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The Dialogic Challenge

by

Temí Ann Rose, B.A.

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Abstract

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Temí Ann Rose, M.A.

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Supervisor: Paul Resta

In examining the ideological origins of American democracy as delineated by our most eminent thinkers and educators, we realize how the participatory reality that is democracy requires continuing individual moral and political value choices.

Instructional technology faces a challenging opportunity, to create an interface that maximizes the potential for egalitarian dialogues. To bring ethical values to the democratic conversation is the challenge that this thesis addresses.

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Preface

Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things be of good report; if there be any virtue, if there be any praise, think on these things.

Philippians 4:8

This thesis owes its genesis to a series of conversations with my teachers.

I have had the extraordinary privilege of returning to education after a twenty year sojourn in the 'real world'. I came back to study because, having wandered into the habit of teaching for a living, and having been asked to design and implement various remedial education programs for variously defined disadvantaged populations, I felt the weight of my ignorance. I had no training, only a good instinct, lots of experience teaching in odd settings, some talent for communication and common sense. But that wasn't enough to carry the ethical responsibility I was feeling. Because it was becoming increasingly clear to me that to the degree that my programs were efficacious, people's lives were profoundly changed for the better and to the degree that I failed, so too were people left in the lurch. I returned to education looking for information, knowledge, and experiences that could help me help others in a more systematic, a more ethically responsible and hopefully a more effective way.

I had the luck of the Irish. My education has been filled with brilliant, illuminating conversations.

The first series of conversations which altered my consciousness (perhaps even created a consciousness where there was previously only knowledge) occurred in London at the University of Greenwich. These conversations were with an academic (though he will probably think me daft for calling him such) angel, Jim Tarrant. Jim taught educational philosophy with an emphasis on the mutuality of the concepts of value and knowledge and meaning. His theory was that what we value influences what we consider to be 'knowledge' and how we construct meaning is both the transparency others can read to decipher our values and the key to analyzing our own values. He, very carefully, did not impose his values on us but I searched down his book, *Democracy and Education* (1989) presumably titled in honor of John Dewey, the great American humanist educational theorist who had written a book with the same title.

My conversations with Jim in class were re-orienting me to take myself more seriously as an experienced practitioner and to bother to work harder, think longer and more subtly, to formulate coherent conceptual knowledge based on my practice.

Reading Jim's book (in the lovely dusty hall of the British Library, the only place I could find a copy) was an entirely other kind of conversation. The thesis presented in Tarrant's *Democracy and Education* is that democracy is not

simply a political system, nor is it capitalism or consumerism or any of the economic systems with which it has become so inextricably linked in English and American thought and action. According to Tarrant, democracy is also a moral concept, an idea about how one should live.

This alone would have had a tremendous impact on my thinking. It so clearly explained how my deeply held democratic allegiances could have arisen despite the fact that I am a complete political dolt. I could see that the hold, emotional and intellectual, that democracy has on me is an ethical one. This insight was profound for me.

But Tarrant goes on. He also claims (and this truly has changed every aspect of my praxis) that education in a democracy has as one of its fundamental goals (and responsibilities) to elucidate and prepare students to responsibly (ethically, according to their personal values and meanings, their 'knowledge') practice the freedoms that they are given by law.

I won't go any further with Jim Tarrant's concepts here because the body of my thesis is an attempt to extend his theories. I would like the reader to appreciate that my reading of my teacher's ideas began a conversation in my mind and soul that continues to this day; a conversation which calls me to challenge my praxis as well as my philosophy; a conversation which has changed and continues to change, my life as I experience it.

The next series of conversations were with two extremely unique and talented educational systems designers and professors, Delayne Hudspeth and Paul Resta. And, though they are often seen in our small world of Instructional Technology within Curriculum and Instruction at the University of Texas at Austin as very different in their outlooks, for me they both have a similar ethos. My conversations with Delayne and Paul were less about philosophy and more about praxis. Perhaps this emphasis on action is a characteristic of American education, especially in comparison to the more theoretic bent of the academic English. In any case, Delayne and Paul have both thrown me into deep waters and let me learn to swim. It is an absolutely terrifying, exhilarating and profound way to learn because certainly I do own those experiences and I will never forget either my horrifyingly embarrassing mistakes or my moments of glory. What is very difficult for me to describe in words is the way they both extend an affective regard and an open hand should a student really be floundering (as I did on occasion). Neither gentleman shirks their responsibility as my teacher and guide while I immerse myself in these experiences, they merely suggest, strongly, that I am ready and might apply myself a little more actively to my own learning. Now, if this isn't in practice what Jim speaks about in theory, I don't know what is. Delayne and Paul do not impose their values on a student, they do insist that we exercise our freedom responsibly, that we increase our levels of activity (our freedom) by taking on more responsibility.

Again, I do not wish to go further with these gentlemen's philosophy-in-and-through-action because the body of my thesis is concerned with extending these ideas. I would like the reader to understand that my experiences are as conversations with reality which continue to inform my academic journey.

The fourth and fifth angels came into my life quite unexpectedly. I signed up for classes with Jim, Delayne and Paul, having read a description of what they

were offering. But with AmyLee and Diane, I first became part of a conversation which then developed into a commitment to training.

The fourth angel is an Iroquois medicine woman, AmyLee. The Iroquois nation is famous as a matriarchal democracy and is often cited as the only 'true' democracy i.e. where every human member is given equal rights. Most of what I learn with AmyLee begins with a philosophical conversation from which I am assigned a task which I now know is meant to create the experience which will be the environment of my learning. My Iroquois training falls very much between Tarrant's philosophical enlightening and Hudspeth and Resta's active-participation training. The new element is the responsibility that women have to make the world a better place. Not because we are superior to men but because we are naturally suited to govern by virtue of our great compassion and our natural instinct for teamwork. Probably needless to say but still important to mention, is that I neither have achieved great compassion, the complete emergence of my natural collaborative nature, nor an ability to govern (that is, the ability to assume a great deal of responsibility for others). However, I have improved in these areas by means of an ongoing conversation with my teacher and my own conscience hoping (aiming) for the possibility that lies in me of collaborative, responsible, compassionate leadership.

I end with the person most responsible for my thesis, Diane Schallert. I had no intention of attempting a Master's Thesis. I did not feel capable of such a feat. In a private conversation with Diane who is an Educational Psychology professor at the University of Texas at Austin, I was challenged on that assumption of inferiority. More than any of my other teachers Diane is able to challenge me personally and cognitively to overcome the barriers that hold me back from experiences that might create new knowledge in me. In this description the reader will probably imagine a tall, imposing, almost masculine woman who speaks forcefully, challenging. Quite the contrary. Just as water has the ability to wear away stone, Diane is small, feminine, kind in every aspect of her speaking, with a smiling countenance that she extends willingly.

Conversations with Diane are non-threatening. She does not put herself in the place of 'the other'. She listens carefully and seems to try to hear the unsaid as well as what is spoken. She is mindful of her role-position of educator to other educators while at the same time mindful of her humanity as a person in a room on a day with a certain weather speaking to a person who is also working through a role-position hoping to be known also as an individual. Diane can converse simultaneously in both dimensions and this gives her conversations great cognitive and affective power.

Since my first conversation with Diane, because, miraculously, it was the very first time I ever spoke with her that she enticed me to commit myself to writing a thesis, we have covered many aspects of conversational reality. For, perhaps the reader will not be surprised to learn that conversation is one of Diane's research specialties.

Once again I will go no further here discussing Diane's theories and praxis because the body of my thesis attempts to extend my conversations with Diane.

I hope to do justice to the generous souls with whom I have learned so much by extending an invitation to the reader to enter a conversation with me, a conversation I call, *The Dialogic Challenge*.

Introduction

Ideology

Mind *engenders* truth *upon* reality.. Our minds are not here simply to copy a reality that is already complete. They are here to complete it, to add to its importance by their own remodeling of it, to decant its contents over, so to speak, into a more significant shape. In point of fact, the use of most of our thinking is to help us to change the world. We must for this know definitely what we have to change, and thus theoretic truth must at all times come before practical application. But the pragmatist writers have shown that what we here call theoretic truth...will be.. irrelevant unless it fits the purpose in hand.. And, moreover, it turns out that the theoretic truth upon which men base their practice today is itself a resultant of previous human practice, based in turn upon still.. previous truth... so that we may think of all truth whatever as containing so much human practice funded.

WilliamJames
(McDermott 1977:448-9)

SECTION 1 THE ORIGIN OF IDEAS

When Matrices Collide

The themes of this thesis the concepts that delimit and focus the following conversation are democracy, education and educational technology.

Arthur Koestler in *The Act of Creation* (1964) theorizes that where two (or more) ideas collide, there is potential for new ideas, for creative extrapolation:

This leads to the paradox that the more original a discovery the more obvious it seems afterwards. The creative act is not an act of creation in the sense of the Old Testament. It does not create something out of nothing; it uncovers, selects, re-shuffles, combines, synthesizes already existing facts, ideas, faculties, skills. The more familiar the parts, the more striking the new whole.
(1964:120)

Agreeing with Habermas' thesis, as described by L.R. Ray (1993 p. xv), 'that social transformations occur when learning accumulated in culture breaks into the logic of technology', I will attempt to form a new matrix, according to Koestler's definitions: 'Matrix' is derived from the Latin for womb and is

figuratively used for any pattern or mould in which things are shaped and developed, or type is cast' (1964: 50). - from the collision of the matrices of democracy, education and educational technology. Koestler's explains what is likely to happen should matrices collide:

When two independent matrices of perception or reasoning interact with each other the result .. is either a *collision* ending in laughter, or their *fusion* in a new intellectual synthesis, or their *confrontation* in an aesthetic experience. The bisociative patterns found in any domain of creative activity are tri-valent, that is to say, the same pair of matrices can produce comic, tragic, or intellectually challenging effects. (1964:45)

My theory is that learning is the reciprocal relationship between being and doing; that this reciprocity occurs and can only occur, in the synergistic medium of dialogue. The nature of the dialogue in which learning emerges determines the value systems that are conveyed subtextually as information is relayed in the transparencies of meaning.

This thesis will concern itself first with a discussion of the theory and then with an application of the theory to educational technology systems.

The Millenium

We are fortunate to be living during a millennial shift. Our timing challenges us to determine from the vast array of potential alterations in education we dream of, hope for, and dread, what the future of educational technology will be.

Though dates are seemingly arbitrary assignments of significance, our civilizations honor a great teacher with their dating systems.

Tradition speaks of Jesus as a teacher of mercy, forgiveness, compassion and the possibility of an egalitarian society that concerns itself with the welfare of individuals regardless of their fiduciary capabilities, their real estate, their gender or tribal affiliations. Interestingly, Jesus is also considered an espouser, perhaps an originator of the conceptualization of the potential efficacies of non-violent action - and of the power of story (parable) telling - to change the world.

