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Table of Contents

Knowing and Being

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Editorial

On Knowing and Being

In education, our concept of knowledge governs not only curricular design, instructional method, and modes of assessment but also our conception of the knower, of the human being we are to educate. As our conceptions of knowledge change, so do our conceptions of the possibilities for human experience and growth in the act of knowing. Knowing and being are intimately connected; as we define one, we define the other.

In years past, much of educational practice and theory was guided by an impersonal conception of knowledge. Knowledge was thought to consist of discreet bits of information — data that, as public property, was stored in books, machines, and human minds. Learning, B. F. Skinner explained, was the process by which an individual acquired the capacity to exhibit such data given appropriate stimuli. Thus, the key to education was to develop mechanisms that could effectively transmit specific items of data as efficiently as possible. The learner, despite having individual learning characteristics, did not create or reconstitute information. Knowledge was ready-made, final, complete, and unique unto itself; there was no room for the knower in the know.

More recently, the underlying conception of knowledge applied in educational practice and theory has undergone a revolution. As information-processing technologies have advanced, the metaphors for knowledge have been shaped by the language systems theory. In this context, knowledge remains discreet information, but it is embedded in an information system. Systems theory allows for the development of a cognitive map so that information is not merely stored but located — that is, each bit of information exists in relation to other bits of information. Thus, a knower may systematically integrate bits of information to create new knowledge structures. In this broad context, learning is viewed in terms of growth of an individual's capacity to animate systems of information. To know is to be an active information processor.

This theoretical perspective has led to the development of a variety of new educational priorities. Curricula now abound with references to "problem-solving" and "critical-thinking" skills. The evaluation of students now employs more "authentic assessment" practices that measure learning through reference to an individual's capacity to apply rather than merely exhibit information. Students are now challenged to be "active learners" — to adapt acquired information to new and varied circumstances.

As refreshing and important as these educational innovations have been, the underlying model of knowledge has defined the knower as an information processor. The question arises: What differences are there between mechanical and human information processors? Are human beings "personnel subsystems" in a technological infrastructure?[1] Are we, as knowers, simply electrochemically-based information processors?

> ***Knowing and being are intimately entwined. Knowledge is embedded in and created by a constellation of human intelligences, and such intelligences exist within a universe of inner experience, of the experience of being.***

Such questions require that we consider the nature of the intelligence that permits us to acquire, retain, and adapt knowledge. In this regard, Howard Gardner's seminal work on multiple intelligences is particularly edifying. In order to define a multiplicity of intelligences, he offers an extraordinarily penetrating and simple definition of intelligence, one that is particularly pertinent to the questions above. He defines intelligence as "the ability to solve problems, or to create products, that are valued within one or more cultural settings."[2]

This definition is critical because it allows for intelligence to operate in nonlinguistic modes. It permits us to address problems in music, art, intrapersonal relationships, and the like without confining us to the use of linguistic symbols and processes. No

longer is knowing confined to the symbol of the word; no longer is knowing confined by the processes of ratiocination. Thus, multiple modes of knowledge are possible in multiple domains. As we move away from the manipulation of linguistic and mathematical symbols, the knower increasingly becomes one of the defining characteristics of knowledge. Knowledge, as such, cannot be found in words, books, or computers, but only as it is animated by intelligence.

Yet, despite Gardner's remarkable accomplishments in describing and expanding our conceptions of intelligence and knowledge, he nonetheless leaves us with our original question: Are we, as knowers, mere information processors? Is it possible that the modes of knowing that may be associated with each of the intelligences amount to "computational mechanisms" — varied means in varied contexts for problem solving and problem solving only?

Let us keep in mind that there are various kinds of machines that are designed to solve diverse problems. From the steam engine, to Turing machines, to word processors, to self-correcting industrial robotic devices. Machines solve problems — some physical, some computational, some linguistic, and some working in many contexts all at once. What is it that makes the human capacity to solve problems different from all the others — not only in terms of degree but in kind?

The most obvious response to the question is, of course, that machines respond to problems by design whereas human beings may select problems and create new solutions. Of course, the selection of problems requires that we have the capacity to identify something as problematic and something as more problematic than something else. In other words, intelligence must be *more* than the capacity to solve problems, our definition must include the capacity to recognize that problems exist.

In order to recognize that a problem exists, it is necessary to recognize that something is in a state of disequilibrium, that something requires our attention, that something *should* be different than it now is. Problems do not exist in a vacuum; they're defined in terms of objectives, intentions, and purposes beyond themselves. Problems arise when we seek coherence or when we seek power, when we strive to commune or strive to create. Whether we seek to understand the physical laws governing energy and matter or to refine the kinesthetic motion of our own bodies to snap a sharp-breaking curve ball or to express in color and form the aesthetic dimensions of a single human gesture, all problems are rooted in our experience of being. Something is problematic only when there is an inner (personal) experience in which action is demanded. Such drive may come from such diverse sources as instinctive impulse, aesthetic sensibility, existential recognition, or spiritual realization. Our capacity for inner experience will define what we see as problems and what possibilities we will entertain regarding possible solutions.

As we attend to problems, there is a constant alternation of emphasis, a continuous interplay of information-processing strategies and underlying experience. As information processing computes possibilities, we experience an increase in relative degrees of satisfaction or dissatisfaction with the possibilities that unfold. Throughout, we are guided by inner experience; throughout, our capacity for experience defines the nature and extent of both problem and solution. If our capacity for experience is shallow, so shall be our problems and solutions. If we learn to experience with depth, the problems we address and the solutions we devise take on deeper levels of meaning.

Information is processed in a context that transcends the information itself — whether the context be profound or profane, existential or pragmatic. Beyond the management of all problems is the complex experience of being human — from the immediate force of the instinctive drives that flow through our bodies to the ultimate quest for identity, value, and purpose in our individual and collective lives. All problems begin and end in the flow of human experience. It is in such experience that the symbol is wedded with the symbolized.

It may be argued that all human experience can be reduced to biology, or more specifically, to the genetic encoding of biological functions. However, we must respond that there is a vast difference between the structure of a particular DNA molecule and the experience it yields (or to which it contributes) over the course of a human life. In the first instance, one looks *at* the spiral helix; in the other, at an absolute minimum, one looks *through* it. The subject and the object are transposed. The significance of, say, the genetic coupling that determines sex takes on an entirely different meaning when viewed under a microscope than when viewed as one of the fundamental factors in one's identity.

If the argument is made that the elaboration of

genetic codes is a cultural function, one that determines value in much the same way as genes determine physical characteristics, we are once again left to recognize the difference between influences on human development and the experience of being influenced in the course of one's development. In other words, the cultural factors that define "maleness" and "femaleness" in a given society are distinctly different from the experience a male or female has of his or her sexuality and identity. At a minimum, cultural factors are integrated with biological factors to create unique experiences within each of us as individuals. It is the interweaving of these (and in my view, other spiritual factors) that constitutes the ontic ground of human experience. It is in this context that all problems are defined as problems and all solutions defined as solutions. It is in this context that each of us alternates the inner dynamics of human experience and computational mechanisms. There is a continuous inner dialogue in which one voice silently overarches the conversation, and the second, thus contextualized, computes possibilities.

In order to recognize that a problem exists, it is necessary to recognize that something is in a state of disequilibrium, that something requires our attention, that something should be different than it now is.

We are not mere information processors, but complex, reflective beings who are capable of perceiving the mystery of our own existence. Whether we develop the capacity to wonder, to explore the depths of our own being, to rise to the challenge to speak the words "I am" or whether we resign ourselves to questions of technique and method relative to problems (however they may be defined) may well depend on the quality of the experiences we provide for children in the course of their education.

In sum, knowing and being are intimately entwined. Knowledge is embedded in and created by a constellation of human intelligences, and such intelligences exist within a universe of inner experience, of the experience of being. Every fact, every idea, every skill a child acquires, however small and seemingly discreet, addresses our sense of meaning, purpose, and identity. Where we fail to recognize that knowledge is more than static information, where we fail to recognize that knowing transcends computational mechanisms, where we fail to recognize that intelligence is more than the capacity to solve problems, and where we fail to recognize the potential depths and heights of human experience, we ever so slightly but surely diminish the scope, meaning, and possibility for meaningful, purposive living.

I do not doubt that fully half of human experience is pragmatic, day-to-day, and functionally driven and that problem solving of various sorts is appropriate. Yet even in the most mundane of circumstances, there is a level of experience that transcends mere problem solving. This level of experience is as illuminating, invisible, and seemingly incidental as sunlight.

Neither do I doubt that we have nearly forgotten the other half of human being — to have the capacity for heightened awareness, to know human value and responsibility, to feel the question "why" from one's chest, to know the discipline of freedom and the sacrifice of becoming. This second half of existence is often mistaken for so much philosophical rhetoric; our computational models of knowledge cannot begin to comprehend meditative ideas or ideals. They cannot begin to address the ultimate questions of who we are and what we are to do in this world. The capacity to grapple meditatively with the essentials of life is lost in our education. Without sustenance, the capacity for such inner activity wanes and we know of higher possibilities only in frustrated forms, as shadows: meaninglessness, cynicism, selfishness, and boredom. When we teach assuming that knowing and being are distinctly separate, we diminish ourselves — to paraphrase Emerson, we educate "but half a man." In the end, we not only interpret the world in accordance with our models of knowledge, but, for good or ill, recreate ourselves through them.

— Jeffrey Kane, Editor

Notes

1. See "The Regime of Technology in Education" in *Holistic Education Review* (Summer 1993), p. 6.

2. See Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences* (New York: Basic Books, 1983), p. x.

3. See Gardner, 1983, pp. 64–65, 243.

Learning to Engage in Moral Dialogue

Nel Noddings

Moral life is a central concern for both thinking and being. At its very heart is dialogue — that exchange of words, feelings, and solicitude that reaches outward to care for others and inward to build a stronger and more reflective self. One of the school's responsibilities is to initiate students into its practices.

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Everywhere — in personal, social, political, and even professional life — people misunderstand one another. Sometimes the misunderstandings are temporary and the resulting hurts easily healed. Often, however, they grow deeper and lead to physical and psychic violence. Education, even the "best" education, rarely contributes to the development of a capacity for the moral dialogue that might prevent such misunderstanding and, indeed, it seems often to produce technical expertise that is unreceptive to moral interests unless those interests can be expressed in technical language. I will argue here that learning to engage in moral dialogue is essential to fully human existence, and that schools should take seriously their obligation to help students in this learning.

The moral nature of dialogue

Nicholas Burbules (1993) has identified four types of dialogue: conversation, inquiry, debate, and instruction. The emphasis in Burbules's work is on the exchange of words, and the types are determined by the purpose of the exchange. He writes:

> Gadamer emphasized the centrality of a to-and-fro motion that relates the partners in play. Clearly, dialogue is based on this principle. It is not only that in dialogue talking and listening go on between two or more people, for there are many other contexts in which these things happen that we would not call dialogue. Dialogue is ... an interactive, relational concept. It exists *in* the exchange back and forth between persons, and it has the particular nature that unlike other kinds of communication it is essentially committed to the interactive character of that relation. We enter into a dialogical relation the way players enter into a game relation, with the value of the interaction itself in mind.... (p. 59)

I think many intellectuals do look at dialogue this way. Like champion tennis players, our minds are on the game. Moral dialogue, however, does not center so much on the exchange as on the partner. Both partners try to encourage, help, lead, and follow the other. Any dialogue that reveals this deep concern for the other and for the relation is moral dialogue. In a second sense of "moral dialogue," we will refer to the content of dialogue. When people discuss moral topics in an open-ended way, this, too, will be called moral dialogue.

Genuine dialogue, Paulo Freire (1970) tells us, is always open-ended. Neither participant has a pre-established goal or end that must be fulfilled by the exchange of words. In this openness, dialogue differs from analytical reasoning (which it often employs), from debate, and from what we usually mean by discourse. Dialogue can be intentionally invoked, Freire says, out of love. He claims that it is supported by humility, faith, and hope.

But dialogue can also *happen*. Martin Buber (1965, 1970) describes dialogue as rising out of relation, and relation involves a special form of encounter or meeting. Meeting in an I-Thou relation can, Buber says, occur by grace. Of course, such a relation is far more likely to come to those who cultivate a capacity for receptivity, but it can come to others, and teachers can establish conditions that increase the likelihood of its occurrence.

Here I need to tell a story. Some years ago, when I was a high school mathematics teacher, I sometimes put mathematics aside and invited students to talk about events and ideas of current interest to them. At that particular time (it was the late sixties), many communities were shaken by race riots, protests, and demonstrations. Many of our black students were participating in nightly demonstrations in a nearby town, and these demonstrations were becoming increasingly hostile. I expressed a fear that my students would be hurt.

The conversation that followed was certainly not inspired by love, humility, or faith. On the contrary, it was marked by much bragging and posturing. Black boys spoke a bit of the campaign for justice and recognition, but most of their talk centered on "being with" their people. Their presence at the protests was seen as a form of witnessing and an act of solidarity. For most, it was also a display of manhood, and threats were bravely tossed out and bravely met by white boys in the class who began to brag about the weapons they had collected in preparation for an anticipated attack. The talk was tough — loaded with warnings and claims of manly superiority. Then someone asked James — one of the most outspoken black boys — about his guns. "I don't have a gun," he said. "Oh, come on," said Dan (a white boy with an impressive arsenal), "how about your hunting gun?" "I don't have one. I don't hunt. I've always been afraid of hurting someone," said James.

Silence followed this comment, and in the silence there was genuine dialogue. What had all the bragging, strutting, and threatening meant? Here was a young man threatening to "bust heads" one moment and, in another quiet moment of truth, admitting that he wouldn't own a gun because he was afraid of hurting someone. The conversation turned toward more genuine communication. I was deeply touched by James's disclosure, and our relationship was transformed from one of uneasy tolerance to one of mutual appreciation. (He, of course, could not speak his appreciation, but it showed in his eyes whenever I expressed mine by exhorting him to live up to his ideals.)

One reason for telling this story is that we in education today almost never mention the need for conversation and dialogue in schools. We continually emphasize the need for specific learning objectives and pedagogical methods that keep students on the specified task. Students are not supposed to be off-task, and teachers are certainly not supposed to encourage such discursions. But this narrow-minded, pseudo-scientific approach to education ignores the fact that the greatest task of any person is to develop her or his humanity fully. Both students and teachers face this task; it is their common assignment.

As they begin their work together — at the start of a year, week, day, unit, or lesson — teachers and students encounter one another, and the encounter should have legitimacy. John O'Neill (1975) writes of the encounter between sociologist and subject. What he says applies equally well to teacher-student encounters:

> Our approach is rather an invitation to friendship and love, unsure yet certain. It is a warm embrace in which we are caught up in that overlap in which we spend our lives together and which invites comparison and understanding as much as fear or uncertainty. This is the ground for starting with one another. The encounter with someone or something new to us awakens in us a sense of openness, the sharing of need, that provides the horizon to our own vocation and is prior to all motivations of love, anonymity, creativity, or destruction. (p. 5)

O'Neill is here much closer to Buber than Freire in insisting on the primacy of encounter. Encounter need not be inspired by a prior love, and it may develop into something very different from love. The spirit accompanying it seeks to receive and to be received. One can encounter both human beings and subject matter; one can approach a book or a math problem, for instance, in the spirit of encounter, but we rarely suggest to students that this is possible. To suggest — plausibly — that such encounter is possible requires conversation and story-telling.

Every teacher knows that students perk up and come alive when the teacher digresses or tells a story. Today we are encouraged to believe that this sudden and predictable interest is a perversion of sorts — a sign that students are always eager to escape the work at hand. But this is a tragic mistake, for stories "attach us to others and to our own histories by providing a tapestry rich with threads of time, place, character, and even advice on what we might do with our lives. The story fabric offers us images, myths, and metaphors

that are morally resonant and contribute both to our knowing and our being known" (Witherell & Noddings, 1991, p. 1).

Dialogue and stories are intimately connected. Sometimes stories initiate or invite dialogue, sometimes stories unfold in dialogue, and sometimes dialogues themselves become stories that are later recounted by others. Think of your own school days. How many memories involve efficient lessons that moved faultlessly from prespecified objective to learning the specific bit? How many involve times when a teacher invited dialogue by expressing an authentic concern, sharing a story, raising a genuine question, or confessing a heartfelt passion for the topic at hand? When we know it is these moments we remember, why do we insist on eliminating them?

Ultimately, I want to talk about moral dialogue in the second sense — that is, dialogue that explicitly addresses moral questions — but here I must say again that all dialogue can be moral in the deepest sense when it is a mutual acknowledgment of our existential longing to hear and be heard. It can result in disclosure that transforms relations for the better, as it did James's and mine. Or it can result in distaste and wariness. I felt both of these for Dan, the boy with the arsenal of weapons and an expressed contempt for "crazy black guys." But I also felt more than distaste and wariness. I understood something of Dan's fears and vulnerability. Encounter in dialogue connects, disconnects, and connects again. It is, says O'Neill (1975), "like a breath we draw more deeply at first and then let go...." (p. 5).

One cannot talk this way today with the hope of serious acknowledgment unless such talk can be related to the specific topics that teachers are assigned to teach. It is all well and good to engage in dialogue and to tell occasional stories, teachers often respond, but then you have to get back to quadratic equations or British literature or whatever. In one sense, this is true; in another it is profoundly false. It is true in that we do, of course, teach the material conventionally associated with our subject, but it is false if it is construed as a "return" to something more basic or important. Better, when we address each other in dialogue, we can direct the spirit of encounter toward the subject matter and tackle it in a partnership that recognizes a wide range of motives for studying it. Some students may, realizing now that such a meeting is possible, encounter the topic itself with wonder and appreciation, expecting disclosure from the subject. (There are wonderful autobiographical stories of mathematicians, composers, scientists, and artists experiencing just such encounters.) Others will engage the subject matter for instrumental reasons, knowing that their teacher understands and accepts such reasons. And some will warily and tentatively give it a try out of love or respect for their teacher; their attitude says, "Okay, for you, I'll do it."

It is true also that, throughout this process, there are turnings. We cannot stay in what Buber called the I-Thou relation. Somewhere along the line, the other in our encounter (whether it be a living other or an academic topic) becomes an object of study — something to be understood and perhaps incorporated in our own plans. But if there is a *return* to be emphasized, it is the one that reconnects us with the other in dialogue. It is in *this* return that we realize our full moral and intellectual humanness.

Dialogue, whether entered into intentionally or stumbled into, requires listening. Receptivity is its special mark. Two people sitting together under a tree can participate in silent dialogue; each seems to feel what the other feels. In the form of dialogue with which we are more familiar — the dialogue filled with words as described by Freire — listening is essential. When we stumble into dialogue as James, Dan, and I did, something dramatic seizes us; we listen because we are caught up by what has been said. But when we enter dialogue intentionally, we are prepared from the outset to listen. Our commitment is not to solving a problem or acquiring information. It is to the living other who addresses us.

Simone Weil (1951) said of this form of receptive listening that it asks the essential question of moral life: "What are you going through?" To attend to another in this way, "The soul empties itself of all its own contents in order to receive into itself the being it is looking at, just as he is, in all his truth" (p. 115). To do this requires a connection with one's own self-in-relation and a setting aside of one's self-in-isolation. In Buber's terms, we meet the other in an I-Thou encounter, not in one of I-It. The emphasis on relation found in the work of Buber and Weil also appears in the ethic of care. As we move to a discussion of dialogue with moral content, we will need a particular moral perspective, and I will turn now to a brief description of the ethic of care.

Care and dialogue

The ethic of care now under development (Gilligan, 1982; Noddings, 1984, 1989) follows Buber and Weil in its emphasis on relation and attention. It places human encounter and conversation at the heart of ethical processes. I cannot include a complete analysis of care here, but its analysis is, of course, crucial. (See Noddings, 1984, 1992.) Often people who raise objections to an ethic of care react to an informal or intuitive notion of care that ignores the criteria established by careful analysis. The important points follow:

(1) *Caring* is used to describe both a relation that has certain characteristics and the behavior, thinking, and

attitude of the carer in the relation. In the former use, it is necessary to discuss the contribution of the recipient of care (or cared-for) and the conditions in which the relation is embedded.

(2) A carer attends to the cared-for in a special act of receptivity (a form of nonselective attention I have called "engrossment"). In this act, a carer hears, sees, and feels what is there in the other.

(3) A carer is disposed to help — often directly in the other's project, but sometimes with advice or, even, dissuasion. The carer's thinking and action here are guided by the interests of preservation, growth, and acceptability (Mayeroff, 1971; Ruddick, 1980). Carers want to preserve the lives and well-being of cared-fors, promote their growth, and support them in acceptable behavior. (All of these concepts — preservation, growth, and acceptability — require separate analyses.)

(4) Carers are guided by a thoroughgoing consideration of care; that is, attention and the desire to help are directed not only at the particular cared-for but also outward across the entire web of relations. This is necessary because the well-being of both carers and cared-fors depends on the health of their relationships.

(5) The contribution of the cared-for is vital to the relation; not only does the response of the cared-for sustain carers in their efforts, but also it is the essential material by which carers monitor the quality and effects of their caring in continuous cycles of attention and response.

(6) Carers, because they care, strive for competence in whatever relations or arenas their care is applied.

Schools do little to develop the capacity for attention as it is described in caring. When teachers say, "Now pay attention," they are insisting that students hear their words, but not necessarily that they receive the motive, feeling, or self behind the words. Similarly, even in exercises that force students to repeat what peers have just said, there is no emphasis on receiving persons in all their richness. The difference, of course, is that in one form of attention we care most about what is being said (or teachers tell us we *should*), but in the other form, we care about the person who is speaking. Caring for the speaker, we choose our own words to maintain the caring connection, not merely to give or extract information for our own purposes.

Setting aside the isolated self does not require a suspension of analytic reasoning, but it does require that emphasis be placed on interpersonal reasoning. Interpersonal reasoning is very different from analytic reasoning (Noddings, 1991). First, as we have seen, it differs in the mode of attention we use. Second, it does not have a fixed goal. Some readers no doubt experienced frustration in high school geometry precisely because the goal was fixed; one had to prove what the exercise stated under "to prove," and one had to use all, exactly, and only what was listed under "given." In contrast, in interpersonal reasoning, our only stable goal is to maintain our commitment to each other in some form, and even this is not always paramount. Ends shift as we really hear each other, and what we say is guided by a different kind of executive monitoring. We may react by saying to ourselves: "I didn't know he was in such pain!" "Will she reject this suggestion?" "Will this make him so mad he'll withdraw?" "How can I possibly meet a need of this magnitude?" (Noddings, 1991, p. 163).

Interpersonal reasoning thus involves an attitude of solicitude or care, a special form of attention, flexibility in both ends and means, continual effort at cultivating the relation, and a search for appropriate responses. As a result, it is marked by frequent digressions (remarks that would be non sequiturs in analytical reasoning), seemingly gratuitous compliments and reassuring comments, reflections on shared memories, tolerance of interruption, and responses to unspoken concerns.

Participants using interpersonal reasoning in dialogue may try to persuade, but they are also persuadable. Sad and wonderful things may be disclosed, and minds are changed. Participants are vulnerable not only to intellectual influence but to feeling as well. We may feel the other's pain, or the other may actually hurt us directly. In dialogue we place not just our arguments but our selves in the other's hands.

Dialogue as I have been describing it, is different from debate. Its purpose is not to win but to work through the problem at hand (if there is one) in a way that is both satisfactory and mutually satisfying. Conclusions reached should be satisfactory in the sense that they satisfy the conditions of the problem as it has been agreed upon. For this purpose, participants must be well-trained problem solvers. But to reach *satisfying* conclusions, participants must care for each other and their relation. To achieve such results requires a well-developed capacity for interpersonal reasoning and a commitment to care.

Ethicists have rarely discussed the moral nature of dialogue. The work of Jürgen Habermas (1984) is an exception. Conversation forms the very foundation of his ethical philosophy, but his emphasis is on formal, highly constrained conversation, not real conversation between ordinary people. One could even argue that his conversation or dialogue requires only one substantive speaker; the partner asks questions fitting the agenda and gives assent at appropriate times — much as Socrates' partners in dialogue did. (But see Benhabib, 1987, for other possibilities in communicative ethics.)

In part, the lack of discussion on conversation and dialogue stems from the traditional emphasis on auton-

omy and impartiality. Both Kantians and Utilitarians expect moral agents to make their ethical decisions using principles and logic; both fear contamination by emotion and close contact with the particular, living other. Everyone we encounter is supposed to be treated as an end but each is to count as one — a faceless entity deserving respect because he or she has the same capacity for reason as we have. We are not supposed to be influenced by his or her special qualities, needs, fears, or joys.

Ethics that emphasize dialogue — as the ethic of care does — do not ask us to generalize others but, instead, to meet each concrete other in all her fullness and particularity (Benhabib, 1987). Getting to know another, to feel what he or she feels, to be moved by this other — this is the essence of dialogue, and it is central to moral life.

Dialogue with moral content

Caring as a moral orientation suggests not only a general emphasis on dialogue but also a different perspective on the moral content of dialogue. In traditional ethics, great emphasis is put on moral reasoning, judgment, and justification. We are familiar with this emphasis in Kohlberg's (1981) cognitive-developmentalist approach to moral education. It appears also in the values clarification program, although many critics deplore the level of reasoning seemingly encouraged in this program.

In the caring orientation, we are more concerned with connecting, feeling-with, responding positively to expressed needs, and understanding ourselves well enough to be able to summon the attitude of care when it is needed. Moral dialogue in schools can contribute substantially to both self-understanding and an understanding of others. I now want to illustrate ways in which this dialogue might be conducted and what students might learn from it.

Some years ago, my husband and I took our children to see a film in which a lynching was depicted. (I think it may have been *The Oxbow Incident*.) At dinner the following night, I asked the kids whether any of them could ever participate in a lynching. All but one, answered strongly, "No way!" and they went on to justify their positions — speaking quite admirably and convincingly about the value of life, respect for law, the possibility of making a terrible mistake, the arrogance of hasty judgment, and the cruelty of not listening to the pleas of a human being at one's mercy. One child had said quietly at the outset, "I'm not sure." She nodded sympathetically while her brothers and sisters talked but continued to look troubled.

I pressed the kids by changing the story. The victim became their beloved grandma; her fate was horrible. The killer's identity was virtually certain. The circumstances were unforgivable. One boy tightened his fist and said, "I'd string him up myself. I wouldn't need a mob!" Another child said, "That's different...." The girl who had been unsure what she'd do at the Oxbow, now shrugged and turned up her hands as if to say, "See?"

We all saw several important things as the dialogue continued. I was not surprised that personalizing the story brought different reactions nor that children who were obviously capable of rather fine moral reasoning could launch an entirely different (and far more primitive) line of justification. I was, however, a bit dismayed by the abruptness of the change and the fiery emotion that accompanied the decision to "string up" their grandmother's hypothetical killer. By the close of the dialogue, we all came to understand and admit that cruelty, vengefulness, blind anger, hate, and a host of other capacities lay within us — *us* — not just other, deplorably immoral people. Most of the kids could, I think, understand better what had happened in the film story. They began to think about the evil acts committed by otherwise good people under trying conditions.

The attention so central to caring requires a high level of self-understanding. When we speak of one person emptying his or her soul of its own contents, we assume — as Sara Ruddick (1980) has said — that the soul *has* contents. We are not dealing with an empty shell at the outset. A person capable of attention knows what is being set aside or emptied out. Such people recognize the surge of anger, fear, disgust, pride, or desire. They have had practice in reflecting on their own inner states and reactions. As a result, they can often assess their own initial inclinations and empty them out. This does not mean that they, in agreement with Kant, reject emotion and personal attachment in favor of cool, dispassionate reasoning. Instead, they attend; they allow themselves to feel what the other is going through. This is a way of summoning the "good" emotions on which moral life may be dependably established.

Most philosophers (Hume was an exception) have expressed distrust of the emotions precisely because the morally good ones cannot be easily summoned. I am not arguing that the summoning is easy or that it can be done unfailingly. I am arguing that understanding ourselves and "cultivating the sympathies," as Hume put it, can help us in this process. Once we feel another's fear or pain, we are far more likely to respond morally than we would if we felt only our own anger.

Reason alone is no more trustworthy than emotion alone, for it usually serves the dominant emotion. It only appears to act alone. Further, it can no more be summoned directly in a heated moment than can love or any other good emotion. We get our strength to care

(when natural caring fails) through self-understanding. Aware of what *we* are going through, we can wrench ourselves away from the isolated self and attend to the other. Natural caring may then gradually be restored.

Engaging in moral dialogue as a quest for self-understanding is different from engaging in moral debate or reasoning over dilemmas. The latter activities are worthwhile also, and sometimes students need to approach moral problems from a less personal perspective. Apparently, some of our students get adequate training in debate and formal reasoning. They are, thus, well prepared for competitive life; but the process I am describing here is central to *moral life*. To live peacefully and cooperatively with others and more serenely with ourselves, we need a well-developed capacity to care. To develop this capacity, we need to study the conditions under which we respond caringly and those under which we are likely to respond violently or carelessly. We need a deep level of self-understanding.

I want to give another example here. Some of you may be familiar with Simon Wiesenthal's story, *The Sunflower* (1976). As a concentration camp prisoner, half-dead from hunger and abuse, Wiesenthal was called to the bedside of a dying Nazi soldier. The young soldier was swathed in bandages — dying in physical and psychic agony. He said that he had a horrible story to tell and that he needed the forgiveness of a Jew. He proceeded to tell Wiesenthal of his participation in the slaughter of an entire village of Jews. He described the screams of those burning, the vain attempts of parents to protect children from the bullets that killed those who leaped from windows to escape the flames, how he himself fired and fired until all were dead. Wiesenthal, torn between compassion and revulsion, eventually walked out without saying a word.

