks he is Christ, or the woman overwhelmed by the archetype of the Divine Child who believes she is a lost Romanov princess. The goal of psychotherapy is to help one achieve a dynamic equilibrium between ego and archetype, between the world of spirit and the everyday world. This allows one to live and work in ways that are practical yet invested with psychospiritual force, with "numinosity" as Jung liked to put it.

Now, just as the analysand projects *personal subconscious* contents onto the analyst, so the patient also may project his *transpersonal unconscious* contents onto her. Some Jungians even maintain that "archetypal transference" is a feature of any therapeutic situation (Kirsch 1995; Knox 1998). If this is true, then at the center of every personal "complex" is a transpersonal, archetypal core, whose power radiates from the depths of the collective unconscious and permeates the individual's unique identity and issues. For instance, it is not uncommon for a patient to unrealistically demand absolute moral, psychological, and sometimes even physical nurturing from a female therapist, whom he expects to anticipate and satisfy his every need. This patient is probably projecting onto the therapist his Oedpial needs. This is the sort of thing that the Freudian model can explain and handle. But it cannot handle the possibility that the patient is, at the transpersonal level, also sensing in the therapist the universal attraction exerted by the archetypal Great Mother back into the cosmic womb (Henderson 1967; Neumann 1954). Only a transpersonal analysis can bring this informa-

tion to the level of ego awareness and provide ways of using it constructively.

Personal and Transpersonal Transference in the Classroom

Transference dynamics in the classroom possess an intensity that may equal and even surpass that of the consulting room. That the classroom may be a theater for archetypal dramas should not surprise us. Everyone tends to project their needs, fears, and expectations onto others in those "attachments of daily life" that make up our everyday world (Stone 1988, 273). And we all do so especially when it comes to authority figures like teachers, who stimulate complex and passionate projections because we see these figures as particularly potent—and thus "attractive," using this term almost in its electro-magnetic sense (Spiegelman 1996). Speaking of how teachers are tranferential objects, the great Freudian adolescent psychiatrist August Aichhorn, wrote:

> We know that with a normal child the transference takes place of itself through the kindly efforts of the responsible adult. The teacher in his attitude repeats the situations long familiar to the child, and thereby evokes a parental relationship. He does not maintain this relationship at the same level, but continually deepens it as long as he is the parental substitute. [With a neurotic child] with symptoms of delinquency … the tendency to transfer his attitude toward his parents to the person in authority is immediately noticeable. (1990, 97).

For better or worse, the teacher is often the displaced object of the student's desires and antipathies regarding his own parents. If that child comes from a dysfunctional setting (and increasing numbers of them do), it is all too likely that those hopes and fears may play out in the classroom in ways that may be difficult for both the student and the teacher. The 10-year-old boy who has been psychologically beaten into submission by an authoritarian father may be unresponsive to the teacher if he is a male. Yet the same boy, perhaps also enmeshed in Oedipal dynamics with a needy mother, may be hypersensitive to his female teacher's slightest emotional shifts, responding to them with an acuity which, although initially pleasant, is increasingly disquieting and puzzling to the teacher. These different attitudes in the boy may have nothing to do with the quality of the teacher but everything to do with the transference. Thus, Aichhorn thought it imperative that every teacher understand at least the basics of the transference (1990, 98, 106).

We could, for instance, help teachers understand that when a student challenges them in an inappropriate way that seems to go quite beyond the academic point being discussed in class, this might be the result of transference. On the positive side, teachers also need to know in more than simply a vaguely intuitive way that, especially in adolescent students, "resistance to instruction" can be a healthy sign of the increasing need of children at this developmental stage to sever the ties with the Oedipal mother (in a Freudian sense) or the archetypal Devouring Mother/Goddess (in a Jungian sense) in order to establish a personal and spiritual identity. Jung recognized the student's transference of archetypal images, issues and complexes onto the teacher, calling it "perfectly natural" (Jung 1992, 8, fn. 16). But by "natural" he clearly did not mean that they are always pleasant and wholesome but simply an inevitable consequence of the asymmetrical power relationship between student and teacher, which resembles the intimacy and power asymmetry between analyst and patient. As an example of how a student might archetypally project onto a teacher, let us look at one of the most potent of all the archetypes—namely, the archetype of the shadow—and see how an unsuspecting, and possibly undeserving, teacher can be the object of her student's shadow projections.

The Adumbrated Teacher

The shadow is that part of the psyche which contains those elements in each of us that we would gladly ignore or even deny. They are the passions and proclivities which we conceal so adroitly behind our pleasant "personas," as Jung called them, that we ourselves are often unaware of them. Our lusts, terrors, rages, and weaknesses make up the shadow. We need only look within ourselves to find almost every evil the world exhibits, which is why every major world religion from Islam to Buddhism exhorts us to heal our own hearts before we set out to

reform the world; otherwise, our reforming acts will be so laden with our own darkness that we will do more harm than good. Jung spoke of how to bring one's shadow to conscious awareness and use its energy in constructive ways that enrich one's consciousness and personality. When the individual throws off "the conventional husk" of the sweetness-and-light persona and engages in a "stark encounter with reality, with no false veils or adornments of any kind," then a powerful process is initiated.

> Man stands forth as he really is and shows what was hidden under the mask of conventional adaptation: the shadow. This is now raised to consciousness and integrated with the ego, which means a move in the direction of wholeness. Wholeness is not so much perfection as completion. Assimilation of the shadow gives a man body, so to speak; the animal sphere of instinct as well as the primitive or archaic psyche, emerge into the zone of consciousness and can no longer be repressed by fictions and illusions. In this way, man becomes for himself the difficult problem he really is. He must always remain conscious of the fact that he is such a problem if he wants to develop at all. Repression leads to one-sided development if not to stagnation, and eventually to neurotic dissociation. (Jung 1992, 77)

We want to disown our shadow because, in its raw state, it is the source of everything that is anti-social and immoral in us. The only problem with this completely understandable program of denial is that it does not work! If denied and repressed, the shadow will ultimately "break out" as the "neurotic dissociation" of which Jung spoke, wherein one *projects* one's own darkness onto another person or group.

The teacher is frequently the object of her students' shadow projections. This is especially probable when the teacher challenges her students' naïve yet tenaciously held opinions. Most teachers who have ever introduced an idea that threatened their students' simplistic preconceptions have probably experienced their students' shadow projections —although neither the teacher nor the students would think of it in those terms. Instead, the teacher simply discovers that the previously smooth relationship with one or several of the students suddenly and inexplicably grows heavy with tension and misunderstanding. The reason for this may be that by calling the student's world into question, the teacher has given rise to an ontological uncertainty in the student that the student may find existentially terrifying. To cope with the darkness of this fear, the student disowns it and ascribes it to the teacher, who now appears in all the dark hues of the archetypal shadow. The student may also project the related archetype of the trickster onto the teacher because the student fears that the teacher is leading him into ontological catastrophe. Knowing how all of this operates at both the personal and archetypal levels can greatly help the teacher understand what is going on in the classroom, especially when she receives a puzzling and hurtful response from the student.

The Protean Student

In the therapeutic process, it is important for the analyst to know that the patient will tend to project different kinds of personal and transpersonal energies depending upon that patient's developmental stage (Kirsch 1995, 189). A child will be more likely to cast parental archetypes onto an analyst than will a middle-age patient — although such projections can, and do, occur at any developmental stage. Adolescents are also more likely to project the archetypal figures of the wise old tribal master onto the analyst because of the fact that adolescence is the time of so many rites of passage. These projections of the wise old man or wise old woman are the bright flip-side to the darker archetypes of the shadow and trickster. Thus, in *Star Wars* (a self-consciously Jungian parable), Yoda is the light counterpart to the Dark Emperor. Obiwan, the good Jedi knight, contrasts with the errant Jedi knight Darth Vader (or archetypal "Dark Father"). The patient may project both luminous savior imagery and well as dark tempter imagery onto the analyst in the course of therapy—and not infrequently in the course of one hour of therapy. The same thing happens to teachers.

How many of us as teachers have had students who seemed to instantly love us at the beginning of the term and wanted to be our bosom friends—only to find that, by the end of the term, they are inexplicably casting poisonous glances at us from hooded

eyes? Perhaps the teacher has actually done something wrong which caused this Kafkaesque metamorphosis in the student, but it is just as likely that the teacher has quite innocently said or done something which activated the bright savior archetype and then, through an equally innocent statement or action, reversed the process and activated the student's dark-destroyer archetypal projection onto the teacher. Indeed, simply by virtue of her role as an authority figure, the teacher may activate (or "constellate" in Jungian terminology) the student's archetypal processes, which are merely looking for a projected focal point. Knowing that this is happening cannot always help the teacher remedy the problem (although it sometimes can), but it can certainly help the teacher understand the process, not take it personally, and work with it in a conscious way that is of most benefit to the student and the class. Considering how draining such emotional shifts in students may otherwise be on teachers, this is no small benefit. For just as the patient has great power to psycho-spiritually wound the analyst, so the student can wound the teacher (Henderson 1967, 207; Kirsch 1995, 205).

At the Individual Level: The Drama of the "Paradoxical Personality" In the Classroom

It is not always necessary to go to archetypal depths to understand unusual fluctuations in the student's attitudes toward the teacher. Jung himself always insisted that one should not analyze a problem at an archetypal level if a merely biographical analysis will do the trick (Jung 1956). As an example, consider the well-established fact that many patients have a love–hate relationship with their analysts (Machtiger 1995a, 124). Sometimes this is because one or both of the patient's parents forced their own needs on the child so completely that they never allowed the child to understand and meet his own needs and form a viable self. On one hand, the child hates the parent for this. On the other hand, the child's only experience of his "self" is in relation to the parent, who thus becomes the source of all reality and identity; hence, the child also idealizes the parent. People who suffer from this problem often project this oscillation between hating and idealizing a parent onto authority figures such as analysts, teachers, coaches, ministers, bosses, and superior officers (Aichhorn 1990).