Marking the somewhat arbitrarily defined anniversary of the birth of this phenomenal teacher, I believe it appropriate to examine the nature of our educational systems in the light of this great teacher's principles.

However, if the anniversary of the birth of this great teacher were not impending, I would still find it compelling to re-examine educational systems in the light of recent expansions in our notions of social and political equality. The framers of the United States' Constitution are often referred to as philosophers of the Enlightenment. Arthur O. Lovejoy in *The Great Chain of Being* describes some of the characteristics of this philosophy:

For two centuries the efforts made for improvement and correction in beliefs, in institutions, and in art had been, in the main, controlled by the assumption that, in each phase of his activity, man should conform as nearly as possible to a standard conceived as universal, uncomplicated, immutable, uniform for every rational being. The Enlightenment was, in short, an age devoted, at least in its dominant tendency, to the simplification and the standardization of thought and life - to their standardization by means of their simplification. Spinoza summed it up in a remark reported by one of his early biographers: "The purpose of Nature is to make men uniform, as children of a common mother." The struggle to realize this supposed purpose of nature, the general attack upon the *differentness* of men and their opinions and valuations and institutions - this, with the resistances to it and the eventual revulsion against it, was the central and dominating fact in the intellectual history of Europe from the late sixteenth century to the late eighteenth century. (1936:292)

Lovejoy goes on to describe some characteristics of the dominant philosophy that followed the Romantic movement which usurped the Enlightenment zeitgeist:

There have, in the entire history of thought, been few changes in standards of value more profound and more momentous than that which took place when the contrary principle began widely to prevail - when it came to be believed not only that in many, or in all, phases of human life there are diverse excellences, but that diversity itself is of the essence of excellence; termed "Romantic":... That change, in short, has consisted in the substitution of what may be called diversitarianism for uniformitarianism as the ruling preconception in most of the normative provinces of thought.

(Ibid:293)

People embody ideology. As people allow themselves to drift towards habits of dominance, their ideologies will come to reflect this negativity. Larry R. Ray in *Rethinking Critical Theory: Emancipation in the Age of Global Social Movements* describes some of the factors involved in the struggle to maintain the potentials of the Enlightenment:

The Enlightenment potential, to turn critique against fundamental social relations, was blocked and reason retreated, to permit the reappearance of domination in new forms. Even so, having undermined traditional world-views, the post-Enlightenment social order was deprived of legitimating myths (religion and sacred authority) thus domination appeared within a 'rational' form. For this to happen the compass of rational reflection had to be restricted from critical reason (Vernunft) to more instrumental

rationality (Verstand). As Weber had indicated, the latter could not provide grounds for civic virtue, and the only rational motive bourgeois society would recognize was the paltry ethics of utilitarianism. Silent about its own domination, and unable to justify even its meager ethics, Enlightenment in this truncated form left the way open for the return of myth, and the manipulation of traditionalistic bonds and obligations. By admitting no public rationality other than self-interest, questions of fundamental value got shunted off into the 'irrational' realm of personal ethics and private associations, thus escaping public scrutiny. (1993:7)

If we do not wish to allow our democratic systems to devolve, we must reassert the validity of diverse modes of public rationality, thereby balancing the ethic of self-interest.

Conversations with Ethical Theory

In our educational praxis today we have drifted dangerously towards extremes of utilitarianism. It is time to re-introduce forms of discourse that will modify the extremes of instrumental rationality which presently dominate our educational institutions. In response to the challenges of instrumental rationality, as Martha Nussbaum has 'imagined a literary theory that works in conversation with ethical theory' (1990:190). I have imagined an educational design theory that works in conversation with ethical theory.

Hirst quotes Michael Oakshott from *Rationalism in Politics and Other Essays*(1962):

As civilized human beings, we are the inheritors, neither of an inquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primeval forests and extended and made more articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves. Of course there is argument and inquiry and information, but wherever these are profitable they are to be recognized as passages in this conversation, and perhaps they are not the most captivating of the passages... Conversation is not an enterprise designed to yield an extrinsic profit, a contest where a winner gets a prize, nor is it an activity of exegesis; it is an unrehearsed intellectual adventure.. Education, properly speaking, is an initiation into the skill and partnership of this conversation in which we learn to recognize the voices, to distinguish the proper occasions of utterance, and in which we acquire the intellectual and moral habits appropriate to conversation. And it is this conversation which, in the end, gives place and character to every human activity and utterance. (Hirst1974:520)

American democracy mandates the education of its citizens because it was well understood by our founding fathers that the greater the ignorance of the

people, the greater potential for tyrannous systems to take hold on the consciousness of the people. And, once tyranny has begun its systematic repression of the expression of individuality, democratic actions become harder and harder to perform.

Democratic action is important because democracy is not achieved in theory but in praxis. According to Paulo Freire it is 'our lack of democratic experience' (1973:21) that keeps us ignorant. Freire understands that, 'Before it becomes a political form, 'democracy is a form of life, characterized above all by a strong component of transitive consciousness' (Ibid:29).

Democracy presupposes individuality when it assumes self-interest. Self-interest would be a meaningless concept if there was no individual value system informing a person's actions. A person acting out the purposes of another is not acting in her own self-interest. As John Dewey (1938:67) succinctly states, 'Plato once defined a slave as the person who executes the purposes of another.'

Democracy has a vested interest, for its own furtherance, in investing in its citizens' independence. And, it is in the light of the formation of independent citizens and their concomitant responsibilities of citizenship that mandatory democratic education was conceived and must continue to take its rationale. As Tarrant suggests:

What unites moral democrats is a belief in the moral potential of the individual in relation to political affairs, a conviction that individuals ought to make decisions which influence public policy and a belief that the state has some role to play, partly through education in helping the individual realize his moral potential especially in relation to the wider considerations of the political macrocosm. (1989:19)

Clearly, Hyland is right when he states, 'All members of society have a stake in (and, as tax payers, carry the burden for) our national systems of education and training' (1993:83) but we can go further and insist that education has the mandate to sustain the individual as a moral agent in the furtherance of the interests of our democratic society.

The fact that each citizen has the same rights regardless of any personal conditions is the political equivalent of Jesus' ethico-philosophical position that all individuals are equally the children of God (the source of all good), none more important than each.

In her book, *Love's Knowledge: Essays on Philosophy and Literature* (1990) Martha Nussbaum reports that she found:

A striking absence from... literary theory, of the organizing questions of moral philosophy, and of moral philosophy's sense of urgency about these questions. The sense that we are social beings puzzling out, in times of great moral difficulty, what might be, for us, the best way to live - this sense of practical importance, which animates contemporary ethical theory

and has always animated much of great literature, is absent from the writing of many of our leading literary theorists. .. [and she felt] an empty longing amounting to a hunger, a longing for the sense of the difficulty and the risk and practical urgency... [a longing for a] literature that talks of human lives and choices as if they matter... (1990:170-1)

I found a similar absence 'striking' in the theories we utilize in the designing educational technological systems. I too felt a longing for overtly stated ethical theories. Too often educational technological systems' designs reveal the lack of value we place on the moral agency of individuals.

We cannot assume that an unstated ethic is humane. Nussbaum asserts that some ethical principles, 'that present themselves as innocuous extensions of ordinary belief and practice could actually lead, followed and lived with severity and rigor, to the end of human life as we currently know it' (1990:107).

SECTION 2 THE IMPACT OF IDEAS

Plac'd in this isthmus of a middle state,
A being darkly wise and rudely great,
With too much knowledge for the sceptic side,
With too much weakness for the stoic pride,
He hangs between; in doubt to act or rest;
In doubt to deem himself a god or beast;
In doubt his Mind or Body to prefer;
Born but to die, and reas'ning but to err;..
Chaos of Thought and Passion all confus'd;
Still by himself abus'd, or disabus'd;
Created half to rise, and half to fall,
Great lord of all things, yet a prey to all;
Sole judge of Truth, in endless error hurl'd;
The glory, jest and riddle of the world.

Alexander Pope
(Lovejoy 1936:199)

A Humanist-Pragmatist Paradigm Collides with a Socio-Constructivist Ecology

The question of individuality is not without its controversies. Neither can we argue 'as if democracy was an unproblematic concept' (Tarrant 1989:1). There is no agreed upon conception of the individual either as a political or as a social entity to be found.

I have developed my ideas upon the familiar foundation of William James' and John Dewey's humanist-pragmatist concepts of the individual and on socio-constructivist theories. As Shotter so boldly exclaims in *Conversational Realities: Constructing Life Through Language* (1993): 'SOCIETY AS AN ECOLOGY OF INTERDEPENDENT REGIONS OF DIFFERENT DISCOURSES' (1993:96).

This ecology is one within which the individual is a critical fulcrum, the holder of consciousness in a process, a living entity who affects others and who is simultaneously affected. A socio-constructivist ecology might resemble Ray's description of Habermas' theory of the lifeworld:

Habermas stresses the idea of the lifeworld as a medium of social learning, in that language and culture embody a stock of knowledge - the stored interpretive work of preceding generations - that renders every new situation familiar, in that understanding takes place against the background of culturally engrained pre-understandings. (1993:30)

Within this lifeworld the individual is a contextually determined and contextually determining actor. Once we comprehend the tight organizational fit between the life of the individual and the existant nature of her world, we can see that there is in no sense that, and in no moment when, an individual is absolutely isolated from her environment. As Zygmunt Bauman in *Postmodernity and its Discontents* elucidates:

None of us is able to build the world of significations and meanings from scratch; each of us enters a 'prefabricated' world, in which certain things are important and others are not; in which the established relevances bring certain things into focus and leave others in the shadow. Above all, we enter a world in which an awful lot of aspects are obvious to the point of not being consciously noticed any more and in need of no active effort, not even spelling them out, to be invisibly, yet tangibly present in everything we do - and thereby endowing our actions, and the things we act upon, with the solidity of 'reality.' (1997:8)

There is in no sense that, and in no moment when, an individual loses the responsibility for her actions. We experience crises in the lifeworld when individuals attempt to abandon the responsibility for their actions.

'Floated' responsibility belongs to no one in particular, as everybody's contributions to the final effect is too minute or partial to be sensibly ascribed a causal function, let alone the role of the decisive cause. Dissection of responsibility and dispersion of what is left results on the structural plane in what Hannah Arendt poignantly described as 'rule by Nobody'; on the individual plane it leaves the actor, as moral subject, speechless and defenseless when faced with the twin powers of the assigned task and the procedural rules. (Bauman 1993:120)

Often educational systems are purposely designed to leave students 'speechless and defenseless' in the face of their assignments. Students are not generally given the right to refuse an assignment and perhaps allowing them to do so at this time would create chaos. However, putting an individual in a position of powerlessness in relation to system rules must eventually lead to that individual either rebelling against or accepting their powerlessness.