Years later Wiesenthal, still wrestling with his conscience over his decision not to forgive — not even to speak, calls together a symposium of critics and puts the question to them: Did I do right or wrong? Responses ranged from the principled-dogmatic insistence that forgiveness is required when a penitent sincerely seeks it (and no one questioned the sincerity of the dying man) to Cynthia Ozick's violent condemnation of the Nazi — a fiery evaluation that ends: "Let the SS man die unshriven. Let him go to hell. Sooner the fly to God than he" (Wiesenthal, 1976, p. 190).

My own response to Wiesenthal (Noddings, 1989) follows the line of thinking we've been discussing here. Let us put aside the question whether Wiesenthal was right or wrong. Let's see, instead, what we can learn about ourselves from this incident. First, none of us can be sure what we'd do in Wiesenthal's position. All the critics, and I, too, agree on this. Suffering physically, feeling competing emotions, torn over the nature of his duty, Wiesenthal avoided both compassionate and violent responses. What would we do? What do we wish we could do if we could be at our moral best?

Here is a young man — little more than a boy — dying in agony. He asks forgiveness, but can that be what he wants? After all, forgiveness is readily available through a priest. In *Women and Evil*, I suggested that he may have wanted confirmation from someone least likely to deceive him that he was still human, that there was still something in him of the "good boy" his mother had dutifully sent off to Sunday school every week. Because of our traditional emphasis on sin, penitence, and forgiveness, our language often fails us. We speak the language of sin and salvation or of rights and justification when we need a language of connection. Can we find a way to connect with the dying criminal or is he, as Ozick claims, forever beyond human communion?

Could we ever participate in the slaughter of helpless human beings? Could I? Here I recall my troubled teenage daughter saying, "I'm not sure." Suppose you and I had been subjected to Nazi indoctrination from age 14 or 15. Suppose we had been caught up by the snappy uniforms, the flags flying, the martial music, the fiery speeches, the sense of mission — of belonging. Suppose our teachers endorsed this way of life. Suppose before we had time to reflect, we were in the military, taking orders we could never have imagined in our Sunday school days. Suppose we knew we would be killed or formally dishonored if we rejected those orders. Is it utterly impossible that we could have done what the young Nazi did? Can we be certain that none of our children could be so horribly and thoroughly led astray?

Dialogue that probes such possibilities does not seek to justify dreadful behavior; neither is it aimed at the glorification of those who forgive or the shortcomings of those who fail to do so. It asks, openly and persistently, what it is in us and our conditions that leads us into acts that, in better moments, we would reject firmly. It helps us also to trace events back to moments in which we might be more secure in our decency and compassion. For me, an examination of Nazi Germany leads back to the behavior of teachers and professors. Surely, in the moral collapse of intellectuals, we see the most devastating objection to ethics that depend solely on reason and principle. Why did they not *feel* the pain they were inflicting on the excluded? Why did they not feel and fear the emotions they were stirring in youthful hearts?

Here, too, one can point to external conditions that help us to understand, but the case cannot be made with great conviction. These were mature people who, by the very nature of their work, had time to reflect. A

particularly sad example is that of Martin Heidegger — the great philosopher of thinking and being. How could such a man endorse Nazism? (See Bernstein, 1992.) One answer, of course, is that concentration on one great principle or one great goal can cloud our vision so that we do not see the pain we are inflicting. Could this happen to us?

Consider the institutions in which we work: the elitism, the competition, the sense of tradition, the longing for intellectual grandeur. What if someone promised us brighter, more tractable students? institutions in which the best minds would be better rewarded? environments in which the intellectual material we love would be cherished by all? Even now, some intellectuals engage in despicable acts that demean "intellectual inferiors" whose ideals threaten traditional values and whose work they brush aside easily with little attempt to understand it. And many of the general public exude enthusiasm over such "criticism" — sometimes without having read it.

If we insist on remaining in connection with others as we try to convey our beliefs, we may avoid the temptation to sacrifice or condemn others. Our principles will remain open to challenge and reflection. We will remember to ask, What are you going through? When students are helped to ask that question, they can begin a fruitful engagement with both moral and intellectual life. Before condemning gender and ethnic studies, for example, students might want to ask how these studies are connected to what people are going through, how the studies might even be connected to the anger and resentment they themselves are going through. They might come to believe that one good reason for reading certain literature is to understand the people who have asked us to read it, and to understand ourselves in relation to them. The arrogant notion that one heritage can fully capture universal themes and carry them to some ultimate height of perfection may fall away as the expressions of what others are going through are truly heard. It's one thing to admire humility as a biblical virtue. It's quite another to *feel* it as one is enriched by the contributions of people whose voices have long been unheard.

Openness applies not only to the new studies but also to traditional ones. I work with many students today who resist the study of Aristotle, Augustine, and Kant. "Why bother with these old guys?" one student asked. "We know what the problems are. Let's get on with solving them." As I've suggested here, I'm not so sure that we *do* know what the problems are, and I am quite sure that we do not understand ourselves well enough to attack whatever the problems are confidently. When I read Aristotle's *Nicomachean Ethics*, I wonder whether anyone has ever surpassed his wisdom in some areas. But Aristotle, for all his wisdom, was a classist and sexist. He lived in conditions that pressed him to have and to vent his contempt for "natural slaves" and women. What now presses us to be poorer than we might be morally? How might we alter our own life conditions so that we can hear more clearly what others are going through? These are questions we have to ask ourselves as we try to guide students toward morally sensitive lives. Dialogue aimed at moral understanding is an educational imperative.

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The Metaphysics of the Curriculum

Wayne B. Hamilton

The structure of our twentieth-century curriculum is rooted in a seventeenth-century view of reality. A new curriculum, derived from principles of quantum theory, would better equip students to deal with problems posed by the fragmentation of our society today.

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The gifted quantum theorist Niels Bohr achieved some notoriety by insisting that the experimental apparatus by which we conduct our inquiries in physics actually defines the conditions under which any phenomena may appear. Much the same might be said of the curriculum of most colleges and universities in the western world. When we approach what we want to know through the "apparatus" of the curriculum, it will respond in ways that conform to the structure of the apparatus.

There are two important lessons in this. First, instead of assuming the structure of the curriculum uncritically, we must be alert to its power to shape what we mean by "knowledge." As I shall argue here, the organization of the curriculum into apparently autonomous disciplines, specializations, political divisions, or otherwise artificially separated parts, supports and encourages the fragmentation of knowledge and reality. It assumes a metaphysics in which such fragmentation makes sense. We must therefore be awake to the metaphysical assumptions of the curriculum and to their power to predetermine what constitutes knowledge.

Second, the notion of curriculum as "apparatus" is significant because the structure of the university curriculum assumes a particular world view or cosmology that appears to be false. It is a cosmology composed of inherently independent fragments that are self-existent and relate to each other only externally. This is the familiar view of reality described by seventeenth-century physics. Thus, our twentieth-century curriculum helps order our minds to accommodate this seventeenth-century belief. If our world view has changed since the seventeenth century, then the structure of the curriculum should also change in order to reflect our current metaphysical beliefs, understandings, and inquiries. In fact, this is a time of great metaphysical transformation, and there are compelling reasons to reject a view that describes reality as a mechanical system composed of tiny, elementary "building blocks" that relate to each other in terms of "external causality."

There are reasons to reject classical notions of ontological "objectivity" and their accompanying methodologies that analyze the fragments into ever smaller disconnected bits (Hanson, 1965, chaps. 1–6; Polanyi, 1964, pp. 3–17). There are reasons, too, to reexamine the

analogous notions of society as a jungle in which isolated beings struggle and compete (Jantsch, 1980). In our time, when all these notions are under attack, the structure of the curriculum should support, not thwart, a reexamination of all conceptions that seem to have outlived their usefulness.

If the university curriculum is based on models of a deterministic, mechanistic, atomistic metaphysics and delivered in departmentalized units by increasingly narrow specialists, it may leave our students locked in the causal analyses of mechanistic physics, and thus discourage all efforts at free and productive inquiry.

I assume that most of us want our students to ask the "larger" questions of the curriculum: Who am I? What is the nature of this reality in which I participate? How can I change it for the better? We stifle these queries if we offer students a curriculum patterned on mechanistic physics, one that is chopped into abstract aggregates of discrete parts. Such a curricular structure is artificial in the extreme and violates our sense of wholeness and connectedness — virtues we would likely want to communicate through the curriculum.

I am certainly not the first to note the deficiencies of the curriculum in this regard. Prominent thinkers back to Dewey and Whitehead have questioned these curricular approaches, though apparently to little effect. What I hope to add to the debate is a focus more on the form and metaphysical foundations of the curriculum than on its content. I hope to offer a new perspective on the structure of the curriculum, one which borrows from certain interpretations of quantum theory. I shall attempt to draw out some implications of these views for the curriculum. At the end I shall suggest a new form, at least for the core curriculum, that I call, *analogically*, "holographic."

Historical criticism of traditional curricula

The theoretical origins of curricular fragmentation, the Cartesian separation of mind and matter, Newtonian mechanics, and reductionistic methodologies, have all been roundly criticized by a wide range of philosophers and physicists (Heisenberg, 1971; Whitehead, 1925; Wilshire, 1990). The notion that reality may be divided into tiny material "building blocks" whose properties, though disconnected, are thought to determine all natural phenomena, seems hopelessly inadequate as a cosmology in light of the revolution of twentieth-century physics (Bohm, 1983; Cohen, 1985).

Likewise, the idea of a mind/matter dichotomy and the concomitant notions of "objectivity" and "subjectivity" present insuperable metaphysical and epistemological difficulties in the face of crippling critiques from such apparently divergent fields as phenomenology and quantum theory (Bohr, 1961; Merleau-Ponty, 1962; Penrose, 1980). Also, the view that phenomena may best be understood by reducing thoughts and problems to discrete pieces for sorting and analysis seems dangerously limited as a method; it now seems to be based on false assumptions about the nature of things (Bohm, 1983).

In spite of the conceptual revolutions in relativity and quantum theory, both of which imply the need to look at reality as an undivided whole, fragmentation in thinking and in society itself remains widespread today. The mechanistic world view of the seventeenth century has gripped the sciences powerfully and is so deeply ingrained in our culture and in our curriculum that we seem to have become blind to the obvious. Physicist David Bohm states the problem succinctly:

> The widespread distinctions between people (race, nation, family, professions, etc.) which are now preventing mankind from working together for the common good, and indeed, even for survival, have one of the key factors of their origin in a kind of thought that treats things as inherently disconnected, and "broken up" into yet smaller constituent parts. Each part is considered to be essentially independent and self-existent. When man thinks of himself in this way, he will inevitably tend to defend the needs of his own "Ego" against those of the others; or, if he identifies with a group of people of the same kind, he will defend this group in a similar way. He cannot seriously think of mankind as the basic reality, whose claims come first. (1983, p. xi)

Ranking physicists seem now to echo earlier phenomenologists in decrying a fragmented world view. The "lived world" described by phenomenologists is experienced as an entirety or whole, not as disconnected bits and pieces (Spiegelberg, 1969).

The implication of these long-standing criticisms of seventeenth-century metaphysics for the university curriculum has also been drawn for some time. In 1925, Whitehead signaled that the structure of the twentieth-century university was determined by a seventeenth-century conception of knowledge and metaphysical world view (p. 54), an observation no doubt reiterated ever since by at least one member of every core curriculum committee in every university. In 1933, Dewey attacked the "accidentalism" of the "traditional" curriculum in which the subject matter is learned in isolation (p. 48). The sundry academic disciplines are divided in the curriculum into specialties, each of which is studied separately. This leads to the compartmentalization of knowledge, many divisions of which are often seen to be in competition or conflict. Through the fragmented curriculum, we convey to our students the illusion of separate disciplines and ask them, in effect, to live accordingly. This hardly equips them to confront the ills of a similarly fragmented, confused, and alienated society.

Let me put this more specifically. If we prepare our students in content disciplines that are separated in the curriculum, and if we insist that the methods they adopt distinguish clearly the observer and the observed in their inquiries, then their approach to reality, as they conduct their research and their lives, will be fragmented. If we have learned anything from the earlier criticisms of Whitehead and Dewey, or from the new physics and especially from quantum theory, it is that a fragmented approach will yield a fragmented response. Reality responds in accord with the particular way it is approached. The old maxim holds: what you see is what you get. It is imperative, therefore, that we teach our students to see through the eyes of a unified curriculum.

The principles of quantum physics

The wholly deterministic cosmology provided by classical physics was met by the gnashing of teeth in more than a few circles; it was seen as a blow to human freedom and uniqueness. Nevertheless, it was a powerful world view and it provided the conceptual foundation of science for 300 years. Its concepts, while perhaps not intuitively obvious, at least had the advantage of being cognitively comprehensible by our concrete mental operations.

In contrast, the revolutionary notions of modern science may well open the door to indeterminacy, but they are counterintuitive. They violate the conceptual structures by which we have learned to cope with the world, and they conflict with our demands for a mental representation of reality in terms of the intuitive concepts of space, time, causality, and the like.[1]

Without attempting a review of the history of quantum physics, I want to recall a few of its salient (however controversial) findings and discuss their implications for the curriculum.

1. Nature itself prevents us from attaining a fully deterministic description of physical reality, and thus limits empirical understanding of the "real world."

By 1927, Werner Heisenberg had stated his now well-known "uncertainty principle." There is no such thing as an electron that possesses both a precise momentum and a precise position, and therefore we *cannot* know, as a matter of principle, the present in all its details. Bohr (1961) added that such experimental limitations reveal a fundamental truth about the nature of the universe. It is not possible to draw a sharp separation between the behavior of "atomic objects" (pp. 39–40).

These two related notions (Bohr regarded the "uncertainty principle" as only one example of the more general phenomenon of "complementarity") are fundamental features of quantum theory, and they offer several lessons for the curriculum. The first is that all the concepts and theories we use to describe nature are limited. There is no absolute truth in physics or in science in general. While denials to absolutism are frequently criticized, little attention is given within the curriculum to their most powerful implication, namely that these very limitations to absolute knowledge offer us the excitement of genuine participation in the creation of new knowledge and promote a spirit of inquiry in which there is some hope of attaining new knowledge. This spirit cannot be fostered in a curriculum based on certainties and absolutes or other such determinacy concepts. Nor can it be developed in a curriculum that, in spite of formal disclaimers, continues to isolate the sciences from nonempirical studies. The fact that we ask students to take some of both does little to connect, much less unite, the two realms, and it does nothing to promote what Bertrand Russell called the possibilities of uncertainty. Limitations as to certainty about the way things *are* opens us to the possibilities of the way things *may be* (Russell, 1959, p. 157).

2. The subject-object dichotomy is untenable. The observer and the observed form a single observational system not susceptible to analysis of the separate parts.

The conception of oneself as an active participant in the creation of knowledge and reality is fundamentally incompatible with the pervasive subject-object distinctions and demands underlying the curriculum.

Every observational act embodies a subjective element that interacts with and thereby disturbs the reality being observed. Therefore, each observational act requires that we make a choice about where and how to separate the instruments of observation from the objects observed. But while we may choose to conceptualize a separation for whatever reasons,[2] the "actual" subject and object are fundamentally inseparable. Some of these choices are mutually exclusive, as in the famous two-hole experiments, the resolution of which (according to Bohr) lies in the wholeness of the phenomena, in which observer and object are tied together. "On the scene of existence," wrote Bohr (1961), "we are ourselves actors as well as spectators" (p. 81).

We must be clear about this. It is not simply that we are intrinsically limited by our "subjective" faculties; it is the nature of "objective" reality that prevents it from being fully knowable. Real objects are not "determined" in that they do not have definite trajectories (their motion is represented in physics by probability functions that merely lead to *predictions* of the results of experiments designed to measure their spatial distribution). They are not "conserved" in that they are created and annihilated, regularly disappearing into other "realities." They have no singular identity, because in a system containing several "particles," each is incapable of being marked individually for identification. In the mechanical description of nature, the subject-object dis-

tinction may have had its place, but in quantum theory, a wider description that requires "different placings of such a separation" is mandatory (Bohr, 1961, p. 92).

This has important implications for any curriculum that is bound to the conceptual foundations of the "objective" sciences. In light of the findings of quantum theory, it would not be unreasonable to deemphasize the role of spectator in favor of actor. Outside the field of physics, such an emphasis is, of course, not new. Existential phenomenology from Kierkegaard to Merleau-Ponty has railed against subject-object distinctions and the dangers of "objectivism" for well over a century. While the university curriculum can hardly be said to have been dominated by existential phenomenology for this same length of time, it has been captured by a scientific objectivism that is driven by Cartesian epistemology and metaphysics, and perhaps also stunted by positivism (Wilshire, 1990). It is, therefore, all the more astonishing that this notion that we are actors as well as spectators comes from Niels Bohr and other prominent microphysicists, and not simply from existentialists like Kierkegaard, Nietzsche, or Martin Buber.

This realization is important not only to the field of physics. Bohr, himself, carried the notion of complementarity to the field of biological research, where references to features of wholeness and purposeful reaction of organisms are used together with mechanistic ideas. These references are not contradictory; rather "they exhibit a complementary relationship which is concerned with our position as observers of nature" (1961, p. 92).

The Cartesian distinctions that have governed science for the last 300 years have also provided the field of psychology with a major research agenda, namely to bridge the gap between subject and object, mind and reality. Recent studies in neurobiology and perception have demonstrated that what the mind sees as a physical object is worlds apart from the object itself. The object and its percept, it seems, should never have been separated in the first place (Delbruck, 1986, pp. 14–15, 239–249, 261).

It is inattention to the ecology of the interaction between "subject" and "object" and attention to only a few elements of the interaction that have made the notion of the duality of observer and observed so successful.

The illusion, especially in the physical sciences, that the object is totally distinct from the observer leads us to conclude that the physical world has no subjective component. Abandoning this illusion relieves us of the modernist burden of identifying "subjectivity" with the merely personal and arbitrary, and "objectivity" with value-free phenomena. Once the potential for "value" in reality is entertained, new possibilities for the curriculum abound. Axiology may find new life in studies of ethics and aesthetics that may now be vitalized on metaphysical grounds. The alienation that has gripped students and faculty owing to their forced separation from value considerations in the sciences may evaporate.

Nature will respond in accordance with the theory with which it is approached — this is the central lesson of quantum thinking. It is imperative, therefore, that we not confuse our students with perceptions induced by theories and ideologies embedded in the structure of the curriculum, which assume a reality independent of our thoughts and our manner of inquiry.

So, too, must we refrain from the convenient notion that, through the curriculum, we are presenting our students with different perspectives. Different perspectives of what? Of one objective reality? This is to accept the notion of a true objective reality that we may reach some day when we overcome our regrettable limitations. On the contrary, we should present students with the richness of a reality that comes alive with their active approach and that opens itself to their approach. It is not different views that they need to experience; it is the different manifestations of the reality in which they are actively engaged. This engagement is not simply "subjective," not merely the experience of different ways of seeing things, and it is certainly not an appreciation of different professors' viewpoints. It is, in fact, the actual determining of different realities. What greater lesson could we ever teach our students? What more profound message could be communicated? What message has more potential for transforming the learner? And what more sacred responsibility in the academy could ever be imagined? We are "out there" in the world as active participants, not as disconnected *res cogitans* capable of attaining some Cartesian abstraction called "objectivity."

We must be awake to the metaphysical assumptions of the curriculum and to their power to predetermine what constitutes knowledge.

3. *A study of human consciousness must be included in any study of physical reality.*

Apparently, my conscious decision about how to observe or about what questions to ask will itself

emboss certain manifestations from reality. For example, if I ask a particle question, I get a particle answer; if I ask a wave question, I get a wave answer. It follows from this that nature's "physical properties" are in some fundamental way dependent on human consciousness; they do not exist independently of my mind, though they are not fabrications of my mind. This state of affairs forces us to abandon the Cartesian observer/observed dichotomy and requires us to acknowledge that when we speak of nature, we speak of ourselves.

Again, if the appearance and "properties" of physical reality are closely related to the methods of observation, and if the basic structures of this reality are "determined" in some sense by the way we look at them, it follows that a study of human consciousness must be included in any study of physical reality. It may well be, as scientists in fields ranging from physics to anthropology suggest, that consciousness is an essential part of a universal reality, and that we will be unable to understand natural phenomena if we exclude consciousness (cf. Bohm, 1983; Bateson, 1979). Consciousness and physical reality are interdependent and correlated, though not "causally connected" in the old sense. Gregory Bateson (1979) defines "mind" as a pattern of organization or a set of dynamic relationships — like matter — so that mind and matter no longer appear as two separate categories, as in Descartes, but as different aspects of the same universal process (pp. 97–98).

This has many implications for the curriculum, not the least of which concerns the assumed boundaries between the humanities and the sciences. Consciousness may be the concept that unifies these perennially (and falsely) dichotomized realms. Phenomenology, which has long crossed the borders of many disciplines, may yet be the route to unification. Phenomenologists have insisted that consciousness must be seen and described as a reliable medium of disclosure of all reality.

Another potential route to the unification of the humanities and the sciences implied by this role of consciousness may be found in method. Rather than analysis, which requires breaking the studied object into separately existing parts, a more nurturing method might be pattern recognition. Recognition of pattern and order seem to be an essential aspect of the rational mind, so that observed patterns of order in the physical world are reflections of patterns of mind. If the theories of modern science imply an unbroken wholeness of the universe rather than an assemblage of independent parts, including minds and atoms, then pattern recognition, rather than analysis, is the appropriate methodological goal. Perceiving the pattern in phenomena is central to their being understandable. The significance of any observational act is elusive until the organization of the whole is grasped. Or, in N. R. Hanson's (1965) detective metaphor, "grasping the plot makes the details explicable" (p. 87). Practice in this struggle for intelligibility requires a method or logic more attuned than analysis to conceptual organization. Differences between observers, as John Wisdom (1953) urged in his famous Parable of the Garden, are not about what the specific "parts" or facts are, but about how the facts hang together (pp. 154–155).

Put another way, simple cause-effect analysis is inadequate when many variables are simultaneously at work, interacting constantly (and apparently over unimaginable distances) at irregular, even unpredictable, rates. In this complex of variables, it would be misleading at best to focus on a single "cause" and attempt to contribute to it a particular "effect." A study of simultaneity among multiple processes is a better way to approach understanding on any level.

In sum, method more conducive to integrated knowing than analysis is required if our knowing is to be attuned to the nature of reality and to the nature of human consciousness.[3]

4. *The universe is intrinsically dynamic; its being cannot be separated from its activity.*

This does not mean simply that everything that exists is changing, but rather that everything *is* change. The ultimate substance, *physis*, sought by philosophers and physicists since the earliest Greek thinkers, has been found, in modern physics, to be created, annihilated, and transformed constantly. Even the "elementary particles" have been found not to be ultimate substances, but rather *relatively* constant forms, abstracted from some deeper level of movement. This feature of quantum theory was recognized by the earliest of its interpreters (cf. Whitehead, 1925, pp. 129ff). The venerable debate of Being versus Becoming has been concluded decisively by certain quantum theorists. "What is," writes David Bohm (1983), "is the process of becoming itself, while all objects, events, entities, conditions, structures, etc., are forms that can be abstracted from this process" (p. 48). That is, any describable event, object, entity, etc., even though it may rely on the "objective" description of classical physics in order to be made clear, is nevertheless an abstraction from an "unbroken and undefinable totality of flowing movement" (Bohm, 1983, p. 49). There is no way, in other words, to look at reality as a thing against which we may test our ideas of it. "Reality" is a concept that indicates the totality of flux, which is the ground of all things. These "relatively independent" objects or events are actually patterns of activity whose various aspects may be abstracted under certain observational conditions, as Niels Bohr urged from the beginning. Their being and activity cannot be separated. This impl-

ies that, at least at the level of subatomic phenomena, the interrelations and interactions between the parts of the whole are more fundamental than the parts themselves.

This being so, our curriculum should take as its guiding maxim Wittgenstein's (1922 [6.35]) admonition to "treat of the network and not that which the network connects". The curriculum should not promote naive correspondence theories that measure the quality of ideas by how well they fit the things in the "real world," a process that, in turn, encourages the acquisition of factual knowledge and its intellectual servant, memorization. How does a curriculum move beyond the pieces to the network? It must first assume that the human mind, as part of a dynamic reality in flux, is capable of grasping something more than things or parts of things. The basis of knowledge, or of intelligence, cannot be found in the parts or fragments of a dynamic reality. Filling a dynamic intelligence with fragmented "branches" of knowledge is obviously out of harmony with the nature of the knowing process, the nature of human intelligence, and the nature of reality. A fragmented curriculum only encourages a mechanical reliance on facts and memorization (cf. Dewey, 1933).

Human thought, if attuned to the dynamic nature of reality, responds to an order in the flux that cannot or should not be reduced to mechanistic structures or momentary abstractions from the dynamic whole. The kind of approach fostered by a reality-based curriculum must be able to challenge our capacity to envision the world as a network of interconnecting relationships, rather than as carefully defined linear chains of local causes and effects, in which each "object" has its ontological status in the general systematic complex of interrelatedness.

5. *The wholeness of a system, rather than its parts, is to be examined.*

This is the most important theoretical contribution of quantum theory in its implications for the curriculum. All of reality seems to be a web of relations. Each "event" is therefore influenced by the whole universe. It is not easy to explain how this can be so, especially considering the size of the universe. Some theorists have resorted to the notion of "non-local" forces that influence each "event" at a (very large) distance. These "nonlocal" forces are also non-causal in any usual sense of "causality" within classical physics, and they amount to "hidden variables" in a very inchoate theory. As such, they are reminiscent of the many hidden variables and unknown forces in the early formulations of classical physics. But whereas in classical physics these were local mechanisms, in quantum theory they are nonlocal, instantaneous connections to the universe as a whole. This necessitates a new notion of causality and questions the metaphor of separate parts. The idea of separate parts is an idealization with only approximate validity in quantum theory, because the "parts" do not seem to be connected by causal laws in the classical sense.

What is hidden to theoretical physicists will not miraculously be revealed here.[4] In spite of the uncertainty of the theory, however, we may summarize these notions by saying this: formerly the parts determined the behavior of the whole, but in quantum theory, the whole determines the behavior of the parts.

This represents a profound shift with radical implications for the structure of the curriculum. On the basis of this quantum-theory version of reality, we may draw a simple analogy: the entire vision of the whole curriculum should inform its parts, and indeed, in the "holographic" form of the curriculum, developed below, each part of the curriculum should actually contain the whole.

The holographic curriculum

What should the structure of the curriculum be like in light of these metaphysical considerations from modern physics? This is a difficult question to answer, especially considering such practical considerations as course sequencing, lower- and upper-level courses, "majors," and the like. Although it is not my purpose here to address these obviously important considerations, I would like to attempt a preliminary response by focusing simply on that portion of the university curriculum given to general education, that is, the core curriculum. I suggest that the structure of this curriculum be "holographic."

A hologram is an instrument that provides insights into what is meant by individual wholeness. Owing to "interference patterns" in the hologram, each part of an illuminated "object" in the hologram is not simply a part of the whole; the entire pattern of the whole is embedded in each part. Each point of view provides a vision of the whole structure. In a hologram, the parts of an illuminated object do not correspond directly to the image of the object on a light-sensitive plate. Rather, the interference pattern in each region of the object is relevant to the whole of the interference pattern on the plate. Imagine a holographic plate containing the image of a human face. If this plate were to fall to the ground and shatter, each shattered piece would contain, not just a fragment of the face, but the entire image.

Not surprisingly, the "holographic paradigm" is an approach that comes out of quantum theory and is a metaphor used by several quantum theorists. Geoffrey Chew's idea of subatomic particles being dynamically composed in such a manner that each of them involves all the others, and David Bohm's idea of an "implicate

order," according to which all of reality is "enfolded" in each of its parts, are perhaps the two best-known examples. The holographic metaphor (and it must be emphasized that this is simply a metaphor; I am not claiming that reality itself is a hologram) provides a useful analogy or model for the core curriculum.

By analogy to physical theories that see a "total order" contained in some sense within each region of space and time, a "holographic curriculum" would be one in which each part contains the whole. Each separate course within the core curriculum would be like a window, which, while offering a particular point of view, nevertheless would open out to the entire vista, to the entire "message" contained in the curriculum as a whole. Some courses might see the entirety in somewhat less sharply defined detail, but no matter how small the window of the course, the whole would still be visible.

The holographic curriculum is thus nonlinear. Each course is an aspect of the entirety and not simply one unit or step within a series, just as in quantum theory the motion of an electron is an aspect of its entirety that cannot be unambiguously dissected into the distinct properties of position and momentum, and just as "mind" is not part of the "machine" but an aspect of its entirety through space and time (Delbruck, 1986, p. 17).

The suggestion here is for a curriculum that reflects this holographic insight into the nature of reality. However, this is more a "how-to-think-about-it" than a "how-to-do-it" piece. I mean simply to suggest a form, structure, or framework for the core curriculum, not specific possibilities. The goal here is to ask the reader, first, to conceptualize the core curriculum "holographically" (that is, by means of the holographic metaphor or model), and second, to decide on the set of ideas and attitudes that will permeate all parts of the curriculum. Once the curriculum is viewed from this perspective, everything will fall into place as a matter of course. In such a curriculum, a unified message (what the community of faculty has said is important) moves like the universal flux throughout its entirety. In this flow, certain aspects may be abstracted from the background in one course or another, not as separate, autonomous disciplines, but rather as aspects of one whole and unbroken message, albeit dynamic. In this way, we are able to look upon all courses, all aspects of the core curriculum, as not divided from each other, and we may end the fragmentation implicit in the current autonomy of course, department, or discipline, which leads us to divide thoroughly everything from everything else.

Recognizing, however, that any how-to-do-it disclaimers may be unsatisfying to many readers, I will at least attempt to demystify the model. I begin by simply noting that the two interwoven aspects of the holographic model (the curricular structure and the "message" that permeates its parts) have both received plenty of free and open discussion through the years. Concerning the first aspect, structure, many impressive alternatives to the typical disciplinary curriculum have been articulated. In addition to the work and influence of Dewey and Whitehead (previously cited), the distinguished philosopher and educational theorist Alexander Meiklejohn wrote in the 1920s with great concern about the increasing specialization and fragmentation of the college curriculum. His view of the ideal curriculum, which focused on the role of democracy in the preparation of students for responsible citizenship and which required students to develop a personal point of view, was instituted as the Experimental College at the University of Wisconsin in 1927 (Meiklejohn, 1932).