Even in the best of scenarios, the analyst should always expect that the patient's attitude toward her is bound to shift somewhat from time to time. As Ferenczi (1990, 18) noted long ago in one of the first papers on the transference, a certain sine-wave between love and hate is natural as the patient faces his or her issues regarding the original parent. Thus, it is not surprising that some students occasionally alternate without any obvious cause between positive and negative feelings about their teachers, for this is the very rhythm of the transference, especially in psyches that are still in such highly formative stages as adolescence. This makes it unrealistic to expect—as too many teachers, especially beginning teachers, do — that our students will always love us. There is the common, first-year-teacher syndrome of the novice who simply cannot understand why her students do not always love her despite the fact that she loves them and does the best she can (Huberman, Gronauer and Marti 1989). It would save her a great deal of grief, and might prevent a great deal of teacher burnout down the line, to know that her students' occasional fickleness may be stemming from a psycho-spiritual process over which she has little, if any, control—especially in students who already have difficult psychological issues regarding their parents.

Four years ago I had an undergraduate student who psychically latched onto me very quickly in the term. This student, whom I will call Jean, was slightly overweight and rather dour. After the second or third class meeting, she asked if she could stop by my office a little later, even though it was not during office hours. Even though it was an inconvenient time for me, I told her to go to my office and wait. When I came in, I found her looking through the files in my filing cabinet! Throughout the term, Jean continued to demonstrate this pattern of trying to get close and then immediately doing something irritating that seemed perfectly planned to anger me. I noticed that she would then scrutinize me to gauge my response, seeming especially interested in whether I would get angry at her. Unfortunately for both of us, I never did.

At the time, I had trouble making sense of Jean's paradoxical behavior. I was especially puzzled when she once said to me during one of many office visits, "People don't really care about you. They always let you down in the end." I attributed this to the fact that because Jean was slightly overweight and not particularly attractive, she had perhaps been an unpopular girl in school and was bitter. However, even then, I suspected that this explanation was too simple. It certainly did not adequately account for the jarring contradiction between Jean's grim attitude about people, on one hand, and her deep religious beliefs, on the other—beliefs which were rooted in a very optimistic and communally oriented theology of Mormonism. How could I make sense out of these different elements in the puzzling picture that was Jean—how understand her apparent need to be close to me versus her conscious attempts to alienate me, her religious commitment versus her bitterness? Even more, how could I make sense of my own responses to Jean? I cared about her and wanted to help her, but I was also exasperated with her and just wanted to get rid of her. Not surprisingly, the relationship ultimately went sour. As I recall, she said something to me during one of the last classes (I forget what) that I found inappropriate and mean-spirited. I responded to her in front of class with a mordant cynicism, which is extremely rare for me. At the end of the term, her class evaluations of me were witheringly negative despite the positive evaluations from most of the other students. In her evaluation, she even suggested that I had let the class down not only as a teacher but also emotionally, morally, and spiritually as a member of our church. While researching this article, I began to think again of Jean and her sad proclamation — uttered with that vague yet needy cynicism that was her emotional signature: "People don't really care about you. They always let you down in the end." I suddenly realized that the key of the transference could help me open and see beyond the slammed door that Jean had become.

Given Jean's rigidly moralistic and highly dogmatic religiosity, which she revealed during our early discussions, in addition to suggestions she let slip about her family life, I am fairly certain that she was raised in a home that was correct in every "religious" particular but was emotionally repressed. Throughout her life, she had probably learned from her parents' lack of emotional nurturing and authenticity that "people always let you down." Early in our conversations, I had pieced together enough evidence to satisfy me that her developmental needs as a child probably mattered much less to her parents than did their compulsion to create a highly controlled, "doctrinally correct" home. If Jean had ever shown the slightest anger at this emotional oppressiveness and bareness, the response from the mother and/or father would have been moral condemnation and a deepening of the emotional freeze. This is the classic setup for the dissociation of the child from her emotional needs and the setup for passive-aggressive as well as approach-avoidance behavior, for the child is learning that the formation and nurturing of her identity are not relevant—or at least, not *as* relevan—as the parents' other agendas. The person's repressed rage turns into abstractedness, depression, cynicism, and an ongoing attempt to provoke other people to show and speak the anger that the dissociated child could never directly express. In a peculiar mixture of despair and hope, Jean was constantly testing her hypothesis that "people always let you down" by trying to evoke an anger which would both mirror her own unexpressed rage at the parental figure as well as test to see if that person cared enough about her to do what never happened in her home—namely, authentically express an appropriate emotion which, however negative, would ultimately be followed by an expression of the fundamental relational fact of love. As an authority figure with some (minor) authority in both the university and the church, I was the perfect target for such a complex projection from Jean. In her relationship with me, Jean ultimately did not find disconfirming evidence for her gloomy hypothesis about people. I, too, after several months of strained patience, forced smiles and dwindling interest in Jean and her contradictions, wound up "not caring."

If I had understood at the beginning that I was the object of a parental projection in desperate search of disconfirmation—I might have helped both of us by honestly expressing both my anger at her games as well as my genuine care for her. It would have been enormously useful if I had understood the classroom implications of three basic therapeutic facts about

the patient who consistently inspires anger in the analyst (Jacoby 1984, 51): first, this patient will often try to provoke anger as a way of seeing if the analyst really cares enough to demonstrate the clarity followed by charity that her parents never did; second, she will sometimes try to provoke anger in the analyst as a symbolic expression of her own deeply repressed anger; and third, she may use approach-avoidance contradictions to break the analyst down. In many ways, these three points summarize the story of Jean — a story which I might have helped her rewrite (if only in a small way) had I known more about the drama of the transference in the classroom.

Transference and the Passive Student

There is another kind of student who is a problem precisely because he seems to be no problem at all. Most of us would rather deal with a student who is too compliant than too aggressive. The student who never challenges our authority may cause us to think that we are smarter, wiser, and more powerful than we really are, and it is a rare teacher who can resist that temptation! Still, an excessively obedient and admiring student may be evidencing a psychological dysfunction which is every bit as distressing as the examples already given.

The first problem with a student's overflowing affection is that it may not be completely real—however much the student may think that it is. Many depressives, for instance, especially those with authoritarian fathers, have learned to literally "swallow" their anger towards their parent, as Woodman (1995) has shown in her analysis of eating disorders. They "stuff" their rage to remain the loving and obedient child. The result of this internalized fury is excessive compliance to authority figures, accompanied by covert acts of self-destructiveness. This is called the "compliant patient syndrome" (Steinberg 1990, 203). The patient may be masking unconscious hostility toward the parental authority figure of the analyst by, paradoxically, being too pliable. The same patient may also express anger against the parental figure of the analyst by subverting any progress in therapy—remaining, of course, very polite and superficially obliging all the while. The same may be true of some students who are very agreeable in the classroom but never seem to live up to their potential. Such students might be showing signs of a similar transferential dynamic which I will call "the compliant student syndrome." They may fail to perform well in class although they seem intelligent — or, in a related phenomenon, may consistently deny that they are doing well despite evidence to the contrary. The psychological cause of this sometimes comes from the parent experiencing the child's success as a threat. The child learns that survival depends upon submitting to parental authority by not demonstrating any abilities that would pose a threat to the parent's fragile ego structure. Success would mean the unthinkable consequence of disconnection from the parent. Consequently, the child will either not permit herself to succeed or will deny success if it occurs. This behavior may carry through in the child's relationship with any authority figure, as Steinberg has shown in drawing an explicit connection between this kind of student in the classroom and patient in therapy:

> Further analysis of these individuals indicated a … fear of outer achievement—a pattern that included work inhibitions, a failure to complete tasks, the denigration of positive attributions and accomplishments and an inability to make decisions. I found that people who fear psychological development sabotage all potential successes including friendships, romances and explicit or implicit contests involving skill, talent, attractiveness or popularity.… Such people have difficulty completing tasks. In school, they do not hand papers in on time, do not prepare adequately for tests or cram furiously at the last minute. (1990, 57)

Bullough (2001) offers many powerful examples of the heart-wrenching dimensions of this type of transference in the classroom. One poignant example is a little boy named Mark:

> "Are you a good student?" I asked Mark. "No." "You aren't? What kind of grades do you get." "I used to get F's and then I went up to B's.… I just go up." "So, you're getting better and better?" "Yeah, now I'm on A's and B's." "So you are a good student, then, aren't you?" Mark wouldn't grant this. Without hesitating, he said, "No." I then tried to get him to think of himself as a student differently, and asked: "Okay, tell

> me why you aren't a good student." "I go too fast, like my multiplying things, I go too fast and when I read, well, I don't know about reading. I don't pay attention in class. I do all kinds of things that aren't very good." "But you know, Mark, I watch you in class. I've watched you maybe ten or fifteen times." He was amazed. "You have?!" "Yes, and you seem to me to be working hard, and your hand is up, and you ask good questions. You know, you are reading Mark Twain and a lot of kids your age couldn't read Mark Twain." "I guess," he responded, "I'm not normal." "Well, what would make you a better student?" "I guess if I'd pay attention and not rush into everything, and let some answers for other people." "And do what?" "Let answers for other people." "I don't understand." "Well, see, I'm always raising my hand and the teacher gets mad at me sometimes for raising my hand every single time." "But you raise your hand because you know the answer, right?" "Well, I think. I think I know the answer." "Isn't that what good students do?" "Yeah." "Well, are you a good student?" "I guess." (p. 61)

Knox's (1998) description of "the empty patient" also seems to describe Mark, who constantly counters any praise with the counter-strategy of "emptying himself" of ability and worth. Like the analyst, then, the teacher may have good grounds for suspecting that the "flat affect" such as that in Mark may be due to damage in a parental relationship. Armed with this knowledge, a teacher may do whatever she feels appropriate in order to begin to establish contact with such a student. But without this knowledge, the teacher may inappropriately blame herself for a lack of connection with the student and thus impose a very heavy burden on herself. "If only I try harder, I know that I can save him! If only I continue to lavish praise on him, he'll see how good he really is! I will love my student into existence—whatever it costs me emotionally!" A teacher may pour tremendous psychic energy into the student in an attempt to undo a complex which, having been years in the making, cannot be rectified overnight—and certainly not just in the classroom.