Both rebellion and unquestioning obedience are destabilizing to communities. Therefore, if we design education systems that allow people to 'float responsibility,' we are contributing to the destabilization of our society.

To Speak or not To Speak

The individual at all times and in all conditions, is a determined and determining agent of social constructions.

It is through these determinings that individuals make meaning for themselves. Therefore, as Victor Papanek in *Design for the Real World: Human Ecology and Social Change* rightly suggests, 'The design of any product unrelated to its sociological, psychological, or ecological surroundings is no longer possible or acceptable' (1992:188).

As I examined my own thinking in preparation for writing this thesis I came upon a significant memory, a moment when the words of another deeply affected the course of my thinking. I remembered Mario Cuomo speaking at the Democratic National Convention in 1984 about the one significant and recurring characteristic of tyranny being the silence which envelops the cultures thus bound.

John Shotter is another thinker sensitive to the encroachments of political silence:

For individual members of a people can have a *sense* of 'belonging' in that people's 'reality', only if the others around them are prepared to respond to what they do and say *seriously*; that is if they are treated as a proper participant in that people's 'authoring' of their reality, and not excluded from it in some way. For only then will they feel that the reality in which they live is as much theirs as anyone else's. In other words, to the extent that we all participate in our own different ways, 'we' can be the authors not only of our 'realities' but also of our own 'selves.' (1993:39-40)

I set about searching for a transcript of Cuomo's speech to quote here because I felt strongly that an individual's contribution to a democratic praxis is often a noisy, chaotic and disturbing process. Noise, chaos and disturbance are considered to be troublesome adjuncts to the educational process, but I believe them to be, within reason, necessary for the encouragement of genuine dialogue, creative play and willing contributions from members of learning groups.

Since we are all tellers of stories, and since one of the child's most pervasive and powerful ways of learning its society's values and structures is through the stories it hears and learns to tell, stories will be a major source of any culture's emotional life. (Nussbaum 1990:293)

And our stories come from our communities. In Shotter's (1993) conversational reality theories, he proposes that we are as authors to our realities, that our texts are the conversations we create with other reader/writers we collaborate with in an ongoing process of reality and meaning creating. Nussbaum's insights into the ethical relationship between author and readers is illuminating in the context of Shotter's more broadly political theory:

A community is formed by author and readers. In this community separateness and qualitative difference are not neglected; the privacy and imagining of each is nourished and encouraged. But at the same time it is stressed that living together is the object of our ethical interest. (1990:48)

In contrast to Nussbaum's vision of the ethical collaboration between author and readers, Shotter creates a bleak vision of a community that does not allow its members authorship: '[when] they silence them. They deny them their own voice, their opportunity to speak on the nature of their own unique circumstances. They deny them their citizenship in their society' (1993:15). Both Nussbaum and Shotter are describing the power of collaborative meaning making to create ethical relationships and warn us that silencing our stories might lead us to a darkening of ethical purposes.

I searched for Cuomo's speech. I found a speech called 'A Tale of Two Cities' in Cuomo's book, *More than Words: The Speeches of Mario Cuomo* (1993). Cuomo delivered "A Tale of Two Cities" to the Democratic Convention in 1984, but it did not include the words I so vividly remembered hearing. I had librarians and friends helping me search through conventional and non-conventional sources and we never were able to locate the speech that contained the resonant idea of the silence of tyranny. But the search illuminated several interesting facts. First, according to the reference professionals, if the speech I remember had occurred after 1988 I would have the vast electronic power of the search engines at my disposal. But since the speech I heard occurred prior to 1988, it has not been archived in that manner and so I was dependent upon the vagaries of human memory. If I had infinity to search I might have found the quote but I let it go with a new appreciation of what technology will be able to do for researchers of the future.

The other interesting fact I gleaned from my searching had to do with how many people had been influenced by a variety of Cuomo's speeches throughout the 1980's. One group of friends, I discovered, had gone to all the speeches Cuomo had made in their city. This gave me a renewed appreciation for the power of ongoing conversation, for the words that people shape into stories and ideas to try and teach us more about ourselves and what is valuable. People will search out those words that they feel will inspire their lives.

Even though it wasn't exactly the speech I thought I was looking for, the 1984 speech, 'A Tale of Two Cities,' is worth mentioning here. The theme of the speech concerned the fact that the Republicans had a vision of the United States as a 'shining city on a hill' and Cuomo felt that this was ignoring, denying, the other city, the city of the homeless and the disenfranchised. Cuomo was asking us to consider ourselves as democrats as having the responsibility to consider all citizens, regardless of our situations, as important contributors to and receivers of democratic praxis. Dale Spender's conception concurs with Cuomo's when she states in her fascinating book *Invisible Women* that 'The false logic of dominance demands too high a price and can no longer be afforded' (1982:96).

Assistencialism is not Inclusion

Paulo Freire, in *Education: the Practice of Freedom* (1973) warns us not to err by jumping to another extreme to embrace an ideology he calls assistencialism. 'Assistencialism is an especially pernicious method of trying to vitiate popular participation in the historical process' (1973:15). He goes on to explain how assistencialism suppresses people:

Perceiving more clearly the threat involved in the awakening of popular consciousness, [the elite] organize. They bring forth a group of 'crisis theoreticians' (the new cultural climate is usually labelled a crisis); they create social assistance institutions and armies of social workers, and - in the name of a supposedly threatened freedom - they repel the participation of the people. (Ibid:14)

Since - as Ray states, 'modern social organization poses problems that cannot ultimately be resolved without recourse to emancipated forms of communication' (1993:ix) and assistencialism uses a repressive form of communication, assistencialism cannot be considered an egalitarian solution.

Inclusionary concepts are controversial, they ask us to have conversations with strangers. Strangers are problematical. Strangers appear to prevent homogeneity and even progress. Strangeness requires us to compromise, negotiate, deal with conflict. Especially in repressive environments, strangers have often been perceived to be dangerous to the system. As Bauman explains:

Throughout the modern era there was a strict correlation between the scale and radicality of the 'new and final order' imagined, dreamt of and tried in practice, and the passion with which the 'problem of strangers' was approached, as well as the severity of the treatment reserved for the strangers. What was 'totalitarian' about totalitarian political programmes, themselves thoroughly modern phenomena, was more than anything else the comprehensiveness of the order they promised, the determination to leave nothing to chance, the simplicity of the cleaning prescriptions, and the thoroughness with which they approached the task of removing anything that collided with the postulate of purity. Totalitarian ideologies were remarkable for their proclivity to condense the diffuse, pinpoint the elusive, make the uncontrollable into a target within reach and, so to speak, within bullet-range; the dispersed and ubiquitous anxiety exhaled by equally dispersed and ubiquitous threats to comprehension and to the sense of order were thereby squeezed and compressed so that they could be 'handled', and dealt with wholesale in a single, straightforward procedure. (1997:12)

Who should be included in what and where are issues we concern ourselves with in every aspect of our educational systems designs. In our democracy, we are mandated to include everyone in our educational systems.

How are we to minimize the chaos and keep order without diminishing the integrity of the individuals participating in these inclusive systems?

Ray presents what I believe might be an approach to the problem of strangers one that I perceives as an issue of communication. Ray's description of a solution to the problem of strangers lying in the nature of communication itself I found thrilling in its implications:

Constraints on communication are self-defeating since they contradict the underlying assumptions that make discourse possible at all. ... rationality can be measured by the degree of openness or closedness in communication; that the goals of truth, freedom, and justice are not mere utopian dreams, but are anticipated in ordinary communication; and that therefore emancipation is presupposed in the constitution of the species as linguistic beings. (1993:26-7)

Assuming that education is a process of giving information, knowledge or training is essentially an assistencialist assumption; an assumption that presupposes abundance on the part of a teaching/instructing agent and lack on the part of the student/interpreter agent. From these hierarchical relationships no egalitarian dialogue can emerge.

Inclusion, on the other hand, could embrace a heterarchal vision of egalitarian companionship as its model thereby increasing its co-agentic learning potentials.

A Framework for Democratic Discourse

I do not envision myself as capable of settling controversies here. What I would like is for us to see existing controversies as the collision of matrices of the social constructions of discourse communities; to consider educational systems design as potentially providing a framework for the further creative collision of matrices; to value conversations with strangers.

We can appreciate Hyland's thought experiment in *Competence, Education and NVQs, Dissenting Perspectives*, as a means of reminding designers of the impact of systems of people's lives. We are cautioned not to design merely in the interests of a few:

Imagine that we are able to reconstruct society in any way that we choose (within the bounds of logic and practical feasibility), and that we are free to design social legislation, the distribution of goods and work, codes of behavior and the general social and political structure in line with our wishes and preferences. The only limiting condition (and it is a supremely important one) is that we are situated behind a 'veil of ignorance', so that we cannot know *in advance* the position in society in which we are going to find ourselves and thus cannot be sure of our future status and prospects. All this serves to sharpen the senses and concentrate the mind

wonderfully! On reflection, we are likely (given the condition of rational self-interest) to realize that the most reasonable course of action is to design a society in which goods and services are fairly evenly distributed, in which the benefits and evils of work are broadly shared, in which justice and liberty under the law prevail, and which is characterized by quite a high level of respect for persons and the consideration of each other's interests. (1993:133)

In his turn, Marshall Berman in *All That is Solid Melts into Air* (1982), cautions us to resist the capitalist impulse to:

Destroy the human possibilities [we] create. [Capitalism] fosters, indeed forces, self-development for everybody; but people can develop only in restricted and distorted ways. Those traits, impulses and talents that the market can use are rushed (often prematurely) into development and squeezed desperately till there is nothing left; everything else within us, everything nonmarketable, gets draconically repressed, or withers away for lack of use, or never has a chance to come to life at all. (1982:96)

Let us not design educational systems that would open us to Ivan Illich's accusation that 'schools sell curriculum' (1971:46).

I consider inclusion not as 'haves' allowing 'have-nots' to be included but, rather, as individuals and groups coming together, variously gifted and handicapped, all possessing the need to know and be known. I love Ray's idea that, 'the structure of linguistic communication anticipates an emancipated society in every attempt to reach an understanding' (1993:57).

Inclusion is a process of cooperation, a mutuality of listening and being heard, of contributing and receiving, a mutual consideration of uniqueness and equality. Inclusion is speaking person to person, going beyond ritualized conversations between one role performance and another.

Unlike the person, the role performer is an eminently replaceable and *exchangeable* incumbent of a site in the complex network of tasks. In none of the roles is the role-performer a whole person. This makes the role-performance ethically adiaphoric: only *total* person, only *unique* persons ('unique' in the sense of being irreplaceable, in the sense that the deed would remain undone without them) can be moral subjects, bearers of moral responsibility (Bauman 1995:197).