Later, in the 1960s, Joseph Tussman established an experimental "college" at the University of California at Berkeley that had as its mission the "cultivation of human understanding" (Tussman, 1969, pp. xiii–xiv). Tussman's solution to curricular fragmentation was to abolish courses as the basic curricular planning unit and to focus the curriculum as a "program" rather than a collection of courses. The collection of programs was meant to bring coherence to a student's education (Tussman, 1969, pp. 6–7). Tussman's ideas were developed further by the founding faculty of Washington's Evergreen State College, whose curriculum consists of year-long "coordinated studies" programs organized around interdisciplinary themes (Jones, 1981).

These experiments in structural modifications of the curriculum aimed at overcoming its fragmentation represent early examples of the current "Learning Communities" movement. Learning Communities are simply purposeful curriculum restructurings that link together courses or course work so that students find greater coherence in what they are learning (Gabelnick, 1990, p. 5). Examples range from *linked courses* (such as the Interdisciplinary Writing Program, in which students are invited to take an expository writing course that is linked to any of several general-education lecture courses) to *coordinated studies* (such as multidisciplinary programs of study involving a cohort of students and a team of faculty drawn from different disciplines, who are engaged full-time in interdisciplinary, active learning around central themes.[5]

Learning Communities represent thematic reconstructions of the curriculum, and they approximate the holographic model suggested here. The latter is somewhat more integrative in that it suggests that any piece broken off from the entire curriculum, when examined carefully, will reveal the whole. This brings us to the second aspect of the holographic model, the "message"

that permeates the parts.

Any suggestion of a "unified message" from a "community of faculty" may seem ludicrous to the experienced reader immersed in the political and territorial complexities of academic life. Whether cause or symptom, however, "political realities" are as much of our own making as any comprehensive rationale we might construct for the curriculum or for education *per se*. From within any university faculty are many who bemoan the curriculum's lack of a moral, social, or intellectual center, and from outside universities and colleges are many "external constituents" who clamor for some clearer vision of what constitutes an educated person.

While it may, indeed, be difficult for educators to agree on a "unified message," the fact that one is needed is less frequently disputed. Constructing a coherent message or vision that would permeate the curriculum, while certainly challenging on the political front, is not an especially mysterious endeavor on a conceptual level.[6] In fact, many impressive examples have been articulated through the years.

From the Great Books to what Robert Maynard Hutchins once called "The Great Conversation," the idea of providing students with a point of view from which to understand the meaning of all their subjects is hardly new. One of the more recent and interesting attempts at a unifying theme is Neil Postman's notion of the "ascent of humanity." This is the Jacob Bronowski-like story of "humanity's creativeness in trying to conquer loneliness, ignorance, and disorder" (Postman, 1992, p. 187), and it is a story that may be traced throughout each separate discipline. For example, every subject has a history, including biology, physics, mathematics, literature, music, and art, and singularly or collectively these histories reveal the continuous story of humanity's struggle to attain order and meaning in existence. Each "history" represents the answers called forth by the questions that have been asked (Postman, 1992, p. 191). The reader may recall Niels Bohr's statements about quantum physics: our inquiries, and the "experimental apparatus" by means of which we conduct them, actually define the conditions under which any phenomena may appear.

In this context, the very notions of "objectivity" and "event" are brought to light, and the past is no longer taught as a "chronicle of indisputable, fragmented, and concrete events" (Postman, 1992, p. 191). Rather, students are asked to consider what exercises in human imagination have brought the various "events" into being and to consider the importance of their own inquiries in this endeavor.

Teaching each subject as a "history" of humanity's ascent is but one example of a unifying theme-approach to bringing coherence to the curriculum. Presumably, each community of faculty would have their own particular approach. Whatever the approach or whatever the message, however, it obviously must be made manifest through the curriculum. The lesson of the various "experiments" in connectedness mentioned here is that the structure of the curriculum changes the presentations of, and hence the experience of, the various subjects.

The separate disciplines and courses, representing the atomic point of view, may and do provide a form of insight; this is not to be denied. Seen holographically, however, the separate courses are patterns abstracted from the dynamic "message," each of which has a certain relative and momentary autonomy, like "particles" teased into being by our own peculiar inquiries. However, in the holographic model, we have the limits of this autonomy sharply in mind. We see that, in context, the insights represented by various "courses" may simplify and clarify certain aspects of the universal message by treating them momentarily and for certain limited purposes as if they were autonomous and separately valid. But we do not fall into the trap of looking at the entire message in this way, and we do not suffer the illusion that reality, or the educational message to be imparted, actually are of a fragmentary nature. Nor do we recommend the fragmentary actions and behaviors that may arise from this illusory perception.

By exposing our students to the holographic core curriculum, we may affect their entire thought process. Thought now has totality as its content. As such, it is more like an art form than definite knowledge about how things are; its function, like that of all metaphorical thinking, is to give rise to a new perception, to new ways of looking at the whole. Knowledge and thinking are thus related to the ever-changing flux, the dynamic character of reality and knowledge. Moving through a holographic curriculum, students do not fall into the habit of treating disciplinary content tacitly as a final and essentially static truth that is independent of thought.

Students may be attuned, in and through the holographic curriculum, to the process of knowledge — the key feature of which is the absence of any definable aspect that is absolutely fixed.

To keep our students attuned, engaged, and alive to the possibilities of metaphor requires a fundamentally new curriculum. To call this curriculum "interdisciplinary" would be understatement in the extreme. Realistically, the holographic curriculum must rely on "complementarity." When used in proper balance with holism and synthesis and when seen as complementary, analysis and even reductionism may yield a deeper knowledge of life. Our students must be encour-

aged to learn afresh, in each segment of the core, the entire message we wish to impart. The message should be appropriated inwardly, as Kierkegaard said, in its entirety.

The university core curriculum must not be a compilation of all the facts and data worth knowing. Nor must it represent a professor's *explanation* or even knowledge of some relationship of thought to reality. Rather, what is needed is an act of understanding in which we see the totality as an actual process that, when carried out properly, tends to bring about a sense of the meaning of what we know and of how we know. It incorporates both thought and its "object" in a single movement in which analysis into separate parts has little meaning.

At each stage, the proper order of operation of the mind requires an overall grasp of what is generally known, not only in formal, logical, mathematical terms, but also intuitively in images, feelings, poetic use of language, etc. This kind of overall way of thinking is not only a fertile source of new theoretical ideas, it is also needed for the human mind to function in a generally harmonious manner.

Once their minds are functioning harmoniously, guided in this ideal by the holographic structure of the core curriculum, our students would exercise unrestrained free choice over their courses. But each choice, each course, would contain the whole.

Notes

1. I use the term "intuitive" in the sense of concrete mental operations, and do not necessarily imply the Kantian *a priori*. In this I follow Max Delbruck (1986), who argues that we owe our demand for the "visualizability" of reality to the evolutionary design of our entire perceptual apparatus, including our brains.

2. As we have seen, Max Delbruck believes this to be the result of the evolution of our cognitive faculties.

3. I may be faulted for not spelling this out in finer detail, but perhaps forgiven for lacking all answers. From a psychological approach, the work of Blythe Clinchy and her associates on "Connected Knowing" (1989) is both provocative and promising in this connection. She describes an integrated approach to knowledge, which is characterized by "imaginative attachment" rather than the detachment of analysis and "critical thinking."

4. By no means do I suggest that notions of "nonlocality" are coherent, complete, correct, or even satisfying. The main point is simply to reiterate the limitations of classical theories in describing certain fundamental features of reality. A reasonably balanced view of this is presented by Roger Penrose (1989, pp. 220ff).

5. These examples, along with several others, such as learning clusters, freshman interest groups, and "federated learning communities," are outlined and discussed in a recent monograph by Faith Gabelnick and her colleagues, in the Jossey-Bass series, "New Directions for Teaching and Learning" (Gabelnick, 1990, pp. 19–37).

6. Again, it is beyond my purpose here to suggest a specific unifying message. This is the task of any university's community of believers, each of which presumably has a vision of what an educated person is. My point here is simply that the current fragmented structure of the curriculum will likely blur this vision.

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Learning as Coming Home

Mary Catherine Bateson

"Trying to understand learning by studying schooling is rather like trying to understand human sexuality by studying bordellos." But the byway of learning that leads through the classroom and offers the hope that school learning, a process of alienation for so many children, might also be "learning as coming home."

I have been involved in one way or another in the educational system of each of the countries where I have lived. In Israel, at sixteen, I learned Hebrew in order to join a high school class and take the national matriculation examination, an outsider discovering myself through a process of accelerated learning. In the Philippines I taught at the Ateneo de Manila, the Jesuit university that runs right up from elementary school through the graduate faculties. In Iran, as a parent, I was trying to make intelligent decisions about schooling for my daughter Vanni in an unfamiliar environment, as well as teaching at two institutions and working on the planning of two others. Vanni as a child used to believe everyone had a school: Mommy's school, Daddy's school, Vanni's school, but mine kept getting shifted. At one point, the government decided to build a university in Hamadan, emphasizing local crafts and industries, teacher training, and primary health care, a regional university that would not alienate its students from their traditions — but the plan became mixed up with a project to have a university conducted in each of several European languages, so it was decided grotesquely that this local learning should be transmitted in French.

Because I am one of those people who felt at home in school and have gone on hanging around schools all my life, I keep catching myself drifting into an insidious equation of learning with education and, more narrowly still, with schooling. Setting out to talk about learning, which pervades all of life, I find myself talking about school, from which most people are happy to be liberated. Yet school casts a shadow on all subsequent learning. Trying to understand learning by studying schooling is rather like trying to understand sexuality by studying bordellos. Certainly schooling is part of the spectrum of learning in human lives, but it is not the model for all learning, only one of many byways. Learning and teaching are both fundamental for human adaptation, but not all human societies segregate them from the flow of life into institutional boxes.

Once in the Philippines I was invited to give a commencement address at an institution on the southern island of Mindanao, Notre Dame de Jolo. This was for me a curious convergence, for although the faculty were mainly Catholic priests, a majority of the student

The following essay is excerpted with minor revision from *Peripheral Visions: Learning Along the Way*, by Mary Catherine Bateson, published by HarperCollins in June, 1994. The book is a series of reflections on learning from experience throughout the life cycle, particularly from encounters with other cultures, and draws on Bateson's experiences in Israel, Iran, and the Philippines for examples.

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body were Muslims (called Moros in the Philippines, echoing Spanish attitudes toward the Moors). The priest who arranged the invitation hoped I would bring from Manila an association with higher education elsewhere in the Philippines and at the same time evoke the wider Islamic world. Reaching into the past, I was able to open with a few words in Arabic, recognizable to the students but not intelligible. While I was there in Jolo, I met an Egyptian, trained at al-Azhar University in Cairo, the scholastic center of Islam, sent to elevate Islamic knowledge and practice at that remote frontier. "They are like animals," he said. "They are so ignorant they hardly count as Muslims at all." There have been in human history many forms of racism, many forms of imperialism, and many forms of paternalism. Since that time, propelled by oil revenues, outreach to Muslim communities remote from Islamic scholarship has increased steadily, whether in the former Soviet Union or in the United States. No doubt increasing sophistication has led to increasing tact. The same kinds of views, with varying degrees of paternalism, were expressed by Spanish friars and by secular American administrators. Daniel Schirmer quotes Fred Atkinson, the first general superintendent of education in the U.S. administration of the Philippines: "The Filipino people, taken as a body, are children, and childlike, do not know what is best for them."

Subject peoples are often "treated like children," in the worst sense; so, alas, are children. School is the effort to inculcate in the young, whether overtly or covertly, arrogantly or persuasively, something they could not or would not learn in their home environment, often something that alienates them from the home environment at the same time that it gives them access to a wider or richer world. For many children, learning is leaving home, perhaps never to return. On reservations, Native American children used to be separated from their parents and forced to live in boarding schools where they were forbidden to speak their mother tongues. Yet in more benign forms, the contrast between home and school is illuminating and offers an open door to a world that is wider but not necessarily separate.

Learning is the fundamental pattern of human adaptation, but mostly it occurs before or after or in the interstices of schooling. Preoccupied with schooling, most research on human learning is focused on learning that depends on teaching or is completed in a specified context rather than on the learning that takes place spontaneously because it fits directly into life.

There is another literature about learning based on experiments with laboratory pigeons and rats. This applies across species, separated from the shape of lives, and for a long time had little to say about becoming a viable pigeon or a successful rat or an inquiring human being. My father, Gregory Bateson, told a story of a psychologist asked whether, since rats are essentially nocturnal, he had ever tried running his experiments at night. "No way," he said. "They bite." "You see," Gregory used to say, "all that theory is based on the learning curves of sleepy rats." It is not that it might be possible to work out a percentage difference between the learning of sleepy and alert rats and in that way to correct the faulty learning curves. The sleepy rats were groping their way through a task that alert rats simply reject.

Gregory had extreme distaste for experimental psychology as he had encountered it, and although the field has changed somewhat, assumptions decades old still linger on in textbooks and the memories of practitioners. Another story he told was of the rat runner who decided that, since rats do not naturally live in mazes, he would try maze-learning experiments with a ferret, for ferrets live by searching for their prey in the complex interlocking tunnels in rabbit warrens. According to the story, the ferret went through the maze systematically, going down every blind alley until reaching the reward chamber, where he devoured the haunch of rabbit. The next day, he returned to the maze and again went down every blind alley but ignored the tunnel leading to the reward chamber. As Gregory said, "He'd eaten that rabbit." Perhaps the ferret had learned the complex maze perfectly the first time through but interpreted it through his knowledge of rabbits: the chamber whose occupant was recently removed would not yet be reoccupied, but any other chamber might have been only temporarily vacant, and the ferret might find the owner at home that day.

The ferret was engaged not in an abstract learning task but in one that was intimately related to its pattern of adaptation. This is a kind of learning we know less about, learning that evokes the very being of the learner. In all the learning that involves the introduction of some alien skill, adaptive responses — seeking rewards or avoiding punishment — do play a part, but the learning itself does not match any innate adaptive pattern. No innate readiness welcomes it.

Much of traditional schooling is concerned with making children devote themselves to studies that make no sense in the context of their lives. Sleepiness is approximated by apathy, coercion, punitive levels of boredom. Research studies on human learning used to be done on college sophomores required to do tasks in the context of the classroom — the equivalent of sleepy rats. Nowadays it is more common to pay research subjects, using a carrot instead of a stick to involve them in tasks with no intrinsic rewards, and the same habit is spreading in anthropological fieldwork. Yet for

a species like ours, whose survival depends upon learning, it must be intrinsically rewarding, like sex. It may be that the whole process of education prepares children for the self-alienation of civilized adulthood by turning them into permanently sleepy rats, too docile to bite.

Virtually all the learning that precedes schooling — walking, talking, bye-bye and peekaboo, the intricate rhythms of life within a household — is learning as homecoming. It proceeds at dazzling speed compared with school learning, yet it is underestimated nearly everywhere. Infants have visible states of intense alertness from their earliest weeks, and as they mature they continue to be engrossed in learning, as if they were aware of what they needed to know and how to discover it, with an unfolding promise of participation ahead.

Many people have seen photographs or read descriptions of the ethologist Konrad Lorenz followed by a line of ducklings convinced that he was their mother. Ducklings are mobile almost immediately after birth, able to wander away from nests set on the ground, and vulnerable to predators. Their survival depends on learning to follow and obey a parent within a very limited time after hatching, so they are born knowing what kind of creature to look for (approximate height, waddle — Lorenz had learned to do what we aptly call a "duck walk," walking in a squat) and how to listen for a quacking sound already heard dimly within the egg. Since there is no way that the exact image of a particular parent could be supplied genetically, ducklings emerge with the analog of directions for when and how to obtain information: "when you come to the big square, look for signs." "I don't know which turn to tell you, but you'll know it because all the traffic is going that way." "You'll know it when you get there." Of course. When a particular kind of learning, like the ferret's learning of a new maze, is anticipated in the genome, new learning feels like something known forever.

We have such experiences not only in infancy, when the first moment of recognition may be lost from conscious memory, but in youth and adulthood. Learning about sexuality with a lasting vividness of delight; learning to hold and nurse an infant. There are sports where within the needed complex of skills particular components are immediately recognizable in their complete rightness, like the impact of a tennis ball on the "sweet spot" of a racket wielded just so. Love at first sight has the same quality. Long ago I fell in love with a man who happened to stand beside me for a few seconds at the corner of Broadway and Quincy Street in Cambridge, waiting to cross; he must have matched some readiness of mine, forever unexplored. Blond, tall, thin; the image has faded with time, but for years it remained photographically impressed on memory. In such experiences, an initial, instantaneous grasp is overlaid with more gradual learning unless it is isolated or repressed.

The preservation of the image of a newborn is surely akin to imprinting, for human mothers, whose infants are not mobile, must learn to recognize them as part of the broader learning process referred to now as bonding. Usually they are lucky enough to have time and the overlaid impressions of all the senses, growing into a complex blend of love and knowledge, while the first image blurs. For years I recalled perfectly the image of my firstborn seen for only a few minutes in the delivery room in Manila, dead a few hours later. Whatever innate preparation human beings may have to be parents is probably a readiness to learn, to enter a new and strange relationship and move quickly to the certainty, This is where I belong, for this I was created. The same intense sense of homecoming often accompanies religious experience. Going back to the beginning to "know the place for the first time" must also be learning as coming home: "Yea, the sparrow hath found an house, and the swallow a nest for herself, where she may lay her young, even thine altars, O LORD of hosts" (Psalm 84:3).

It is curious that the experience of homecoming in the intuition of the sacred is then so often removed from ordinary life, segregated like much of learning into institutional frameworks that are anything but homelike. It is common to deal with moments of vision by setting them apart from the rest of experience, protecting them behind a conventional veil, whether a physical veil or a veil of ignorance or secrecy. Traditionally, the sacred has been surrounded by anxiety as well as delight. Heads must be covered or uncovered, shoes put on or taken off, eyes averted and voices lowered. Often menstruating women are regarded as too unclean to touch sacred books, enter sanctified precincts, or even pray. You can find this kind of protection of the sacred as far apart as New Guinea and the laws of the Old Testament. Jacob awoke from his vision and said, "'Surely the LORD is in this place; and I knew it not.' And he was afraid and said, 'How dreadful is this place! this is none other but the house of God, and this is the gate of heaven'" (Genesis 28:16-17). Even at its inception, awe is half horror and only half delight.

It may be that in gradually freeing ourselves from one of the traditional markers of the sacred, the recurrent tendency to wall it off and protect it at any cost, we risk losing access to such experiences, exposing them to mockery or reductionism or denial. But if we believe that such experiences come naturally and are basic to human beings, we may also be opening doors to the

recognition of the sacred in ordinary life and in the world around us and taking back a native right. As the sacred becomes veiled in secrecy and priestcraft, sacred institutions develop that protect authority, often enforced by ignorance, and fear of the supernatural replaces the wonder of the natural. The segregation of the sacred is probably more ancient than other cultural segregations of experience, for it occurs in societies with only the simplest division of labor, long before the invention of schools. Either schooling or the sacred might be a good place to start in reintegration. Esoteric knowledge — knowledge that is not shared — is one of the sources of power over others.

The quality of recognition in any experience suggests a meeting of something already present within with something in the environment. We often think of the innate as a standardized minimum, but the inborn and unfolding readiness to learn opens the doors to diversity of every kind: the capacity to grow in love for this particular man or woman, to frame experience in this language, to care for this unique and unpredictable infant. The same quality of necessity and recognition attends the poet seeking the right phrase, the painter seeking the perfect form or conjunction of colors. Artists recognize and fall in love with their own work at the point where it must be left alone. We have even made the sense of necessity a form of proof, although experience shows that what is self-evident to one mind may not be to others.

The safest and richest journeys through adolescence are those of children who discover some area of skill that becomes their very own, focusing energies and demanding for at least part of the day a honed and delicious alertness. Building model planes, ballet dancing, riding, computer hacking, basketball playing, working on a novel in secret, any of these, whether or not it promises a way of making a living later in life, can become a standard for feeling fully alive. A tool — a chisel, a guitar, or in my day, a slide rule — taken up and recognized as a part of the self, can become the organizer of attention and commitment. Such discoveries, taking place outside of school, may be labeled antisocial, and children who wither in school may blossom in the acquisition of street wisdom and be punished for it. Commitment can be costly, setting children at odds with educational systems.

Because schools insist on a set range of subject matters, even those children who have fallen in love with chemistry are required to study literature and vice versa. In a society going through rapid change, a diversity of subject matter is all to the good, but it is one of the reasons why schools are at odds with the paths of learning as coming home. Colleges sometimes become so preoccupied with "well-roundedness" that they discriminate against the happy few who have, in Hopkins' words, "found the dominant of [their] range and state." We are not skilled at offering students pathways through their preoccupations to a broader perspective, as care for one child can grow into concern for all children.

The minor tragedies of lost delight in learning echo the tales of star-crossed lovers or religious martyrs. Edna Millay wrote, "Euclid alone has looked on Beauty bare," but we can only hope Euclid would have been captured by the beauty of geometry if he had encountered it in school. Most children are not; most school systems do not expect them to be. Every child who learns to walk is enraptured by the new skill, but few schools promote the same experience.

It is not that we do not value learning that comes as recognition, but that we have despaired of making it the paradigm of all learning. We mention it in shadow form when we warn that even a single dose of some drug may be addictive, may offer a sense of rightness that is forever compelling. We do not expect most children to cleave to geometry or to the final couplet of a sonnet, as to a revelation of who they are. Yet the human species has been honed through aeons of evolutionary change for readiness to learn, in small ways as well as in the dramatic ways I have been speaking of. Each new recognition of pattern, each appropriated skill, could offer a moment of homecoming, building toward an understanding and a capacity to participate in a complex social and biological world. It is in this sense that the model of learning as coming home can inform schooling.

Most of the learning of a lifetime, including much that is learned in school, never shows up in a curriculum. When school begins much of this invisible learning is negative: the inadequacy of parents as sources, the irrelevance of play, the unacceptability of imagination. School teaches the contextualization of learning and the importance of keeping different areas of life separate: home from the workplace, Sundays from weekdays, and work from play.

The knowledge that children bring with them into school has not been learned in an orderly progression. It can be codified and systematized (and sometimes is by linguists or anthropologists), but it is mainly passed on in contexts where it is presented not in explicit linear sequences but through spirals of partly apprehended repetition. Learning to speak implies grammatical rules and category systems, ways of mapping and classifying the world. Children's rhymes and stories contain metaphorical statements about the structures of the real and the social worlds, often coding vast stores of information. Childhood has its geography and natural history,

its ethics and metaphysics, not without pain and effort, but often without alienation.

San (Bushman) children grow up with an intimate knowledge of their environment, a complex grammar and mythology. Ties between persons are coded in three kinds of overlaid kinship and naming systems that take up several pages of diagrams in an ethnography. San children never see the diagrams but instead see living patterns of gift giving and mutual aid, gradually sorted out in the course of childhood.

The San have no indigenous tradition of schooling, no professional teachers, but like every human community, they do teach. We are the animal that relies most on learning in our adaption and even more distinctively the animal that relies most on teaching to evoke a portion of that learning. Just as the long human infancy requires reliable adult care, so the learning of survival skills require reliable adult teaching: Human biology depends on love. A San father takes his son out on the veldt with a spear to learn to track wild animals, just as an American father takes his son to the park to learn to hit a baseball. A village mother in Iran may give a warning or a demonstration before a daughter is allowed to use a loom or a sewing machine, wool or butter, knives or fire. Often what is taught would not be learned if it were not embedded in a relationship, for it may have no obvious relevance: a child's hands may be moved through gestures of ceremonial, the sign of the cross or the beginning forms of dance. A parent may teach a child the words of a prayer, presenting it line by line for memorization, often enough in an unknown language. "In the name of Allah, the merciful and the compassionate," "Hear, O Israel," "Our Father who art in Heaven."

Much that looks specific is really general instruction in relationship. In Western societies, we overestimate the importance of odds and ends of explicit teaching, without noticing what is learned implicitly. When we teach "Don't say 'it's me,' say 'it's I'" or "Say 'thank you'" or "Don't scratch in public," we are using relatively trivial explicit teaching as part of the process of imparting informal knowledge of a highly abstract kind about correctness, public and private spaces, and the nature of authority. Educated parents put considerable effort into correcting certain "classic" errors of grammar ("It's me") while blithely ignoring complex syntactic processes that children master without ever having them explained. Similarly, parents spend considerable time telling children to say "please" and "thank you" without instructing them in the more subtle gestural courtesies and alternate forms they will eventually master. We tell our children to say, "Please pass the butter," and almost unnoticed they learn to say, "Could I have the butter?" in a tone that makes it an acceptable equivalent. Clearly the lesson in courtesy is a vehicle for another less explicit and more profound lesson, like an Iranian child simultaneously instructed to be friendly and to withdraw from strangers. The informal learning, unverbalized and unquestioned, takes precedence over explicit teaching unless uprooted in drastic ways.

The same is true on matters of values. We instruct our children not to hit, not to make another child cry, and to "be nice to the little girl," but by example and other subtler clues we also instruct them that in some cases they should hit back and that they should be nicer to some people than to others. Subtle lessons about how social structures really work are passed on to children before they go to school, often before they are exposed to more presentable but contradictory verbalized values, which may then prove extremely difficult to teach. Sometimes when I paused to chat in the Philippines, a mother would say, "This is our fair child and this dark one is the ugly one," and I would be filled with white guilt and play with the darker child, knowing that there was little I could do to modify an often repeated lesson that would haunt both children for life. If African American children are told, with yanks and impatience, that they have "bad" hair, they may learn a much more general lesson of badness. An American mother with educational toys, form boards, and color books, was teaching something, although perhaps not yet the lessons visualized by educators.

It is not that we do not value learning that comes as recognition, but that we have despaired of making it the paradigm of all learning.

Discovering the connections and regularities within knowledge you already have is another kind of homecoming, a recognition that feels like a glorious game or a profound validation. When I started describing cultural patterns that were creating conflict between Iranians and Americans, one U.S.-educated Iranian said with pleasure that my analyses made his own informally learned traditions seem "reasonable," for the first time. If teachers were to approach their classes with an appreciation of how much their pupils already knew, helping to bring the structure of that informal knowledge into consciousness, students would have the feeling of being on familiar ground, already knowing much about how to know, how knowledge is organ-

ized and integrated. This might be one way for schooling to assume the flavor of learning as homecoming: learning to learn, knowing what you know, cognition recognized, knowledge acknowledged.

When schooling conflicts with previous learning on specifics, more general patterns may be disrupted and the sense of how knowledge is put together may be unraveled. So often, schooling depends on the idea "Take care of the pence for the pounds will take care of themselves," but the pounds are the fundamentals. An American child who has been told to drink her orange juice when she has a cold has learned exactly the same truth about the process of learning as an Iranian child who has been told never to drink orange juice when he is sick: that appropriate behavior must allow for all sorts of invisible relations of cause and effect, taken on trust. Better theories of nutrition are not a fair trade for impaired trust.

Eating carrots helps you to see in the dark. Garlic repels vampires. Cholesterol causes heart attacks. We all accept a vast number of such beliefs, and simply attacking those that have not been empirically validated creates confusion. The message "you are ignorant" is an attack on all the learning gained up to that point, not just on particular errors. It is more important to learn ways of grasping and organizing and testing such propositions, in the context of an affirmation of the process of learning. We may yet get a different version of the cholesterol story.

It has been said that the most important intellectual achievement of any human life is learning a first language, yet, except for brain damage, this is something we all have in common. We all enter school speaking a first language. In school we find out its name. A child who has learned to speak a nonstandard form has learned as much about *how* to learn a language as the child who has learned a standard one; that learning to learn has to be conserved. When a child enters school, even where the language of instruction is very close to the language of the home, he or she is still at risk when teachers spend their time teaching *correct* forms instead of celebrating the fact that every child already speaks some language pretty well. The structure of school emphasizes what you don't know.

A great deal could be gained from the traditional first language classroom by making systems learned without being verbalized explicit. If this could be done without devaluing the earlier, unverbalized learning, it could make available an additional layer of learning to learn. For example, English speakers go through their entire education without ever becoming explicitly aware of the rules they use, regularly and accurately, for forming plurals in spoken English. Children know this stuff when they arrive at school; all they need to learn is how to spell it and how to handle a few special cases. But discovering the rules offers a kind of self-knowledge, the discovery that one is more clever than one knew, in ways one had never noticed.[1] Sometimes teachers are unaware of their own unverbalized knowledge and take it for granted as a foundation, failing repeatedly in the attempt to teach pupils from other backgrounds in whom that knowledge is absent or different. The fact of patterning is far more important than knowing which pattern is in fashion in a particular period.

English teachers, even while offering the standard alternatives, could honor the elegant patterned quality of many "mistakes" (such as the use of *like* in reporting dialogue: "He's like, 'What can I do' and I'm like, What can I tell him? And he's, 'Maybe I'll go home.'"). Black English uses its own set of variations with equal regularity. Affirming patterns already learned would mean a profound modification of the teacher-student relationship: skills achieved could be built upon or varied rather than replaced and students could be treated as expert sources on their own experience. Conflicts between home learning and school learning could be replaced by comparisons of alternative patterns instead of a dissonant jangle. Schooling could offer the chance to choose behavior that will be adaptive, rather than forcing it.

The rules for how different kinds of knowledge fit together, which allow for the transfer of knowledge from one situation to another and for what linguists refer to as the generation of novel performances from underlying competences, are especially likely to remain unstated. Skills in seeking out and judging information that are explicitly taught are the tip of an iceberg whose base is formed when children learn to distinguish between fiction and news on television, to formulate the thousands of questions toddlers ask, to choose an adult likely to give intelligible answers, and to understand why some people are annoyed by questions and others are pleased.