As some Jungians have claimed, excessive compliance also extends beyond the realm of the personal into the archetypal realms in the archetypal motif of redemption through submission. This archetype is central to religion. But submissiveness, however much a virtue in relationship to the divine, will usually inhibit the kinds of risks that one must take to make progress in either the consulting room or classroom (Stein 1995, 68). The patient or student who is possessed by the archetype of submission often focuses it onto such displaced and misplaced "deities" as the savior-analyst or savior-teacher (Machtiger 1995a; Mayes 1999; Orr 1988). As a teacher at Brigham Young University, the largest religious university in the United States, I see the archetypes of redemption circulating with particular intensity, and I occasionally feel students archetypally projecting this soteriological image onto me and other professors. How shocked those students would be to know that they are not so much expressing respect for a professor as engaging in a classroom idolatry. Despite the unwholesome pleasure I—or any teacher—might take at being seen as superhuman, that wicked delight must give way to a realistic appraisal of the pedagogical and moral consequences of such an imposture.

Eros in the Classroom

One of the most time-honored strictures in education is the prohibition of sexual contact between a teacher and student. Of course, this is meant, among other things, to prevent a student from exchanging sexual favors for a grade as well as to prevent a teacher from demanding them. But I submit that there is a much deeper transferential wisdom in all of this as well—namely, that the teacher-student relationship is, like the analyst-patient relationship, especially prone to inappropriate acting-out because it is charged with the psychosexual energy of Oedipal and Electra projections at both personal and transpersonal levels.

Little boys fall in love with their first-grade teachers and we smile. We even look back wistfully on our own infatuations with our elementary school teachers. I will certainly always carry a torch for Mrs. McFarland, my fourth grade teacher! These classroom romances are usually harmless enough, yet

they are not without their chthonic side, for they may also be extensions of the boy's Oedipal attachment to and desire for his mother. And in some instances these romances are anything but harmless once the child has reached puberty, as they may develop into actual sexual contact of one form or another between the student and teacher. Although somewhat rare, such occurrences are not rare enough, and even small-town newspapers are known to carry a story or two each year about such goings-on in their local schools. Transference can be a very serious matter when the teacher, unaware of its dynamics, acts it out in anything from a furtive kiss in the darkness of the auditorium between a drama teacher and her handsome young assistant-director to a torrid affair that ends in life-long psychological damage.

Probably more common is the opposite scenario—the seduction of a female student by a male teacher. Female patients who have had unhealthy relationships with their fathers are often especially vulnerable to the advances of the male therapist as the displaced father-object of their Electra issues (Schwartz-Salant 1995). Indeed, it is something of a therapeutic truism that many female patients choose male analysts for Electra-related reasons, just as Oedipal issues often cause males to choose female analyst. Electra-complex issues also may result in the patient or student "dressing, acting or speaking in a provocative manner" in order to see if the male analyst or teacher, *by not responding* , will prove himself an emotionally trustworthy person who can serve as a positive father figure with whom she can psychologically rest and from whom she can therefore learn (Steinberg 1990, 47-48). As teacher educators, we can be especially helpful to practicing teachers by letting them know that there will often be at least a student or two for whom the teacher is a highly charged parental substitute. Armed with such knowledge, the teacher has a marvelous opportunity to contribute to his student's psycho-spiritual growth by responding in an appropriate manner to her paternal projections. This clearly means no overtly inappropriate behavior, but that is not just the beginning; it also entails neither sending out nor responding to any subliminally seductive energy from one's students. This is a more difficult ethical and spiritual task—one that the teacher can perform most effectively with a good working knowledge of the psycho-spiritual aspects of the Electra/Oedipus dramas in the theater of the classroom.

Counter-Transference in the Consulting Room and Classroom

The transference is not a one-way street. Just as the patient projects psychic issues onto the analyst, so the analyst may (and many argue, inevitably does) project his or her psychic issues back onto the patient. This counter-transference can be especially powerful if the patient is projecting psychic energy onto the analyst that touches one of the analyst's own psychic wounds or complexes, for "if the analyst is not aware of his or her own shadow response, real harm can be done" (Woodman 1995, 54). The analyst's counter-transference is not always simply a response to the patient's projections. It may also arise more or less independently of the patient. An example of this is the male analyst who infantilizes all of his female patients, patronizing them as an unconscious way of getting even with his emasculating mother. Just as the transference is a standard feature of relationships in general, so is the counter-transference, and this is especially true when one person holds more power in the relationship than the other does—as in the asymmetrical relationship between doctor and patient, lawyer and client, minister and parishioner—and, of course, teacher and student (Wiedemann 1995, 175).

The early psychoanalytic movement wanted to locate transference dynamics exclusively in the patient, with the analyst as the detached scientific observer and interpreter (Epstein and Feiner 1988; Freud 1990a; Wolstein 1988). Although he never stopped viewing the counter-transference as an impediment with little redeeming value, even felt increasingly compelled to admit its existence and potency. For this reason, he began to insist on a training analysis for all prospective analysts. It was not until the late 1940s, however, that the psychoanalytic movement began to evidence a widespread interest in the counter-transference (Marshak 1998, 61), especially in the work of Paula Heimann, who

> regarded counter-transference as covering all the feelings experienced by analysts toward their patients. She maintained that analysts

> must use their emotional responses to patients as a key to understanding the patient. Her basic assumption was that the analyst's unconscious understands that of the patient. This rapport comes to the surface in the form of a feeling-response to the patient. Analysts have to be able to sustain the stirred up feelings, as opposed to discharging them, in order to subordinate them to the analytic task. (Steinberg 1990, 29

Yet, well before Heimann's groundbreaking work in Freudian circles, Jung and his original circle of disciples had shown considerable interest in the personal and transpersonal nature, dangers, and possibilities of the counter-transference (Knox 1998, 74; McLynn 1992, 426). Jung was fascinated by the counter-transference largely for the practical reason that it could yield enormous information to both the analyst and patient. This theme continues to dominate a good deal of the current Jungian literature, as Samuels indicates in his affirmation that the "realization that the analyst's feelings about the patient are communications and sources of information, is the greatest advance in analytical thinking in recent years" (1997, 185).

Counter-transference in the Classroom: Positive and Negative

Such people as therapists, ministers, doctors, policemen, teachers, and others who hold some authority in asymmetrical power relationships ignore Freud's warning about counter-transference at their own professional and moral peril. For example, I once knew a middle-school teacher who was well known for being a power-monger in the classroom. We avoided using him as a supervising teacher for our student teachers. Once while I was chatting with him, he let drop in an unguarded moment that his father would frequently tease him because he was small and clumsy as a boy—not at all the athletic paragon that his father had himself been in his glory days at our university. Could it be that now that my interviewee was the more empowered member of the teacher-student dyad, he had assumed the role of "father," counter-transferring his father's castrating aggression onto his vulnerable students? But this simply states in counter-transferential terms what most people intuitively know: Teachers can exploit their authority to satisfy neurotic power needs. They can use it, in other words, in a highly unethical and unspiritual instance of "unrighteous dominion" (The Doctrine and Covenants of the Church of Jesus Christ of Latter-day Saints 121: 39).

Despite this danger, counter-transference has many positive uses (Cohen 1988, 65; Orr 1988, 105). The example that I gave above about Jean provides an example of a negative counter-transference but one that could have been positive if I had handled it better. I noted that when Jean asked me after the first class if she could visit me, I agreed although I was actually quite busy since it was the beginning of the semester and these were not my office hours. I remember thinking at the time, however, that I would "stuff" my irritation at her and the insistent, needy, dark tones in her voice. Why didn't I just tell Jean that I was in a rush now but could see her later in the day at 3:00 during office hours? The answer is: counter-transference.

Because of the nature of my relationship with my mother, I grew up being hyper-attuned to the needs of disturbed women. By the time I became a teacher, I was already quite expert at assuming the father-husband-savior role and counter-projecting this dysfunctional energy back onto any female student who seemed to be in the least degree of distress (Mayes 1999). How much better would my relationship with Jean have been had I not fallen under the sway of my counter-transference but had used its emergence as a sign that something was wrong with Jean to which I was unconsciously resonating? I would have realized that she was crying out to be saved but that responding in my usual way would simply ensnare us in a symbiosis which she did not need any more than I did! Indeed, the teacher's "hunches, guesses and passing images" about a student may ultimately be counter-transferential information that the teacher's unconscious mind is revealing about the student (Machtiger 1995b, 215; Epstein and Feiner 1988, 282).

How can we as teachers know when we are involved in a counter-transference—and, if so, whether it is positive or negative? Probably, in the same way that analysts do. I suspect that most teachers will resonate with Tower's common evidences of negative counter-transference in therapy, which may also describe teachers' relatively common attitudes

towards some students in the classroom. These signs are:

> anxiety in the [classroom]; disturbing feelings toward [a student]; stereotype in feelings or behavior toward [a student]; love and hate responses toward [a student]; erotic preoccupations, especially ideas of falling in love with a [student]; carry over of affects from the [class period]; dreams about [a student]; and acting-out episodes. (1988, 133)

Where these psychic phenomena exist, and especially when they *persist*, there is strong evidence of a negative counter-transference. This is not to say that any counter-transference that I feel toward a student is useful and valid simply because I feel it. Counter-transference may sometimes arise quite independently of the specific character and issues of the other person in the relationship. This is what Jacoby has called "illusory counter-transference" (1984, 42). It is also possible that our counter-transference to a student may be a mixture of both valid perceptions about the student and our own idiosyncratic issues for which the student is just a handy target. This underscores the great psychological and ethical importance of our learning to understand and manage our own counter-transferential energy. Clearly, our counter-transference hunches must be validated by further interaction with and observation of the student, especially since it is probably true that all counter-transferences are a very human mixture of the illusory and the actual (Stein 1995, 70). Counter-transference, being potentially positive or negative, is a two-edged sword. It must be wielded carefully. We must help prospective and practicing teachers learn how to wield it well.

Counter-Transference and Inflation

So far I have focused on the transference at the level of personal psychodynamics. Now, I would like to shift my focus to the counter-transference as transpersonal. Many Jungians argue that both kinds of transference are at play in any given projection; for, despite the interaction of the personal and transpersonal in various types of projections, it is often useful for both theoretical and clinical reasons to separate them. To give an example of this with a focus on the transpersonal, I now turn to one of the most powerful archetypes in the classroom — one that the teacher can consciously cultivate and productively use in a positive counter-transference onto her students. But it is also an archetype that can cause a negative inflation leading to serious psychological and ethical problems for her and her students if she excessively identifies with it (Edinger 1973).