SECTION 3 THE LIFE OF THE MIND

A principal of an American high school sends this letter to his teachers on the first day of school.

Dear Teacher,

I am a survivor of a concentration camp. My eyes saw what no man should witness:

Gas chambers built by learned engineers.
Children poisoned by education physicians.
Infants killed by trained nurses.
Women and babies shot and burned by high school and college graduates.

So, I am suspicious of education.

My request is: Help your students become human. Your efforts must never produce learned monsters, skilled psychopaths, educated Eichmans [sic].
Reading, writing, arithmetic are important only if they serve to make our children more human.

(Pring 1984: *not paginated*)

The Ideal System

There are no perfect systems. So should we still try and design perfect systems? No, I don't think so. I believe that Isaiah Berlin is correct when he states in *My Intellectual Path* (1998) that, 'monism is at the root of every extremism' (1998: 58). I am awed as I begin to grasp the totality of Berlin's argument:

The very notion of the ideal society presupposes the conception of a perfect world in which all the great values in the light of which men have lived for so long can be realized together, at least in principle.. there is.. a formidable objection to the very notion itself...some ultimate values are compatible with each other and some are not. Liberty.. is an eternal human ideal, whether individual or social. So is equality. But perfect liberty (as it must be in a perfect world) is not compatible with perfect equality. If man is free to do anything he chooses, then the strong will crush the weak.. and this puts an end to equality. If perfect equality is to be attained, then men must be prevented from outdistancing each other... Again, knowledge and happiness may or may not be compatible.... Liberty and equality,

spontaneity and security, happiness and knowledge, mercy and justice - all these are ultimate human values, sought for themselves alone; yet when they are incompatible, they cannot all be attained, choices must be made.. if this is not merely empirically but conceptually true - that is, derives from the very conception of these values - then the very idea of the perfect world in which all good things are realized is incomprehensible. ... it seems as if the doctrine that all kinds of monstrous cruelties must be permitted, because without these the ideal state of affairs cannot be obtained... all the justification... all the brutalities.. all those revolutions... all this is for nothing, for the perfect universe is not merely unattainable but inconceivable, and everything done to bring it about is founded on an enormous intellectual fallacy. (Ibid:60)

There are no perfect people. So we ought not to think in terms of education as a means of perfecting people. I agree with Nussbaum when she agrees with Aristotle, saying, 'It is ... the human good that we are seeking, and not the good of some other [ideal] being' (1990:66)

And we have learned from our experience with Adolph Hitler that the design of final solutions is the act of a madman.

If we accept the fact there are no absolutes, then what do we teach? Aren't we supposed to provide the answers for our students? Isn't scaffolding all about leading students towards right and proper perspectives, truth and reliable knowledge? No. I don't think so. I think for scaffolding to be effective, it will have to be about supporting a person in developing her personhood, while they become a more confident learner; not about right-answer assumptions leading students towards pre-approved versions of experience called knowledge.

Scaffolding is support. People need support. And thinking needs both support and stimuli, but not assistencialist guidance towards pre-determined ends. Scaffolding is a useless safety device if the building isn't built to stand on its own someday.

Too often educational systems deny students the right to refuse participation. As Oyler explains in *Making Room for Students, Sharing Teacher Authority in Room 104* (1996) if an invitation is genuine, it can be refused.

I am fascinated with the potential of participatory design. The principles of participatory design are compatible with theories of the co-creation of meaning but expand those theories to issues of the production of knowledge structures useful to learning communities. I agree with Spender when she states that students 'need a system designed for them and one which validated and reinforced their own version of experience' (1982:94). But I don't believe that it can be 'designed for them', I believe that if it is to 'reinforce their own version of experience' then it must be designed with them.

Answers are fleeting, temporary solutions to the ever-changing phenomenal conundrums we humans must continually face in order to survive and thrive. As Vygotsky states, 'Full social esteem is the ultimate aim of education.' (1993:57-8) Not answers but inclusion - in the ability to ask questions as well as to discover answers - this is what we seek. Inclusion through conversation.

Co-constructing meaning with students will keep educators from retreating to absolutes. Tarrant, in *Democracy and Education* (1989) states, 'knowledge [is] provisional and truth [is] an aegis under which debate and discussion ... produce further advantage' (1989:6). What we are bound to teach are the responsibilities of co-agentic learning. What we are bound to create are systems that leave room for conversation.

Ignorance

But if learning is natural, if we are born learning, if we are learning from the first cry to breathe, what does it mean to learn how to learn? In order not to get caught in an ever-repeating web of semantic gibberish, I will define learning as a mode of adaptation. Because adaptation can have advantageous or disastrous consequences, guidance and experience as well as tradition and practice are helpful and educational.

Learning can have the directionally negative effect of an internal organizational retreat. According to Vygotsky educational systems can obstruct learning:

Everything about the school is organized so that it kills the need for oral speech at school. Speech is born of the need for communication and for thought. Thought and communication appear as a result of adaptation to life's complex conditions. (1993:74)

Learning can have the directionally positive effect of an organizational advance. Advance in organization is a furthering of subtlety. Retreat in organization is stagnation. In his article, *Curiosity*, Vidler states, 'It should be emphasized .. that curiosity or exploration is better conceived not just as a desirable attribute, but rather as a need that the organism or individual has for its normal functioning' (Ball 1977:35).

People start off naturally curious. Ignorance is taught. Ignorance is a result of negatively directional (disastrously adaptive) learning.

When I began teaching I believed that people were born ignorant but I have since changed my mind. I have seen bright and lively students dampened, depressed, virtually silenced by educational systems whose purpose is to create docility and obedience in the name of agreement or consensus or simply order.

I have had many students come to me for remedial work who were oh-so-secretly holding onto the tiniest hope that they might not be as ignorant as they had been taught. As Shotter describes, 'In having other people's pre-established meanings imposed upon them, they had been deprived of their right to participate in the making of meanings' (1993:28). Many of these students came to me with what I call the habits of ignorance.

The habits of ignorance are characteristics individuals assume. These characteristics are established through modes of punitive conditioning. Some of these habits are: ignoring one's surroundings, an inability to concentrate, a

reluctance to communicate, and inappropriately aggressive or depressive responses.

Vygotsky, in stating that, 'The term idiot... literally means solitarius, a lone man: He is really alone with his sensations, without any intellectual or moral will' (1993:218) conveys the painful social isolation engendered by ignorance.

The habits of ignorance are learned through the medium of oppressive conversations, conversations that belittle and demean, insult, offend and frustrate. Dewey rightly insists that 'an audience that is itself habituated to being told, rather than schooled in thoughtful inquiry, likes to be told' (1934: 300). Being told becomes a habit, a negatively directional habit.

Conversations in which a hierarchy of persons is assumed and maintained damage the participants. Conversations in which people assume rigid stances block communication between persons. Conversations that reinforce dominance replace socially constructive conversations with oppressive role plays. For, as Dewey says:

Communication is not announcing things, even if they are said with the emphasis of great sonority. Communication is the process of creating participation, of making common what had been isolated and singular; and part of the miracle it achieves is that, in being communicated, the conveyance of meaning gives body and definiteness to the experience of the one who utters as well as to that of those who listen. (1934:244)

It is horrifying but necessary to consider how our educational systems train some people to manifest the habits of ignorance. Are we prepared to face the fact that as educators we can make ourselves so hateful that our students would wish to ignore us, even at the cost of creating a profound ignorance in themselves?

Rabelais suggests that we 'shun the conversation of those whom [we] desirest not to resemble' (Rabelais 1970:187). Many students shun conversations with their educators because they do not wish to participate in our hierarchical conversational reality; they do not wish to resemble us.

Until we can face the reality of directionally negative learning we will not be able to design educational systems that facilitate directionally positively learning.

Even though we allow ourselves to consider ignorance and to be an enemy of education, let us take Rabelais suggestion to heart and:

Never drive your enemy unto despair, for that such a strait doth multiply his force, and increase his courage, which was before broken and cast down; ...How many victories have been taken out of the hands of the victors by the vanquished, when they would not rest satisfied with reason, but attempt to put all to the sword, and totally to destroy their enemies, without leaving so much as one to carry home news of the defeat of his

fellows. Open, therefore, unto your enemies all the gates and ways, and make to them a bridge of silver. (Rabelais 1970: 122)

Instead of trying to eradicate ignorance, we can challenge ourselves as educators and designers of educational systems, to create such compelling conversations that ignorance departs of its own free will.

Even though I believe that they all have important lessons to teach us about educational technological systems design, I will not have the time or space in this thesis to analyze the power of peer and teacher collaboration, open learning, community organization models of educational praxis or leadership models. Instead I will focus on dyadic dialogue that I believe to be the critical element in all learning environments.

Wonder

The elements and functions of dyadic dialogue that make it the key to ethical educational (and specifically technological) systems design will be the focus of the body of this work. But wonder will inform its meanings.

If all our dialogues are merely recitative and argumentative, we will be creating a barren life for ourselves. But if wonder and appreciation are part of our conversations, wonder at the magic of each other, wonder at the majesty of creation, wonder at the horrors of man and nature, wonder that we are alive at all... if we share our wonder as well as argue, debate, explain and expostulate.. that will be life worth living indeed:

‘Men were first led to the study of natural philosophy’, wrote Aristotle, ‘as indeed they are today, by wonder.’ Maxwell’s earliest memory was ‘lying on the grass, looking at the sun, and wondering’. Einstein struck the same chord when he wrote that whoever is devoid of the capacity to wonder ‘whoever remains unmoved, whoever cannot contemplate or know the deep shudder of the soul in enchantment, might just as well be dead for he has already closed his eyes upon life.’ (Koestler 1964:259)

My thesis that learning is the reciprocal relationship between being and doing and that this reciprocity occurs and can only occur in the synergistic medium of egalitarian dialogue will cover three main topics: Part I: Diversity; part II: Balance; Part III: Choice. Dialogue requires a mutual respect for the diversity of conversants, hence Part I. Dialogue presupposes balance sustained through an appropriate application of limitations to freedom of expression, hence Part II. Dialogue requires that its conversants have freely chosen to participate in the relationship, hence Part III. I conclude that educational systems designers cannot force relationships or conversations to occur. But we can leave room for dialogue, create conducive environments in which dialogue is likely to occur; and perhaps, most importantly, we can commit ourselves to engage in egalitarian conversations throughout our design process.

I end this introduction with a quote from the first play I ever saw on Broadway, *The Miracle Worker* by William Gibson (1975). This play is a stunning recreation of the story of Helen Keller's first conversations with her teacher Annie Sullivan. As the reader probably knows, Helen Keller became blind, deaf and dumb because of a fever she had as a child. She was living a miserable, isolated life when, at ten years old, she was lucky enough to have Annie Sullivan come and teach her to speak and read with her hands.