Everywhere in the world, the contexts of learning change with maturation, switching from play to courtship to ritual. Cultures have mechanisms to accelerate learning at key points in the life cycle that build on the ancient link between learning and altered states of consciousness, like those that often form part of initiation rites. When adult participation in a society requires unlearning something already learned, the pedagogy may be draconian, yet often children accept it as a necessary transition to adult identities, part of becoming themselves. Without physical mutilation and fasting, we too maintain solemnity and unpleasantness in schooling, and insist on undoing earlier identities and confidences. Teaching children that there is a correct

time and place for learning, we also teach them to *stop* learning when they manage to escape from school, or to keep what has been learned specialized to one context and quite inaccessible for use in others, like tourists who become tongue-tied in Paris after years of high school French.

The polarity between initiation and alienation recurs in system after system; so does the polarity between persuasion and coercion. Often in missionary situations education is focused on matters that parents agree in wanting their children to master, but it comes blended with material that would alienate the parents. There is a profound tension between the idea of learning as coming home, carrying with it a steadily widened definition of home, and the idea of learning as leaving home. Jewish children exposed to Christmas celebrations at school, African American children recruited to privileged schools from the ghetto and then isolated, Muslim children in the Philippines, or Armenian children in Iran have no ready escape from ambivalence. There is a thread of betrayal in schooling of every kind.

I have never been anywhere that education was more hotly pursued than in the Philippines when we were there. The American colonial administration put its emphasis on economic and educational improvement and public health. Already in 1901, a shipload of 600 American teachers had fanned out across the country to establish a free system of public education. They were called the Thomasites after the name of their ship and are praised and excoriated by turns, for they were both a boon and a curse, muting the sentiments for resistance and independence. The Thomasites were like an early version of the Peace Corps, opening schools in rural areas and beginning a wave of literacy affecting the whole country. In the Philippines, literacy and knowledge of an outside language are still extraordinarily high for a third-world country.

The Republic of the Philippines has been independent since 1946, but it relies on English as a lingua franca alongside Pilipino. For children beginning school in their home dialects outside the Tagalog area, then, literacy involves at least three languages. As in India, there is a distinctive form of English filtered through generations of locally educated teachers: fine in context, it requires modification for export, suggesting the need to learn still another form. Here is a sequence of language learning that in principle follows the pathway from identity to adaptation. When languages are separated by context, children can master more than this; when they are muddled or disaffirmed, the whole process can be inhibited. Some African Americans can move skillfully up and down the scale of variations, from a deep southern black dialect virtually unintelligible to white northerners to BBC English, playing with the music of differences. Others feel trapped in a pattern of speech that labels them as ignorant, wounded in their sense of who they are and ill equipped to adapt to others. Standard English, so useful for many purposes, has come to seem an imposition to many for whom it could offer a useful second string to their bow.

Persuasion or coercion? Proprietary higher education became one of the most profitable businesses in Manila, sometimes superb, sometimes a shoddy and exploitive product. In spite of unemployment in many fields and mismatches between the supply of graduates and the need, everyone seemed to believe that education was the key to advancement. When the Marcos government was overturned, there were students in the vanguard.

The experience of the Jews has been very different, because for themschooling and study have been central to identity for millennia. It is among Orthodox Jews that the joys of learning are most vividly affirmed. In Israel little boys in black with skullcaps and side curls, growing up in the Orthodox enclaves that most nearly replicate the ethos of the Eastern European shtetl, can be distinguished from the children of secular families by posture and coloring, for these are children who do not play in the sun. The poet Bialik described the house of study as a prison, as something rotten and emasculating, yet he wrote, "who are you, adamant, who are you flint, to a Hebrew boy occupied with Torah?" Whereas the popularity of study in the Philippines is largely instrumental and education and certification are pathways to prosperity, in the Jewish tradition, scholarship has been an end in itself: the Torah was not to be used as "a spade with which to dig." Learning Torah is pure delight. Wealthy men coveted scholars, the true aristocrats of the community, as sons-in-law and were ready to support them in a lifetime of study. In Israel today a reinvigoration of traditions of Torah study is a central theme of the resurgence of Orthodoxy. Learning Hebrew and Old Testament were, even for me as a non-Jew, formative intellectual experiences of self-discovery. When Hebrew was revived from scholarly use to become the living language of Israel, this meant the creation of a community that welcomed and supported the language learning of adults.

Learning as a tool. Learning as an act of worship. Learning as a betrayal. Learning as play. Learning as servitude. Learning as a way of life. Education in the Philippines both empowers and disempowers. It is both a distribution of wealth and an investment, portable after political turmoil. Where land reform fails to put the basis of prosperity into the hands of peasants, schooling can still do so, and education, unlike land-

ownership, can be shared by all. Knowledge can represent both domination and humility, courtship and combat. Education creates a malleable and skilled work force, but it also perpetuates elites and creates revolutionaries. It can create xenophobia or cosmopolitanism. In interviews given by the shah in the late sixties, it is possible to detect a tenuous and dawning awareness that modernizing education was the only way for Iran to go but that the process could eventually end the monarchy. After the Islamic revolution, schools and universities were closed for months and even years so the education system could be reconstructed to match the ideology of the new government. They knew all too well that education is not just about literacy and numeracy, that it has always been contested ground, the stuff of power and identity.

I never found a fully satisfactory answer in Iran to the conundrum of schooling for Vanni, but then, I have never found a satisfactory answer to what I am doing in my own teaching. In Iran, the local schools seemed to me so preoccupied with issues of authority and correctness that they suffocated creativity. Secular American schools were separated from the society around them, while mission schools had too much hidden agenda. Eventually we turned to schools founded by American or English wives of Iranians, hoping that in at least a few of those marriages there was mutual respect, continuing learning, and an effort to find and make a home, a home which could provide a model for the schooling of bicultural children. Even when both parents come from the same background, a successful marriage is a continuous learning experience, constantly involving communication across difference so adaptation does not threaten identity. In successful bicultural marriages, cultural differences enrich the process.

I still teach for a portion of every year, puzzled by the ambiguities of the enterprise. A professor is supposed to be authoritative and well prepared, so it is hard to resist offering answers without questions and conveying the message that the world is divided between those who know and those who do not. My own greatest resource as a teacher is the learned willingness to wing it in public, knowing that I will be faced with unexpected questions, some of which I cannot answer. This is the challenge — improvising, learning on the job — that my students will confront all their lives. Oddly, I find myself trying to convey two contrasting ideas. On the one hand, I try to teach students to benefit from difference instead of being put off by it. On the other hand, I find myself discouraging the notion that learning depends on that specific difference we call authority.

Today there is a wealth of new thinking about schooling, yet it is fashionable in America to say that schools are failing and there is a groundswell of anger against educators of all kinds. This is not in the main because they are not doing their job — it is because we have no adequate understanding of what that job is in the kind of society we are becoming. We think the issue is the transmission of specifics, the meeting of specified goals, but these are illusory and children are wise enough to know it. It is a mistake to try to reform the educational system without revising our sense of ourselves as learning beings, following a path from birth to death that is longer and more unpredictable than ever before. Only when that is done will we be in a position to reconstruct educational systems so that teachers model learning rather than authority, and so that schooling will fit in and perform its limited task within the larger framework of learning before and after and alongside. The avalanche of changes taking place around the world, the changes we should be facing at home, all come as reminders that of all the skills learned in school the most important is the skill to learn over a lifetime those things that no one, including the teachers, yet understands.

It may be that withholding commitment and retaining skepticism even in the classroom is the wisest course, for we cannot tell our children with conviction that the civilization we know will always be right or true. We know it must change. "When you come to the big square, look for signs." For that looking, we can provide models for multiple kinds of attention, not attention paid like an enforced tribute to authority, but attention claimed and honed as a right of entry and a rite of initiation. You will always be acting under uncertainty. You will know the future when you get there. Only so can you make it your home.

There is another sense in which learning can be coming home, for the process of learning turns a strange context into a familiar one, and finally into a habitation of mind and heart. The world we live in is the one we are able to perceive; it becomes gradually more intelligible and more accessible with the building up of coherent mental models. Learning to know a community or a landscape is homecoming. Constructing a vision of that community or landscape is homemaking.

Note

1. Collect examples to show that the plural suffix written *-s* or *-es* has three pronunciations; which occurs where? To confirm that the choice of pronunciation depends on meaning as well as anatomy, compare the sounds of *knees* and *niece* or *whores* and *horse*. Then find the same pattern of variation in the regular suffix on verbs indicating the past, written *-d* or *-ed*. How elegant it is that the patterns are so similar.

Experiencing Science

Integration With Life

Claudia Berman

At School Around Us, a small cooperative elementary school in Maine, children are encouraged to explore their everyday surroundings together. Through this process, they learn that science and life are not separate.

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Founded in 1970, School Around Us is a small private elementary school in Arundel, Maine. Owned by parents and run by consensus decision-making, this cooperative has no hierarchical structure. Teachers, parents, and children shape the curriculum together each year using a democratic process.

Thirty-four children, aged four to twelve, attend mixed-age classes in the parent-built passive-solar school. It serves as an alternative to public education for families within a 25-mile radius. A variety of conventional and progressive teaching methods are used to nurture the growth of the whole child so that attention is given to different learning styles and to the development of both sides of the brain.

The school's philosophy can be heard in its name: School is all Around Us. The building itself is but the hub of a wheel, with many spokes connecting it to the community and the natural environment. The parents and staff work together to organize field trips and community-related projects. The curriculum is drawn from the students' interests and daily lives.

Beginning in kindergarten, the school fosters the notion in the children that they are scientists and that science is exciting. The science program is designed around a child's natural curiosity about the world. Making simple discoveries is the essence of the program. When one child observes something, others gather around to share it. Their enthusiasm and curiosity are contagious. Discoveries range from seeing common animals like insects and toads to observing cloud formations, a flower, or an unusually shaped stick or stone.

The outdoors

The school grounds are an important resource, teaching tool, and play space. The building sits on four acres that include fields and pine woods. A brook borders the land on one side, and a pond is located just beyond it. Two nineteenth-century cellar holes add a sense of history to the property. They are a popular place for the children to have fun, and they encourage their interest in archeology.

Elementary-aged children often choose outdoor activities rather than indoor ones. Being outdoors allows for greater freedom of movement for their growing bodies and encourages student-led exploration. Teachers encourage the use of the outdoors by leading their classes outdoors to write, draw, read, play, and eat. To expand the learning potential of such excursions and to assist in observation, teachers supply tools for exploration, such as magnifiers, binoculars, blindfolds, shovels, nets, buckets, thermometers, and field guides.

Two 90-minute periods, one in the morning and one after lunch, are the backbone of the daily schedule. They provide the needed flexibility to allow for student-led exploration and in-depth integrated study of a topic. Classes are offered during those times and often revolve around environmental or social issues.

Ecological studies of plants and animals around the school are popular every season. Studying animal tracking and animal homes, spring wildflowers, wild edibles, and survival skills are examples of annual projects. Insects, amphibians, and reptiles are an instant curriculum topic whenever they are found. Children's natural curiosity leads them to questions about the animals' lives. A terrarium and aquarium are located in the science room to extend the exploration.

Environmental sensitivity is key to developing scientists. Environmental awareness activities such as "adopt-a-tree," blindfold walks, and nature's windows (being buried in the natural ground cover) have become integral parts of the annual curriculum. Teachers guide activities, but students create their own projects using the tools. For example, once children are taught how to use blindfolds safely, they choose to use them on their own. It is delightful to see children leading each other on blindfold walks during their lunch hour.

In the last few years, students have chosen to take monthly observation walks. They draw, write, or listen in different habitats. Some take their observations seriously and keep detailed journals that show the changing seasons. Others absorb the observation in the moment, sometimes recording their observations on audio tape.

The nearby pond provides many science-related experiences. Swimming in the spring and fall, skating as soon as the ice is ready in January, and watching the changes in the pond from season to season are part of everyday life at the school. Science principles are everywhere: observing the pond freeze and thaw, testing the ice, answering questions about what happens to the animals, watching tadpoles grow, and much more.

Children go outdoors in any kind of weather and discuss what creates and changes the weather. They are taught about appropriate clothing so that safe, comfortable adventuring is possible. In winter, when most gym teachers find inside activities necessary, SAU children and teachers find outdoor activities essential. Sledding, skiing, tracking animals, and simply exploring the different types and formations of ice and snow are all part of winter life at the school.

Complex thinking and problem solving are ever present on the sledding hill that is tucked in the pine grove. A steep hill banks and turns into another hill as it winds its way to a frozen brook. There is a maze of smaller hills that vary in steepness and length, which join the largest hill-like tributaries of a river. It is fascinating to watch the children figure out how to get the best ride. Snow and ice conditions are surveyed. They have to decide where to start their sleds, which sled will give the fast, slow, controlled, or out-of-control ride. They have to avoid trees, other sledders, and "the rock." The children often work together on a decision and cooperate to increase the challenge. Besides the joy and excitement of sledding, they are experiencing and experimenting with the physics of motion. Science and life are not separate.

During mud season and spring melt, when most people are complaining of the long winter and muddy shoes, SAU children cannot wait to play outside. Mud and water present the opportunity to explore rivers, dams, and earth construction. Children love to play in the mud. There is usually a rather large puddle in need of drainage in the gravel driveway. I have seen the whole school form construction teams to drain the puddles. The teamwork, problem solving, and creative thinking could never have been planned. In addition, children love to experiment with mud. They add water to it, take water out of it, paint with it, drip it, construct with it, and add materials such as glitter, tempera paint, or grass and sticks.

The stream has influenced more students than any other resource, and "streamwalking" is an annual curriculum choice. Adults do little more than make sure the children are safe and respectful of the environment while the children explore and discover the stream. There have been years when students led year-long classes there, sharing discoveries of plants, insects, water flow, erosion, old bridges, ice formation, and the effects of flooding and pollution. Snow melt, the rise of the water from heavy rain, measuring changes in current and depth, and predicting the timing of the water's rise and fall are invaluable experiences to draw upon when children encounter more technical science in their later education.

Countless boat-, bridge-, and raft-building projects have excited groups of children and staff through the years. One spring, children made boats out of milk cartons. Some children developed complex designs, others sealed the carton, put on a string, and "sailed

their boats." All students, aged five to twelve, experimented. Some children even developed submarines. As they discovered how well their boats floated, they returned to the school building to modify designs or start again. They seriously compared and evaluated their boat designs with each other, sharing design successes and failures.

The science learning center

The science learning center is a small area set up for hands-on science activities, encouraging free exploration. It has tables along two walls and some shelves along a third wall. Two tables have 8-inch-high sides, one for liquids, sand, or granular substances, and one that is kept dry for activities needing containment such as spinning tops, a seed and cone collection, or shells to sort. The science area has the feel of a lab and a discovery museum. A mixture of materials relating to five basic science areas — physics, chemistry, earth science, ecology, and biology — are rotated in displays or experiments.

Instruction in the use of the more delicate, expensive, or messy materials or equipment is offered by a teacher. Once the children have learned to use the materials, they can be left on their own to make discoveries and experiment. Kitchen chemistry and "bubbleology" are examples of potentially messy science studies, needing instruction before use. Learning centers such as this are an important component of the school's curriculum.

Over the years, the school has acquired materials from many sources to create hands-on displays and self-directed exploration opportunities. Examples of items the school has obtained include a complete horse skeleton, seed pods from the tropics, various skulls (including one of an alligator), a variety of interesting fossils, an herbarium collection, and an insect collection.

One of our most exciting sets of materials was acquired from yard sales. We have a set of balls for motion experiments: billiard balls, golf balls, ping-pong balls, super balls, and an array of marbles of all sizes and materials. Experiments are conducted on tracks fashioned from molding that a parent was getting rid of and the slats from an old Venetian blind. The variety of balls and the two types of track materials allow for numerous variables for the design of motion experiments. Building a working track is exciting for the whole school. There is often a small group of children creating and testing a track. An audience makes suggestions, joining the pursuit to get the ball from one end of the room to the other without falling off the track.

Physics in the science room can also be explored through a set of spinning tops. When given a variety of sizes and shapes, children will test them for speed, length of time they stay spinning, and whether they travel as they spin.

Microscopes are a handy tool and are used throughout the year for looking at everything from snowflakes to insects. It takes practice for young children to develop the microscope skills. Children gravitate to different types of scopes depending on their developmental level. Three types of scopes have proven successful for children as young as five: a monocular blister scope, a small binocular scope, and a very small hand-held scope called the *Discovery Scope*.

Leaving out a few good magnets all year in the science center, relieves the problem of needing a large number of magnets for a classroom lesson. Children will learn everything prescribed in elementary texts by making discoveries with magnets on their own. Students test materials, discover how thick an object the magnetic force will penetrate, and see how many paper clips the force of a particular magnet will support. Teachers suggest questions or offer information on a higher level of thinking, such as the uses of magnets, why a magnet works, and the nature of magnetic fields.

The take-apart center

Problem solving, analytical thinking, and cooperation occur naturally at the take-apart table. Students have access to a set of screwdrivers, wrenches, and a variety of donated machines: typewriters, telephones, toasters, clock radios, electric timers, and tape recorders. They are guided to sort and save screws, bolts, springs, gears, pulleys, and unusual parts that can be used to create their own machines. A sectional box, with labeled compartments aids in this process. Teachers help children cooperate and point out the simple machines within the complicated machine. Their imaginations are active as students take apart machines and visualize what can be made from the parts. There is often chatter about these future inventions.

Occasionally, a dismantled item is used for experiments. One such item was an old spin humidifier. An electric motor spun a disc at a fairly fast speed. A team of older students, aged 8 to 11, spent an entire week investigating circular force and motion. They created a set of experiments on their own. Teachers guided them to develop a presentation of their experiments for the whole school and challenged them to understand how the term "centrifugal force" was related to their investigation. For a week, a small group spent all their free time experimenting. There was always an audience.

Directly next to the take-apart table is a carpentry learning center. The center houses a workbench, hammers, saws, drills, nails, screws, and scrap wood. Aside from the analytical thinking and creativity involved, children often design science-related tools such as mov-

ing vehicles, birdhouses, bird feeders, and buildings. Children's ideas are often far beyond what they can build on their own. Teachers guide the development of an idea children can accomplish.

Theme-based curriculum

Aside from student-led and self-directed activities, children and teachers are often involved in classes based on interdisciplinary themes. Thematic classes run anywhere from five weeks to the whole school year involving all children in the school. A general theme is chosen by the school from a brainstormed list of possibilities. Thematic studies have included such topics as whales, dinosaurs, the sun, water, the earth, ecology, native Americans, animals in our woods, machines, and sound.

When beginning a thematic study, teachers organize experiences such as speakers, films, and field trips. Eventually children develop an interest in a particular topic within the theme and break into small groups. These special interest groups research their topic and decide how to present what they have learned to the rest of the school. Charts, diagrams, books, plays, and puppet shows are a few of the presentation methods children have used.

Curriculum integration is necessary to make real-world connections and provide meaningful work for children. Reading, writing, and math are integrated easily into a thematic study through research and presentation. Curriculum integration gives students more time to spend on topics of interest to them.

Assessment

An important component of the school philosophy is one of sharing and reflection. Assessment is an interactive process. Each child is only compared to himself and the assessment is reflective. The only evaluation at the school is self-evaluation, which is accomplished in various forms including student–teacher interviews, criteria checklists, and narrative reflection written by students. Self-evaluation is an ongoing process throughout the year as projects take form and come to completion. Sharing and reflection are part of everyday practice.

Science explorations are shared and assessed by teacher–student interviews or by sharing circles at the end of the day. Documentation, an invaluable and necessary tool in all research, is guided by teachers. Students who can write enter something in their journals. Students who are beginning writers are encouraged to document their work on a tape recorder, through dictation, or through drawings.

The scientific method is the learning process

Science is in everything students do — from making silly putty in art class to cooking, from outdoor exploration to taking apart a machine, from sledding to making music. Science is integrated in their life as science is integrated in everything they study. The scientific method for the elementary student is the same method an adult goes through when doing any kind of research.

At SAU, the teachers follow the students' leads. Children ask questions constantly. They seek answers to big questions about how the universe works. Questions are answered with questions. Students make guesses as to the answer. Teachers guide them by drawing on the students' previous experiences. After the guess (hypothesis) is made, discussion on finding the answer proceeds to research or experiments to test the guess. This is the true nature of learning.

Everything the students set out to learn is a process of asking questions and conducting investigations to find answers. There is little difference between the basis of a scientific investigation and an investigation of any topic. Whether one is collecting information through experimentation or through interviews, it is all research. Conducting any research has the same basic format. All investigations and experiments also require investigating related literature or interviewing an expert to understand the observations. At SAU, having experiences with science and the scientific process is simply part of everyday life.

Authentic Curriculum

by David Sobel

Authentic Curriculum is what happens when teachers recognize, nurture, and build on the genuine, play-inspired, spontaneous fascinations of the children in their classes.

All of the current rumblings about a national curriculum in the United States make me nervous. Nervous because I have watched similar developments in England over the past three years and listened to teachers describe what has been lost as a result. Nervous because a national curriculum threatens many of the good developments now emerging in the name of site-based management and teacher ownership of the curriculum here in the United States. In truth, I fear that we already have a de facto national curriculum.

Simply examine the curricular scope and sequence charts from the major elementary reading and mathematics textbook series or the curriculum guides from random school districts across the United States, and you will find a pattern of expectations with regard to skill development at different ages. There is about as much difference between Addison-Wesley, Scott Foresman, and Macmillan as there is between Coca-Cola, Pepsi, and Royal Crown. They're all bubbly, sweet — and not very nourishing.

The situation in England is particularly disheartening because, to my mind, many British teachers and small primary schools have carried the banner of what I want to call *authentic curriculum* for the past 30 years. Authentic curriculum is what springs forth from the genuine, unmediated individual and developmental fascinations of children and teachers. Speaking before a group of British teachers in 1969, David Hawkins (1973) described one source of authentic curriculum:

> Everyone knows that the best times in teaching have always been the consequences of some little accident that happened to direct attention in some new way, to revitalize an old interest which has died out or to create a brand new interest that you hadn't had any notion about how to introduce. Suddenly there it is. The bird flies in the window and that's the miracle you needed. (p. 499)

British teachers have been masters at dealing with the "bird ... in the window." Responsive to the shell that Fiona brings in after the holidays, or to the news story that connects with yesterday's classroom event, or to just the right book that fits with Roger and Ben's construction in the block area, British teachers have created and shaped curriculum out of the unique chemistry of the individuals and events in their classrooms. But as the implementation of the national curriculum

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has proceeded in England, teachers there have commented that the special, idiosyncratic projects and pursuits are gradually being elbowed aside because of pressure to cover all of the mandated material. "There's just no *time* nowadays," they complain. The righteous and compelling demand for curricular comprehensiveness and consistency extirpates local color and character in classrooms. It's like the homogenization of the American commercial landscape by fast food restaurants or the decimation of traditional cultural practices with the arrival of television and a market economy.

I have always heard that you can walk into any second grade classroom in France and find the children working on the same pages of the same workbook, whether you're in Paris or Lyons or Marseilles. To some, this may represent the fulfillment of the national curriculum dream. To me, it's a nightmare. I have always said that a test of a good classroom is whether you can walk in and see something happening that you've never seen before. The confluence of children's concerns and interests, the teacher's passion, the cultural milieu, and the prescribed curriculum in all its permutations and combinations should generate some new species of curricular flowers. Maybe not every day, but at least once every few months. If this isn't happening, then the magic and mystery of learning, of knowledge unfolding, isn't taking place. Preservation of this unfolding is as important as the protection of rain forests in Costa Rica and dwarf wedge mussels in southern New Hampshire.

Coining a new term

Is *authentic curriculum* a new idea? Do we really need a new term to describe something that has been around for a long time? Certainly, there are many competing terms that seem to describe the same approaches — *integrated curriculum, developmentally appropriate curriculum, thematic curriculum,* or *project-centered curriculum,* as well as *informal education* and that old bugaboo *open education.* Authentic curriculum certainly overlaps with all of these but is not synonymous with any of them. The term *authentic curriculum* has emerged out of the work of the education department at Antioch New England Graduate School.

In 1989, while preparing my comments for the traditional "first community meeting" with new students in the Integrated Day program, I realized that I wanted to talk in specific terms about the faculty's beliefs. I wanted to go beyond the grand, eloquent, ringing phrases about honoring individual development *and* social responsibility or about the symbiotic I–Thou–It relationship between the child, the teacher, and the curriculum. I wanted to model the phenomenological honoring of particularity in describing actual nitty-gritty examples of good curricular practice in classrooms. All of the examples in my head had an insistent, self-affirming quality about them — like the seemingly fragile plant that pushes its way up through the asphalt. They all originated from some deep, quiet place and then moved up and out into the light.

My wife, an expressive arts therapist, was at that time involved in the practice of a new hybrid form of choreography and therapy. She described it as movement from the inside out, where the individual meditates, or quiets herself, and allows movement to emerge. As opposed to head-down movement — thinking about the movement and then instructing the body to perform — the idea is to eliminate the mind as the source and instead let the body stir within and the movement follow. After a movement session, the mind becomes active, looking at the movement patterns and images and reflecting on their significance. This methodology, described as *authentic movement,* conveyed the same dynamic principles that I wanted to convey about curriculum.

Having prepared my comments the night before the meeting, I had no time to share or validate my thinking with my colleagues. And so, at the meeting, I began by introducing the term and sharing my examples. Then I asked other education faculty members if they had similar illustrative examples. Without hesitation, my colleagues offered poignant portraits of similar kinds of classroom work, some of which I will share below.

Authentic curriculum has started to stand on its own. It has carved out a niche in our semantic universe, and we at Antioch are constantly on the lookout for living and breathing examples of it. This sense of *rightness* or *fittingness* that we feel supports our conviction that we are describing a distinct species of classroom practice. Certainly, it has been seen before, but because it looks like other similar species and occurs infrequently, it never has been taxonomically differentiated. Before it falls subject to the chainsaws of curriculum reform, I want to try to qualify and describe it.

The term *authentic* in this application predates both the notion of "authentic assessment" and the use of "authentic learning" as a theme for the April 1993 issue of *Educational Leadership.* All three usages bear much in common, but I think it is important to distinguish between the quality of authenticity as implied by the advocates of "authentic assessment" and the quality of authenticity in curriculum as described by the education department at Antioch New England.

What is taught in schools is often different from what is assessed. Hence, the objective of "authentic assessment" is to bridge this discrepancy by bringing the assessment in line with the true goals of the curriculum,

or to bring internal consistency or coherence to the curriculum–assessment cycle. But the goals of the curriculum and the assessment are generally determined by the administration and teachers and reside mostly in the objective external world, apart from the inner lives of children.

Authentic curriculum, on the other hand, refers more to the process of movement from the inside out, taking curriculum impulses from the inside of the child and bringing them out into the light of day, into the classroom. It implies a necessary connection between the subjective, inner lives of children and the objective, external world of schooling. Froebel, the nineteenth-century creator of the kindergarten, suggested an analogous pedagogical dynamic when he said, "The purpose of teaching and instruction is to bring ever more out of man rather than to put more and more into him" (Froebel, 1970).

A living, breathing example

The following narrative is adapted from a journal entry written 21 years ago when I was working with a group of first graders at The Harrisville School in New Hampshire. It is useful here as a springboard for discussion of some attributes of authentic curriculum.

Let the floodwaters go — 28 April 1973.

The ever-present spring drizzle had stopped just a few minutes earlier, and I decided to let the children go outside for recess. Granted they were going to get their feet wet, but it had been raining for too many days to keep them inside again. The air was beginning to freshen, the new leaves glistened, and the nerve-racking black flies were still holed up enough to make it a beautiful, though gray, morning. Brian and Chip gravitated to the waterworks area and began to create two dams, one above the other. The area was created by a small drainpipe that emptied out from underground onto a muddy hillside, creating child-sized rivulet courses down the hill, begging to be shaped. Regularly, two or three boys would play in this area, but on this day a dozen different boys had converged and a massive project began to take form.

The cooperation was admirable. Somehow, all of the boys seemed to parcel themselves out into specific roles. Some tended the upper dam, some the lower one. Some were channelizing, and two were in charge of controlling the flow of water from the pipe. Then there were the mud and clay collectors, who prepared the materials for the dam tenders. All of this cooperative work suggested many images of beavers and bees. The fascinating aspect was that no one was in charge. There were many conflicting ideas, a lot of arguments about whether to heighten this dam, whether to deepen this pool, and when to let the water out of the pipe, but all were worked out without a hitch. Everyone was caught up in the building, the mud and the clay, the flow of the water, the necessity of keeping the dam strong. Frequently someone would warn, *"Ten minutes till the flood!"*

I let things go way past the end of recess, not wanting to intercede, but then finally told them that they would have to bring things to an end. The consensus was to break down the dams. *"Let the floodwaters go! Let the floodwaters go!"* they chanted spontaneously. The dams were burst one after the other, and the water poured down the hillside to everyone's great delight. I reminded them to wash, remove their muddy shoes, and come to the rug for discussion. Chip, who had been a clay preparer, wanted to save some of the clay, so we set it aside to see what would happen to it.

My initial plan for discussion was to draw a large, collective map of the whole project. I thought we would talk about trapping the water, how the water got from one place to another, and other ways of making the system bigger (e.g., adding more channels, more dams). I was interested to see how much they could apply their kinesthetic involvement in the mud and water to a two-dimensional representation. After the map had been created, I planned to send them back to change the dam system the next day.

I started by asking some questions about the source of the water, calling only on those with raised hands in order to mobilize their enthusiasm. When I asked about how they made the water run faster, Peter explained, "By holding it back — by damming it." This led us into talking about dam construction. It seemed that the significant problem with the dams was that if you didn't keep repairing them, "the water seeps through little holes in the bottom of the dam — holes you can't see — and then the holes get bigger and more water comes through," Brian summarized. He explained with a lot of gestures, one hand showing the dam and wiggling fingers on the other hand showing the trickling water.