The Archetype of the Great Mother: The Uses and Misuses of Care

Nell Noddings (1992) has characterized teaching as fundamentally an act of "care." The idea of teaching as care is infused with the archetypal energy of what Neumann (1954) called "The Great Mother." To get a sense of the extraordinary power of this particular archetype, Jacoby (1984) goes so far as to suggest that the core of the Oedipal dilemma is not in the specific family relationship but in the patient's relationship with the archetypal energy of the Great Mother, of whom the patient's biological mother is merely a transitory manifestation. Thus, even more than the male child's desire for union with his biological mother, both male and female children want to return to the oceanic bliss of that undifferentiated absorption in the cosmos that predated their emergence into the difficulties and alienation of the newly formed and increasingly isolated ego. Having fallen into the trauma of individual existence, they crave to reenter the cosmic womb. The Great Mother calls them back into her. We feel this archetypal maternal energy and its calming, cradling effect when we look at the prehistoric fertility figurine *The Venus of Willendorf.* We feel it as well in the tender portrayal of Mary in Raphael's *Alba Madonna.* It is powerfully present in the character of Rose-O'-Sharon, who literally suckles a starving man during the Great Depression in Steinbeck's *Grapes of Wrath.* And we see a teacher-incarnation of the Great Mother in the poignant figure of the terminally ill yet self-sacrificing young female teacher in the film *October Sky.*

This archetypal energy is probably more common among female teachers than male teachers (Chodorow 1978); however, it is not unusual for male teachers also to become conduits for the energy of the Great Mother as with Jaime Escalante in *Stand and Deliver* and Mr. Holland in *Mr. Holland's Opus,*

both of whom embody the popular vision of the male teacher as Great Nurturers. A connection with the nurturing Great Mother can sustain both men and women teachers in their difficult jobs. It can invest their classroom practice with compassion and their psyches with a sense of purpose in helping their students with their emotional and spiritual struggles. However, over-identification with any archetype, no matter how noble the impulse or positive the archetype, leads to psychic imbalance and, in extreme cases, the pathology of what Jungians call "inappropriate identification with the archetype" (Edinger 1973). Every archetype has its shadow. If one is excessively caught up in the energy of any archetype, then the psyche will try to compensate and restore balance by activating an opposite, shadow archetype. Jung called this process *enantiodromia.*

> In accordance with the principle of compensation which runs through the whole of nature, every psychic development, whether individual or collective, possesses an optimum which, when exceeded, produces an enantiodromia, that is, turns into its opposite. Compensatory tendencies emanating from the unconscious may be noted even during the approach to the critical turning-point, though if consciousness persists in its course, they are completely repressed. (Jung 1992, 177.)

Even the life-giving, life-sustaining archetype of the *nurturing* Great Mother casts a shadow—the archetype of the *devouring* Great Mother (Jacoby 1984, 77; Neumann 1954). This mother will not let her children go because, possessed and inflated by her role as matriarch, she fears emotional and spiritual death if they leave her. Like a snake (indeed, in primitive and ancient art, she is often portrayed wearing a wreath of snakes), the devouring mother recoils and then strikes out in a fearful rage at the prospect of a vacant house and empty womb. For her, the alternative to caring for her children is not to set them free but, Medea-like, to kill and eat them. In this act, a diabolical parody and reversal of birth, she consumes them with gruesome finality so that they will always be hers. Males with difficult Oedipal issues are often still in the psychic clutches of this mother at both personal and transpersonal levels (Jacoby 1984). Some females with eating disorders also stand in the shadow of this (appropriately named) *devouring* matriarch (Woodman 1995).

If the therapist or teacher—especially women—are aware that they are tapping into archetypal Great Mother energy and learn how not only to use it but also to contain it within appropriate bounds, the results can be quite healing. According to Woodman, it is not uncommon for females in care-giving professions to take on the role of the nurturing Great Mother in a classic instance of positive counter-transference—and for the effects to be salutary. In her treatment of women with eating disorders, the female analyst will typically

> become a medium for the archetype of the Great Mother, she who re-mothers without the original conflict, the mother who is accepting, somewhat directive, loving and non-judgmental. Often a very powerful dream of the Great Mother shakes the patient's rational roots. "I don't know what is going on," she will say. "I'm not a religious person, but now I have this inner sense of peace. I know somebody up there loves me." During this phase, the patient can be brought to deal with her eating disorders by trying to incorporate the Good Mother into herself: nourish herself with good food, love her body, cherish herself as a woman in a way her mother was unable to do. (1995, 59).

In a recent study (Mayes and Blackwell, in press), I conducted in-depth interviews with 15 pre-service administrators who had been teachers for an average of 10 years about their sense of calling as teachers and prospective public school administrators. The responses of the eight female informants contained a significantly higher number of images of the teacher/administrator as a nurturer than did those of the seven males. The females' interviews abounded with references to the students as "my little ones," "my children," and, with elementary school teachers, "my babies." Such characterizations of students were rare from the male teachers. Many of the women in my study spoke about themselves as teachers in terms that combined gender, care, and divinity. I believe this supports the notion that many female therapists and female teachers may be simi-

larly inspired by the archetypal energy of the Great Mother. One veteran teacher, a 45-year-old African American special education teacher who had grown up in the Philadelphia projects, confessed that the intensity of her care for her students would be insupportable without her faith as a Roman Catholic. She tearfully confided during our interview:

> I've had so many experiences with my kids, my life has been so touched by them. I once lost a student because she was murdered. I let my feelings show in class — just like now. I thought it was important for her classmates to know that people care. I've taken in a child because his mother didn't want him. And there are other things, too, that I've done in my life for my students. And I do think that if I didn't have God in my life right now that I couldn't make it—couldn't continue being a teacher. (Mayes and Blackwell, in press)

This exemplifies the teacher as the nurturing Great Mother—the teacher whose vocation and efficacy stem from her communion with a transpersonal source of inspiration.

The Great Mother as Devourer and Witch

The shadow of the nurturing mother archetype is the analyst/mother who unconsciously undermines her patient's progress in order to keep the patient dependent on her. The devouring side of the Great Mother

> is experienced by the analyst as hostility towards the patient's development, together with an impulse to interfere with the therapeutic process. Such impulses are usually repressed as the analyst naturally tends to identify with the nourishing aspect of the Great Mother. By way of compensation, this causes the desire to devour to exert its effect unconsciously and all the more strongly. (Steinberg 1990, 58)

At first blush, it may seem difficult to imagine classroom parallels to this syndrome. Yet it is by now an educational truism that a student's academic failure may sometimes be more a result of the teacher's issues and inadequacies than the student's (Brophy 1994). In some cases at least, is it not possible that the teacher, possessed by the archetype of the devouring Great Mother, may unconsciously be encouraging the failure of a student whom the teacher psychically needs to keep in her maternal grasp? At a bare minimum, it is arguable that the teacher who infantilizes her student by being condescending, overprotective, or hypercritical may be trying to keep that person a dependent child, whose maturation would pose a grave psychic threat to her over-identification with the Great Mother (Machtiger 1995b, 229; Wolstein 1988, 227).

Another problem for the teacher or therapist who is possessed by the shadow Mother is simply that it is exhausting! Nurturing is hard—even appropriate nurturing. Dysfunctional nurturing depletes. This is one reason that Winnicott has coined the term "good enough mother" to describe one who nurtures functionally, which means neither deficiently nor excessively. Wolstein has called the practitioner who nurtures beyond healthy limits "the overprotective therapist" (Winnicott 1990; 1988; Wolstein 1988, 225). He has warned that such practitioners easily burn out or break down. We cannot know precisely how many teachers burn out, break down, and leave teaching because, inflated and then consumed by the role of the Great Mother, they have emotionally overextended themselves. However, Bullough's (1989) "*First Year Teacher" Eight Years Later* paints a poignant picture of just such a teacher. The idea of the psychically inflated and overprotective teacher seems to offer an intuitively plausible and promising model for helping to explain the serious and widespread phenomenon of teacher burnout (Spring 2000). Care, however laudable, must also recognize its limits—beyond which nurturance becomes enmeshment.

Conclusion

In this article, I have argued that an understanding of the transference and counter-transference at both the personal and archetypal levels can help us think about ourselves as teachers in ways that deepen our understanding of our sense of callings as teachers, help us cultivate (instead of being consumed by) our emotions in the classroom, and hone our pedagogical practice. It behooves the teacher—prospective and practicing, elementary school and university—to engage and explore the personal and

archetypal forms of the transference and counter-transference of teaching. Indeed, as teachers, teacher educators, and educational scholars in general, we need to delve into these and similar issues much more deeply than we presently do. In a previous article in *Encounter* (Mayes 1998), I discussed ways in which teacher educators can use techniques drawn from Existential psychotherapy (Perls, Hefferline, and Goodman 1951), transpersonal psychology (Assagioli 1973), and Buddhist contemplative exercises (Hanh 1987) to help prospective teachers deepen their understanding of their sense of calling and their classroom practice. These same techniques—which include Gestalt dialogues, disidentification from subpersonalities, and Vipasyana meditation—can also be used by practicing teachers during informal gatherings, staff development seminars, and faculty retreats to examine and discuss issues regarding transference and counter-transference in their classrooms. Such introspective techniques will help us in our ongoing battle to overcome the hegemony of those technical, competency-based approaches to teaching—approaches that ignore the fact that the most powerful forms of teaching have always been, and will always be, psychologically complex and spiritually mysterious.

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Asperger's Disorder In Cultural Context

Sharna Olfman

The rise in the number of Asperger's Disorder children may reflect a society that promotes heavy computer use and classroom regimentation.

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Following its inclusion in the 1994 version of the Diagnostic and Statistical Manual (DSM), the diagnosis of Asperger's Disorder is increasing exponentially. The mushrooming of books, articles, websites, and support groups attests to its popularity. I do not doubt that some children have a biologically based predisposition to the profile of symptoms that comprise Asperger's Disorder; nonetheless, it is important to ask why this disorder, first described by Hans Asperger in 1944, has suddenly sprung to prominence. Diagnoses are neither created nor rendered in a cultural vacuum and therefore they inform us about our culture and serve a specific function within it. Take, for example, hysteria, a popular diagnosis in the late 19th century. The hysterical symptoms that many women developed in the Victorian era reflected their feelings of helplessness and anger. At the same time, diagnosis and treatment (rest cures or surgery on reproductive organs) often served to justify and reinforce their oppression (Showalter 1985; Tuana 1993) .