Helen Keller went on to become a graduate of Radcliffe College, a co-founder of the American Civil Liberties Union, the writer of many books, and a public personage who was an inspiration to many.

Without Annie Sullivan's determination to converse with Helen Keller, the future would have had quite a different shape. As Freire so poignantly reminds us, 'Education is an act of love, and thus an act of courage' (1973:38).

All our knowings have been enriched by those that Helen Keller shared with us once she was able to become part of our conversational reality.

(Helen's hand comes out into the light, groping)

ANNIE: Reach. Reach!

(Annie extending her own hand grips Helen's; the two hands are clasped, tense in the light, the rest of the room changing in shadow)

I wanted to teach you - oh, everything the earth is full of, Helen, everything on it that's ours for a wink and it's gone, and what we are on it, the - light we bring to it and leave behind in - words, why, you can see five thousand years back in a light of words, everything we feel, think, know - and share, in words, so not a soul is in darkness, or done with, even in the grave. And I know, I *know*, one word and I can - put the world in your hand - and whatever it is to me, I won't take less! How, how, how do I tell you...
(1956:103-4)

Part I

Diversity

We undergo sensations as mechanical stimuli or as imitated stimulations, without having a sense of the reality that is in them or behind them: in much of our experience our different senses do not unite to tell a common and enlarged story. We see without feeling: we hear, but only a second-hand report, second hand because not re-enforced by vision. We touch, but the contact remains tangential because it does not fuse with qualities of sense that go below the surface. We use the senses to arouse passion but not to fulfill the interest of insight. Prestige goes to those who use their minds without participation of the body and who act vicariously through control of the bodies and labor of others.

John Dewey (1934:21)

SECTION 1 DEMOCRACY

Not only is diversity a necessity for ecological stability, respect for the diversity of persons is a fundamental element of democracy. Diversity is a prerequisite as well as the result of egalitarian dialogue.

Mandatory Education in a Working Democracy

In the United States all citizens have the right to education. This is not only a testament to our commitment to the principles of equality and liberty, it is a safeguard of those principles.

In *On Revolution* (1963) Hannah Arendt describes the dialectic nature of most revolutionary process. She describes how, throughout history, groups of disenfranchised people have overthrown an oppressive government. Achieving power, the revolutionary group who once espoused egalitarian principles, itself becomes a force for repression. Having no choice but to rebuild on existing foundations, revolutions rarely achieve democracy but fall into the trap of absolute power and are corrupted - absolutely.

Arendt goes on to examine the characteristics of the American Revolution which allowed it to maintain a working democracy. She identifies the fact that early Americans had created community governments. A grass-roots experience of democracy was commonplace before the revolution took place.

Early Americans, prior to the revolution, were *practicing democracy*. Arendt believes that our constitution was a document written to express, not an

idyllic dream, a utopia, but the system that was at that time actual, practiced and fundamental. She maintains that we call it a constitution because the document states how our communities were at that time constituted.

The United States Constitution does not talk about liberty in the way our Declaration of Independence does; our constitution is not a theoretical position stating our rights as individuals to self-government. This is not stated because it is assumed. What is delineated is the balance of powers that is intended to maintain the equilibrium between the competing interests of individuals, organizations and groups represented by the various government bodies. The amendments are, of course, where we are reminded of the individual liberties upon which this enormous democratic edifice rests.

This image, the picture of democracy as a self-regulating heterarchical balancing act is quite different from Plato's static hierarchical ideal vision of state government. In our democratic vision, organizations and individuals are required to make agreements through consensus. The type of consensus required in the democratic vision can only be achieved by educated, independent citizens collecting in groups of their own design which they attend through their own volition.

In Plato's vision, people are born and educated for roles that carry with them specific obligations. Authority is unquestionable. No one from a lower strata can have any say in the actions and activities of any one from a higher strata. Those deemed superior will make all the rules for everyone, and the superior are deemed so not only by birth but by a specific sort of education; an education that trains them to rule, a theoretic education, as abstract and unpoetic as possible.

Plato's vision does not sound remotely like the democratic view set forth by our founders. But our educational system, deriving many of its original organizational patterns from those of European schools, themselves modeled on Plato's vision, reflects Plato's model. Within our schools, within each classroom, from local educational authorities to individual schools and from national government authorities to local school boards, authority in the form of rules, regulations and hierarchical dialogues flow top-down. Authority in our school systems is difficult or impossible for students or even teachers to question. Assessments value abstractions over practicality and poetry. Tracking is masked but endemic and socially as well as economically determining.

When I began my research I was aware that a tendency towards rigid stratification in our schools was damaging the effectiveness of learning environments. Teachers today are doubly burdened, by the inundation of absurd paperwork requirements, and by the necessity of modeling unquestionable authority over thirty others who are, for the most part, utterly powerless to determine what their education might concern. Teachers stand alone. We expect teachers to stand for an authority that may not represent their interests.

Socrates

This bleak vision haunted me. I felt that the Socratic dialogue I had so often read about in liberal educational articles might be the road not taken, the

missed chance for democratic education. Perhaps Plato, overcome with grief at the murder of Socrates, became ultra-conservative in response. But surely Socrates believed in heterarchical dialogue as an appropriate medium for education discourse.

As so often happens when one seriously examines a myth, it exploded in my face. As I searched through Plato's writings for Socratic elements, believing that Socrates was a democrat, a person born a commoner, intent on illuminating the truth to his young disciples, I came upon more and more evidence that Socrates was as conservative, perhaps more militantly conservative than his famous student, Plato. How could this be?

At last I came upon an explanation that I could understand. According to Winspear and Silverberg in *Who Was Socrates?* there was a 'known affinity of Socrates and his circle with the Pythagoreans' (1939: 64). Pythagoreans were believers in, and espousers of, the mystical power of numbers; they were a secret society intent on manipulating world events in order to accumulate wealth and power.

Socrates had earned a reputation as a great rhetorician and teacher of natural philosophy (science). The nature of education in those days was primarily rhetorical. Speaking was the only readily available medium of communication. Anyone wishing to communicate effectively in business, politics, or art had to study rhetoric. It was through rhetorical argument that most public decision making occurred.

Socrates married 'into a great and proud patrician family...At one point in the middle of his life he must have been moderately well off; but now he is said to have lost money.. in speculation.' (Ibid:53)

Socrates had developed expensive tastes that he paid for by gambling on the import/export market. This meant that, as a ship sank or were robbed, investors such as Socrates lost a lot of money.

Until [this] fatal transition his strongest characteristic is a kind of rugged honesty, an independence which is symbolized in his willingness to endure and even overlook the deprivations of poverty; his intense ardor to wrestle with the serious problems of physical philosophy in a tumbled-down, struggling school.. We can find far less to admire in the.. figure of later days - the Socrates who has lost all but the shreds of his dignity. The price paid for well-being and the flattering approval of the nobility was a complete sacrifice of his own independence. From the moment that he yielded to the temptations of the 'good and true' he became their puppet and apologist and was forced into a position of moral and financial dependence. (Ibid: 54)

Meanwhile his philosophy, as it will, took on the nature of his lifeworld. As Zeller in *Socrates and the Socratic Schools* explains:

He declared in a manner most pronounced, that the good is identical with the profitable, the beautiful with the useful; confirming his doctrine of the involuntary nature of evil - one of the leading principles of his ethics - by the remark that everyone does that which he thinks advantageous to himself. (1885:151)

Owing heavily to the landed aristocracy:

[Socrates] is now represented as a kind of gadfly, pricking and tormenting artisans and statesmen, by showing them that their pretended wisdom is only a groping kind of trial and error....This is the period of ethical search for ethical certainty, the attempt to find absolute and unvarying principles by which to explain all human action and to show the inner nature and essential character of such virtues as justice, courage, temperance and the like. This is the period, too, when there develops the sharp, unmediated distinction between knowledge and ignorance with the corollary doctrine that any action or belief which is not founded on 'knowledge' of the essence of each virtue is to be regarded as useless and unsatisfying.
(Winspear and Silverberg 1959: 56)

Found to be actively organizing the fall of the new Athenian democracy, the instigator of a plot that caused the death of hundreds of democrats, Socrates was brought to trial:

The attack on Socrates was in the first place set on foot *in the interest of the democratic party* [italics mine]. Amongst the accusers, Anytus is known as one of the leading democrats of the time. The judges too.. [were democrats]. We know, moreover, that one of the charges brought against Socrates was, that he was the educator of Critias, the most unscrupulous and the most hated [by the democrats] of the oligarchical party.
(Zeller 1885:212)

Socrates' dialogues are attempts to educate young patricians to honor the authority of their position without question and deny all emotional reasoning.

From Plato's main dialogues dealing with this period.. we get a complete enough picture of the select circle who gathered round the master and participated in the discussions of philosophy. Among the better-known figures was Alcibiades..[who] in his mature life .. showed a strong tendency to embrace the oligarchical position. We also find Aristophanes, Socrates' old adversary with whom a truce had now been concluded on the basis of unconditional surrender; Crito and Critias, ardent and wealthy young patricians, one of them a stalwart supporter of Socrates at the trial, the other an all too-prominent leader of the reactionary conspiracy of the

Thirty; Cephalus - the wealthy manufacturer who owned a large shield factory.. a Periclean democrat [democratic congress with a dictatorial though gifted leader] whose thoughts began to center on the eternal at the first prickings of a guilty conscience and whose politics became more and more conservative, became even reactionary, under aristocratic pressure during the period of crisis for the slave-owning democracy. Each member of this group in his own way, either political or intellectual, was bound up with the party of bitter opposition to the democracy.

A brief glance at a few of these personalities will afford us an insight into the essential character of the whole later Socratic group. Alcibiades was perfectly prepared to abandon not only democracy but Athens as well. He did both. Xenophon carried hatred of democracy to the point not merely of pamphleteering against democratic principles; he even deserted his native Attica for Cyrus and a Persian camp. Plato's loathing for the way of democracy is sufficiently apparent in almost every line of *The Republic*. Critias is perhaps the most singular example to be found. He began life as a democrat and as a vigorous exponent of democratic thought. That he became the most bloodthirsty and reactionary of even the Thirty was in wide circles, and quite naturally, attributed to the influence of Socrates.

(Winspear and Silverberg 1959: 55-6)

Having been paid to invent conservative strategies for the purpose of destroying the new democracy, perhaps it was also Socrates who invented the strategy of his defense at the trial that cost him his physical life but through which his martyrdom has increased his influence.