About this point, I abandoned the map idea and started asking about the differences between clay and mud as building materials, a difference they had recognized. Chip said, "Clay is better. It's stickier and it holds together more." At this point I pulled out Chip's clay, and Mary, my assistant, went to get some potting soil. I thought we would see about the differences between clay and dirt. I made a ball of clay and a ball of mud and asked the children what would happen if I put my finger in each. Most agreed that I would make a hole in both. When I stuck my finger in the clay ball, it stayed together, but when I stuck it in the dirt ball, it fell apart. But at the children's urging, I made the dirt ball wetter, and after two more trials the dirt/mud ball stayed together too. "Is clay just wet dirt?" I queried. I then

made another ball of each and put them in water, and we watched the dirt ball disintegrate while the clay ball held together. "Are clay and dirt different other than just being wetter or drier than each other?" We set aside a ball of clay and a ball of mud to see what happened, and since we'd been at this for close to a half hour, we broke for lunch.

During the next two weeks we went off in a variety of directions. Some of the boys returned to the waterworks area and continued to build new structures, modify their dam-building techniques, and add more technology. One of the morning options became doing experiments with clay and mud to see which was strongest. After I showed one group how to make miniature bricks, they modified the procedure, made a lot of bricks, and then started building miniature houses with them. Later this branched off into building structures with stones and concrete. From the brick-building activities we delved into a series of discussions about the best way to build tall walls with building blocks. We built one wall with the blocks stacked on top of one another and another wall with the blocks overlapping. We then devised a way to standardize a sideways glancing blow to see which wall was stronger. The children then applied the lessons from these discussions to both their constructions with the unit blocks and to a bridge that they built out of the large blocks which spanned the hallway and connected two rooms together.

Another group became involved in modeling the clay that we collected from the deposits outside. One morning, our discussion focused on the differences between the potter's clay that was part of the school's supplies and the natural clay that we found outside. Michael's parents, both professional potters, came and did some hand-building activities with these children.

That one vibrant damming experience and the discussion that followed resonated throughout the curriculum for the rest of the school year.

Defining the ecology

Understand that in my four years of working with children at The Harrisville School, there were no more than a dozen of these truly captivating involvements that evolved into potent curriculum. The rest of the time we all went about the business of good education, holding to the daily rhythms, doing reading, writing, math, and theme work while we prepared and tried to lay the groundwork for the outbreak of authentic curriculum. David Hawkins (1973) says,

> We all know that we can't succeed at it all the time or sometimes not even very often, but we all also know that when it does happen it's worth a great deal because in fact far more is learned under those conditions than under conditions of routine presentation of subject matter. (p. 500)

What are some of the sources, the spawning grounds, of authentic curriculum? Many are embedded in the dam-building account. I will try first to isolate them and then describe them in greater depth with diverse examples.

Play. Children's play is often the fertile soil in which authentic curriculum takes root. If there are no times and places for children to play — and this applies throughout the elementary years — then it will be very difficult for curricular impulses to emerge. Anticipating that the children were going to become very wet and muddy, it would have been reasonable for me to forbid their water play and attenuate the whole activity. Or sensing the possibilities, I could have interceded early on and directed the activity toward my own ends. But because I stayed out of it, a wave of energy emerged that sustained the children's involvement.

Individual fascination. Although the waterworks example doesn't illustrate this in a striking fashion, individual fascination is often a crucial starting point. Authentic curriculum often emerges out of just one child's deep, persistent interest and fascination with something. It is like the dog that won't let go of the bone. In this case, Chip was one of the instigators. He could always be counted on to immerse himself in messy, shapable projects, but on this occasion this role was fleeting. Sometimes, one child will labor on alone for a long time before things start to snowball.

Group chemistry. The group involved in the waterworks project was in no way a happy, cooperative group. Squabbles and fights were regular occurrences. Often group members wanted nothing to do with one another. But the spontaneous colleagueship and cooperation that emerged during this activity was a striking example of the kind of rapture that characterizes curriculum at its best. It is similar to the spell that good storytellers are able to cast over an audience, wherein each child is buoyed by the involvement of the other children. My recognition that the waterworks participants were all riding this same wave of momentum was the reason I relaxed the recess boundaries and let the activity flow for as long as seemed possible.

Serendipity. Although sensitive teachers are able to set the stage for authentic curriculum, it often emerges out of the blue. Water issued forth from the drainpipe only when there was a lot of groundwater. Our appearance on the playground soon after it had been raining for many days meant that there was an unusually good flow of water that day. Had we skipped going out that day, the whole sequence of events might never have happened. The whimsical nature of when the curricu-

lum muse will appear makes it hard to always stick to lesson plans.

Teacher capitalization. It would have been easy for me either to ignore the whole activity when we went back inside, or to persist with my mapping idea. The first alternative would have squandered the rich curricular potential, and the second would very possibly have squashed the children's interest. By providing the opportunity for the children to share their excitement and discuss their discoveries, I nudged their investment up to the next quantum level. Hawkins (1973) says,

> This is again something very different from the stereotype of the permissive classroom because what's involved all along is a teacher who is making *educational capital* [emphasis added] out of the interests and choices of children and out of the accidents that happen along the way, as well as out of his own cleverly designed scheme for getting something new into focus. (p. 494)

The collective unconscious. When I was seven years old, my favorite activity in the world was stream damming. Children around the world share this fascination of making small worlds, shaping the forces of nature in miniature, or as Edith Cobb says, "making a world to find a place to discover a self" (Cobb, 1959). The making of small worlds is one of the deep themes of childhood, the kind of thing that good teachers know can be made into "educational capital" on a regular basis. The strange fascination with dinosaurs in first grade and horses in fourth grade is another example of the oddly persistent and widespread deep themes that exist. Although it is valuable to speculate about the psychological rationale for these themes at different ages, it is more important just to recognize that they exist and try to use them in planning the curriculum.

Certainly these features overlap, and it is likely that they contradict one another, but when enough of them are present, the possibility of authentic curriculum is heightened.

Taxonomic differentiation

Let me place authentic curriculum within the context of other approaches to curriculum. First of all, I don't want my advocacy of authentic curriculum to be confused with support for a laissez-faire, free-school approach that lets the children do what they want to do. Although a certain openness and responsiveness to children is necessary to the creation of the proper climate for authentic curriculum, a prominent role is played by the teacher in shaping what happens. It is like the martial arts principle of taking your opponent's force and using it to accomplish your ends.

Maya Apelman, in her article "On Reading John Dewey Today," summarizes nicely my own general convictions about the role of the teacher vis-à-vis the curriculum:

> Dewey said that advocates of what had come to be known as the "child-centered curriculum" tended to abdicate their responsibility as adults whose wider knowledge and experience should facilitate the child's entry into the world of people and things, of the present and the past. Today the same tendency exists among some teachers. Many of the young "anti-establishment" people who go into elementary school teaching refuse to assume the responsibility and authority which must be a part of any mature person's functioning. "There is no point in ... being more mature," Dewey wrote, "if instead of using his greater insight to help organize the conditions of the experience of the immature, he throws away his insight. (Apelman, 1975, p. 18)

On the other hand, teachers held captive by mandated curricular programs enforced by rigid testing schedules certainly won't be inclined to abandon the district guidelines to do clay modeling when the children are supposed to know 30 sight words by Christmas. Joel Greenberg captures the ethos nicely in critiquing school districts' love affairs with packaged curriculum and planning initiatives:

> The package reduces the teacher to the role of disseminator of specialized research materials and to the role of transmitter of programmed, planned ways of using these materials. While they may originally have been born of the observed needs of children, they are disseminated wholesale.... Even what is called "individualized instruction" is commonly doled out this way, the concept having been diluted to "type of individual" or, more simply, to rate of instruction with identical material. (Greenberg, 1977, p. 11)

What we are seeking, in terms of informed curricular practice, is the artistry of balancing the need for curriculum structure and objectives and an openness about how to achieve those objectives. In addition, the objectives need to be stated so that they don't imply an inflexible time structure, creating the need to *cover all of the material*, so that when fortuitous serendipity strikes, it can be attended to rather than ignored. Hawkins (1973) clarifies that Dewey was a strong advocate of this perspective:

> Dewey, for example, is very strong in asserting that the Experimental School, which he ran for a time, had a definite curriculum and there was no freedom to depart from this curriculum. This was imposed: it was a pattern which could be argued about, it wasn't sacrosanct, but at any given time there was a curriculum and everybody understood what it was. Within this, the teachers were enormously free to pursue these general subject-matter situations in any way they wanted to, and it was quite clear also, to many of them at least, that an important group involved in making those decisions was the children themselves.
>
> If you read some of the accounts of what some

> teachers and some children in that school did, you can see that they were having a great good time making their way through some aspect of the curriculum but diverging all over the place. They were diverging into other areas which were also on the curriculum, and nobody regarded it as a waste of time, therefore, if in the process of studying some primitive society they got heavily involved in the craft of pottery, because that was also part of the curriculum. (p. 498)

Thus, authentic curriculum is most likely to crop up in a classroom where the teacher manages that delicate balance between what Whitehead called "the rhythmic claims of freedom and discipline" (Whitehead, 1967). Much good practice exists in today's schools that illustrates this artistry, but let me try to define how authentic curriculum is either a subspecies of other popular progressive approaches to curriculum, or perhaps an emergent distinct species.

Developmentally appropriate curriculum. Much of the valuable curriculum innovation of the past 20 years has come about through the application of Piaget's work and a recognition of the organic learning processes in childhood. Originated in England as the language-experience approach to reading, "whole language" and the "writing process" have revolutionized and humanized reading and writing instruction in many American schools. The *Nuffield Mathematics* project, which came out of British primary education, was translated and made more accessible in the *Math Their Way* and *Math: A Way of Thinking* books and approaches. The *British MacDonald 5/13 Science* curriculum series is still one of just a few science curriculum projects to tie program objectives to Piagetian stages rather than to specify content objectives by grade level, as is done in the vast majority of American science curricula.

I am a devout supporter of all of these curriculum initiatives, but it seems important to note that the major emphasis in each of these innovations has been on children's *cognitive* development. With subtle accuracy, each of these curriculum approaches has articulated stages of cognitive development and keyed instructional approaches to the unfolding process of logical thinking. What is missing, however, is a sense of *affective* development, a recognition of the developmental themes that dominate children's inner lives. Erik Erikson, Robert Kegan, Howard Gardner, Joseph Chilton Pearce, and Rudolf Steiner are a few of the developmental theorists who have charted the inner lives of children, but very little of this understanding has made an impact on curriculum planning.

Many teachers intuitively migrate toward topics of native interest to children, but few can articulate the deep, developmental rationale for the children's intrigue. There is little sense of the connection, for instance, between children's natural interest in geographic exploration, of exploring the boundaries of their immediate world about ages nine and ten, and the appropriateness of studying the explorers in fifth grade. The Waldorf curriculum, based on the writings of Rudolf Steiner, is one of the few models of curricular topics being chosen because of the fit with the development of the child's inner life.

Authentic curriculum is distinct from developmentally appropriate curriculum in tapping into the affective and emotional lives of children. I certainly am not advocating for one to the exclusion of the other; rather, I am suggesting that there is a potential basis for curriculum planning other than just cognitive stages of development. Sylvia Ashton-Warner's (1963) "key word" approach is a good example of an instructional approach based on emotional realities rather than cognitive realities. Her use of individualized sight words for beginning reading — different for each child and chosen on the basis of which words are most laden with strong feeling for the individual — is a good example of authentic curriculum.

Integrated and/or thematic curriculum. Whitehead's mandate that we "eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum" (Whitehead, 1913) has been taken to heart by educators who advocate integrating the language, math, science, and social studies curriculum areas through themes and projects. Dorothy Paull, describing the myriad examples of environmental education work done in her British classroom says:

> By the middle of the autumn term in 1969, most of the children were working on environmental materials they had brought into the room. They often described their work in prose or poetry, thus bringing together many of the traditional disciplines such as reading, history, geography and, of course, writing. Many of the things that were going on in the classroom tended to erode boundaries between disciplines. Nothing eroded them faster than the stream table. (Paull & Paull, 1972, p. 28)

Integrated curriculum strives to contextualize learning, to encourage children to see the connections between home life and school learning, to provide situations to practice mathematics by solving a real problem. But in the name of integrated curriculum, children still can be excluded. Teachers dutifully plan integrated themes that require writing and math problems and appropriate science experiments all related to preparing food for the harvest supper, but in their haste to do everything, serendipity is precluded.

In their book *Yesterday I Found*, Dorothy and John Paull describe two curriculum projects for nine- to eleven-year-olds: one on bones and the other on mold. Dorothy explains that the bones project began when, without any forethought, she brought some x-ray

plates into the classroom and they were discovered by some students. What emerged was a project, at first anchored by one child's interest, that involved a variety of drawing, reading, skeleton reconstruction, owl pellet dissection, and art projects that persisted on and off for many months. In contrast, Dorothy and John did extensive preparation in the form of background reading, materials preparation, and trial experiments before introducing the mold project into the classroom. Soon after the project began, the children's interest waned and the whole thing was abandoned. John Paull theorizes about why this project didn't work:

> It seems that I made the error of taking the fun of full investigation out of the hands of the children and the teacher. *I* designed the containers, *I* read all the exciting books. For me this was a rich learning experience that developed when the Elementary Science Study booklet aroused my curiosity. I made the mistake of assuming that the children and teacher would react as I did. The episode showed me clearly the difficulties of "packaging" an idea away from the context of the classroom it will be worked out in. (Paull & Paull, 1972, p. 6)

As well intended as some curriculum planning is, integrated or not, the proof of the pudding is in the individual interests and the group chemistry of each individual class. One year the unit on bones might captivate a group of fourth grade children for six weeks; the next year with a different group of fourth graders, it might be ho-hum and activities will be done by the end of the second week.

The clue to authentic curriculum is recognizing the innumerable variables at work in determining whether something will catch fire or not. To allocate in advance specific time blocks for all of the units of study during the course of an academic year is to ask for trouble. There must be space for the spontaneous fruiting of some unplanned project and for the abandonment of a well-planned unit that has worked in the past. This is not, however, an argument against planning. Louis Pasteur said, "Spontaneity favors the prepared mind." The better prepared you are, the more likely it is that the bird will show up in the window at just the right moment.

It is also important to place the notion of authentic curriculum within the current context of holistic education. *Holistic education*, as distinct from progressive education or open education, recognizes the spiritual interests and pursuits of the child as valid components of the child's education. The spiritual life of the child can be supported by providing time and space for meditation in schools; recognizing the equal strengths of verbal and logical left-hemispheric thinking as well as spatial and intuitive right-hemispheric thinking; and entertaining the notion that there may be or are higher beings, one God or many gods, who affect or shape our lives. These considerations suggest that we need to structure time and procedures in schools for engaging in artistic practices, for emptying the mind of linear thought, for guided imagery, for communion with nature. In turn, these practices support authentic curriculum in that they invite inspiration, encourage the muse to make an appearance, and allow for the genuine interests of an individual or group to rise to the surface. The result is a curriculum project rooted in the unique qualities of the group, historical moment, and place.

Back to the classroom

Let us move back to the landscape to explore some tangible examples of authentic curriculum at different grade levels and emerging from different sources.

The Loch Ness Monster project. This project emerged out of the cultivated interest and fascination of one child. Kelly, a third grader in Jane Miller's vertically grouped first through third grade classroom at the Harrisville School, was constantly intrigued with the Loch Ness monster. She brought in newspaper articles, took books out of the library, and talked about it at morning meeting. Miller supported the interest, encouraging her to pull together whatever information she could find into a report. At the time, the school had an artist-in-residence doing a variety of projects with the children. Miller hitched him up with Kelly and the result was a simple animated film describing the various hypotheses about the size and origins of the Loch Ness monster.

Kelly then thought that she would like to make a model of the serpent, not just a scaled-down one, but a lifesize model. Since the consensus of all the scientific estimates was that the monster was 50 feet long, this presented a bit of a problem. But Jane forged ahead. Eventually the decision was made to scale down the model by half, to only 25 feet long. Miller enlisted the help of the school maintenance workers in making a wooden frame and covering it with chicken wire, and soon everyone got involved. All of the children in the class helped to cover the frame with a skin of polyethylene plastic; make the eyes, nose, and mouth; paint scales on the sides; and generally make it into a fearsome-looking monster.

Speculating on what should happen next, Miller and the artist-in-residence decided that they should surreptitiously slip the completed model into the local mill pond, under cover of darkness, and send press releases to the local newspapers indicating that because Nessie was so tired of being harried by scientists in the Loch Ness, she had decided to relocate to Harrisville, New Hampshire. The children helped to work out the details of the story.

A local reporter and photographer showed up the next day to take pictures, interview Kelly, and write the story. The Associated Press wire service picked up the story, and the whole curriculum project was described on front pages around the United States. Within a few days, copies of the article from the *Jacksonville Herald*, the *Phoenix Sun Times*, the *Tacoma Daily News* and a myriad of other places arrived at the school, sent unsolicited by tickled readers. All said approximately the same thing: "It's great to read this kind of good news in the paper. Keep up the good work. We thought you'd like to know your story made it all the way here."

Miller capitalized on the opportunity. She posted a large map of the United States in the classroom, identified all of the places from which the class received letters — and the class was off on a U. S. geography unit. Some of the children sent thank-you notes; others decided to research other scientific mysteries; and Kelly was a little overwhelmed by all of the attention.

This no doubt is a once-in-a-blue-moon example. Like the little acorn that grows into the stately oak, it is important to recognize that for every acorn that makes it, another 999 never germinate and rot, are eaten by squirrels, or grow to saplings before they're shaded out by other trees. But the experience of just one of these curriculum projects during a school year can have an indelible effect on the entire class's attitude toward learning. Note how significantly the teacher's initiative and willingness to support the individual's fascination provided the impetus for each significant jump in scale and commitment along the way. Also note that the presence of the artist-in-residence and the availability and willingness of the maintenance staff at just the right moments made this possible. Finally, recognize the collective, unconscious fascination with monsters and mysteries — the creatures in the deep, the shadow, or the dark side. Many children pursue understanding creatures like Nessie as a way of taking hold of their unnameable fears, their fear of the dark, their fear of the dark side of themselves. The curriculum can provide vehicles for children to give shape to their fears and gain cognitive skills in the process.

Becoming birds. For two years in the mid-1970s I worked with Follow Thru teachers in the Brattleboro, Vermont, public schools during their School Outdoors week. First through third graders came to the summer camp setting at Camp Waubenong to participate in environmental education activities. As a staff, we were committed to avoiding a lapse into conventionalized naming and preaching activities, so we brainstormed how to overcome these barriers.

I have always been resistant to teaching children about birds. Part of this stems from my own childhood sense that watching and naming birds was dumb. Somehow, it never appealed to me until I was in my early twenties. I dislike ardent bird watchers and environmentalists who try to foist their new-found enthusiasm on unsuspecting six- and seven-year-olds. On the other hand, birds are fascinating and beautiful creatures, and some children are entranced by them. We initiated our curriculum planning by agreeing that we were not going to start our work with birds with the children by trying to get them to identify birds through the boring activity of seeing glimpses of them and then looking them up in books. Rather, we speculated, what is it about birds that appeals to children? It was immediately apparent that the sources of intrigue were (a) they fly and (b) they make nests. Using the developmental principle that children like to become things rather than objectify them in early childhood, we came up with our plan.

We gathered a bunch of large boxes, cut them into sheets, and had the children lie down on top of them with their arms outstretched. We traced around the children, but instead of following the bottom part of the arm and the upper torso, we drew a straight line from their wrists to their waists, then down on both sides to about the knees. The children then stood up, cut out the shape, and *voilà!* an individualized set of wings. We strapped the wings onto each child, made it clear that they were not to try these out by jumping off roofs, and they were off. A leader and a flock of six to eight birds leaped into action, flying through the forest, exploring life as birds. We made it to a meadow where hay had been cut recently and said, "If we're birds, we need nests." And so we made child-sized nests.

The next day our group of teachers said, "We've been thinking. You guys make great birds, but we noticed that you're all brown and the birds we see around here, well some of them are brown, but some of them have lots of colors. What are some of the color patterns on birds?" The children described some birds they had seen. Taking care not to emphasize names, we then pulled out paints so that the children could paint their wings. More bird games followed. About the next day, the children really started to notice the birds around the camp: "Hey, that's the same bird as me — that's the color pattern on my wings." Then the bird books came out. Soon we had children pouring over bird books trying to identify what kinds of birds they were and to learn what they ate. Because we had started at their level of developmental fascination, had engaged their empathy through participating in bird consciousness, they were now ready to objectify and enter the more cognitive realm.

In my course Cognitive Development and Learning Theory, at Antioch New England, I encourage graduate students to do research with children. My objective is to

help prospective teachers get inside the world of children to see how they think and feel, to understand distinctive developmental ways of organizing the world, and to ask children interesting questions. One recent project emerged out of a student's childhood memory of thinking she could fly and wanting to try it out. She wondered whether all children go through a stage of thinking that they can fly and whether there is a specific age when children are intrigued with this idea. The student interviewed only 25 children, but her findings were provocative.

Children start to wonder about flying around age four. By age five, they start to wish they could fly, and they start to jump off hummocks and branches to see if anything happens. Many are convinced that if they flap their arms furiously, they stay in the air just a bit longer than if they don't flap. By age six or seven, children want to try out flying more seriously. This is when children make wings, climb up on the roof, cast fate to the wind, and sometimes break a leg. By age seven or eight, they realize they probably can't fly (except in their dreams), and the interest appears to fade, except for those who go on to become hang gliders or pilots. The lesson here is that the birds curriculum that we generated tapped into this fairly age-specific fascination with flying. By starting with our perception of children's affective or thematic concerns, we found an avenue of access that brought them into the subject matter. This kind of planning can increase the likelihood of authentic curriculum.

Smuggling gold. Literature-based reading programs often engage students in personal reflection, discussion, and integrated reading and writing, but teachers rarely take the next steps to extend the themes of a book through dramatic simulation. The following account is drawn from an unpublished paper by Dan Maravell, who completed his graduate teaching internship in Paula Denton's fifth grade classroom at the Greenfield Center School in Massachusetts. It illustrates the potential value of addressing the deep themes of secrecy, intrigue, and adventure that emerge strongly in ten-, eleven-, and twelve-year-old children.

In looking for books to help students make sense of their potential role in the Persian Gulf War in 1991, Denton and Maravell chose two books about the Nazi invasion of Europe during World War II. Maravell's group chose to read *Snow Treasure* (McSwigan, 1984) a true story about how the Norwegians smuggled their national treasury of gold bullion out of Norway and into the United States for safekeeping. Moved from the capital, the gold was hidden in a snow cave near the coast in preparation for it to be moved through the town, down a steep road to a fishing boat hidden at the end of a fjord. The stickiest part of the plan proved to be getting the gold out of the woods down to the edge of the fjord, because the Germans occupied the base of the fjord and guarded the length of the road. The solution was to have schoolchildren smuggle the gold on their sleds, making runs right through the ranks of the Nazi guards. Over the course of six weeks, 38 children managed to complete this incredibly risky task.

In consulting with Maravell about how to take this study into children's lives, I suggested we consider the typical ten-year-old's fascination with intrigue and personal challenge. How could we translate the challenge into the classroom? Could Maravell somehow set up an activity that would engage the students in the emotional tension and personal risk of the story? Following my lead, Maravell got his reading group together and formed a secret Defense Club, just as the children in the story had done:

> My six students and I met out on the landing in the middle of the attic stairs for our next reading period and talked about what we could smuggle, and how it could work. We decided to do bricks and that we had to hide them in the classroom without anyone else knowing, not even Paula, the teacher.
>
> One student said that we needed to make a pact to secrecy, to never tell, even if caught and tortured, and we were about to swear to it, hands joined in the center, when another student ran out of the room and came back with a wooden sword. We all had to "swear on the old Norse sword," grasping it all together exactly as the children had done in the book. (Maravell, 1991)

Maravell brought the bricks, all wrapped in aluminum foil, to school in his truck. From there, it was completely up to the students to move the "gold." Maravell appointed one student to be in charge of the Defense Club, just as Uncle Victor the fisherman had done in the story. For their first hop, the students decided to move the gold from the truck into the downstairs kitchen.

> We were checking out various cabinets and around the fridge when a Nazi spy, one of the office staff, came into our midst. She wanted to hang out, say hello, be friendly. The kids were squirming. A couple of foil wrapped bricks had been set down in plain view on the counter. "What have you got there," she queried? "Oh, we're planning a party and we made some zucchini bread. It turned out pretty good." Four of the students were in the corner, bricks still up their jackets, and they had to move nonchalantly out of the way so the staff person could get into the fridge. Finally she departed. (Maravell, 1991)

From there the children worked in pairs or alone to get the bricks into a seldom-used fabric drawer at the back of the classroom. Numerous problems had to be solved. When the smugglers stayed inside at recess, they were always frustrated to find other students who

also wanted to stay inside. Some students moved the bricks from the kitchen to waystations closer to the classroom to take advantage of windows of opportunity when the classroom was empty for a few moments. When one student wanted to hide a brick in the chair, instead of in the fabric drawer, Maravell refused to settle the conflict, and made the students resolve it themselves. At the end of the study of the book, which also included a short play and the creation of a newspaper, the students unveiled their accomplishment, much to the amazement of their colleagues and the classroom teacher. Although there had been many close calls, they had pulled it off without a hitch.

The smuggling activity served as the bridge between the Norwegian children and the students in Maravell's classroom. Bonded together by a shared adventure, the students could empathize with the anxiety, fear, ambivalence, and pride that the Norwegian children experienced. The emotional connectedness carried the students into full involvement with the historical facts and problematic issues of war. And it helped the students understand how children in Kuwait and Iraq must have been feeling at that same moment as war raged around them. By finding the connection between the book and fifth graders' personal fascinations, Maravell opened up an avenue into living history and literature. It is this search for the particularities of connectedness between teacher, student, and curriculum that makes for genuine authentic curriculum.

Other examples of authentic curriculum. Of course there are many other illustrative examples of authentic curriculum. There is the sixth-grade teacher in Shutesbury, Massachusetts, who starts the school year by taking his students caving. This initiates a semester-long study of underground geography whereby the students study spelunking, draw three-dimensional cave maps, collect rocks, and learn geology. By Christmastime, there's a jewelry-making station set up in the classroom. Students tumble rough, semiprecious stones until they're polished, then mount them to make earrings, necklaces, and bracelets to sell in the Christmas fair. In simulation of age-old rites of passage, the teacher has initiated his students by taking them down into the earth to find the rough forms of their new selves. These rough selves are polished symbolically into gems, transformed into something of value. The curriculum integrates academic and archetypal themes in an artful fashion.

Then there is the third-grade teacher in Keene, New Hampshire, who not only read *Paddle to the Sea* to her class, but also guided each child to make a boat by hand, just like the boat made by the young boy in the story, with instructions to the finder carved indelibly into it. The third graders then walked to the Old Stone Arch bridge over the Ashuelot River and ceremoniously launched the boats into the ocean-bound current. The craftsmanship of each boat was testimony to the fact that the boatbuilding connected each child to the story and to the geography that the boat was about the explore. The boat was an embodiment of the developmental fascination, ascendant at eight and nine years of age, of pushing back the boundaries of the known world. These children wanted to know what was beyond their neighborhood, how streams and rivers connected, where the path led — and this curriculum was one small way of addressing those questions. Authentic curriculum assembles the world as it unfolds the self.

Chaos theory in the classroom

Some of the current initiatives in the national curriculum arena actually preserve the possibility of authentic curriculum flourishing in classrooms. The National Council of Teachers of Mathematics has produced a set of standards and curriculum guidelines that sets out the content, skills, and pedagogy it advocates for mathematics instruction in schools. These guidelines, however, "do not contain the content specificity that is common in the national curricula of other countries ... and they leave states, districts, schools and teachers enormous room for unique local interpretations" (Smith, O'Day, & Cohen, 1990, p. 13). Knowing that they have a specific destination, teachers are empowered to take curriculum into their own hands and get to the destination by whichever route they choose. Thus, it is possible to take side trips and respond to the serendipitous bird in the window when it shows up.

But most national curriculum initiatives are not so broad-minded. They tend toward content and method specificity and will enforce their rigid prescriptions with national testing schemes. The mindset is mechanistic and simplistic: If we can control input and demand adherence to standards, then we can guarantee improved output. But classrooms are not like factories, and children are not like workers, and the predictive science models of Newtonian physics may no longer be the appropriate metaphoric source for thinking about education.

I have been searching the literature of chaos theory for new metaphors, new ways of thinking about curriculum dynamics in the classroom. Rather than assuming that classrooms behave like clockwork, let us consider that perhaps they work like weather systems, one of the systems that chaos scientists have been working to understand. Weather systems have classically eluded long-range predictability because they are multivariable systems with a "sensitive dependence on initial conditions" (Gleick, 1987). With so many interacting

variables, slight changes at some distant point can make a major impact in how weather systems will evolve. That is why an ironclad forecast for beautiful weekend weather on Thursday can turn into intermittent showers by Saturday morning.

Classrooms have the same kinds of dynamics. When you factor in 20 different personalities, unexpected fights in the hallway, canceled band practices, the unexpected birth of baby gerbils, and eight students absent because of the flu, it is hard to guarantee that your weekly curriculum plans written on Sunday evening will bear much resemblance to the classroom state of affairs on Thursday. It is feasible to stay on track, but sometimes only at the expense of numerous missed possibilities. Certainly teachers need a clear vision of what is appropriate and useful and to make choices about the potential productivity of any tangent. But everyone acknowledges that curriculum becomes intriguing, alive, and compelling when something out of the blue captures the imagination of a group of children. Chaos theory suggests that we should recognize the inherent unpredictability of the behavior of such a complex system as a school classroom.