One cultural trend that has a pervasive impact on children's development is the alarming amount of screen (versus human) contact in the form of television, computers, game boys, etc., that children are exposed to daily. In the case of computers, increasingly enticing virtual reality effects are particularly engrossing and hypnotic for young children who are already naturally challenged in their reality testing. In a recent book entitled *Failure to Connect*, Jane Healy (1998) described the negative impact of unbridled computer use among young children on their social and emotional development. Thus, it may be no coincidence that a disorder whose hallmark is social impairment has become the new diagnosis du jour.

The Asperger's epidemic is merely the latest installment in an unprecedented trend of diagnosing and drugging our children that began a few decades

ago. Judging from recent studies, there has been an avalanche of attentional, learning, depressive, anxiety, and autistic spectrum disorders among children. Thus, we need to look at the underlying cultural trends that create and perpetuate the need for these diagnoses. While the workplace has opened its doors to women, "family friendly" policies are rarely given more than lip service. Rigid work schedules, abysmal parental leave, nonexistent child sick leave, unregulated daycares that pay minimum wage, overcrowded classrooms that increasingly serve as prep schools for standardized testing and the tech industry, and our privileging of uncensored knowledge garnered from the Web over social and emotional growth—all play a role in the social etiology of psychiatric disorder. At the same time, the exigencies of adaptation to rigid home, work, and school settings give little support or flexibility to otherwise healthy children whose temperaments require that they receive particularly sensitive care. Thus, some children are diagnosed and drugged indiscriminately, because they do not fit into prevailing role expectations.

Asperger's Disorder Defined

According to the DSM IV, "[t]he essential features of Asperger's Disorder are severe and sustained impairment in social interaction … and the development of restricted [or] repetitive patterns of behavior, interests and activities" (p. 75). Let us look at the first criterion: impairment in social interaction. To meet this criterion, the child must exhibit two of the following four symptoms (DSM IV, p. 77):

- marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
- failure to develop peer relationships appropriate to developmental level
- a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
- lack of social or emotional reciprocity.

What is striking to me about this list of symptoms, is that different combinations of symptoms render very different profiles, and each of the four symptoms is open to clinical interpretation. For example, what do we mean when we say that a child fails to develop peer relationships? Did she try and fail, or simply never initiate an effort? A child who has no interest in initiating is qualitatively different from one who is, for example, too shy to try and different again from a child who tries and fails. Why might a child fail in her efforts to develop peer relationships? Might she be painfully shy, depressed, suffer from low self-esteem, be the victim of abuse, not have the emotional or empathic skills to engage in these activities successfully? Or in this age of bullying and school shootings, did she not have the right wardrobe or skin color?

Let us turn our attention now to the second criterion: restricted, repetitive and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following (DSM IV, p. 77):

- encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
- apparently inflexible adherence to specific, nonfunctional routines or rituals
- stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
- persistent preoccupation with parts of objects.

A child need only exhibit one of the above symptoms but as was the case with the first set of criteria, each is qualitatively different and there is considerable scope for interpreting the meaning of each symptom. Take criterion one for example; when does a passionate hobby cross over into an abnormally encompassing preoccupation? While a psychiatrist or psychologist who specializes in work with autistic children might have a clear notion of these subtle distinctions, would a pediatrician, family practitioner, or psychiatric resident, all of whom also have the power to diagnose?

The challenge of accurately diagnosing Asperger's Disorder is rendered even greater because in contrast to Autistic Disorder, there are no clinically significant delays in language development, cognitive development, age-appropriate self-help skills,

adaptive behavior (other than in social interaction), or curiosity about the environment, and age of onset is typically later (DSM IV, p. 75).

Even among the experts, there is considerable debate about the nature and cause of Asperger's Disorder. Is Asperger's a mild form of autism or a qualitatively different entity? Is mild Asperger's a true syndrome or a variant of normality? Uta Frith (1991), editor of the highly acclaimed anthology, *Autism and Asperger Syndrome,* champions the position that Asperger Syndrome belongs to the autistic spectrum but at the same time is a distinct diagnosis. Nonetheless, in her introductory chapter, she highlights the challenge of accurately diagnosing Asperger Syndrome and the absence of definitive genetic or biological markers. "From the point of view of the diagnostician" she states that

> there is much support for the idea of Asperger syndrome shading into normality. After all, the diagnosis is, so far, based on behavior and not on tests that clearly identify underlying problems. If it is difficult to diagnose Asperger Syndrome, one might argue that a case could be made for its being a normal personality variant rather than a brain abnormality. (p. 26)

Thus, even the experts who promote the notion of Asperger's Disorder as a distinct, genetically based biological illness are challenged by the specter of differential diagnoses, and the distinction between normality and abnormality (Neihart 2000).

Despite the dominance of the medical model which encourages the search for unitary, genetically influenced etiologies, diagnostic categories such as Asperger's Disorder, based as they are on subjective behavioral markers, are not likely to be understood in such a narrow fashion. Even in the case of psychiatric illnesses such as schizophrenia and dementia of the Alzheimer's type where genetics almost certainly plays a role, it is not a straightforward or singular role. Genes work in concert with hundreds of other genes and may be activated or deactivated according to environmental conditions. Also, the young brain has extraordinary plasticity, enabling children to adapt to a multiplicity of environmental conditions. This plasticity is retained to a lesser extent throughout the lifespan (Hoyenga and Hoyenga 1993). Therefore, relying on the presence of brain anomalies to confirm a diagnosis, can be very misleading. We must ask whether abnormal brain features were genetically determined, a result of an injury, or created in response to environmental conditions. Will these physical anomalies translate into clinical symptoms, individual differences, or be compensated for by other regions of the brain? The most recent autopsy findings from the Nun Study, a rigorous longitudinal study of Alzheimer's Disease, revealed that one subject whose brain was riddled with the plaques and tangles characteristic of advanced Alzheimer's Disease showed no behavioral traces of the illness (Snowdon, cited in Lemonick and Mankato 2001).

In the age of the Genome Project, genetic engineering, robotics, nanotechnolgies, and the conceptualization of the brain as an organic computer, we seem to be increasingly comfortable with the idea that the cause and cure of all that ails us will be found in the restructuring of our genetic makeup and the replacement of faulty parts. This relieves us of having to look critically at and take full responsibility for the environments we create; it also paves the way for an intolerance of individual difference. I will turn now to key features of our culture that may be contributing to the ascendance of the Asperger's Diagnosis.

Trends in Education

Computer Technology in the Classroom

There is a growing trend in early childhood and elementary education towards early academics, computer-based learning, larger class sizes, and standardized testing. Concurrently, creative play, arts, humanities, field trips, and physical education are increasingly viewed as inessential. Even library budgets are being slashed in support of the purchase of technologies (Cordes and Miller 2000).

The immediate catalysts for these trends stem from the technology industry for whom children form an inordinately profitable market and politicians who may, in part, be responding to campaign contributions from the technology industry and, in part, to their belief that children ought to be trained to be competitive in the technologically driven global economy (Cordes and Miller 2000; Kane 1999).

This goal was stated explicitly in the late 1980s, when the first Bush administration published a policy statement for educational reform entitled America 2000, whose goal was to train children to meet the information-processing needs of the emerging global economy. It said nothing about

> the needs of children seeking to understand the world, to discover meaning, to develop a sense of connection or place, or simply to guide children in their growth as human beings. (Kane 1999, 11)

In keeping with this agenda, in 1997, President Clinton's science and technology advisory panel issued a report that urged the nation to forge ahead and *deploy* as much technology in schools as possible. No money should be *wasted*, it added, to research the still unanswered question of whether computers can be effectively used within schools. After all, the White House report declares

> the probability that elementary and secondary education will prove to be the one *information based industry* in which computer technology does not have a natural role is far too low to spend money on investigating the matter. (President's Committee of Advisors on Science and Technology: Panel on Educational Technology, in Cordes and Miller 2000, 79)

More recently, during the 2000 presidential debates, both Gore and Bush

> endorsed the continued expenditure of billions of federal dollars to computerize schools. Much of this federal money is spent on the products or services of high-tech companies. And both candidates … conspicuously sought [and received] political and financial support from high-tech industries. (Cordes and Miller 2000, 81)

Despite the fanatical push that is being driven by government on all levels to spend fantastic sums on technology, the quality of research on the benefits of computers has been scant, of low quality, and the results are inconclusive at best. In contrast, there exists considerable research to support the educational value of play, the arts and humanities, physical education, and small classroom size (Cordes and Miller 2000; Klugman and Smilansky 1990).

We have come to accept the sound bite that computers and the Internet are the great levelers that will enable children from all walks of life to gain access to excellence in education and the good life. Many parents, even those with very limited resources, believe that if they don't provide their children with computers at home and at school, they are disadvantaging them. They feel that their children are making productive use of their time when they are using educational software, surfing the Net, or even playing computer games, as opposed to staring at the television screen. Whereas a decade or so ago, it was rare to see a toddler sitting in front of a computer screen, today, software designed specifically for toddlers and even infants has become a successful market niche (Healy 1998).

As we narrow our definition of intelligence to that which most computers can do faster and better, we lose sight of the uniquely human qualities that enable us to weave the vibrant tapestry of human potential.

We can only imagine the impact on a child's developing nervous system of being exposed to hours of screen time and virtual reality each day beginning in infancy. What is the effect of being bombarded with rapid-fire images while being starved for sensory experience in the three dimensional world, the human touch, and interpersonal connection? We can *only* imagine, because as Healy (1998) informs us, no one is doing the research. Nonetheless, based on a thorough review of the literature on brain development research during early childhood, and her own clinical observations, Healy (1998) hypothesizes that heavy computer use prior to the age of seven years (the sensitive period for language development), may generate a range of emotional, social, and intellectual deficits. Many of these symptoms dovetail

with key features of Autistic Spectrum Disorders, including diminished language skills; interpersonal difficulties; an inability to play symbolically; difficulty integrating multimodal sensory experiences; impoverished affective capacity; and a poorly developed theory of mind.