It is important to notice that the whole effort of the conservative faction was to lift Socrates above the struggle of contending factions and make him a symbol of certain eternal and absolute moral and religious ideas. The aim of the democrats, on the other hand, was to keep the argument [at the trial] on a strictly political level. The conservatives were eager to take their philosopher from earth to heaven; the democrats were equally eager to pin him down to mother earth. (Winspear and Silverberg 1959: 74)

But it was Plato to whom we owe our exalted view of Socrates the great hero-teacher:

And it is important to see that for the conservative intellectual position as Plato developed it, with its emphasis on the eternal idea, the claim of the state to autonomy and absolute obedience, the repudiation of the distinction between 'nature' and 'convention,' the insistence that human law is the very incarnation of the eternal principle, the concept of the

ethical and political ideal as unity and harmony, the submission of the passions to reason, the subordination of the governed to the governor, the 'agreement' between classes that only the 'guardians' must rule, for all this the figure of the symbolic Socrates was essential. (Ibid:75)

The Search For A Dialogic Ethic of Education

At this point I was ready to give up my research in despair. Was there to be no rationale for an egalitarian education?

Perhaps when we run out of answers we begin to do our own thinking. If I could not rely on Socrates to validate my belief in the power of dialogue to democratize educational process, I would just have to look elsewhere. Besides, there was a kind of relief in knowing that these known-answer leading-question rituals were indeed techniques manufactured to impede individuality and the strain of honestly thinking through a problem.

Surely it is not difficult to realize that [Socratic] questioning was not merely goodhumored dialogue or an intellectual game, played *in vacuo*, but represented a positive attack on the most fundamental democratic assumption that politics and ethics should be the career of the average man. It made these primary social functions - ethics and politics - not the concern of Everyman, but the private preserve of a highly select, cultivated and articulate minority. In this respect it could only be called profoundly anti-democratic. (Ibid:57)

And, finally, it seemed sensible that, in the birth throes of democracy, when democratic action was not yet a common experience, it would be unlikely that a dialogic form reflecting democratic relations could emerge. Democratic discourse would have to wait for a lifeworld filled with the social-constructions of equality and liberty.

My research led me to the realization that democratic discourse is emerging now. The challenge for instructional technology today is to be a part of this emerging egalitarian dialogue, to encourage and enhance it. Educational designers are challenged to design systems that encourage democracy to realize new potentials.

SECTION 2 ECOLOGY

An experience has pattern and structure, because it is not just doing and undergoing in alternation, but consists of them in relationship... The action and its consequences must be joined in perception. This relationship is what gives meaning; to grasp it is the objective of all intelligence.

John Dewey (1934:44)

The Cyclical Nature of Ideas

Ideas have life spans. Ideas are held by people and in turn hold people to certain possibilities and limitations. And since people and ideas can only emerge from the grounds of meaning already co-created, there tend to be cyclical patterns in innovations. For instance, according to Lovejoy, before the Enlightenment revolution, the dominating world view in the middle ages was the great chain of being. Certain characteristics of this world view returned when Enlightenment rationality was itself overturned by Romantic diversitarianism, which in turn was overthrown by scientific utilitarianism which is in turn being overthrown by post-modern relativism.

Lovejoy describes aspects of the philosophy of the great chain of being that I believe has recurred today:

The very essence of the good consists in the maximization of variety....Though essences were conceived to be unequal in dignity, they all had an equal claim to existence, within the limits of rational possibility; and therefore the true *raison d'être* of one species of being was never to be sought in its utility to any other. (1936: 98, 186)

Philosophers explore the structure and efficacy of ideas hoping to influence the course of human affairs by proposing new constructs, concepts, and world views.

William James explains the dichotomy between the pragmatist-humanist position and the rationalist-Platonist position:

On the pragmatist side we have only one edition of the universe, unfinished, growing in all sorts of places, especially in the places where thinking beings are at work. On the rationalist side we have a universe in many editions, one real one, the infinite folio, or edition de luxe, eternally complete; and then the various finite editions, full of false readings, distorted and mutilated each in its own way. (McDermott 1977:457)

People embody ideology. Implied in our praxis as educational systems designers will be our values as individuals that will reflect and reproduce the ideologies to which we consciously or unconsciously adhere.

Western tradition consists of a series of philosophies-in-action, ideas that have influenced the reality that people live in turn, have emerged as expressions of the existence that we experience.

Western rationalism has the knight-in-shining-armor reputation of having saved us from the repressive superstitious logos of the middle ages. Science was the wedge that cracked the walls of tradition, allowing us to move forward into modernity. Science is often cited as the God of modernity, rationality, and progress. But absolutes are absolutely dangerous and Martha Nussbaum makes an interesting point when she asserts that our reliance on scientific thinking is a dangerous mistake if we allow the rational side of our thinking to overpower the fully human nature of our thoughts. Again, what we are risking, what we seek to avoid, is a deathly sort of silence, a silencing of the spirit:

The Educational Journey

Education is often, and correctly I believe, compared to a journey.

When we journey on foot we must take many detours around houses, rivers and mountains. We can rarely walk directly to our destination. A journey on foot is filled with a variety of unexpected encounters. Many stories and myths have been built upon the truth of the pedestrian's journey. We set out towards a destination and for a purpose, but what happens to us along the way - who can say?

A journey by car is perhaps less filled with accident but still we cannot simply drive as the crow flies to Aunt Bella's house. We must take routes that circle or circumvent various obstructions. And, of course, we may or may not get lost, break down, get a speeding ticket or a flat tire.

A journey by boat seems like it might be more direct but this is not the case. Boats must tack to their destinations; boats work with the wind by setting their sails against it; a kind of collaborative conflict which produces forward motion. And waterways are hazardous, mitigating against direct routing. Boats must go around obstacles and tacking requires advance to be from too far the wrong way one way to too far the wrong way the other way, hardly a direct advance, more like wending or weaving one's way towards a destination.

Airplanes also tack; they too must work with the wind.

Trains can occasionally go through mountains and towns but still they do not go directly to their destinations, they wind and bend and circumvent.

Journeys in the physical world, regardless of the technological complexity of the media employed, are not straight forward events.

Journeys in philosophy are not straight forward either. We err in one direction and compensate too much, err in another, adjust, reconstruct and err once again. Why bother? Why not just stay home, ignore the call of the unknown?

Some educational psychologists contend that people are purpose or goal driven. I think that this is not precisely accurate. It seems empirically valid to state

that human beings are, like all animals, without purpose. We are born, we exist, we die. That's it. And that lack of in-built purpose for some reason drives us nuts. So I would say that human beings are goal-seekers, purpose builders. It is the lack of inbuilt purpose that drives us to create meaningful goals.

Individuals Making Meaning

We are uniquely, in the animal world, meaning-makers. We continuously create goals, try them out for the meanings, relationships, connections and conversations they engender. If we like what occurs we carry on, if we don't, we make new goals, reconstruct our purposes - if we are free and responsible and have learned to learn.

I have never met a person who was born knowing, without a doubt, their purpose in life. Our species purpose, to simply survive is not enough for most people, is not the ne plus ultra of purposes, but merely the ground upon which other purposes must be built.

We inherit a belief in the dichotomy of mind and spirit that has held us for centuries in its thrall. Emile Durkheim vividly describes some of the results of our philosophical allegiance with this dichotomous reasoning:

Far from being simple, our inner life has something that is like a double centre of gravity. On the one hand there is our individuality and, more particularly, our body in which it is based; on the other there is everything in us that expresses something other than ourselves...the soul has everywhere been considered a sacred thing, it has been seen as a divine element which lives only a brief terrestrial life and tends, by itself, as it were to return to its place of origin. Thus the soul is opposed to the body, which is regarded as profane; and everything in our mental life that is related to the body - the sensations and the sensory appetites - has this same character. For this reason we consider that sensations are inferior forms of activity, and we accord a higher respect to reason and moral activity, which are the faculties by which, so it is said, we communicate with god. Even the man who is freest from professed convictions makes this sort of differentiation, valuing our various psychic processes differently, and ranging them in a hierarchy, in which those that are most closely related to the body are placed at the bottom. (1972: 266-8)

Even though we acknowledge that our physical nature is bound by time and space and our consciousness is less so bound, socio-constructivists, building on the strong humanist foundations set by Dewey and James, are willing to consider consciousness as working in concert with the body.

William James explains how the pragmatist-humanists diverge from the Platonist-rationalists:

The Platonizing persuasion has ever been that the intelligible order ought to supersede the senses that then interpret them. The senses, according to this opinion, are organs of wavering illusion that stand in the way of 'knowledge,' in the unalterable sense of that term. They are an unfortunate complication on which philosophers may safely turn their backs. 'Your sensation modalities,' writes one of these, 'are but darkness, remember that. Mount higher, up to reason, and you will see light. Impose silence on your senses, your imagination, and your passions, and you will then hear the pure voice of interior truth, the clear and evident replies of our common mistress [reason]. Never confound that evidence which results from the comparison of ideas with the vivacity of those feelings which move and touch you... We must follow reason despite the caresses, the threats and the insults of the body to which we are conjoined, despite the action of the objects that surround us.. I exhort you to recognize the difference there is between knowing and feeling, between our clear ideas and our sensation always obscure and confused.' This is the traditional intellectualist creed. When Plato, its originator, first thought of concepts as forming an entirely separate world and treated this as the only object fit for the study of immortal minds, he lit up an entirely new sort of enthusiasm in the human breast. Those objects were precious objects, concrete things were dross. (McDermott 1977:144)

The war between body and mind is no longer necessary, useful or even acceptable. We see ourselves as part of an ecology, as part of an interdependent system of inter-related systems. We work in concert not only with other human beings but with all of life.

We are defined and limited by our physicality but we are connected to others through that very same physicality. It is in our bodies that we are and it is in our bodies that we will remain. No intellectual stance that ignores our physical selves can be considered valid. We are ready to include the reality of bodies and emotions in our considerations of what makes human life worth living. We are ready to see ourselves as part of an ecology of humanness.

Humanism

In *The Life of the Mind: Thinking* Hannah Arendt poses an intriguing question:

Could the activity of thinking as such, the habit of examining whatever happens to come to pass or to attract attention, regardless of results and specific content, could this activity be among the conditions that make men abstain from evil-doing or even actually 'condition' them against it? (1978a:5)

If thinking is to result in ethical behaviour what sort of lifeworld must it emerge from? I believe that humanist-pragmatist philosophy promotes the sort of lifeworld from which ethical dialogue (both internal, reflective dialogue and conversational dialogue) will emerge.

Humanism is the philosophical stance that encourages us to take the widest possible view of human potential. Humanism and socio-constructivism maintain that the realization of a single individual's potential is dependent upon the realization of all individuals' potentials. Pragmatism and the post-modern ethic of relativism maintain that human potential is actualized by thinking individuals applying their thoughts to actions for whose consequences they take responsibility.

Humanism, pragmatism, socio-constructivism and the post-modern ethic of relativism all recognize that none of us lives in isolation. We are part of a dynamic fabric of reality that we cannot escape, a fabric to which we contribute our essence and from which we derive our identities. There is no escape from this mutuality. There is no other, ideal world, no absolute, inviolable, inviolate other world which matters more than our everyday, known, tangible, earth world. As Freire contends, 'Sectarianism is predominantly emotional and uncritical. It is arrogant, antialogical and thus anticomunicative' (1973:11).