Authentic schools

In a talk entitled, "What Should Schools Teach," Vito Perrone explores this question of mandating uniformity of content in schools. Professing serious concerns about specifying which facts children should know at the end of which grade, Perrone (1988) describes an all-white school in Revere, Massachusetts, where 100 Cambodian children were being relocated during the next school year. When the children arrived in school, they were met with outstretched hands of welcome and friendship:

> The principal and teachers made a decision that it was critical for everyone in the school — children, teachers, custodians, secretaries, lunch workers — to know who these Cambodian children were, where they came from, and why they were coming to Revere. Getting ready for the Cambodian children became the curriculum for the next four months — the reading, social studies, language arts, science, and arts program. It was real, and as a result it was vital. Those in the school community learned how to speak to the Cambodian children and also gained considerable knowledge about their cultural patterns as well as their suffering. As part of their preparation, those in the school learned about prejudice and the harm that prejudice brings to persons who are different. (p. 3)

Responding to the bird in the window, this school diverged from the habitual curricular mindset and responded to the unique particularities of its own culture and community.

Honoring the specific ecology of the life of an individual student, classroom, or school can be the basis for the outbreak of authentic curriculum. As with all endangered species, we need to learn to identify the habitats in which authentic curriculum thrives and protect them from the bulldozers of homogenization. Think of it as our contribution to biodiversity.

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An Overview of a Kabbalistic Paradigm of the Universe and Humankind

Sheldon Stoff and Jesse A. Stoff

An awakening from slumber is a possibility with the help of Kabbalah, an ancient mystical pathway. It can provide a way out of a purely materialistic self-concept and has broad implications for education and medicine.

"Beings of light are we, not merely this crude flesh."
— Jedi Master Yoda

"Consciousness is the primary reality."
— Nobel physicist Dr. Eugene Wigner

"Consciousness informs matter. Matter is but another manifestation of consciousness. Mind and body are not two discrete realms but different expressions of the same underlying being."
— Rabbi Lawrence Kushner

"The Universe is the precipitation of Divine energy."
— Ralph Waldo Emerson

The purpose of this article is to describe a concept of Self from a Kabbalistic perspective; the transition from knowing to the actualization of the Self. The Kabbalah is a body of mystical knowledge that provides a pathway toward a true humanity, to bring enlightenment to humankind and to help move each individual up the ladder toward Being.

Kabbalah stems from ancient Judaism, influenced by Greek, Egyptian, and Chaldean sources. It is universal in scope. Kabbalah is a generic name embracing all of Jewish mysticism, from the ancient to the modern. Two thousand years ago, prior to the Kabbalah designation, it was banned to the outposts of theology. Still, it has flourished and spread its message and is, again, coming to the foreground of theological thought. Its champions shared its insights long before the common era, and it is, with renewed vigor, reaching out and offering hope, insight, and freedom for so many today.

The very basis of human truth is a clear understanding of an integrated Self. A Self in balance, or to "know thyself" as the formidable expression carved over the entrance to a Greek mystery cave indicated, is the first step toward clearly perceiving the world.

If you are a drug addict, bigoted, prejudiced, or hateful, it distorts your perceptions of people, events, and the world around you. To the seeker of truth, wisdom, and perspective (i.e., a full, comprehensive knowledge), those skewed perceptions must be realigned if growth is to occur.

The authors regret the necessity to use the the male gender form when both genders were intended, and look forward to the time when an acceptable neutral form is invented. This article is from their forthcoming book, *The Dawn of a New Consciousness*.

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Kabbalah helps provide that perspective. It presents a truth that can awaken you, if you are open and willing to search. It does not present a new religion, its insights have been valuable to several religions.

Plato, who has the honor of being described as the greatest philosopher who ever lived, vividly told us in his *Allegory of the Cave* of the plight of humankind when we are asleep to reality, living a trivial existence due to a distorted cognition.

In his allegory, Plato tells us of an underground chamber that is reached by a long passage from the entrance. In this cave, men have been chained from childhood, bound so that they could not move. They could see only what was in front of them. At some distance toward the opening of the cave there was a fire burning to provide heat and light.

Between the prisoners and the fire was an embankment upon which people walked, carrying objects. Think of these miserable prisoners, seeing nothing except for the shadows on the wall before them, shadows created by the fire and the people carrying objects on the embankment. Clearly, these prisoners would think that their reality was the shadows continually passing before them. They would even engage in guessing what was passing before them and according honors to those who guessed correctly.

Plato asks us to suppose that one of these prisoners was set free and forced to stand and turn toward the light. (In esoteric language, light is a symbol of the spiritual). Initial movements would be painful, and the newly freed prisoner would be dazed by the light. Looking at the objects and people, he would be perplexed and would not be able to recognize them. Having seen the light, he would begin to understand that he had lived a life in the shadows.

When he ascended the cave he would find the light at the opening even more painful and blinding. It would take time for his senses to function correctly. The individual would seek shadows and reflections of objects of things in pools of water. He would welcome the darkness and, finally, he came to welcome the next day filled with sunshine. The reality of full cognition takes time to digest and appreciate.

As he spent time on the Earth's surface, he would come to know the warmth of the sun and the sounds of birds. He would begin to recognize the flowers and the trees. He would finally begin to realize the truth of all that he had experienced.

As he remembered his fellow prisoners and what passed for wisdom in the cave, he would feel sorry for them. He now understood the superficiality, triviality, and sterility of life in the shadows. Once awakened to the light, a new appreciation of the world and all life unfolded.

Now think of what might happen if he returned to the cave to share his good fortune. His eyesight would seem dim in the darkness. He could scarcely identify the passing shadows to the prisoners. They would not believe his stories of life in the sunshine. They probably would laugh at him and claim that his sight was ruined outside the cave. If they could, they might even kill any who attempted to set them free.

Plato dramatically described a dualism in humankind. Most of us live in a cave seeing little but shadows. The material world is trivial in the light of perspective of a fuller reality. This common superficiality invades all aspects of our lives, the foundation of which is created in our system of education.

The increased use of television and computer-aided teaching condemns our children's thinking to the black and white world of shadows. Escape is difficult because it means that you must go against the norm and so few have accomplished it. For the rest, this distorted view of reality, due to an existence in the shadows, cries out to be awakened.

This article is written to help us climb out of the cave. It provides a Kabbalistic paradigm of the cosmos and of our individual Self. As we continue our ascent from the cave in search of a higher Self, which is the goal of a real education, we will try to understand the perspective through Kabbalah and its implications for a life lived in both the shadows and the light. Some facets of Kabbalah follow. They indicate the broad dimensions of this refreshing paradigm, which provides a pathway to enlightenment.

Consciousness and knowing

Much of the search for our higher Self begins with a full cognition and enters the realm of a full consciousness. Kabbalah has much to offer in understanding consciousness, but we will begin the exploration with modern science investigating the phenomenon. The full explanation will follow as we explore some Kabbalistic insights.

There is an increasing awareness among scientists that humankind has much untapped potential and awareness. Investigations have proceeded under headings such as "awareness," "bimodal consciousness," "higher Self," and "self-actualization." In all cases, there has been the perception that humankind is incomplete, asleep, or in a prolonged state of semi-consciousness about the reality of our being.

Dr. Michael Gazzaniga (1972) described the research which establishes that "the brain of the higher animals, including man, is a double organ, consisting of right and left hemispheres" and that these hemispheres have differing functions. He also ascertained that "taken together, our studies seem to demonstrate conclusively

that in a split-brain situation we are really dealing with two brains, each capable of mental functions of a high order" (pp. 119-124).

In the *Bulletin of the Los Angeles Neurological Societies*, Dr. Joseph Bogen (1973) went on to clarify these exciting findings. He wrote:

> It is here proposed that one way of interpreting the considerable evidence now available is to postulate the existence of two different ways of thinking.... It may be helpful to take as simple a view as possible by returning to the original and hardly arguable fact: the left hemisphere is better than the right for language and for what has sometimes been called "verbal activity" or "linguistic thought"; in contrast we could say that the right hemisphere excels in "non-language" or "non-verbal" function. (pp. 101–125)

After reviewing the literature, Dr. Arthur Deikman (1973) continued to refine the discussion in an article on bimodal consciousness. (See Table 1.)He wrote:

> The action mode [intellectual left hemisphere] is a state organized to manipulate the environment.... The action mode is a state of striving, oriented toward achieving personal goals.... In contrast, the receptive mode [intuitive right hemisphere] is a state organized around intake of the environment rather than manipulation.... The receptive mode is gradually dominated, if not submerged, however, by the progressive development of striving activity and the action mode.

Fortunately for us, Deikman was as familiar with philosophy as he was with science. He immediately realized the parallels between the emerging study of bimodal consciousness and Martin Buber's philosophical concepts when he wrote:

> The action mode has ruled our individual lives and our national politics, and the I–It relationship that has provided the base for technical mastery is now the primary obstacle to saving our race. If, however, each person were able to feel an identity with other persons and with his environment, to see himself as part of a larger unity, he would have that sense of oneness that supports the selfless actions necessary to regular population growth, minimize pollution, and end war. The receptive mode we have been discussing is the mode in which the identification of — the I–Thou relationship — exists and it may be needed to provide the experimental base for the values and world view needed so desperately by our society as a whole. (Deikman, 1973)

A chart of "Two Modes of Consciousness" is presented in order to demonstrate that the concept of a duality of knowing has been part of our common heritage. It is only recently that the coldness and distance of I–It (Hokhmah) knowing has been viewed as the totality, instead of but half of the whole. The results of this distortion become more obvious each day with increased violence, pollution, and imbalance.

Table 1. *Two Modes of Consciousness*
"He who understands both worlds is ... called a sage." (Buddha)

Who Proposed It?	Polarities	
Martin Buber	I–It	I–Thou
Laguno Pueblo	I–It	I–Thou
M. L. King, Jr.	I–It	I–Thou
Many Sources	Day	Night
Winkler	Intellectual	Intuitive
Einstein	Intellectual	Intuitive
Kabbalah	Hokhmah	Binah
Alice Walker	Rage	Love
Common Sources	Smart	Wise
Bacon	Argument	Experience
I Ching	Light	Dark
I Ching	Time	Space
I Ching	Masculine, Yang	Feminine, Yin
Maslow	Deficiency	Being
Toni Morrison	Roadbolock	Ineffable
Emerson	Tuition	Intuition
Polanyi	Explicit	Tacit
Levy	Analytic	Gestalt
Many Professional Sources	Left Hemisphere	Right Hemisphere
Lee	Lineal	Nonlineal
Luria	Sequential	Simultaneous
Lame Deer	Square	Circle
Deikman	Action	Receptive
Gandhi	Brute-force	Love-force
Blackburn	Quantitative	Qualitative
Common Sources	Head	Heart

Note: This table was inspired by Robert Ornstein, from *The Psychology of Consciousness*.

In terms of humankind, if knowing and relating are to be only cold and objective, it tells us how to define ourselves. How can we love and care for each other and the earth if they are not to be part of a warm encounter? These are the essential parts of ourselves that, along with Kabbalah, have been banned to the shadows. An understanding of Kabbalah can help redress the error and lead to a human fullness, a Human Being.

"I didn't arrive at my understanding of the fundamental laws of the Universe through my rational mind," said Albert Einstein in. As it happened before, it happened again. A true scientist exploring consciousness pushed through the mundane and found the spiritual. Charles Tart, a professor of Psychology at the University of California, could think of no better title for a book on the subject than *Waking Up*. Tart (1987) realized that the "state of consciousness you are currently in may not be useful for handling the life situation you are currently facing."

Tart saw that, as a race, we are often so satisfied with where we are that we avoid the labor needed to change ourselves. He understood that "sometimes we lie to avoid our essential and higher natures." He called this awareness "the sleep of everyday life.... This denial (sleep) can destroy our lives, for our essence is the vital part of us, the truly living spark.... As false personality eventually uses up almost all of our vital energy, the light fades, and life is a mechanical, automated set of habits, lifelessly moving us along with crowds of other lifeless, automated victims, further reinforcing our depression and emptiness" (Tart, 1987).

As Sir Joshua Reynolds said many years ago, "There is no expedient to which a man will not resort to avoid the real labor of thinking." Once you are challenged to really think, you are faced with the challenge of what to accept as truth. For this, there can be no concrete, timeless, external measure. Each of us must tacitly and individually, as responsible human beings, decide what is true and what to accept. This is accomplished through an acritical process that is beyond factual assertions and denotations and about which Dr. Michael Polanyi has extensively written.

By expanding and enlarging our consciousness, we can create a self-supporting, cohesive, and logical paradigm that can offer a rationale for understanding ourselves and solving the problems around us. The answers that emerge will be in the related context of one to another and will have far-reaching consequences. They will not be bound to the immediate appearances that usually satisfy society.

Here, we will provide an example of how deeply an issue can be explored. Mr. Jones was found dead one day by his neighbor. The death certificate read "cause of death: heart attack," but was that the truth? Upon searching further, we find that he had a very high level of cholesterol in his blood that contributed to plaque build up in his arteries, which deprived the heart of blood and led to the heart attack, but is that all? Deeper investigation revealed that his diet had deteriorated over the past few years and he had stopped exercising. This then must be the cause of death, but no. In a still broader examination, we find that his beloved spouse had died some time ago and ever since he has been depressed and broken hearted. The probing can go deeper still to include existential questions, unsolved issues with parents, teachers, and siblings, or even to past life trauma. The fundamental experience of our humanity, our beliefs, and our sense of meaning or meaninglessness exert a profound influence on the chemistry of our bodies. Our consciousness and our ideas have power. The superficial must be pierced.

The goal of Kabbalistic meditative practices is to gain progressive levels of insight by broadening your perspective about yourself and the cosmos. You can then expand your consciousness to the point where it can merge with that of higher spiritual entities and therefore serve as a "Bridge Between Two Worlds" when it brings back and manifests these insights on earth for the betterment of your fellow man. In short, to celebrate life and make it whole and holy. This evolutionary pathway to spiritual freedom is known as the Kabbalah.

Kabbalah provides an ancient comprehension, elements of which have been tacitly incorporated and very much supported by philosophers and many psychologists today but increasingly distorted by educators (although there are wonderful exceptions). The narrow, materialistic understanding of the concept of knowledge, as it is applied in our world today, has been harmful to society as a whole as well as to individuals from all walks of life.

The Kabbalah provides a pathway (called a glyph), or the Tree of Life, as a map for explaining humans and the cosmos. This glyph is composed of ten Divine emanations (activities of spiritual energy). These emanations are called *Sefirot*, or branches of the Tree of Life. They provide the understanding for all that we are in concept, in force, and in form. (See Figure 2.) Their names have varied over the years, but their dynamic has remained clear.

The Tree of Life was first mentioned in Genesis 2:9, "And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food; the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil...

The Tree of Life glyph presented here is vastly simplified. In actuality, the ten Sefirot are connected by 22 pathways, not diagrammed here, all of which become the focus of both study and meditation and may lead to deeper insights and relationships.

Keter, the prime emanation, is the Supreme Crown, the Godhead, the "Ain Soph." Beneath it is the Sefira *Hokhmah* , or wisdom, the male illuminating intelligence — intellect at its highest. Kabbalah makes it clear that the foundation for the essential balance that leads to self-actualization and spiritual knowledge is rooted in polarity. The balance to male intellect is the Sefira *Binah*, or female understanding, comprehending intuition. Only by the full, equal duality blending of cognition (intellect and intuition functioning together) could the world, the cosmos, and humans be rightly known without distortion. This is the essential key to all that follows.

As if to emphasize this, Kabbalists point to a shadow Sefira, seen or unseen, combining the male and the female Sefirot into the Sefira *Daat*, which means knowledge. Their intent to emphasize that full knowledge

depends upon the interdependence of male intellect and female intuition is absolute. These two Sefirot are the archetypes of maleness and femaleness, and they combine to create a "knowing" almost beyond comprehension.

Such insight can be traced back to the dawn of humankind as described in the Old Testament. Genesis 4:1 states precisely, "And the man Adam knew Eve his wife; and she conceived and bore Cain." The Bible was not telling us that Adam introduced himself to Eve, it is telling us that Adam had sexual relations with Eve and that the word for this loving embrace was "knew." To "know" was a complete act, one of fullness. It was an act of completeness that included all parts of one's being, the intellect and the intuition, male and female, combined into real "knowing." Knowing, the act of cognition, was defined and redefined throughout history and thus helped determine who we are and how we think, act, and relate to others and the world of matter and spirit.

This blending of Hokhmah and Binah provides the foundation for all that follows in the glyph. The sefira *Hokhmah* provides the archetype of maleness. The basis of intellect is located here as well as a fragmented discreteness, a selfish greed, and an independence of ego. Balance alone determines which attributes emerge. The sefira *Binah* provides the archetype of femaleness. The basis of understanding, intuition, giving, and sharing are primary. A lack of balance also leads to detachment and a failure to allow others to accept responsibility for their actions. A lack of maturity results. (See Figure 1.)

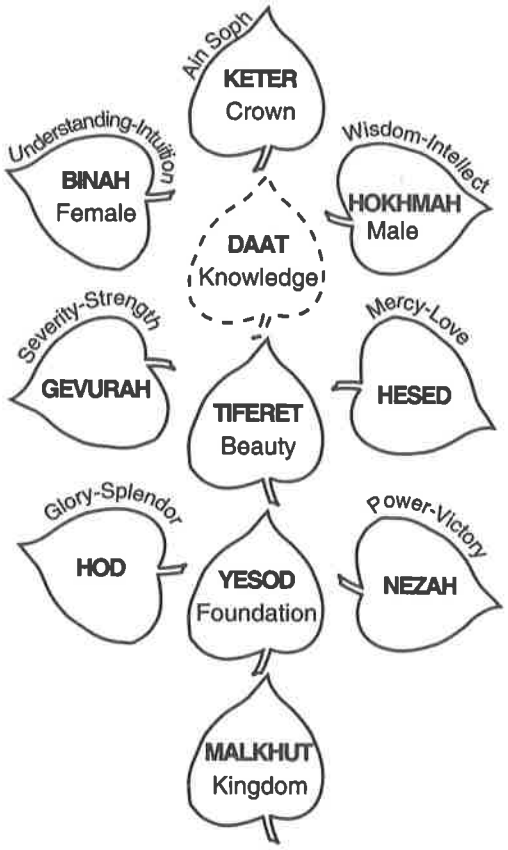

Figure 1. The Tree of Life

Freedom

Perhaps another way to understand how much further we can learn from the Kabbalah is to examine the concept of freedom and how drastically it has been confused with the selfish ego. The reverse of the deeper true meaning of freedom is now commonly accepted in our cavelike condition.

The evolution of consciousness parallels the evolution of our quest for freedom. In the story of the Garden of Eden, we have the tale of our quest for knowledge, our quest to know "good and evil," our desire to be free from external demands, to be free even from our Creator.

Today, humans rich in materialism and with sharpened intellect often strive for unlimited power. We are generally controlled by base urges (self-centered ego, greed, lust, desire for power) and external motivations and, therefore, our actions remain unfree. The young determinedly strive for freedom, rarely trying to understand its essential nature. In fact, this striving often appears compulsive or chaotic, antithetical to free thought and free action. Terrorists fight in the name of freedom, not understanding their own defiance of the concept.

Daisake Ikeda, the Japanese scholar, summed up the hindrance of greed and self-centeredness to individual and social progress in the following statement:

> The problem is difficult but by no means impossible to solve. To effect improvements on the broad scale, each citizen must strive to reform himself by examining his daily life strictly and eliminating from it all acts that are liable to blame as contributory to pollution. For instance, let us examine the trend in the world of motorization. Each year manufacturers urge citizens to buy their newer, sleeker models as if failure to ride in the latest automobile constituted disqualification as a modern man. The manufacturers are very skillful, as are those of the makers of electrical appliances and other articles of daily use, all of them operate on what is called the principle of built-in obsolescence. But this greed-inspired pandering to innate human selfishness has done much to create the desperate condition in which we now find ourselves. We must become aware that accumulations of the effects of the small acts of daily life could generate a global disaster that might rob our progeny of the right to exist. (Toynbee & Ikeda, 1976, pp. 56-60)

Poverty and war are blamed as obstacles to human freedom. Yet, even in the midst of horror and depriva-

tion, we can, by our own inner effort, rise above external conditions into the untainted thinking of the free individual. The many examples of noble thought conceived in concentration camps and ghettos attest to the ability of humans to transcend physical conditions. It can even be observed that poverty may, at times, be more favorable than wealth as the matrix for the burning ideal of freedom. Wealth and leisure can corrupt the human spirit as can poverty and suffering.

To be truly free is to overcome outer conditions, whether pleasant or adverse. It is to be oneself. To act from our essence, to act from the spark within. We may not be able to control outer conditions, but we are impregnable if we are inwardly free.

When are we free to be ourselves? We are masters in our own house when we have achieved harmony and balance in our cognitive faculties. If we respond automatically to a stimulus, we act without control of our thinking and obviously there is very little of us in such a response. Yet, many still explain human behavior (Skinnerians) in terms of stimulus-response theory. This theory may suit automatons, but it denies the very premise of human freedom; namely, that we have the capacity to intervene — to determine our response to a given stimulus. It ignores the higher Self and our climb toward innate values. In its undue emphasis on externals, it loses sight of the inner quest, the fateful encounter of an individual with himself or herself, our primary need for Self conquest.

"Within man is the soul of the whole." (Emerson)

The finest guides to our quest for our higher Self, the only Self whose being truly suits the individual and fits the world, have always been found in the self-forgetting concepts of active service to mankind. Without the willingness to sacrifice our limited advantage for the whole, we are doomed to pursue the kind of self-aggrandizement that always ends in self-defeat. Throughout history, the great religions have sought to lead communities of people to the light and power of such ideals as that of rebirth through the giving of Self. Today, as individuals, we must discover these ideals anew if will-lessness is not to drown us in inertia or willfulness is not to destroy us through violence.

Unchecked emotions may also rob a Self of freedom of choice by denying him balanced thought. His feeling response then becomes automatic and unthinking as a reflex action. Both are programmed. Compulsive loathing, hatred, lust, bigotry, and selfish desire deny us our conscious self-direction. Serving such emotions we lose our unique individuality. True feeling is not compulsive. It does not obliterate reason but enriches it, giving it power of comprehension. There can be no dialogue without warmth; people and nature can be rightly known only through warm encounter. The "I" must be bound through the warmth of the heart to the "Thou."

For the Self to think in freedom is to overcome stereotype and tradition, regionalism, nationalism, and peer pressure. It is to consider how the pure ideal can be imaginatively and efficiently realized in action. It is to overcome one's bias of self-aggrandizement in order to truly know oneself. With the help of the insights thus achieved, we can execute the bidding of our higher Self; we can do that which is loving and just.

Together, intellect and intuition form the whole of a balanced knowing, which the Kabbalists refer to as "Daat." It is so easy to lose sight of this in an industrial society. Unless we can function in both forms of knowing, we can not begin to think in freedom. The act of free thought is the sum total of humankind's higher Self, and it is actualized only in comprehensive, loving thinking.

At the very moment of decision, of moral choice, the individual is inevitably confronted with two directions. One direction is motivated by the self-centered ego, pride, or desire for power, status, materialism, or misguided idealism. It provides the basis for much of our actions. The other direction asks us to act with no thought of ourselves; our inner spark of love for the rightness of the deed provides all the motivation we desire. Our feeling for the just, our loving thoughts, move us in this direction. Only an individual with an awakening intuition can so function.

One might ask, if we all acted solely on the basis of this kind of freedom of thought, would not society inevitably collapse from discord? Would independence of thinking drive us apart?

The answer goes to the very heart of freedom and knowing. A community of people acting in freedom functions in the light of the spiritual world. By doing so, they act in harmony. They have mutual respect. They care for the thoughts and feelings of others. They recognize brotherhood and desire to live in brotherhood. When Emerson asked us to "act singly," this was his understanding. If my single action is authentic, in no way could it do other than aid and comfort my neighbor. *Each* of us indeed was an outlet to the *All*. Our actions emanated from the spark within, that which each of us holds, waiting to be developed.

The individual utilizing only intellect in arriving at decisions of morals, education, medication, and all of the many diverse functions of society has alienated himself from the truth. Such an individual lives in a cave and has become a spectator to life. Such partial thinking freezes him into rigid patterns of behavior and thinking, and his coldness is the beginning of his decay. Such an individual stands in the wings of life's drama with little zest or knowledge of how to bring unity into

the world. How could he? There is no unity in his being. Full freedom of thought is found in Daat, the blending found in a full cognition. This full cognition is achieved by bringing together the Kabbalistic concepts of Binah and Hokhmah, the very archetypes pervading all of creation.

Reincarnation

Another basic Kabbalistic understanding is that of reincarnation. In meditation, we can reinforce our vision that there is always a reality beyond an appearance. It provides confirmation of our spiritual essence and the heights we can attain. It confirms the importance that life should have. Growing into Being should be a constant task and a joyful road.

For the teacher, it demands that he or she see beyond the appearance of the child and appreciate the spirit within. There is, then, a responsibility that must be fulfilled. It is said that the essence to understanding the concept of Self, Kabbalah, and all spirituality is through an appreciation of reincarnation.

The *Zohar*, an essential Kabbalah reading, states that

> Souls must re-enter the absolute substance whence they have emerged. But to accomplish this end they must develop all the perfections, the germ of which is planted in them; and if they have not fulfilled this condition during one life, they must commence another, a third, and so forth, until they have acquired the condition which fits them for reunion with God. (Bar Yohai, 1st Century CE)

Prayer books published in our time even sound the same theme:

> Master of the universe! I hereby forgive anyone who has angered or vexed me, or sinned against me, either physically or financially, against my honor or anything else that is mine, whether accidentally or intentionally, inadvertently or deliberately, by speech or by deed, in this incarnation or in any other. (*Siddur*, 1987, p. 118)

In an ancient book, *Gates of Reincarnation*, Rabbi Isaac Luria describes the progress of the soul as it seeks perfection provided by the cycles inherent in reincarnation. Without the opportunities that reincarnation allows, there would be little likelihood of change, growth, and redemption (Luria, c. 1560).

We are fortunate to live in a time when several great Rabbis, Christian Kabbalists, and esotericists are willing to write of reincarnation. In my mind, this continuation of consciousness and the soul through several lives must be present in order to understand our purpose and much of our behavior. Rabbi Adin Steinsaltz, noted for his Talmudic commentaries, had this to say in his book, *The Thirteen Petalled Rose:*

> The soul that has fulfilled its task, that has done what it has to do in terms of creating or repairing its own part of the world and realizing its own essence, can wait after death for the perfection of the world as a whole. But not all the souls are so privileged: Many stray for one reason or other; sometimes a person does not do all the proper things, and sometimes he misuses forces and spoils his portion and the portion of others. In such cases, the soul does not complete its task and may even itself be damaged by contact with the world. It has not managed to complete that portion of reality which only this particular soul can complete, and therefore, after the death of the body, the soul returns and is reincarnated in the body of another person and again must try to complete what it failed to correct or what it injured in the past. (Steinsaltz, 1980, pp. 63-64)

It becomes increasingly clear that Kabbalah, the deepest stream in Judaism, understands reincarnation with all of its implications. Rabbi Philip S. Berg, the current director of The Kabbalah Centre, wrote in his book *Reincarnation: Wheels of a Soul*:

> Reincarnation is one of the fundamental religious ideas of mankind — almost equal to belief in the existence of God Himself. Yet most authors writing on the subject show no knowledge of the origin of the idea. The Zohar states that origin and *The Gates of Reincarnation* amplifies that idea.... The story of our universe is really a story of returning souls. Precisely what accounts for the uninterrupted unchanged evolutionary process of mankind? Whether or not we fully understand what draws a soul's entrance into the present plane, it is vital to know that we have all been here before. Thus, when considering man's behavior patterns, we are in essence seeing aspects of ourselves in former lifetimes. (Berg, 1984, pp. xxiv, 123)

A. E. Waite, a well-known 20th century scholar, had this to say concerning reincarnation and Kabbalah: "Signify that the spirit of man, meaning his soul, will be many times reclothed with flesh, until the time comes when the soul shall be susceptible of receiving the spirit of God" (Waite, Undated, p. 250).

In examining ancient Jewish sects, we can find that reincarnation was accepted and understood by the Pharisees and the Essenes. Only the Sadducees did not believe, and when they assumed power, they resolved the theological question politically. Talk of reincarnation was no longer allowed! Their decision profoundly affected traditional Western religious thinking but did not dampen esoteric beliefs in reincarnation in both Judaism and Christianity.

With the current resurgence of Kabbalah and other esoteric approaches, empirical investigations of reincarnation by eminent scientists, such as Dr. Ian Stevenson of the University of Virginia, have accelerated. Their findings fully support the validity of reincarnation. It is no longer an empirical problem.

Not to accept the reality behind the appearance is a simple description of what is often happening in both education and medicine. Mainstream thinkers, seeing

only the obvious, make any deeper insight extremely difficult. The consequences have been called a "material spirituality" when applied to religion. This materialism touches every aspect of society. The results are, at times, a dangerous superficiality permeating much of life, which can lead to terrible consequences. The Self can rise above materialism to embrace spirituality and transcend into Being as is our birthright.

Tikkun

The Kabbalistic concept of *tikkun* (our potential or ability to restore wholeness, our mission on earth) can only be accomplished when we are free. The concept provides us all with a significance to life often lacking in our current society. It is an antidote to suicide, drugs, alcohol, and violence. Each of us enters the world with our own tikkun. It need not to be something grand, in fact it may be nothing more than clarifying a relationship. It is something that we alone can do to transform the world. It is our responsibility alone. It is a fulfillment of Self.

Persons returning from near-death experiences often support the understanding of this concept. If we think in terms of our immediate relationships, we can begin to understand the charge we have selected for ourselves. If we think of how we might help those around us fulfill their needs, our sense of responsibility and growth emerges.

Life is not simply acquiring material goods or satisfying personal urges. Life is fulfilling our tikkun — part of the reason we were incarnated. Our focus in life now shifts from ego satisfaction to service so that our hidden nobility may come forward.