Language Development

The sensitive period for language development (birth–seven years) invokes a need for interpersonal experiences that include conversation, storytelling, and sociodramatic play. Screen-based language exposure has not proven to be an effective mode of language learning, in part because stimulation to the brain's visual centers tends to override the auditory and language areas, and also because solitary computer use limits opportunities for verbal practice and corrective feedback. In addition, the rapid processing of visual symbols such as icons and film clips and the ability to surf the Net or move on to another special effect when bored or too challenged detracts from the development of language-mediated capacity for linear, analytical thinking. Finally, the act of accessing information that is stored in the computer's as opposed to the child's memory, diminishes opportunities to exercise working memory. Working memory plays a pivotal role in the ability to meaningfully process oral and written communication (Healy 1998).

Imaginative Play and Social Skills Development

When a child is fed a daily diet of visual stimulation in the form of vivid computer graphics, she becomes less capable of developing her own imagery (Healy 1998). This in turn limits her ability to engage in sociodramatic play—symbolic play that is shared with one or more other children. Sociodramatic play is a gateway to literacy and interpersonal skill because it enhances vocabulary and the ability to generate and follow a story, to listen empathically to another point of view, to make oneself understood, and to work cooperatively with others. It is also a means through which the child begins to understand herself, her world and her place within it (Klugman and Smilansky 1990). Concern about children's inability to play creatively was practically a mantra among the scores of teachers Healy (1998) interviewed. More and more preschool and kindergarten teachers find that they have to teach their students how to play, which up until very recently was an indicator of pathology.

Fragmentation of Experience

Healy (1998) cautions that most computer software designed for children fragments their experience because follow-through is not required. There is always another icon or special effect to explore and randomly pushing buttons generally leads to yet another rewarding entertainment. Also, the software integrates sounds, sights, and movement, but the child who passively consumes the experience may not be getting the practice he needs.

Emotional Development

It is increasingly apparent that we cannot tease apart emotional and intellectual growth. Emotional experience sets the stage for and colors how we perceive, comprehend, prioritize, problem solve, and develop morally (Greenspan 1997). Physical experience helps to integrate the emotional (limbic system) and executive circuitry (prefrontal and motor areas) of the brain (Diamond, in Healy 1998). What then, is the impact on development when passive, solitary computer play is substituted for emotionally rich interpersonal and experiential opportunities, and when prepackaged machine feedback is exchanged for sensitive human mentoring?

Theory of Mind

Several writers trace the Asperger child's typical lack of awareness of social convention and difficulties in understanding another's perspective to a poorly developed theory of mind or capacity for metacognition.

> Theory of mind … refers to knowing what one knows and how one knows it, while simultaneously processing differences in others. Theory of mind also subsumes the ability to take perspective; to be aware of oneself and to take another's perspective at the same time. (Neihart 2000, 4)

Healy (1998) points out that the period from six to eight years of age is a sensitive period for the acquisition of metacognitive skill and she raises the concern that a lot of computer software does not challenge

children to elaborate their knowledge by "thinking aloud, questioning, communicating ideas, or creating some kind of original representation about what they are learning" (p. 141). She also suggests that children do not have enough unstructured time for self-reflection and appropriate speech.

Temple Grandin, an autistic professor and author on the subject of autism, states that she finds an analogue of her own wiring in the computer. "I use Internet talk because there is nothing closer to how I think" (*New York Times*, in Healy 1998, 173). What is the effect of imposing on children a cyberworld that recreates a 'best fit' environment for autistic individuals?

Information Processing Models of Learning

The information processing model of learning with the computer as its guiding metaphor prevails in the classroom. The ability to process information is being conflated with knowledge and wisdom. Many of our leading cognitive neuroscientists are taking this metaphor one step further and conceptualizing the human brain as an organic computer (Kane 1999). This model promotes a blinkered philosophy of education that leads to impoverished curricula. Children robbed of classroom experiences that include experiential learning, arts, humanities, mentoring, and opportunities to create meaning out of their experience will neither acquire nor value the full palette of human abilities. As we continue to narrow our definition of intelligence to that which most computers can do faster and better, we lose sight of the uniquely human qualities that enable us to weave the vibrant tapestry of human potential. These include feelings, intuition, spirituality, creativity, artistry, morality, the ability not just to solve a problem but to recognize in the first instance that a problem exists.

It seems that the divide between what we know about children's development and educational practice is widening. The theories of Piaget (1950), Vygotsky (1978), Erikson (1950), Gardner (1993) and Greenspan (1997) among others have taught us how vital it is that educators be sensitive to children's developmental timetables and individual learning styles, as well as the need for sensitive scaffolding, experience-based learning, and an emotional connection to the material being taught, yet we are moving in the diametrically opposite direction. Ever larger class sizes and standardized testing demand standardized methodologies, and human mentors are being replaced by machine mentors.

Trends in the Home and Workplace

Throughout most of human history, women have worked and raised children. Until the time of the Industrial Revolution in the early to mid 19th century, work took place predominantly in the home or in the community. Work (e.g., baking, farming, gathering) was visible and meaningful to children, who worked and played alongside their elders and peers (Westcott 1986).

As work became increasingly removed from the home and required specialized training, women were initially limited to the domestic sphere and were denied access to higher education. Today, with the exception of a few glass ceilings, women can now freely choose their educational and career paths. However, while access to the job market has been granted, the structure of the workforce continues to favor middle class males in traditional marriages. In the absence of widely available opportunities for flextime, job sharing without loss of benefits, adequate parental leave, and affordable, high quality childcare, parents must often entrust their children to unregulated childcare facilities or individuals whose services may range from excellent to negligent. Current economic conditions and the dismantling of the welfare system now require many women who might otherwise choose to stay at home, to enter the workforce. Despite the inordinate stress that exists in contemporary family life and the availability of successful models for juggling work, domesticity, and parenting (e.g., Scandinavia and Germany), the United States is making very slow progress towards addressing these concerns (Leach 1994).

How do parents resolve the cognitive dissonance imposed by the desire to be successful in their work and responsible as parents when the structure of the workplace makes this so difficult? One increasingly visible response is to deny that childhood is a distinct developmental phase and that children have special needs. It then becomes easier to configure the preschool as a form of job training and to allow educational software and the Internet to take our place as sources of mentoring and wisdom in our children's

lives. The recent spate of books that privilege the importance of peer over parental influence in children's lives, children's fashions, music, make-up, and uncensored access to information through the Internet, both reflect and hasten the disappearance of childhood (Postman 2000).

The waning belief in childhood as a distinct phase of life helps us to make sense of two seemingly opposite trends. Many parents working long hours, may enroll their children in a host of structured and competitive after school programs (the 'hurried child syndrome' [Elkind 1988]) or they may render them silent and invisible by offering them a variety of screens (television, computer, etc.). On the one hand, we have the child who, like the winning race horse, spends every waking hour perfecting her skills. On the other, we have the child who is immersed in a world of virtual reality or a sea of information that she is not equipped to process. In either case, the child's developmental needs are not being respected.

In defense of hard working parents, our postindustrial society provides them with few guidelines. Rapid technological advances that radically alter society from one generation to the next, combined with the advent of the nuclear versus the extended family, leave us devoid of role models. The highly technical and abstract nature of most labor renders it incomprehensible to children who consequently cannot readily participate in work that is deemed valuable or essential to the well-being of the family or community. Instead, we create work for our children in the form of skills development, whether it be dance classes or foreign language study, or we provide them with endless entertainments. This creates a culture of egocentrism in which children are groomed to be the best at several activities to further their own sense of worth, but that have no immediate bearing on the welfare of society (Damon 1995).

While we as a society are denying childhood, children are informing us that their developmental needs are being ignored at our peril. The exponential rise in the number of children who are being diagnosed and drugged for an ever widening number of pathologies that include Attention Deficit Hyperactivity Disorder (ADHD), depression, anxiety, learning disabilities, Autistic Spectrum Disorders, and psychosomatic illnesses including asthma and allergies, tell us that we must examine the values that inform the choices we are making for our children.

Screen Nation

Our love affair with technology is rapidly transforming children's environments into ones that are dominated by screens. We use screens to babysit, educate, mentor, and silence our children.

As a parent, it is striking to me that there is virtually no place that I can take my children that does not offer them some form of screen entertainment, whether it be the department store, shoe store, furniture store, hair salon, grocery store, or museum. Even our local library has banks of computers designated for children. I have taken to visiting the library alone and taking books home to my children because inevitably, gaudy cartoon images and electronic voices permeate the children's section. It is rare that I witness children reading books; they are all staring at computer screens. Granted, some of them are using software that allegedly teaches reading, but the children that I observe are staring at and listening to the dancing illustrations. What an irony that we are spending billions of dollars trying to teach four-year-olds to read long before the majority of them are developmentally ready to do so, and with computer software that reduces their likelihood of success.

The divide between what we know about children's development and educational practice is widening.

Erich Fromm coined the phrase "socially patterned defect" to describe a pathogenic belief system that becomes normative and sets the stage for behaviors and lifestyles among the majority that are disturbed but are not perceived as such (cited in Burston and Olfman 1996). The apartheid regime in South Africa and Nazi Germany are recent examples. In every society that contains socially patterned defects, many individuals embrace the belief system and live unconflicted lives. Others actively rebel against the social norms. Still others become symp-

tomatic because they are victims of or deeply conflicted over the prevailing worldview.

I would suggest that there is a socially patterned defect in contemporary American culture that stems from our uncritical embrace of technologies. Nonetheless, there are parents who are very wary of their children's exposure to the media and the Internet and actively try to limit their exposure. Others question the absence of stricter guidelines in the development and application of genetic engineering, reproductive technologies, and the new fields of robotics and nanotechnologies. They are making efforts to address environmental, philosophical, moral, and spiritual concerns that are often lost sight of in the current climate of debate. And still others, predominantly children, are being diagnosed and drugged. In some instances the diagnoses are valid: Many children become dispirited or anxious or hyperactive or unable to relate to others in reaction to hours of exposure to screens and constraint in the classroom. In other cases though, healthy children are being diagnosed because they are unable or unwilling to conform to their environments (for example, the four-year-old who won't sit still and do his deskwork is given Ritalin to be less disruptive.)

Whereas socially patterned defects such as sexism and racism seem to abate somewhat over time, our immersion in screens may not be as tractable. First, very few individuals are defining it as a problem and therefore screen culture is growing, not receding. Second, as I will discuss below, many scientists predict that there will come a time in the not too distant future when we may no longer have control over our technological advances as the fields of genetic engineering, robotics, and nanotechnologies merge. And third, if what Healy (1998) hypothesizes is true, screen immersion may be hardwiring our children's brains.