Elitism is a fallacy in the sense that it is not supported by natural conditions and must be maintained by force. Elitism is not the same as a division of roles. Division of labor and role positions are necessary aspects of social organization. But operational divisions do not require a valuation distinction between roles.

The value that we place on abstractions and the lack of value that we place on experience makes us susceptible to those who would wish to manipulate us for their own purposes. For example, if some hypothetical person did not value her everyday experiences as a source of significant meaning, she might not notice when some other hypothetical person significantly impacts her lifeworld.

A great weight of shame hangs on the intellectual fellow travellers who could not see through the totalitarian abstract perfectionisms to the human horror that was taking place in real time in real places. All thinkers are burdened now with the responsibility to check their abstractions with the realities that correspond to those theories. All designers are burdened now with the responsibility of the effect of their systems on the lifeworlds of the human beings who participate in and with those systems.

Purposes are derived from the meanings we make from our experiences. When people are so focused on (distracted by) abstractions that they are not perceiving the significance of their experiences, they will be incapable of creating purposes for themselves. Clearly then, though abstractions are useful tools, allowing us to skip over details, to move quickly in our minds, they are dangerous tools. Abstractions are dangerous to the degree that they undercut an individual's ability to create meaning and purpose from their individual perception and valuation of the lifeworld.

Swidler examines the effect of a reversal of authoritative, centralizing, abstracting tendencies on organizations. Interestingly, he finds egalitarian communication to be critical and fundamental to the maintenance of this reversal:

Organizations without authority are formed of groups of individuals oriented to purposes rather than to roles structured around specific tasks. The sense of purpose develops and is sustained in a collective context, focused by continual group discussions. But this reliance of discussion requires a climate in which communication is open, and such communication can flourish only when an organization strives for equality, or at least when it renounces the hierarchical incentives and sanctions that lead members of most organizations to withhold information from superiors or competitors. B(1979:180)

Our models of the future will be abstractions. But the future itself will not exist in the abstract. Our created purposes will lead us through further experiences to new knowledge. The future will be a now which will have an impact on us through our experience of it.

Part II

Balance

In a work of art, different acts, episodes, occurrences melt and fuse into unity, and yet do not disappear and lose their own character as they do so - just as in a genial conversation there is a continuous interchange and blending, and yet each speaker not only retains his own character but manifests it more clearly than is his wont.

John Dewey (1934:36)

In order for any democracy to function, there needs to be a balance between the freedom of self expression and the responsibilities inherent in community building. In educational settings where we wish to encourage democratic dialogue, we will need to focus on the processes of interaction and communication already present in the organization.

SECTION 1 INTERACTION

Limitations

All our thinking and understanding is based on our prior knowledge. Our prior knowledge is a result of our experiences. Our experiences are characterized by the dialogues we engage in with others and with ourselves. We come from a past some of whose elements can be known and analyzed.

Post-modern ethical relativism clearly owes a great deal to Einstein's awareness of relativity. But perhaps we owe as great a debt to the famous equation $E=mc^2$ which does not describe relativity, but the conservation of energy. Not only do we make our meanings in a relative universe but that universe is endless by virtue of being infinitely reconstructing: There is no finality. This recycling nature we live within requires us to constantly re-create the forms of our existence, utilizing always the remnants of past forms.

We are at all times and in all ways limited creatures. Our physical and emotional natures are limited, i.e. definable, bounded. And it is vital to recall that our conceptual systems are also defined, bounded, limited versions of reality. It is impossible to contemplate the universe in its ontological splendor without segmenting our wonder into ideas and thoughts, theories and formulations, into containers small enough for us to hold and to work with in our minds. Our cognitive categorizations are reflected in the social structures we build to contain our lives, within which we live.

There do exist two unities of dynamic functions - thinking and real activity. Each of these has its own dynamic aspect. This means that inherent in thought, as a particular kind of activity, is a dynamic of a special kind and character. Similarly, inherent in real action is its own system, which is also of a specific character and kind among the (various) dynamic systems. ... one would have always to bear in mind that once we move away from the real state of affairs *the dynamics do not, in reality, exist outside of the function which it sets in motion* [italics mine]... in living activities, we constantly observe the transition of thought into action, and action into thought. Consequently, neither dynamic system - though more mobile when linked with thought and less mobile when linked to action - is isolated from the other. What should be, and in fact is, observed at every turn in the transition of the fluid dynamics of thought into the hard, rigidifying dynamics of action and back again ... is, the transition likewise from the sluggish and constrained dynamics of action into the fluid dynamics of thought. ...

Our actions do not arise without a cause; they are motivated by known dynamic processes which are spurred by needs and by motivation. Similarly, our thoughts are always motivated, always psychologically conditional; they always flow from some affective motivation or other, which they set in motion and direct. Thoughts which are not motivated dynamically are as impossible as actions without a reason. *It is in this sense that Spinoza had already defined affect as that which increases or decreases our body's ability to act, and as that which forces thought to move in a specific direction* [italics mine]. ... The dynamics of a real situation, as they change into the fluid dynamics of thought, start to reveal new properties, new possibilities for action, for amalgamation, and for communication amongst separate systems. However, this direct movement of dynamics, from an actual situation to thought, would be useless if there was not return movement, a reverse transformation of the fluid dynamics of thought into the rigid and durable dynamic system of real action. The difficulty in fulfilling a series of intentions is linked precisely to the fact that the dynamics of thought, which are fluid and free, must be converted into the dynamics of real action. (Vygotsky 1993:234-5)

Limitations can create balance. The limitation of thought is action. For the ethical thinker, the limitation of action is thought.

As 'the outward and visible signs' of the dynamic interaction between thought and action Vygotsky so beautifully describes, communities and organizations represent our potentials but also the limitations we choose for ourselves, as nests, or shells.

Our potentials represent the directions we are able to imagine for our futures based on the abilities we achieved in our past experiences. We choose limitations because we believe that they will protect and nurture us.

The specific issues of distribution of wealth and privilege are substantive and need to be handled through negotiation. Negotiation skills might be considered crucial for the furtherance of democratic principles-in-action. With so many interest groups, mechanisms that will encourage balance of powers will be beneficial. This process has already begun. In many schools today young people are training as peer negotiators. Children as young as twelve act as conflict resolvers on school playgrounds.

Balancing is limiting but also empowering. Balancing allows for conflict between agents but also creates the possibility for collaboration. Balance is a fundamental element in a dialogue. An unbalanced conversation is no longer co-creating meaning, it has become a form of monologue. We can teach balance through the experience of egalitarian dialogue.

Two things will always be happening in our world, the old will be passing away and the new will be forming. Every age feels their cycle of passing away and resurrection to be the most meaningful, and rightly so. We are meaning-makers and story tellers and we must remain the heroes and heroines of our stories. We are the subjects as well as the authors of our meanings.

Culture is the repository, the mulch, from which our roots take nourishment and to which we give our whole selves. We can allow ourselves to become comfortable with this exchange.

Cycles of Construction

All cyclical realities (which are all the realities there are on earth) are de-and-re-constructing continuously. De-constructionism is nothing new and nothing to be scared of; a habit of reflective thinking will cause a continual de-construction of outmoded schema and opinions that have passed our of applicability and personal significance.

Perhaps in a self-conscious millennial burst of grandeur, people feel drawn to make end-of-the-world pronouncements, focusing more on the cycle of de-construction than its partner, re-construction.

But, just as our astronomers found that an asteroid is *not* going to destroy us in time for a millennial apocalypse, perhaps the reported dangers of deconstruction have been exaggerated and what is coming apart is not the structures of our world but the assumptions upon which we have built those structures. We are becoming aware of the limits of utilitarian rationality. We have faced the fact that the mechanisms of instrumental rationality were useless against encroachments of totalitarian dogma. We know that modern utilitarianism has proved uniquely prone to collaborate with tyrannous ideologies.

What saved the world from a totalitarian dark ages was not the philosophers of the European academies. What saved us was resistance. What saved us was the common sense that developed in our lifeworld from centuries of experience living under tyrants.

What we are looking for is what Ray describes as communicative action. We wish this form of dialogic construction to infiltrate the lifeworld with the habits of democratic speech. A habit of communicative action might be resistant to enslaving systems:

The key distinction here is that between teleological and communicative action. With the former, like Weber's goal-rationality, ends are chosen on the basis of interpretations of others' intentions, and include strategic (or game-theoretic) action. Weber (and much subsequent sociology) regarded this as primary to modern life, especially since it had become institutionalized in bureaucracies and the market. Communicative action on the other hand involves the use of language to reach an understanding to co-ordinate plans, and negotiating definition to reach a consensus motivated by reason, in which participants acknowledge only the force of better argument. ... For Habermas, Weber mistakenly regarded teleological (means-end calculation) as the quintessence of rationality. On the contrary, even when actors are behaving in purely instrumental fashion, in the market or in a bureaucracy, their communication must be bound by shared norms and beliefs which can be reconstructed and critically examined. There are essentially two claims here: first that, whether we acknowledge it or not, linguistic communication implies communicative norms; and, secondly, that since even strategic action uses language it must implicitly deploy the potential for uncoerced agreement which is 'always already'... present in attempts at mutual understanding. (Ray 1993:25)

Competition

One of the most confusing elements in an educational environment is competition. We seem to alternate between encouraging competition and declaring it an evil that will destroy education. Should education system designers banish competition from their frameworks? No. Competition is a necessary part of the ecology of human systems.

In fact competition is a good way to teach cooperation because competition requires cooperation. Two teams compete, yes, but within their ranks, they cooperate. And in order to arrange the competition, they must cooperate on deciding the time and the place, the fees, the publicity, and who's going to get how many free tickets for their families and friends. There is far more cooperation in the praxis of competition than competition.

We cooperate and collaborate in order to compete. This is a hallmark of all civilizations. Without competition there is no real world test of the validity of our concepts. Without cooperation there is no purpose to the results of the competition and no reason to compete in the first place.

Conflict is a form of competition. Competition is a form of collaboration. From this we can construct a meaning of conflict as an active, creative form of collaboration that, because of its high energy potential, tends to veer towards

violence. Creative conflict is one of the potentials of conversational reality: the more adept we are at dialogue, the less likely it is that conflict will become violent.

We can view owners and workers as masters and slaves or management and labor or elite and mass: we can label and understand these roles in terms of what divides them. Or we can notice that, despite their differences, these groups of people cooperate for their survival and mutual benefit. 'Habermas' concept of communicative action... [offers] a criterion of what constitutes progress in the evolution of social relations (increasingly open, risk-bearing, democratic structures of communication)' (Ray 1993:xvi).