Several years ago, noted psychologist Dr. Helen Wambach conducted a fascinating study of some 750 subjects located in two very different localities. The results of the study, which she recorded in a book entitled *Life Before Life* (1979), are mind-opening. She might have titled the book, *Why Self Returns*.

In her research, Dr. Wambach placed her subjects in a hypnotic state and regressed them to a prebirth consciousness, which the majority of her subjects were able to do. Of all the information obtained, perhaps most important for us is that so many of the people recalled that being born has a definite purpose. Life was not a random series of events. Here, we quote a few such recollections to share this powerful insight into life and the evolution of Self:

> I chose to be born and I felt that I was helped to choose because I needed to continue and correct the work of my last life. I was eager for the experience.
>
> I chose this time period to be born because it is a great period of change where people need stability within themselves. I am supposed to help them somehow.
>
> Yes, I chose to be born.... When you asked the purpose for this lifetime, it flashed that I was to broaden people's minds.
>
> Yes, I chose to be born... my feelings about the prospect of living, the coming lifetime were that I knew there was a lesson I wanted to learn and, therefore, the prospects were positive.
>
> No, I didn't choose to be born... but I felt like I needed to learn to love. (Wambach, 1979, pp. 28-29)

The process of tikkun involves us in one of the foremost reasons for being and *the* reason for studying the Kabbalah. It gives the opportunity to correct and improve. It demonstrates the spiritual insight into Earthly existence. It is spirit giving Self another chance.

The concept of purpose appears to be basic to life, and psychologists who have studied Kabbalah, such as Dr. Edward Hoffman, utilize it in their work (Schachter & Hoffman, 1983). The Kabbalah serves as a portal to progressive knowledge of oneself and the world around us.

Migene Gonzalez-Wippler (1990) has written, "The lesson of the practical Kabbalah is the synthesis of all opposites. The objective is not power or worldly achievement, but merging with the universal mind, integration of the psyche, and the realization of the unity of the human race. Ultimately, the objective is love" (pp. 223–224).

Why read about an esoteric pathway and its relationship to growth? Perhaps because there is much in Kabbalah that has provided a basis for most of the good things that form the foundation of Western society. It is also clear to many students of Kabbalah that this rich heritage can provide the stimulus for a genuine rebirth in all areas of living; education being a fundamental and critical area.

The four worlds of creation

In this broad discussion of some facets of Self, we discovered that light is a symbol of both human and spiritual awareness. The light that was present as it all began is now often concealed by what surrounds us in the form of mind and body. This very light may still be found within, if the search is carefully undertaken as a search for better ways of serving our essence and those with whom we journey.

We believe that as esoteric as the brief descriptions will seem of the four worlds of creation, they do shed insight on much that has been happening, for example, in alternative medicine, homeopathy being a case in point. Traditional medicine has been functioning with mixed results in the World of Action (Assiah). Some of the problems faced may be deeper in nature and could respond faster if not confronted solely by therapies working only on the Action plane. By accident or design, through other therapies, such as homeopathy

or acupuncture, and other modalities, such as meditation or visualization, we are able to tap into other energies or a higher consciousness and assist in remediating the condition. Actively involving the patients is also a direct benefit to the healing process. In education, a concentration on the appearance and a neglect of the underlying beauty and wonder creates a deadness that can pervade all of society.

To ignore the reality of humankind and existence is to travel a dangerous road of illusion. The inner, higher Self is too important to be forgotten by a seduction of appearances and material things. Knowing these planes of existence provides a meditation map as well as a stimulus for growth into Being. The central column has always provided access for those ready to go forward.

Assiah. The fourth world of Creation, the physical, is the location of existence, action, and manifestation. In Hebrew it is called Assiah. It is the plane of humans and all matter. Its element is *Earth.* Here, the physical expressions are found. The planet Earth is the jewel of creation. We have a community of minerals, plants, animals, and humans, all related and formed by the same Creator. All are alive in varying degrees.

The Kabbalah's description of Four Worlds is not unique. The concept is fairly common and found in many parts of the world. The *Zend Avesta*, a holy book from Persia, also describes Four Worlds, and alchemists described the four elements of Earth, Air, Water, and Fire. The Hopi spoke of Four Worlds, and Western Anthroposophy describes the Four-fold human in detail. This concept can also be applied to man. In Ann Williams-Heller's (1990) words:

> The four-dimensional human body is deeply embedded in the Tree of Life. Illustrating humankind's true origin and ultimate reality of being, its spirit lives in the World of Origination, its soul dwells in the World of Creation, its heart and mind move in the World of Formation, and its physical body manifests in the World of (Action) Expression and Matter. (p. 129)

Yezirah. The third world is called the World of Formation. Here, the plane of angels is found. It is associated with the element of air. As you climb from Earth up the ladder of awareness, there are changes in energy, vibration, consciousness, and function. The Hebrew name for this world is Yezirah. In this dimension, the concepts of love, beauty, and sexuality are found. All feelings find their source here.

Briah. The second world is called the World of Creation. Its Hebrew name is Briah. It houses the plane of archangels and is associated with the element of *water.* Archetypal forces as well as the balanced forces of femaleness and maleness are found here. Together, these two concepts are the foundation of all creation. When utilized out of balance, only negative returns can be expected.

Azilut. The highest (and primal) light in the universe is the Divine World of Emanation, called Azilut in Hebrew. This is the plane of Spirit, too bright to be initially confronted. It is associated with the element of *fire.* All of creation is derived from the World of Azilut, and within Azilut there is no separation. In this World of Origination, the light of the Godhead and life without ending are found. The three lower worlds are created successively from this dimension in a descending order of light and consciousness in a transition that is smooth and gradual. (See Figure 2.)

Male–Female Relationships

An understanding of gender is one of the hallmarks of Being. Absence of this knowledge has caused hurt, heartache, and despair since recorded history.

As we look at the Tree of Life, one of the first things we notice is that directly under and next to Keter, the Crown, are located Binah, the female impulse, and Hokhmah, the male impulse. These are at the plane of archetypal forces from which all else is created.

The sexual drive we find in Malkhut, the Earth plane, had its foundation in Binah and Hokhmah. Some thoughts become obvious. Foremost is that these

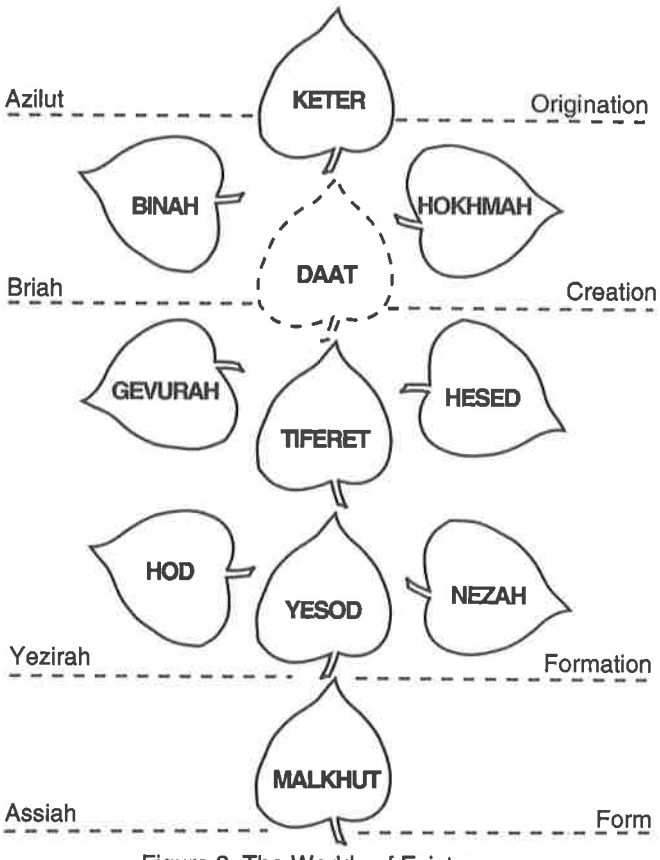

Figure 2. The Worlds of Existence

impulses, by the location of their source, are in essence, holy. They are not to be treated in a casual or promiscuous way. When misused in a purely mundane fashion, the purpose of life inevitably becomes distorted and trivialized.

We also noted previously that the male–female forces are equal in importance and their balance must be maintained for distortion not to occur. Marriage is a blending of the two archetypal forces in order that a new, complete union may develop. The sexual union, which on one plane is simply a joining of two bodies in an act of great pleasure, in reality fulfills the need for two archetypal forces to join together for completeness. No wonder that pleasure and a new wholeness and power may follow if the union is consecrated.

When we conceive of the soul, we, in our deepest thoughts, do not link it to a given gender. Gender is acquired for an Earthly existence depending on lessons to be learned and purpose to be fulfilled. So, a coming together of the genders is a soul completion, a marriage of two incomplete halves. This spiritual need does not diminish with age. The union allows the female to seek balance with the male impulse and the male to seek balance with the female impulse. This whole, this unity, allows us to partake in a fullness on Earth replicating, in a small way, the unity and completeness of the spiritual in Daat. When misused, outside of a loving, consecrated relationship, we become more deeply bound to the material world and a more superficial side of existence.

When living and loving in this relationship of unity and completeness, a new wholeness is formed, a nobility of Being. Love now flows out from this new entity and enriches all surrounding it. Hence, we find that sex is so powerful in its essence of unity that out of it can come the greatest good. When simply used as lust, the force is still powerful enough to bring about the darkness of despair, crushed dreams, and broken futures. The effect on our soul is very strong, in either direction.

As we review this need for balance, we begin to realize that if humans are to fully understand and internalize the loving relationship it can only occur in a sanctified commitment. Marriage allows this relationship to blossom.

We believe that there are several prerequisites to such a marriage commitment. The first of these is that the relationship be solid prior to sexual activity that may temporarily confuse the issue. The second prerequisite is that the future spouse be capable of being your closest friend as if she or he were of the same sex. Finally, we should look forward to an extremely close relationship with our future spouse over the years and understand that the vision must be a long journey rather than one of immediate gratification. Marriage is a joining together if it is to be a blessed relationship. We are all capable of such a relationship when we understand who we are.

Two articles published in the *New York Times Magazine Section* in the last few years ("The Unromantic Generation" and "Why Wed?") point out some of the confusion resulting from the current ignorance of what sexuality is all about. We quote below some of the views held by many of the interviewed adults, as well as the interviewer's opening remarks.

> They [those interviewed] are not heartless, soulless, cold or unimaginative. They are preoccupied.... I'd ask about life: They'd give me a graph....
>
> "Get to the point, move on. Acquire, acquire, career, career."
>
> "Nevertheless, grown-up American men in the full swim of life say they're scared stiff of getting married."...
>
> "To me, relationships always seemed very stifling...."
>
> "The idea of marriage is what frightens me...."

When we discussed these views with college students, the majority of them spoke of the need for an independent Self. Clearly, they thought, all lasting relationships were limiting, stifling, perhaps even choking.

This preoccupation with a solitary Self, this desire for so-called independence, is both frightening and an illusion. Simply put, we all have a common spiritual Creator and our own fulfillment leads to Daat. There is no other choice.

Conclusion

Since the end of World War II, the alienation of person to person has become more commonplace. Intellect alone has become the sole source of knowing for many, and it has meant a distancing from the world. Too many people can no longer find warm connections in science or in human relationships. There is a spiritual limp in an individual who seeks to function with but half of his or her powers of cognition. As individuals became more self-centered, so did nations. The movement to split apart has led to a proliferation of nations. The darkness of a distorted knowledge is pervasive and influences many of our actions. The voice of intuition has almost been stifled. Few individuals function in the realm of Daat, the realm of a full cognition, the realm of Being.

The imbalance in knowing affects almost all dimensions of our culture. Distortions in education, medicine, business, architecture, music, and all fields of human endeavor are commonplace. A great desire for human fulfillment has arisen, and the search for a human unfolding has been going forward as people cry out in a desperate need to fill their inner voids. As Steiner (1967) wrote, "In the deepest innermost being of the

soul, we must seek for light" (p. 56). Too often Self seeks the security of the cave.

Franz Winkler, a person of Being, also understood our yearning and our need. Winkler, as a physician, but more as a very wise counselor, saw so many young people trying to exit the cave. His insights into juvenile delinquency and rioting are particularly appropriate in these times and when attempting to understanding a misunderstood series of events. He saw people seeking an outlet for their crushed dreams, for their innate longings. He understood misplaced anger against their own neighborhoods and local businesses. He realized the need for inner adventure and a life of meaning. He wrote, "Our society is delinquent because it deprives children of their childhood's Garden of Eden. It gives them stones instead of bread and then is shocked when they grow up with hearts of stones" (Winkler, 1960, p. 191). There is little or no opportunity for a higher Self to develop under such conditions, since the foundation was never created.

Kabbalah also provides powerful insights into the healing process, based on the force of an awakened consciousness. As understood by Gerald Epstein, M.D., a modern practitioner, powerful tools were added to the healing arsenal. He, indeed, understands the reality of the four worlds of existence.He wrote, "When we do imagery, we recognize that human life obeys more than ordinary cause and effect. We have the capacity to make something new — and to influence the physical material of our own bodies. If we were just mechanisms, then of course only a mechanic could hope to change us. But we are more than this and can change ourselves" (Epstein, 1989, p. 26). Rabbi Hillel further subscribed to this notion when he questioned, "If I amnot for me, who will be for me? If I am only for myself, what am I?If not now, when?"

When we elect to take an active part in our own healing process, we are awakening to our potential that has often been ignored in a society primarily involved in the biochemical aspects of life. In effect, we are choosing life as opposed to the cave.

As we have been describing Self, we have been emphasizing the importance of balance in the thinking process. The body has been viewed intellectually, quantitatively. This is how much of our society has been functioning. When we bring balance into the process, we are adding intuition and understanding, a qualitative dimension. Voilà! The balance we have sought! The more you think about it, the more balance seems to be an answer to so many problems and challenges. Growth requires the foundation of a full cognition.

Recall Solzhenitsyn's strange statement, "Thank you prison for having been in my life." It took a stay in Stalin's horrible gulag to bring about an awakening, and it may take a societal illness, like our current state of affairs, to awaken us. William Thompson (1987) writes, "The universe is not a black box containing floating bits of junk left over from the big bank explosion; it is a consciousness saturated solution. Mind is not simply located in the human skull; animal, vegetable, and mineral forms are all alive" (p. 138).

Teachers can utilize knowledge as a pathway to becoming. They may help us on the road to freedom. Individual freedom blends with individual responsibility. Education is the gateway to becoming a Human Being. Hearts of stone may be moved by beauty, wonder, joy, giving, and sharing.

A description and example of how Kabbalistic principals may be integrated into education follows. Education is a "knowledge" vocation. It must be true to its full expression of balance if we are all to thrive. The goal is to transform actions into acts of Being. It is to make meetings into encounters, to bring the spirit into deeds, to awaken students to reality. Students can be viewed as essentially spiritual beings with tasks to be accomplished; tasks that will benefit us all.

In a first grade classroom, we witnessed the teacher beginning to explain the concept of the number "one." He took a tangerine from his desk and spoke in terms of "one," "oneness," and "unity." The tangerine now represented the world. Slowly, he peeled the tangerine and then dramatically split it in two. Two comes from one! We now had a Northern hemisphere and a Southern hemisphere.

Then the teacher slowly pulled each segment of the tangerine away, and now it represented a nation. The children saw Canada, England, and the United States of America, etc., laid out on his desk. He then brought the segments back together. We are all parts of a whole. All people are related in unity.

The teacher followed with a fairy tale, again emphasizing the number "one." The concept of "one" was encountered and embraced all day long. The concept was no longer something superficial to be simply manipulated. It had a depth of meaning that was now appreciated. Teaching, in all of its forms, has to be a matter of consequence in the daily lives of students throughout their education. The intellect and the intuition must be combined and blended in order to lay a foundation for self-actualization, for growth into Being. Daat must be served.

In the knowledge of Kabbalah, consciousness preceded the formation of the universe. In fact, this Divine consciousness is what gave birth to the cosmos. The very first creation of this consciousness was light, and it is the primal manifestation of spirituality. It is interesting that those who have had near-death experiences speak of light as the threshold to another dimension.

The experience they describe is authentic. In fact, I doubt if life could have originated at the dawn of creation without this spiritual light. When we emerge from the cave, it is into a blinding light. Who can question the thought that as we evolve it will be into Beings of light.

In her book *Kabbalah*, Ann Williams-Heller (1990) clearly states such insights:

> Love is without doubt the supreme power that moves the universe.... Do we sense the needs of those we love, and do we fulfill them joyfully? If so, then we have learned the magic — yes, the magic — of love with a capital L. It is love under free will and in harmony with the endless love and will of the Creator. For the totality of Love is the clay of the universe. (p. 129)

By knowing the importance of love for the universe, we may realize that loving, in the Biblical sense of a full encounter, may become the surest road to growth into Being.

Working with adults, we have found that meditations and visualizations may be used to help reestablish the requisite dynamic balance necessary to support the process of personal growth. Those exercises are beyond the scope of this paper, however a vital meditation that can be used to begin to acquire a clearer sense of Self and to help climb the road to Being follows.

> In the pure rays of light
>
> Glows, revealing itself, the Godhead of the world.
>
> In the pure love of all beings
>
> Radiates, the Divinity in my soul.
>
> I am at rest in the Godhead of the world.
>
> My true Self I shall find
>
> in the Godhead of the world.

In the spirit of heavenly understanding that the key to Being is knowing, Jonathan Livingston Seagull said to us all, "A seagull is an unlimited idea of freedom, an image of the Great Gull, and your whole body, from wing tip to wing tip, is nothing more than your thought itself" (Bach, 1970, p. 93).

> "May the force be with you."
> (A Kabbalistic sentiment and Star Wars expression)

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Gathering Inspiration

Spirituality, Multicultural Education, and Social Change

Carolyn R. O'Grady

Violence and social injustice pervade our world today. Incorporating spirituality into a multicultural education will help children develop a greater sense of social awareness and responsibility by affirming the diversity of the individual while reinforcing the commonality of all human experiences.

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I am a teacher. Everyday I walk into a classroom and encounter all over again the power of ideas and of language. As a multicultural educator, I grapple with issues of diversity and oppression within myself, my students, and the educational system I am a part of. Everyday I work to create one more piece of my personal vision of social change, and almost everyday I sit in meditation and practice listening to what my deeper self has to say to me. This process of action and reflection furthers my goal as a teacher to provide a context for learning in which differences are celebrated and oneness is affirmed.

This simultaneous awareness of oneness and difference offers an educational perspective that provides a foundation for creating both personal and social change. It can only be achieved when I, my students, and the learning we share are filled with inspiration or "in-spirited" — literally, filled with spirit. Through a vision of education that combines spirituality and multicultural education, we can tap the power of inspiration as a limitless source of renewal and strength. As teachers, we can both inspire and be inspired as we teach.

Inequity and social change

As a multicultural educator, I am constantly reminded of the inequities that exist in our society and our educational institutions. As a teacher, I work in a system that should serve all but which instead privileges the white male middle class. Dropping out pervades the system, and the majority of those who drop out are poor students of color. Financial inequities abound from one school district to another, often based on class or race privilege. The content of what we teach is contested territory, with debate over what constitutes an appropriate canon. It seems our educational system is constantly being assessed, criticized, and found wanting. Teachers themselves are often buffeted by these winds of criticism — they are given curricula to

teach that is "teacherproof" or left to carry on with inadequate supplies and inevitable apathy.

In the world outside the classroom door, children face violence, poverty, and despair. In a recent *Newsweek* poll on what children and adults fear most, violence against a family member ranked number one ("Growing Up," 1993). The media is full of stories that describe the violence that pervades our homes, our streets, and our schools — it is often perpetrated by and against children.

This violence reflects the larger drama of global crisis, from genocidal wars to environmental disasters. It also reflects the violence brought on by racism and other forms of social injustice. If they are lucky, children will have a teacher who is able to help them grapple with and understand moral issues and provide them with opportunities to take appropriate action.

But classrooms can also reinforce the alienating conditions of the larger society through the use of what Parker Palmer calls "conventional pedagogy." In this approach, "we and our world become objects to be lined up, counted, organized and owned, rather than a community of selves and spirits related to each other in a complex web of accountability called 'truth'" (Palmer, 1983, p. 39). By combining spirituality and multicultural education, we can practice an alternative pedagogy through which we counter dominant ideologies of individualism and competitiveness while affirming our sense of connection to each other.

Journey toward multicultural education and social change

Almost 15 years ago, in my late 20s, I was fed up with education. I had what seems now like a cushy job — teaching English in a private girls' school — and ostensibly I left my job because I had finally saved enough money to make the long-dreamed-of journey abroad. But in my heart I was sure I would never see a classroom again. I was tired of being given a syllabus and told what to teach and for how long. I was tired of making up quizzes and essay prompts that some students (always the same ones) aced and others (the predictable ones) failed over and over again. I was tired of dragging essays home with me night after night — the bane of the English teacher — barely keeping ahead of each day's class. I was disillusioned by the lack of real power I had to decide which students would pass and which would not.

So I went traveling. And during the next two years I encountered the anxiety of sometimes being the minority — the one who didn't speak the language, or who was a different color, or who was the only Westerner in the place — and then the relief of returning to a place where I could hear my own language and see faces that looked like mine and eat food that tasted familiar. In those several months I was forced to rely on strangers, to establish communication without language. And I got a small taste of what it feels like to be an outsider, but one for whom it is a choice.

I returned home with a new understanding of oppression and injustice, of my privileges as a white middle-class American, of the pain of being judged for being different, and of the fear that surrounds many people's lives. I returned inspired to work for social justice, to create social change through whatever avenue was open to me.

I found that avenue in education — but not the education I had been trained in or had perpetuated in my classroom. Rather, I found it in multicultural education, an approach, as Sleeter and Grant (1987) describe it, that "prepares young people to take social action against social structural inequality" (p. 435). Suddenly what I could do in the classroom, in the school building, and in the field of education took on new meaning. As a multicultural educator, I now see that my task is to examine institutional oppression, to examine my own experiences with oppression and with dominance, to understand the importance of culture as a source of group power and strength, and to learn and teach how to act on behalf of the oppressed (Phillips, 1988, pp. 42–47).

My conviction that multicultural education is a powerful form of social change has been reinforced time and again. As I struggle to unlearn my own stereotypes and as I encourage my students to grapple with knowledge by looking at it through a variety of lenses, I encounter the experience Kreisberg (1992) describes of "transforming power" — helping to create a space where all of us in the room are engaged in understanding what power is, what power we individually have, and how we use it in the world.

This approach is no panacea, but when it works, it is outstanding. However, even when it is outstanding, it is not enough for me because, besides being a teacher, a multicultural educator, I am also a meditator with a spiritual practice that influences all aspects of my life. It is through meditation that I find the resources to persevere even when the task seems monumental. Through meditation I can hear and attend to what Quakers call the "still, small voice" inside (Kenworthy, 1987). But further, it is through meditation that I can feel, in a way that goes beyond the intellect, the inevitable connection all humans share, indeed the "Oneness of all creation" as Spretnak (1986) describes it. This awareness reminds me that I am body, mind, *and* spirit — and so are each of my students. When I teach only to their minds and neglect the other elements of their being, I neglect my responsibility to fully educate them. Indeed, I reinforce

the notion that what happens in students' lives is unrelated to what is happening in the rest of the world. Rather than helping them "transform power," I contribute to their powerlessness.

Purpel (1989) has written eloquently on what he calls the moral and spiritual crisis in education. By this he means the increasing emphasis in schools on the values of competition and individual success rather than the development of critical and creative consciousness or a sense of larger meaning. If I forget that all of us here are embarked on what I think of as a spiritual adventure, then I lose sight of the larger meaning of what I do and get bogged down in how hard it is to change unjust conditions. A sense of connection to others through spiritual inspiration can be a resource out of which social awareness can grow. At the same time, participating in social change can lead to spiritual growth.

On spirituality

Many of us are uncomfortable talking about spirituality, and for good reason. Devastating things have been done and are still being done in the name of "God" or religion. In addition, the concept of spirituality evokes seemingly unanswerable questions. For instance, how do we decide what "spirituality" means? Whose definition of the term do we choose? Should we even use the term at all, or would "morals" or "ethics" be more appropriate? What happens if my definition of spirituality disagrees with yours? Are there some spiritualities that are "good" and others which are not?

There are other arguments commonly made against incorporating spirituality into education. It has been described as otherworldly and therefore escapist, discouraging engagement with the world. Spirituality is sometimes considered individualistic, since it seems to focus only on one's own relationship to a divine source with little reference to the community of human beings and their condition in the here and now. Spirituality can be considered an endeavor reserved for the elite, for those lucky ones who have the luxury of cultivating spiritual lives. And, spirituality is often seen as producing no impetus to work for change. If one believes that the world is evil to begin with, then it is only necessary to concentrate on salvation in the afterlife (Brown, 1988).

Further, a connection between spirituality and public education raises the specter of imposing a few people's beliefs on many, negating the separation of church and state that has been legislated, contested, and reinforced throughout this country's history. Yet even given all of these concerns, as a multicultural educator I think it is crucial to open this discussion for several reasons.

First, if we are to be truly multicultural, then we must acknowledge that many individuals have spiritual beliefs that provide as much meaning as one's ethnicity, gender, social class, or other forms of identity. All cultural groups throughout history have affirmed a set of spiritual beliefs that help guide individual behavior. This is but one element of diversity.

Second, the search for meaning is intrinsic to the human condition. Who among us has not wondered about the meaning of life or the role of death in our lives? It is our capacity as humans to undertake that search for meaning, regardless of how we ultimately define it. It is a search that is inherently spiritual in its attempt to answer questions that go beyond our physical existence.

Third, we live in a time fraught with violence, despair, and personal isolation. We can invoke a spiritual perspective as an antidote, but not if we do not talk about what spirituality is, what its gifts are, and what its dangers can be. Without dialogue we cannot learn to distinguish one spiritual path from another, or whether a path is truly spiritual. Consensus may be difficult, but to assume it is impossible underestimates, as Purpel (1993) says, "the powerful cultural forces that seek to pursue (as opposed to impose) moral and religious community" (p. 69).

Ultimately we can only measure the validity of a spiritual approach by observing how its adherents act in the world. For me, three particular criteria are crucial in this process.

- Practitioners must not seek to impose their own spiritual beliefs on others. Kovel (1991) contends that the quality of spirituality depends on the concrete social relations it advocates. If a person or group claims spiritual beliefs that cause harm to others (physically, psychologically, or emotionally), then it cannot truly be spiritual.
- Practitioners must take action in the world but do so in such a way that the rights and well being of *all* creation is enhanced. Spirituality can be escapist if there is no concomitant sense of responsibility toward the whole community of the world. In other words, intolerance or violence is as unacceptable against the natural world as it is against other human beings.
- Practitioners must not limit the ability of an individual to find insight based on his or her own inner sense of rightness. Some institutionalized religions have been selective in their approach to spirituality, defining "truth" in ways that limit the freedom of others. In some spiritual relationships, a devotee gives up his or her own will to that of a master. This may be entirely appropriate, if it is freely chosen by the devotee, but it may also reinforce negative power relationships that are ultimately destructive.

It is not essential to believe in a god to be spiritual, but it is important to believe in something that the word "God" has historically signified. It has been called by a myriad of names — Allah, Tao, Goddess, the sacred, immanence, community, the ground of all being — and indicates an overarching reality, a oneness of all things. Parks (1986) notes that "whatever functions as the centering, unifying 'linch-pin' of our pattern of meaning" functions as "God" for us (p. 17). What is crucial is that an individual believes that there is a unifying force to creation and acts in the world based on that sense of unity.

Spirituality and multiculturalism can help us construct meaning in our lives because a goal of each is the awareness of unity in the midst of diversity. For example, a truly multicultural approach to knowledge utilizes many perspectives to understand reality. In the classroom this literally means examining an historical event through the eyes of all participants in the story. This kind of multicultural method is inherently spiritual because it affirms the diversity of *individual* experience while reinforcing the commonality of our *human* experience, our shared history on this one planet. Both spirituality and multiculturalism attempt to heal the wounds of conflict and isolation that occur when individuals are divided because of discrimination, injustice, or oppression. Taken together, they are powerful tools for promoting social change for social justice.

A sense of connection to others through spiritual inspiration can be a resource out of which social awareness can grow. At the same time, participating in social change can lead to spiritual growth.

A spirituality of education for social change

The concept of using the spiritual in the classroom is nothing new, whether it is used to expand student awareness or to reinforce social norms and expectations. Jewish, Christian, and Black Muslim religious schools are imbued with spiritual pedagogy. Waldorf Education is another example of a spiritual approach to teaching. The Society of Friends has a long history of incorporating spirituality into the educational process. But I am a teacher of teachers who will be working in public schools, where even a moment of silence is contrary to our historic separation of church and state. What approaches can public school teachers take to incorporate both multicultural education and spirituality into their teaching?

The following suggestions are efforts I try to use in my own work. They are practical pedagogical attempts to actualize what often seems overly theoretical. Each concretely reinforces the inspiration spirituality and multicultural education can bring us and offers practice in simultaneously affirming oneness and difference. They will not solve every problem, but they do offer a beginning. In practice, we can:

Find daily solitude for ourselves in which we can learn to listen to our inner self.

It has been suggested that educators need to recover the old spiritual notion of "being called" by something greater than ourselves to our life's purpose. "Calling is not so much to a job as it is to a particular identity and life pattern through which the meaning of one's existence is to be realized" (Slusser, 1984, p. 384). Contemplating the meaning of one's existence can be a source of inspiration. It is an adventure that can be done from both a spiritual and an educational perspective and can be incorporated into our work as teachers.

Daily prayer or meditation, or simply quiet time, can be as little as five minutes and requires no special tools but willingness. What it brings us is an awareness of our connection to others, in the community of the world, and an attitude of honor and respect for our own inner knowing.

Examine how we as teachers mirror the oppressive relations of the larger society.