Scientists from leading universities including Carnegie Mellon, MIT, Harvard, and Princeton are enthusiastically predicting a time within this century when our machines will

> become knowledgeable enough to handle their own maintenance, reproduction, and self-improvement. When this happens, the new genetic takeover will be complete. Our culture will then be able to evolve independently of human biology and its limitations, passing instead directly from generation to generation of ever more capable intelligent machinery. (Moravec 1988, in Bowers 1999, 25)

It is chilling to realize that the prediction that our species will soon be replaced by machinery is greeted as a positive development in some quarters. How is it that a scenario that might have passed for macabre science fiction a few decades ago is being unreflectively and enthusiastically embraced? How have we come to so devalue our humanity? One piece of the puzzle can be found in our adoption of computer-based models of intelligence as the standard to which we aspire. In so doing, we neglect our capacities for feeling, intuiting, spirituality, and morality, and we stop cultivating our ability to express ourselves and be transformed by music, dance, visual arts, theatre, poetry and prose.

As we continue to redesign our children's home and school environments to reflect this bloodless definition of human potential, with multiple screen entertainments and the use of the Internet and educational software as surrogate parents and teachers; as we slash the arts, humanities, field trips, and physical education from the curriculum, we may indeed be setting the stage in the not too distant future for a generation of children who don't privilege reality over virtual reality, human intelligence over machine intelligence. We may be creating a cohort of children for whom merging with their machines may feel less foreign and frightening than a stroll on a nature trail with all of its messy unpredictability.

In a recent article for *Wired* magazine, Bill Joy (in Cordes and Miller 2000), co-founder and chief scientist for Sun Microsystems and the co-chair of President Clinton's 1998 blue-ribbon panel on the future of information-technology research, reiterated the prediction that we are only decades away from designing artificial life forms that may overtake our species. In addition, he cautioned that we will also have the capacity to produce self-replicating knowledge-enabled weapons of mass destruction.

Our desire and capacity for invention is a defining quality of human nature, but it is not our only defining quality. We also have the capacity for journeys of equal depth and complexity in the realms of spirituality, community building, artistry, and communion with nature. Our privileging of scientific discovery

over these other modes of development are threatening our very survival. Future generations of children will need more than ever to redress this imbalance if they are to possess the creative, ethical, and spiritual vision necessary to develop a guiding set of values on which the development and use of technologies is predicated.

Call for Research

We are radically transforming our children's home and school environments from one that is three dimensional and experiential to one that is dominated by two dimensional virtual reality, without so much as pausing to investigate the consequences. Research on the impact of computer use on children's development is urgently needed in the following broad categories:

- The impact of computer use on all aspects of children's development including: neurological, language, social, emotional, motor, perceptual, and cognitive development, as well as the capacity for symbolic play. Within this category we must investigate how heavy computer use may be creating or exacerbating pathology in otherwise healthy children and children who are already at risk.
- We must give considerable thought as to how we define academic success which in turn is predicated on our notions of intelligence and how best to achieve and to measure our goals.
- Definitions of academic success and intelligence are a reflection of our society's values. What type of citizens do we wish our children to be? Where do the search for community, morality, spirituality fit into our goals for personal competitive achievement and crass consumerism?

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Book Reviews

Standardized Minds: The High Price of America's Testing Culture and What We Can Do to Change It

by Peter Sacks

Published by Perseus Books (Cambridge, MA), 1999 (paperback, 2000).

Review by William Crain

Contemporary education is dominated by standardized tests. Many teachers and school administrators know that their reputations, and sometimes their jobs, depend on their students' test scores. Children, too, feel the pressure—a pressure that mounts as state governments make grade promotion contingent upon specific scores. And the testing movement is advancing into higher education as well. State governments increasingly demand that their public universities admit and promote students on the basis of standardized test scores.

Testing proponents claim that tests ensure higher standards and provide "accountability." But educators have long known that what standardized tests really do is drive the curriculum, and usually in harmful ways. Today's public school teachers are so busy preparing students for tests that there is little time for the projects and activities that students find exciting and meaningful. Instead, students must spend months on tedious test preparation—a tedium that turns into fear as the testing dates approach. Test-driven education kills children's positive feelings toward learning.

The testing movement picked up tremendous momentum during the past decade. During this time, many of us who read ENCOUNTER called attention to the damaging effects of test-driven education. For the most part, our protests were voices in the wilderness. In addition, our efforts were hampered by the lack of a single, good book on testing itself. When I prepared testimony or wrote articles, I frequently found myself searching through disparate sources for answers to questions such as: What are the effects of holding children back in their grade? Has the Texas testing system really been a great success? How well does the SAT predict college grades? Are teacher certification tests associated with measures of good teaching? I eagerly awaited Nicholas Lemann's *The Big Test* (1999), hoping it would provide such a resource with respect to the SAT, but Lemann's book is largely historical. Finally, Peter Sacks's *Standardized Minds* appeared, and I was delighted. It addresses the central questions of standardized testing and summarizes a wealth of pertinent, up-to-date research findings.

And Sacks's book does even more.

For one thing, it considers the social function of high-stakes testing. Standardized tests, while often weak indicators of school success, generally yield lower scores among economically poorer students and students of color. Thus, as Sacks observes, the tests perpetuate the existing social class structure.

In addition, Sacks presents lively case studies of the abuses of testing and tells inspiring stories of how students, freed from test-driven education, can excel at real-life projects. One group of North Carolina students, from a poor, rural, African-American school district, invented an electric car that outperformed those created by students from elite schools around the nation.

Sacks also has unearthed some rather obscure studies of considerable importance. Two studies—one sampling college students, the other sampling middle school pupils—looked at superficial versus deep learning styles. The students whose style seemed superficial said they liked to do their schoolwork quickly, memorizing as much material as possible, but not dwelling on it. The students favoring a deeper cognitive style said they liked to take time to ponder material and find meaning in it. Both studies found that the students with the superficial style had generally higher standardized test scores.

The results of the two studies aren't conclusive. We need research on how students actually do think and study—not just the style they say they prefer. But the studies do raise serious questions about the kind of thinking that test-driven education is promoting.

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Sacks doesn't pretend to be neutral. He believes our testing culture is causing considerable harm, and that the facts back him up. Although I am in agreement, I was surprised by one section of the book, in which he takes a negative view of affirmative action in college admissions.

Sacks argues that affirmative action actually protects our test-based meritocracy. By allowing small numbers of people of color into prestigious schools, it serves as a safety valve for the larger testing system. It "permits alternative views of merit only at the margins" and allows the larger gate-keeping function of standardized tests to go unquestioned (p. 283).

Sacks implies that colleges and graduate schools should abandon both affirmative action policies and standardized testing requirements. Instead, admissions committees should give great weight to portfolios, essays, projects, and a wide range of evidence of what students actually can do. In support of this position, Sacks describes the experiences of colleges such as Bates in Maine, which eliminated its SAT requirement in favor of broader admissions criteria.

Many social activists will be uneasy with Sacks's proposal. Having worked hard to defend affirmative action policies against right-wing attacks, they won't suddenly abandon the policies. They may agree with Sacks that more sweeping changes are needed to make admissions procedures more valid and to give people of color real opportunities. But they will be reluctant to halt the fight for affirmative action until they see that better admissions procedures are actually in place.

Still, on this issue, as on others, Sacks provides much of the research and case study evidence available to date. Readers can take a critical look at what the evidence is, and they may conclude that Sacks is wrong or overstating his view. But Sacks has done a terrific job bringing a wealth of information to bear on the central issues of testing in our society. I believe that everyone concerned about these issues will find his book both enjoyable and an invaluable resource.

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How 2 Take an Exam… & Remake the World

by Bertell Ollman

Published by Black Rose Books.

Reviewed by Mary Sweet-Darter

When writing a book review, one should identify the number of pages in the book and the price of the book. Who cares? Buy it, borrow it, check it out at your local library. The book is light in weight, easy to read, and the cartoons are priceless.

When writing book reviews, one should identify the exact subject or topic of the book. In light of the events of September 11, 2001, my review of this book was stopped dead in its tracks by the force of a reality beyond belief. Shocked by the enormity of the events of the day and rocked by the prophetic note in Ollman's book, I could not keep myself from staring at my television hoping for some revelation as to how I could keep from relating the book to the tragedy of the moment. Airplanes, manned by hijackers from cultures where the slings and arrows of capitalism had found their mark for decades, slammed into the World Trade Center killing thousands. The government put on its game face and promised justice. The business community picked up its portfolio and promised recovery. In my office, Bertell Ollman's book, *How to Take an Exam … & Remake the World*, lay innocently on my desk where it was placed the evening of September 10, 2001. What was it about Professor Ollman's book that was nagging at my mind and causing me to look at it with para-psychic suspicion?

I was asked to review the book because, on the surface, the book had some apparent face validity as a book about assessment. After all, part of the book's title is *How 2 Take an Exam*. As someone who has been part of the assessment field for a number of years, I looked forward to seeing how a political scientist might relate to assessment. It took very little time to see that Ollman's book had little to do with assess-

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ment and much to do with politics. *How 2 Take an Exam … & Remake the World* is a commentary on the injustices of capitalism delivered in digestible segments punctuated by cartoons and professorial advice on how to play the game of school (especially the part of the game that deals with test taking).

When writing a book review, one should identify the author's point of view. One should ask if the book builds theory or facts and from what perspective? One should note bias in favor or in disfavor of the subject written about. One should observe if the professional background of the author affects the thesis of the book. This is the easy part. Ollman's point of view is that capitalism has gone unchecked for so long that it is now in danger of spontaneous implosion. There is no waffling on the part of the author. His historical facts are straightforward and accompanied by documentation. His quotes from leaders past make Scrooge's dreams seem pleasant. Of course, Ollman's political comments are affected by his professional background. He is a political scientist. Enough said.

Now about his perspectives on testing; *How 2 Take an Exam*, as previously noted, is merely a clever ploy to get the attention of college students who walk daily under the guillotine of testing. Clearly, Ollman knows that the field of assessment and its favorite whipping boy, testing, would welcome another good flogging at the hands of an educator and political scientist. To the college students of the world I say, "Stick with Ollman's advice and you will learn how to play the game of school without suffering the psychological trauma of competition on an uneven playing field."

I, too, think tests are oppressive and detract from the process of learning. Like the Australian aboriginal people, noted by Ollman as scoring poorly on I.Q. tests because the darn things are culturally biased and certainly not geared for a culture in which group problem-solving is more highly valued than individual abilities, my heritage lies with Native Americans and I cringe at the educational injustices imposed on America's aboriginal people through testing.

In contrast, assessment is a larger concept with an original meaning more along the lines of "sitting down beside someone." Assessment, I think, can be a tool of instruction. But currently it does not function as such a tool, nor does it measure anyone's level of knowledge or understanding or, God forbid, anyone's potential. Sorry, I could not resist a few words about the testing portion of the book.

When writing a book review, identify the author's conclusion and consider if that conclusion agrees with or differs from other books you have read. It seemed to me that Ollman's conclusion was pretty succinct, "If we don't wake up, this place is coming down." That may be a gross oversimplification of his message but I think it makes the point. *How 2 Take an Exam … & Remake the World* delivers a Marxist view of contemporary capitalist society. Ollman foresaw potential destruction as an internal event that would come from our own hands out of the frustration that occurs when class distinction reaches a desperation point. It is my observation that in our current global economy (I have no idea what that term means but I think it means that capitalism stretched out its arms and grabbed the entire world), in which American corporations take advantage (both overtly and covertly) of the working poor on several continents by having them first produce our corporate goods at low wages and then asking them to consume those goods at high prices, acts of revolt can come from anywhere in the world and still be considered internal. It is difficult to find either a developed or undeveloped nation on the planet that does not bear some mark of corporate America. When corporate America left our borders, it took our borders with it. As I said at the outset of this review, Professor Ollman's book is painfully prophetic. The events of September 11, 2001 beg the question, "Do we shroud ourselves in patriotism or do we engage in a level of self-reflection that is honest and potentially redemptive?"

Do other books agree? I don't know. I'm in the field of assessment and not political science. Judging from the popular press, I would observe that many experts are conflicted in their opinions and feelings. Patriotism is at a high; yet, some dare to wave the flag with one hand while vocalizing critical reflection. As usual, the preponderance of the young are flocking to the recruiting offices in pursuit of a righteous adventure.

I have been slightly encouraged by those who dare to protest reactionary movements and self-righteous patriotism. Recently, on the Yale campus, a

small group of protestors gathered to protest CIA recruitment on campus. The score was CIA 1, protestors 0. At a Native America Pow Wow in the heartland of America, the grand entry bore more than the usual amount of patriotism and reverence for the same flag that once brought down a mighty nation of indigenous people. Yet, a few lone tribal members peacefully protested military action without reasoned discourse. Again, the score was grand entry patriotism1, protest 0. But, a stand was made and a thought was raised that might germinate inside the minds of thoughtful observers.

In his book, Ollman carefully (and with humor) presents the premise that unless checked, capitalism will continue to chip away at the already deepening social chasm between the haves and the have-nots until the have-nots will be left with no choice except to perish or protest. His prophecy is that all this will happen from within the hallowed halls of democracy. Who knew that those from distant shores on whom we had systematically been practicing the power of capitalism and globalization would take matters in their own hands? No doubt, Ollman is lying low and saying little as he resists the temptation to say, "I told you so."

Following the advice of Ollman's book, I think this time following 9-11 is best spent in study and reflection rather than wholesale military retaliation. There are those who would take recent events as a rallying cry for increased military action and all the industrial opportunities that lie within. Ollman's book offers little solace but much stimulation for thought and reasoned action. Our political sins in no way excuse the atrocities of 09-11; rather, self-examination may serve to scare us straight.

Grandpartners: Intergenerational Learning and Civic Renewal, K-6

By Linda Winston With Matthew Kaplan, Susan Perlstein, and Robert Tietze

Published by Heinemann (Portsmouth, NH), 2001

Reviewed by Linda DuBois Davey

There is much to be said about the growing practice of programmed interactions between seniors and youth and Linda Winston's exploration of a few such programs in *Grandpartners* frames the practice in some unique ways. Over the past several years, a growing number of intergenerational encounters have been facilitated through a wide array of programs aimed at bringing youth and seniors together in a manner that can benefit both groups. As we continue to move beyond the threshold of the 21st century, those benefits appear to be increasingly enlarged by societal changes altering the opportunities for human relationships between generations. Winston, writing with authors Matthew Kaplan, Susan Perlstein, and Robert Tietze, moves beyond a discussion of the utilitarian needs of both elderly and youth that are usually targeted in such partnerships and turns our attention in two directions: the social, emotional, and civic learning that can be an outgrowth of such collaborative relationships with young children, and the "wiring" from within such programs that holds the promise for most success.

For many children growing up today, the informal meshing of age groups engaged in the stuff of everyday life seems increasingly limited. At a time when our older citizens remain alive and healthy for a longer period than ever before, the worlds of youth and the elderly are increasingly separated into bubbles of experience that may rarely encounter each other directly. Opportunities for both the age groups involved and for the community itself can be lost in the process. *Grandpartners* describes a variety of programs that can serve as a model for ways to counter this trend. While necessity prods these projects in several important ways, their vitality is fed by the fact that such necessity does not limit their vision. Instead, they tend to be built on a foundation that regards children and seniors as resources capable of strengthening all our futures. As described in this book, such partnering programs aim to promote the development of sociability, respect, interdependence, and community in ways that can humanize both age groups, while encouraging the types of involvement that make a democracy work. Winston is careful to point out, however, that such "grand" involvement is not achieved merely by bringing these

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groups together. The richest goals have the best chance of being realized, she cautions, only in programs that build in a middle layer of workers who establish the context and keep the project together over time.

The programs presented here are varied in format. They include intergenerational projects that work for a variety of reasons, but each approach portrayed is dependent upon that labor intensive "glue" of the middle layer. Sizer and Sizer (1999, 8) tell us that:

> Humans are animals who gather. Why and how and whether they gather makes a difference. Context counts. The way a place or a group is arranged, the nature of the incentives for that group to do whatever seems most important to do (for good or ill) and the quality of the human interactions are pivotal. The context teaches by how it is structured and how the participants interact.

Grandpartners provides an excellent blueprint for planning for such context within the structure of a program. The author reveals the layers of each program's developmental process in the way she peels back for us the details of their construction as their stories are told. Successful decisions as well as pitfalls that were encountered are shared and reflected upon insightfully. The chronology of each program's development includes examples of advocacy tools, training issues, and record keeping as well as individual responses.

The four programs described here are varied in purpose and content. An Experience Corps literacy partnership in Philadelphia, an intergenerational orchestra in New Jersey, a living history theater in Flushing, NY, and a community action project in Honolulu come alive not only in light of how and why they operate, but also from the colorful first hand accounts of the participants involved. The caring that arises from these intergenerational involvements drives the book's narratives and brings to mind the words of Maxine Greene. In her book *Landscapes of Learning*, Greene (1978, 3) writes,

> We all learn to become human, as is well known, within a community of some kind or by means of a social medium. The more fully engaged we are, the more we can look through others' eyes, the more richly individual we become. The activities that compose learning not only engage us in our own quests for answers and for meanings; they also serve to initiate us into communities of scholarship and (if our perspectives widen sufficiently, into the human community in its largest and richest sense.

In this book, children and seniors describe insights growing out of intergenerational encounters that would seem to initiate them into communities of caring in new ways.

The elderly who were drawn to such programs seemed to come for a variety of reasons. These reasons ranged from boredom to stipends, from a need to feel useful to a need for a safe place to gather. The children who participated in the partnerships either elected to be part of the project or were drawn into the activities as part of their normal school day. No matter what the goals of the individual program were, however, in each one the adults involved seemed able to discover possibilities for redefining themselves and children's constructs of the human community seemed enriched.

Grandpartners can be an excellent aid for persons or groups poised to develop an intergeneration program and seeking a place to begin. Group readings of this book could stimulate thinking, encourage discussion, and brightline important issues as frames and directions are sought for such new programs. It is readable, well organized, and provides guidelines that can influence practice and policy, as well as vision. Winston carefully calls for sensitivity to the needs of both the age groups involved and cautions the reader about the thoughtful deliberation that is necessary if both youth and seniors are to be treated equitably. In talking about the Experience Corps, for example, she calls our attention to the unique learning needs of older adults. For this age group, repetition is influential to the consolidation of new learning, so it is recommended that frequent in-service sessions be built into any training/discussion meetings that are planned. I can only think that program leaders who have discussed the appropriateness of such sensitivity and incorporated it into their planning objectives will be more open to its application on a daily, individual basis in the muddy waters of personal encounters.

Perhaps my biggest problem with the book, and for that matter with the entire issue of utilizing the expertise and energy of seniors to meet the learning needs of youth is the fact that such programs are frequently hailed as ratio-reducing solutions to overcrowded classrooms. Such a criticism does not negate the wonderful possibilities, both personal and civic, that such mixing of the age groups can offer, but is meant to remind the reader that funded programs bringing "enrichment" or "personal attention" to children in schools can camouflage the need for smaller teacher-student ratios. To continue to push for higher "standards" in schools, while heralding opportunities for one-to-one encounters through volunteer efforts, ignores the systemic problems that result from large class size and the professional expertise that teachers bring to the education of children.

Then too, this book discusses only four programs and the middle layer of "glue" Winston described as essential for success would appear to be the most difficult aspect to replicate. This intermediary layer would seem to need boundless energy and endless enthusiasm for the project as well as the ability to attract seniors who are highly engaged and dedicated enough to sign on with a high level of commitment. That is a tall order. Groups advocating for seniors and youth seem to be increasingly competitive in the market for funding, and blending the needs of both age groups may be too easy a way to make everybody happy. While intergenerational programs hold much promise for a 21st century society, we should step cautiously into their creation with deliberation about all the intricacies involved.

But caution should not inhibit our exploration of such programs. Instead, it should temper the steps we take. Dewey (1916, 17) reminds us that

> just as the senses require sensible objects to stimulate them, so our powers of observation, recollection, and imagination do not work spontaneously, but are set in motion by the demands set up by current social occupations. The main texture of disposition is formed, independently of schooling, by such influences.

Grandpartners reminds us that such dispositions continue to be formed throughout life and that a real sense of community relies on the continuous formation and renewal of such dispositions.

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