Research indicates that by the age of three, children have already acquired attitudes to people of different cultures and races (Cushner, 1988, pp. 159–176). We must explore the stereotypes we have learned that are racist and ethnocentric, look at where they come from, and examine how our beliefs affect our teaching. Do we unconsciously treat light-skinned children better than dark-skinned ones? Or treat children for whom English is not a first language as less intelligent? Or give more attention to boys than girls? A truly spiritual approach honors the diversity of all beings.

Remember that students and colleagues are more than physical entities, they are also spiritual beings.

By seeing others as spiritual beings, we approach them in quite a different way than if we perceived them only as physical substance. We will see them as "in-spirited," and our relationship with them will take on new depth. Quakers refer to "that of God" or the "inner light" in every person to connote their

belief that humans are more than mind and body. By simultaneously affirming students' individual human characteristics and their essential sacredness, we can provide a classroom space for students in which they can develop all aspects of their being. It is important to note that we can choose to act from this perspective even if we are not always sure how to "see" this inner light.

Develop competence in teaching from a multicultural perspective.

Teachers who are convinced of the worth of each child and the value of diversity convey an attitude that children will model. Silberman (1970) notes that it is not what we teach, but how we act that is of crucial importance in our role as educators. We can be role models for our students, *all* of whom become victims of a traditional curriculum that reinforces and perpetuates prejudicial attitudes and values. Learning how to teach from a multicultural perspective, in which diversity is valued and explored, liberates both students and teacher. And, as noted earlier, any truly multicultural perspective must include a respect for an individual's attitudes toward spirituality.

To the extent possible, provide an environment that speaks to all aspects of students: the mind, the spirit, and the body.

Many contemporary classrooms are cold and unfriendly environments, with uncomfortable chairs, fluorescent lights, and inadequate supplies. Lack of financial resources can make environmental changes difficult or impossible in many schools, but there are still several ways that an atmosphere of respect can be reinforced in a classroom and a feeling of community enhanced. Each of these aspects of the school environment are also crucial as part of a multicultural teaching approach:

The arrangement of the room. As teachers, we know that the arrangement of the classroom sends a message to students. Do we offer a circle of community or create a different space with a row of chairs? Do we encourage discussion and collaboration through small groups of students working together? Do we locate the teacher's desk at the "head" of the class, thereby symbolically reinforcing our power and privilege? Or is our chair part of the circle, where we attempt to balance our authority with the voices of the students?

How we use language. As teachers, are we careful to avoid language that is racist, sexist, or in other ways offensive to individuals? Do we help our students understand when certain kinds of language are inappropriate and why? Do we use naming appropriately, calling individuals by their true names as well as calling cultural groups by the names they have chosen for themselves? Do we show reverence and respect to students when we listen to or talk to them? Do we empower them to talk and listen to one another?

The content of our subject matter. Are we inspired by our subject? Can we communicate to students why we value it and what meaning it has for us? Are we able to offer a variety of perspectives on the material so that students can learn to see through different lenses and also understand the interconnectedness of different subjects?

The process of our teaching. Are we attentive to the individual learning needs of our students? Do we encourage students to take risks in their learning, giving them both freedom and structure? Are we more focused on getting through the material than on helping students cope with the here and now of what is actually happening in the classroom, the school, the community, and the world? Do we acknowledge and welcome the feelings of our students, creating a space of safety for their exploration? Do we allow our students to see that we, too, have feelings (Palmer, 1983)?

Examine the relevance of what we teach.

We must reinforce that what happens in the classroom is happening in the world: how we relate to each other and to our subject reflects and shapes the way we relate in the world (Purpel, 1993). But also, the subject matter must connect with the real lives of students — what they are interested in, what they are worried about (Shor & Freire, 1987). Part of our agenda in the classroom needs to be incorporating the students' agenda — their fear of violence and of not being able to afford food or shelter, their concern for their families, their confusion about sex, race, and drugs. We must help students understand what Campbell (1988) calls "the wisdom of life (p. 9)." This includes not only what alienates us from each other, but what connects us as human beings.

Conclusion

Both spirituality and cultural identity influence the way we perceive information, envision life, and create meaning in our lives. To emphasize one without the other is to risk perpetuating confusion and alienation by forgetting that we are all beings of spirit *and* matter. Focusing solely on spirituality means denying the fact that we live in this world and have a responsibility to it and to each other. Focusing solely on physical qualities denies the fact that we are beings who can perceive beyond the material to a sense of the sacred. It is our capacity to hold a foot in each realm that makes us fully human.

Ultimately, we cannot teach students about the relationship between themselves and the world unless we ourselves have also struggled with it. How we choose to teach in the classroom has an effect on what happens

in the larger society. If we want to create social change, we can do so in small but incremental ways through a multicultural educational approach in which we revision the world around us. And, if we want to create what Kovel (1991) calls "a new sense of the possible," we can bring a "radically spiritual attitude" to what we do. We can both inspire and be inspired as we teach, simultaneously celebrating differences and affirming oneness.

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Letter to the Editor

Dear Editor:

Seeing my essay ("Holistic Education in the United States: A 'New Paradigm' or a Cultural Struggle?") juxtaposed with your editorial ("Reflections on the Holistic Paradigm") in *Holistic Education Review* 6(4) (Winter 1993) prompted some further thoughts about the main point I sought to raise in my paper. Although you published my piece without comment, your editorial expressed a contrary position. I think the contrast between our points of view is an important foundational issue for holistic education and worth a deeper look.

In my article I suggested that the "holistic paradigm," even with its soaring spiritual vision, was not, by itself, an adequate foundation for an effective holistic education movement; I proposed that we join with a rising wave of progressive, democratic, learner-centered approaches to forge a vigorous social and cultural movement toward the principles holistic educators share with these approaches. You emphasized, on the other hand, that holistic education *is* essentially "a paradigm, in the Kuhnian sense," defined by its spiritual perspective, and should *not* be conceived as "a compilation of pedagogical strategies or agendas."

I recognize that the spiritual dimension of holism is the unique feature distinguishing it from progressive approaches that generally remain steeped in Cartesian, mechanistic epistemologies. But I think it is a mistake to simply discard progressive critiques, because they direct our attention to other important issues. *Spirituality isn't everything.* For human beings, the spiritual domain is nearly always embedded in more mundane layers of experience — biological and ecological, psychological and sociological, cultural, economic, and political. I believe that a truly holistic holism must engage these realms on their own terms if it is to describe a spirituality that is relevant to human existence. If holistic education is to be an intellectually coherent and culturally effective movement, holistic theory must rest on a more flexible, more critical (and self-critical) foundation than messianic visions, religious dogmas, or self-contained paradigms.

Two years ago in this journal, I proposed an outline for a "coherent holistic theory" that attempted to provide this foundation. As far as I can tell, that article has not evoked the slightest interest within the holistic education community, but I still think it provides a useful theoretical model. I proposed that a holistic theory would address "multiple levels of wholeness" that are phenomenologically present in human experience. I arbitrarily named six levels (in ascending order of "wholeness," complexity, and inclusivity): brain/mind, whole person, community, culture, planet and cosmos. What you, Jeff, refer to as "the sacred in the child, in the world, and in certain forms of knowledge" — holism connoting holiness — I associated with the vast, ultimately indefinable "cosmic" level, the Absolute. While granting that this sacred essence or ground of Being — the Tao, God, or whatever term we choose for it — both transcends and permeates all existence, my major point was that humans for the most part experience the world on other, less absolute levels, and that we need to address such experience phenomenologically — that is, on its own terms.

Holistic thinking is tremendously important because it calls attention back to the cosmic, sacred, transcendent context of human existence, which modernist culture has largely dismissed. Furthermore, the strong ecological (or ecosophic) perspective of holism contributes important insights at the level of *planetary* wholeness. But in the less totalistic domain of *culture* (involving social institutions, political ideologies and conflicts, economic structures, historical influences, and sociolinguistics), I believe that most holistic interpretations (including such notions as "paradigm shift" or "critical mass" triggering substantive social change) are simplistic and unconvincing. The Absolute realm that holism tries to talk *about* is surely beyond limitation and intellectual analysis, but "holism" as such is an ideological construct, meaning that the assumptions and concepts through which it speaks come from a cultural context that is replete with biases and blindnesses, contradictions and conflicts. I do believe it is naive and evasive to duck out of these problems by claiming that we are purely interested in what is sacred and holy.

Are educational (and other) activists who are working for gender and racial equality and economic justice irrelevant to holistic education because their "paradigm" is democratic liberalism rather than spiritual transformationism? As a critical historian, I would argue that so long as the social order falls short of the liberal democratic ideal, a spiritual transformation of society will remain a fantasy. I do not see how a culture can move directly (via a painless "paradigm shift" in consciousness) from a historical legacy of atomistic individualism, racism, militarism, statism, and economic exploitation to a New Age paradise of harmony and love. Holistic education as a messianic spiritual vision may inspire a few sensitive souls, but it will not topple an oppressive social order. If, in reality, genuine cultural change requires a great deal of struggle, holistic educators should consider joining with those who

are already struggling for democracy, justice, and human dignity. And this means counting their "pedagogical strategies and agendas" as important strides in the right direction, regardless of the "paradigm" that motivates them.

Ron Miller, Founding Editor
Holistic Education Review
Burlington, Vermont

Dear Ron,

Your letter is both challenging and disturbing: challenging in that you raise significant issues about holistic education relative to my argument that is constitutes a paradigm, disturbing in that you confound the discussion of the concepts of "paradigm" and "holism" with concerns about persons who, irrespective of our discourse, will be closed-minded ideologues. The result is that you mistake the defining elements of a holistic paradigm — a generative framework for inquiry and debate — for a misguided closure and isolation of holistic thinking. The most effective way to sort things out is to respond to in order to the issues made.

In your second paragraph, you argue that a holistic paradigm is not "an adequate foundation for an effective holistic education movement" and the holistic educators should join with others to "forge a vigorous social and cultural movement." I could not agree more, but your point has nothing to do with the question of whether or not holisim constitutes a paradigm. A paradigm is defined by the unique, intellectually rich, and fundamental assumptions it brings to our collective thinking; it is not identified by its social efficacy. The emergence of a new paradigm *may* lead to (but is not properly identified or measured by) the social change it achieves.

In your third paragraph you indicate it is an error to "simply discard progressive critiques" and the holistic theory must "rest on more flexible, more critical (and self-critical) foundations than messianic visions, religious dogmas, or self-contained paradigms." Once again, I could not agree more. Why would the concept of a holistic paradigm deny the virtues of progressive (or any other) educational theory or shut down critical discourse? A paradigm is a point of intellectual departure. It is a framework for exploring the world or some aspect of it. A paradigm is not self-referential — both the subject and object of critical thought. It generates ideas that require public exposure and debate. It must be critically developed and assessed relative to its coherence, the fruits of its application, and insights provided by other schools of thought. A holistic paradigm is no exception. Uncritical visions and dogmas have no more a place in a holistic paradigm than in any other framework for inquiry and discourse.

Regarding progressive educational theory in particular, I suggest that is has been the most powerful and yet unrecognized force in meaningful educational reform over the past decade. From the whole language movement to authentic assessment, from cooperative learning to teacher empowerment, we can hear the echoes of John Dewey's voice (among others) across the span of the century. Progressive theory, with its social definitions of human nature, values, and knowledge, infused and continues to infuse education with life; it addressed and continues to address the need for children to expand their vision of themselves in their world to meet the challenges of democratic living.

Yet, despite these considerable virtues, progressive education views human beings as social animals. It is founded on an expressed rejection of metaphysical notions of the world and of human nature. It denies the possibility of values, purposes, and meanings that transcend pragmatic consequences. Holistic education, in contrast, begins with the acceptance of these very same matters of ultimate belief. Although it may be argued (as you do) that "spirituality isn't everything," holism is rooted in the belief that material factors aren't everything. The pragmatic considerations that underlie progressive education are vitally important but ultimately insufficient to address the deeper aspects of human experience and purpose. Progressive educators offer invaluable pedagogical insights insofar as we *are* social animals. However, progressive educational theory can present obstacles to the development of an education appropriate to higher dimensions of the human being in that it does not entertain the possibility that such higher dimensions exist.

In your paragraph four, you mention that there are "multiple levels of wholeness" and the "we need to address ... experience phenominologically — that is, on its own terms." As is previous cases, I enthusiastically agree. We are complex beings. Each of us is an incarnate spiritual being who must learn to integrate the divine with the physical aspects of our being. Each of us transcends and is shaped by culture — multiple levels of culture. All of these aspects of human experience must be taken into account within a holistic paradigm. The key component of a holistic paradigm is the recognition that amidst this complexity the world is not merely a mechanical object, human purpose is not circumscribed by social action, and the development of what is most essential in each of us emerges in overcoming what is "natural." The point here is that holism offers a unique perspective for understanding the human condition — who we are and what we are doing. If we were social animals alone, progressive education would suffice; if there were no divine spark alight in each one of us, there would be no need for holistic education. The

assumption of higher dimensions of being rearranges the whole constellation of human experience. Yes, we must meet life "phenomenologically, that is, on its own terms, but a holistic paradigm offers unique insight into precisely what the terms" are.

In your fifth paragraph, you call for holism to account for the complexity of modern society, "involving social institutions, political ideologies and conflicts, economic structure, historical influences, and sociolinguistics." As you might already anticipate, I agree. Holism, as I said before, should not be both a subject and object unto itself. It should provide a fruitful intellectual framework for understanding needs of children (and adults for that matter). The most distinctive feature of the interpretive framework offered by a holistic paradigm — one that gives it internal coherence and discerning power — is its appreciation that some things — beyond all cultural bias and contradiction — are sacred; that among and central to these things, is the human being. No, we need not be "purely interested in what is sacred and holy" but a holistic paradigm perceives all educational issues in a spectrum that to lesser or greater degrees, streams from the sacred and holy.

In your closing paragraph, you return to your concern that a holistic paradigm is necessarily exclusive, that it naively asserts that the ills of modern society will fall "to a New Age paradise of harmony and love." You refer to a holistic paradigm as a "messianic spiritual vision" incapable of achieving "genuine cultural change." For the sake of consistency, I'd like to agree.... But, I cannot. A holistic paradigm is not by definition, nor should it be in practice, exclusionary. The concept of a holistic paradigm does not suggest a New Age paradise is approaching or offer a "messianic spiritual vision." If the foreclosure of thought and public dialogue and debate were a function of a holistic perspective, then let us forgo the question of its status as a paradigm; let us forgo any discussion of holism. There is too much to be done, there are too many valuable contributions to be made from diverse perspectives to spend our time in misguided reveries.

However, a holistic paradigm can add a fresh and essential understanding of the education and of the immense complexity of human nature. It, like all paradigms can offer a source of lucid analysis; it can and should refine the extend the scope of contemplation inquiry and discourse.

It is critically important that holistic educators work with their colleagues with varied and valuable intellectual frameworks. Ideally, holism should incorporate them responding to the manifold levels and aspects of the human condition. Yet, it is essential that holistic educators keep sight (amidst such complexities) of what is essential in each of us and in what we are working toward. A recognition of the sacred and holy is not sufficient to respond the educational challenges we must face. Without it, we can lose our direction and unnecessarily limit the possibilities of our individual and collective existence.

Jeffrey Kane
Editor

The Editor welcomes additional discussion on this topic. Send your comments to Jeffrey Kane, Adelphi University, Box 701, Garden City, NY 11530.

Book Reviews

Visions of Entitlement: The Care and Education of America's Children

by Mary A. Jensen and Stacie G. Goffin (Eds.)

Published by State University of New York Press (Albany, NY), 1993. 303 pages, paperback, $17.95

Reviewed by Dale T. Snauwaert

The sociologist/demographer Harold Hodgkinson has demonstrated that social conditions adversely affecting children's lives in America — poverty, abusive adult–child relationships, crime- and drug-ridden environments, impoverished social resources, among others — constitute a "leaky roof" in the very structure of public education. The school house has a massive hole in the roof, and the cold wind and snow are blowing in — profoundly disrupting the capacity of schools to educate. The roof needs to be fixed before genuine education can proceed. However, it cannot be fixed by educational reform itself. Educational reform can merely clean up the slush. Fixing the roof entails improving the social conditions external to the schools within which children live and develop (or not develop). This requires the formation and implementation of a variety of social policies and programs aimed at increasing the general welfare of children.

In the parlance of political philosophy, in order to fix the roof, governmental policy must move from a technically "negative" orientation — an orientation that exclusively guarantees the protection of a zone of privacy from coercive interference — to a "positive" one — wherein rights to possession of the basic necessities for becoming a participating member in society are enacted and protected. In the former orientation, governmental intervention is only legitimate in order to prevent coercive interference. In the latter orientation, governmental intervention is legitimate not only in this negative sense but also as a positive means of providing the necessities for being and/or becoming fully participating citizens. Both kinds of interventions are dictated by the imperatives of distinct conceptions of justice. Genuine educational renewal, fixing Hodgkinson's leaky roof, requires the establishment of "entitlements" or "welfare rights" for children, based upon a shift to a positive political orientation.

Visions of Entitlement is an excellent collection of 12 papers that addresses this issue. Its focus is on the legitimacy and extent of children's rights to basic welfare provisions, the nature and extent of the plight of children in contemporary America, and the articulation of a series of policy recommendations and implementation strategies for the delivery of basic social goods to children.

The collection clearly documents the danger to children that has resulted from what may be referred to as "societal neglect." An alarming portrait is painted of the plight of a significant percentage of America's children. In addition, the range and potential of various policy options are forcefully presented and argued for by the authors. Stacie Goffin, coeditor of the volume, questions in the epilogue, we know there is a serious problem, and we know how to solve it, "Yet, we do not" (p. 287). Why?

The answer, at least in part, lies in our conception of entitlement. Mending the leaky roof must begin with the establishment of children's rights, both protective and proactive. The main philosophical orientation of this volume, explicitly presented in Part I and implicit throughout, is essentially a utilitarian argument for the establishment and protection of positive entitlements for children. From this perspective, the long-term consequences of societal neglect outweigh the social costs entailed in the distribution of positive rights to children. In essence, this position is a continuation of the social efficiency orientation of early twentieth century Progressivism, couched now in the language of human capital theory.

There is, however, a second moral argument in the volume in support of children's positive rights. This argument is deontological rather than consequential. It maintains that, implicit in the negative orientation of the right to life, liberty, and property, is the positive right to welfare (i.e., the means necessary to participate in the society), for without welfare, the pursuit of life, liberty, and property is groundless. This is the stronger argument, for it grounds children's positive rights not in the consequences of action relative to changing social conditions, but in a concern for the basic dignity of children as human beings. The former ground is volatile, more susceptible to changes in political opinion, whereas the latter ground is constant, anchored as it is in human dignity.

Visions of Entitlement is true to its title; it is visionary. It makes an important contribution to the debate concerning the establishment and protection of children's welfare rights, providing us clear direction as to why and how to fix the leaky roof. As the editors suggest, we know there is a fundamental problem, and we have clear, solid, feasible ideas about how to deliver needed social goods to children. These two dimensions of the

issue are forcefully presented in the book. However, what we lack is the political will, perhaps the political vision, to carry it out. This last question depends upon the establishment of positive rights for children. The present volume addresses this fundamental issue, but it clearly deserves much wider deliberation as it is linked in significant ways to the best of moral, political, and legal thought. Perhaps *Visions of Entitlement* will launch such deliberation. I wish it a wide readership.

Turning the Century

by Robert Theobald

Published by Knowledge Systems, Inc. (7777 W. Morris St., Indianapolis, IN 46231), 1993, 235 pp, $18.95.

Reviewed by Don Glines

Bob Theobald continues to write for "courageous realists" — for those who see the world as it is and, as a result, are willing to take action to create a significantly better future. *Turning the Century* provides directions for moving toward a responsible global culture and, more importantly for educators, for moving toward institutions better designed for the coming period of history. Theobald states: "We must move our current educational systems toward a commitment to learning on a life-long basis — making the creation of a 'learning society' our primary goal."

Theobald describes the inertia of the present economic, social, and political systems that has contributed to the inadequacy of existing industrial-era structures and institutions, such as schools and universities. He portrays a new era based upon a profoundly different set of values. "Mindquakes" is coined to mirror the process of breaking away from current beliefs and ideas. Involved is an improved flow of information vital to new decision-making processes and to the positive individual actions that can dramatically alter lifestyles, priorities, values, and institutions.

The educational challenge is not only committing to lifelong learning, but also to understanding that people now have very different requirements for creating preferable futures. The task is to structure knowledge in a way that enables people to discover what they need to know. Theobald states: "We have lived in a world which has concentrated on finding answers. Now we need to support people as they struggle to define the right questions." Present schooling, pre-K through college, has become overwhelmingly unrealistic.

Turning the Century clarifies how the many social crises of the times are interwoven with the future of learning. The problems of health care, environmental hazards, equality of opportunity, balancing justice, crime and drugs, population growth, and related patterns of habitation are all undermining the concept of a good community. Therefore, while the majority of issue decisions must be made at the local level, as opposed to the nation or state level, others must be resolved within a global context.

To create the essential changes, Theobald believes there is a need to "move beyond democracy." He states: "Our institutions are still based on the belief that it is appropriate to use power over other people. We have taken the old models which gave kings and priests power and diffused this power more widely." This assumes that power must be exercised, and thus the majority claims a right to control the minority — or conversely, small but very opinionated groups attempt to impose their beliefs on others. The loud minority that gains control of or frightens the Board of a school district is an illustration of common tactics in education. To counterbalance these trends, Theobald calls for an enormous shift in thinking — including adopting the concept of "servant leadership."

Theobald states that the required goal for the twenty-first century is responsible freedom; humans must move beyond adolescence toward maturity. If humanity is to survive, the majority of people must evolve their own intelligent decisions. There can be no master plan, for no one is certain of the best direction for the future, but people must take a personal role in changing directions. Decision by judgment, where all opinions are valued, must replace the process of decision by consensus.

In the end, Theobald challenges readers to believe globally and act locally — for each person to do what he or she can, and then some. Educators are challenged to do the impossible, for continuing the possible — schooling in its present form — cannot continue for long if society is to have an optimal future. *Turning the Century* is an easy-to-read book with a clear, spirited, and sometimes controversial message that will help educators understand the need for, envision, and ultimately create the essential new learning systems for the emerging global society.

Don Glines is Director of the Educational Futures Projects and a consultant for the California Department of Education, both in Sacramento. He was director of the Wilson Campus School, Mankato State University when Wilson was acclaimed as "probably the most innovative public school in America."

Educating for Intelligent Belief or Unbelief

by Nel Noddings

Published by Teachers College Press, 1993, 157 pp., $17.95 (pbk.)

Reviewed by Mary L. Radnofsky

Nel Noddings's *Educating for Intelligent Belief or Unbelief* represents the kind of rich literature that may be read at multiple levels: It is a fine primer on religions, beliefs, and cultures; it is also a practical guide to methods used to foster critical thinking in a high school classroom; further, it provides valid ideas with which to create an interdisciplinary curriculum and it is a vehicle for promoting the reader's self-understanding and reflection upon spiritual, ethical, and intellectual issues; finally, it is a call to action for both teachers and schools of education to produce "renaissance scholars."

The beauty in such a multifaceted piece is that it may appeal to both the educated and not-yet-educated, as well as to the believing and unbelieving audience. Its weakness, as Noddings herself acknowledges, is in her advice to create a setting for critical thinking — "a scenario that defies reality" (p. 17), and whose "unimaginableness" she further bemoans. Yet she affirms that "it *is* entirely possible to educate for intelligent belief or unbelief. We just do not care enough — are not alive enough — not wide-awake enough — to do it" (p. 17).

Despite this one note of pessimism, Noddings does not waiver from her purpose to "help parents and teachers think about appropriate responses to the kinds of questions all teenagers ask — explicitly or implicitly — and to think, further, about the questions all of us *should* ask" (p. xv). She consistently emphasizes the importance of promoting "critical and appreciative intelligence" and of giving students opportunities to examine and critique extremists' perspectives, whether they seem reprehensible or commendable. The study of existential questions, she convincingly argues, is the finest way to achieve this.

First, however, teachers and parents must know what questions to ask, and to this end, Noddings provides an eloquent discussion of conflicts within and across monotheism, dualism, polytheism, atheism, nature religions, goddess religions, and feminist interpretations of the Bible. She delves into different versions of humanism — religious, secular, deterministic, pragmatic, and existential — and she addresses significant issues in secular and religious ethics, eschatology, and fundamentalism.

Throughout these enlightening discussions, Noddings presents stories of men and women espousing the different beliefs; we read of Darwin's personal faith in God all but disappearing in his realization of the harshness of natural selection, while Darwinism strengthened Christianity's doctrine of male superiority. We muse at the image of French philosopher/mathematician René Descartes dressed in swashbuckling attire as he attempted an ontological proof of God's existence. And we cringe to read how Gandhi had actually recommended that Jews submit to Nazi inhumanity and try to convert them through nonviolence and expressions of love.

Noddings presents stories of these thinkers in such a way as to make their history, culture, and beliefs pique our curiosity. She also makes concrete suggestions so that teachers may learn methods to encourage students to think reflectively, to question, to doubt, to "ferret out the bits of truth in chauvinistic speeches and the chunks of untruth in glowing stories of religious heroes" (pp. 23–24).

Quotes by Robert Frost and Thomas Hardy are given to prompt discussions on the silence of God. Noddings also suggests projects for students to help them understand the lives of nineteenth century missionaries, and she quotes W. E. B. DuBois on the influence of the Black church on white religions. Noddings's choice of such pertinent and often provocative examples testifies to her belief in the theory of teaching for critical reflection and to her ability to translate the theory into her own writing.

Her discussion in Chapter Four of how to teach *about* cultural and religious myths so as not to violate the separation of Church and State is the first concrete mention as to *how* one can actually broach such potentially volatile topics as creationism and the existence of God. This return to reality from previous metaphysical discussions helps the reader consider just how much of each issue should be presented to students; Noddings seems to think aloud as she asks if teachers should share the complex reasoning of Blake, Goethe, and Nietzsche, concluding, "I'm not sure" (p. 33). We are given no clear-cut answer, and Noddings admits to her own uncertainty, leaving the decision to us. Then in the final chapter, she again raises the problem of fundamentalist beliefs that, in and of themselves, pose

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seemingly insurmountable barriers to any type of reflective, critical learning.

Noddings's pedagogically sound advice on the creation of interdisciplinary curricula, though, transcends questions of religious beliefs and obstacles. While critical inquiry may thrive in such holistic environments, it is certainly not a requirement for encouraging curiosity and reflection. Nevertheless, Noddings sharply criticizes the atomistic curriculum: "We rob study of its richness when we insist on rigid boundaries between subject matters, and the traditional disciplinary organization makes learning fragmentary and — I dare say — boring and unnecessarily separated from the central issues of life" (p. 8). True as this may be, her repeated condemnation of math teachers should not blind us to other teachers, who are equally as culpable of narrow-mindedness and focus only on their disciplines out of ignorance, laziness, or the need to prepare students for standardized tests.

In fact, it is at the instructional level that Noddings sees the best hope for improving schools. In the very act of reading books such as this one, of questioning some of its advice on what high school students should know (e.g., "that spiritual longing is universal" [p. 39]), the teacher or parent is, in some way, transformed. Consequently, even "if the material never reaches high school students, the attitude, wonder, faith, skepticism, and intelligence of their teachers might very well lead them to inquire on their own" (p. xvi).

Her battle cry to create teachers as "renaissance scholars" is then perfectly logical, but comes far too late in the book to carry the power it could have conveyed in the opening pages. Nonetheless, her message merits our attention, for it makes an important statement about teachers, their preparation, and their relationship with society, in spite of its rather conservative tone:

> High school teachers should be what we once called "renaissance people": that is, at an appropriate level, they should know a great deal about most of the subjects taught in secondary schools, and in addition, should be acquainted with a vast volume of connected material. This sort of breadth could be achieved if the undergraduate preparation of teachers was frankly aimed at preparing teachers.... But more important than preparation on specific content, teachers need to be released from the taboos that keep all of us from exploring the questions that matter most deeply to us. It is an odd society that shrugs off the influence of violence, steamy sex, and greed displayed daily on television, and worries instead that its children will be corrupted by the free discussion of controversial issues in school. (pp. 135, 138)

For what is the nature of the learners we are currently educating? What signals do we send as we pass students on from subject to subject, year to year? Are the questions being asked by teachers those that make students want to think, want to be in school? The author looks beyond the presumably bleak reply that this is a generation of nonthinkers and unintelligent believers. Noddings the pessimist, whose educational scenario had been so "unimaginable" in Chapter One becomes Noddings the optimist in Chapter Three, believing in the quality of our children, notwithstanding the imperfections of their teachers.

Some may find her views extremist, however, as when she juxtaposes a discussion of Nazi sympathizers, who "never dreamed of questioning religious, state or parental authority," and would "adapt to any form of authority that claims to be legitimate and has the power to make the claim stick," (p. 60) with teachers who "are urged unceasingly to control their students — not only to manage classroom behavior but to prescribe every learning outcome, keep their students on task, evaluate the outcome of every objective, squelch every 'random behavior'" (pp. 60–61). Noddings notes that, "if teachers understood the company they were in as they adopt [or adapt to?] these methods, they might resist using them. Perhaps we are fortunate that so many students in this country refuse to accept pedagogical authority. There are worse things than cultural illiteracy" (pp. 60–61).

But the author herself expressly defines what teachers, parents, and students should know regarding religions, beliefs, immortality, evil, etc., though not in prescription form as did E. D. Hirsh. Conversely, her particular guide to a high school curriculum, with its questions regarding existence and humanity, includes the exhortation to challenge even the guide itself. Noddings the expert stands aside, accepting the judgment of the intelligent ones, be they believers or unbelievers. This reviewer has decided that such a curriculum, with its emphasis on creating critical thinkers who understand the relationship between humanity and society across time and across cultures, is certainly a worthy one. Other readers will make their own decisions, and as Noddings (p. 40) appropriately affirms "that, of course, is exactly where we as teachers must leave our students."