Because worldviews are organized iteratively through progressive experiences and in turn influence, organize and determine what our future experiences might be, it is presently far more difficult for people to change their zeitgeist than it is for them to burn a city to the ground.

But nothing is forever. Educational systems designers are in a position to influence whether or not there will be more or less egalitarian dialogue in education. Spender reminds us in *Invisible Women* that:

It is not ordained that schools and education should be arranged in their present form with their deeply entrenched hierarchical structures and their primary role of separating those who qualify from those who do not.. We can see how schools help to create these inequalities and we can modify their practices. (Spender 1982a:88)

SECTION 2 COMMUNICATION

Discourse

Mikhail Bakhtin proposed that ‘The way discourse is ordered in a given society is the most sensitive and comprehensive register of how all its other ideological practices are ordered, including its religion, education and state organization, and police’ (Clark & Holquist 1984:237).

If Bakhtin is correct in saying that discourse is a register of ideological practices,. then, discourse occupies a critical position in social constructions, and we might be able to make our world more egalitarian simply by making our conversations more democratic.

Bionic System Models

I have asserted that traditional hierarchical conversations damage the participants; that dominance in a dialogue is a kind of violence. Just as, atomic scientists have shown us that, when we shatter the physical bonds that hold an atom together, much can be destroyed, when we shatter the bonds that connect us to each other as equal beings, much life be destroyed. Perhaps educators can prove that, if we cooperate with nature, if we speak together, with each other, much can be created.

Educational designers wishing to collaborate with natural systems, might gain from an analysis of growth processes in nature. Papanek explains that ‘bionic design application *never means copying by establishing a visual analog*. Rather, it means searching out the basic, underlying organic principles and then finding an application’ (1984:210).

The following explanation of bionic growth processes seems to have a high degree of applicability to issues critical in educational systems design. In fact the growth processes which are not in equilibrium in the following example seem remarkably similar to the disparity in early education reading levels: Those students who have more vocabulary to begin with increase their vocabulary exponentially, whereas those students with little vocabulary to begin with, make slow progress.

In a growth process in equilibrium, for example as found in many growing crystals, particles are ‘trying’ various sites of the growing object, until the most stable configuration is found. In this type of growth process a continuous rearrangement of particles takes place, the process is relatively slow, and the resulting objects are very regular.. Many growth processes in nature are not in equilibrium, aggregation of particles being an extreme example: as soon as a particle is added to the growing cluster, it stops

trying other sites and no further arrangement takes place. In this type of process the local chances that the object grows are not everywhere equal on the object and an unstable situation emerges. Typical for these phenomena is that they occur in a field which is in a steady state... The probability that growth takes place is the highest at the steepest gradient of the field, causing still steeper gradients... resulting in... a more unstable situation. Growth processes in non-equilibrium are self-amplifying and relatively fast, and the resulting objects are often fractals.

(Kaandorp 1994:21)

Perhaps if we understood growth processes better, we would be able to find a way to lessen the aggregation of particles model of disequilibrium in our classrooms and replace it with a more balanced fractal model.

In contrast to many of our social constructions, nature is abundant. Instructional designers can take advantage of the information explosion. The multiplication of information media can be considered a beneficial abundance, a fecund ground from which much of value will emerge. Designers will find it efficacious to think in terms of increased variability in methods, means and even in results. William James entices us to ponder:

Since when, in this mixed world, was any good thing given us in purest outline and isolation? One of the chief characteristics of life is life's redundancy. The sole condition of our having anything, no matter what, is that we should have so much of it, that we are fortunate if we do not grow sick of the sight and sound of it altogether. Everything is smothered in the litter that is fated to accompany it. Without too much you cannot have enough, of anything. Lots of inferior books, lots of bad statues, lots of dull speeches, of tenth-rate men and women as a condition of the few precious specimens in either kind being realized! The gold-dust comes to birth with the quartz-sand all around it.

(McDermott 1977:804)

Existence maintains itself and is shaped in interaction with the world around it. These tensile relationships are the reality of being.

Our sun operates on the principle of self-destruction. And there are those who would wish us to become as mighty as the sun, to devolve ourselves into ceaseless bursts of selfless destruction.

But there are those of us who are satisfied with the less dramatic but perhaps more challenging task of living on the earth where life is a continuously shifting ecology of inter-relating, inter-dependent communicative systems. The end of the world that apocalyptic thinkers would wish us to fear is only the passing into absorption of one idea of the world recreated and emerging as a new idea of the world. We are actively engaged in creating our changing world. We change the world with our words as we speak in our minds and to each other. I wish us to choose life affirming words and systems.

Humane Relationships

Human beings create and maintain relationship. We create and achieve purposes. These actions are possible only because we are able to communicate with each other and with ourselves.

And the way in which we communicate, not only the modes and mechanisms, but our meanings, purposes, and the media we use affects what is possible to create and achieve. Because it is through language that communication occurs and through thinking that meanings are made, what we create and achieve in the world is dependent upon the language we use both to speak internally with ourselves and to communicate with others.

An organization that represents the interests of its participants will need to be structured to tolerate change and growth. A dynamic organization that can tolerate change and growth must also be able to handle conflict. I do not wish to accept the tacit assumptions that Apple describes in *Ideology and Curriculum*:

Two tacit assumptions seem to be prominent in teaching and in curricular materials. The first centres around a negative position on the nature and uses of conflict. The second focuses on men and women as recipients of values and institutions, not on men and women as creators and re-creators of values and institutions. These assumptions act as basic guidelines that order experiences. (1979:86)

Instead, I prefer to keep in mind that:

Any human being that by nature belongs not to himself but to another is by nature a slave, and a human being belongs to another whenever he is a piece of human property, that is a tool, or instrument having a separate existence and useful for the purposes of living. (Aristotle 330:32)

I agree with Baeker et. al. in *Readings in Human-Computer Interaction: Towards the Year 2000* (1995) when they state that:

We really want programs that ‘generalize,’ that detect meaningful patterns and extend them in a wide variety of situations. Patterns could be internally coded through conventional programming concepts such as variables, branching, and loops. But automatic detection of meaningful patterns requires overlooking a user’s detours and errors in the repetitive activity. It is a very challenging problem in machine learning. One way to simplify this is to involve users. Generalizations could be explicit, the user telling the system what objects are variables and where branching and looping would occur. (1995:788)

According to James Miller in *Living Systems* (1995) living beings use other living beings as life-support. All life forms exchange information with other life forms. As educational systems designers we choose what will be included in an educational life-support system.

When we do not choose to make room for dialogue in our designs, we run the significant risk of creating negatively directional learning.

When we make room for dialogue, our systems have to deal with increased amounts of chaos.

A Balance of Power

Chaos is the result of competing agencies whose destructive tendencies can be mitigated, not by exclusion, but by a balance of power in the communication acts in which they engage.

A balance of powers principle of design will be flexible enough to encourage and withstand a continuous conversation with ontological truth.

On what principles would the competing information production be balanced? On any principle compatible with the purposes of the organization within which the educational system is meant to function. If the designer feels that the purposes of the educational organization are unethical, then the designer has the responsibility to engage with the members of the organization, in a dialogue. But there is no sense in designing systems which will be incompatible with organizational values because the containing system will override any non-compatible systems should they be introduced without prior agreement.

Organizational purpose can be a handicap to the educational designer if it is unethical. But, more often, organizational purpose will be the engine that drives the educational system and makes it effective. An organization without a clear sense of purpose can be the most difficult environment within which to try any educational experiment. As Swidler explains in *Organization without Authority*:

When formal structure is the only embodiment of organizational purposes, the organization may become rigid and unresponsive to its environment. But when adaptation to the environment is made too easy, organizations slip into opportunism, losing their original mission. Nonet insists that 'opportunism and formalism are two phases of the same basic institutional disease'. Both result from an inability to sustain a sense of purpose. Thus 'the central problem of institutional design lies neither in the scope of administrative discretion, not in the locus of authority, nor in any other aspect of organizational structure per se, but rather in the extent to which an institution is infused with a sense of purpose. The institutional effect of rules, delegation, participation, and other such devices, are fundamentally contingent upon the variable ability with which institutions give authority to purpose in their deliberations.'

B(1979:179)

Subtle is not simple. Subtlety is the manifestation of complexity when it has achieved a high level of fractal or holographic organization. The tensile strength of the smallest units of life is remarkable. We can make life systems stronger by increasing their ability to make connections with other life systems.

The premise of nuclear power is that if you break the bonds which hold life together you release a proportionally astounding amount of energy. But this energy cannot be controlled and it will always destroy. Destructive systems of organization, even of communicative organization, are inappropriate for use in educational environments.

I have established that democratic values can be communicated through modes of egalitarian dialogue. I believe that education is an appropriate arena in which these dialogues can and should be practiced. For educational systems designers to promote egalitarian dialogue they themselves will have to engage in that relationship. The following section explores some of the choices the designer will have to face.

Part III

Choice

There is a further analogy between patterns and programs that is relevant here. If one asks *why* pattern designers write 'C6F' instead of giving the full cabling instructions every time cabling is required, the obvious answer is - to save space, so that the printed pattern will fit into a handbag and not need a briefcase. A less obvious, and more interesting answer is that the designer (like the knitter) actually thinks in terms of these abbreviations as she describes the 'details' of what she is doing, and could not proceed intelligently if she were not to do so. Certainly, she can laboriously translate into the language of 'wool forward' or 'wool backward' if she has to (perhaps to undo a mistake she has made, or to explain her skill to a child). But she cannot do this for large sections of the garment, or for the garment as a whole; if she tried to do so, she will be hopelessly lost.

Margaret Boden (1977:11)

To design is to choose. Educational systems designers choose what sort of learning to encourage and what role technology will play. Educational systems designers must balance the needs of learners with those of administrators and teachers. Designers help define success or failure in their systems. They must decide on timing, categories of knowledge, appropriate media and delivery system styles. Through all this decision making must run the value of democracy: the balance of freedoms with responsibility and the necessity for individuals to learn to exercise choice.

Passive or Active Learners

When we organize and design educational systems we are attempting to institutionalize learning. I have established that learning is the process of alterations we make as we move between states of being and doing. Educational systems designers need to leave room for teachers, students and administrators to make alterations in their learning plans as they move between thinking and action. Technology can give us the flexibility in our systems to provide the needed room.

It is customary to define the learners the design is intended for, their characteristics, and their potentials. But in our present praxis, are we taking into consideration the agency of learning? Is 'the learner' the only one who is going to participate in learning? That would be a logical absurdity.

Instruction requires a teacher. Even if that teacher is packaged into a computer program or a textbook, there is an 'other' with whom the student must converse in order to receive instruction.

Let's take a short psycho-linguistic detour to examine that phrase: 'to receive instruction.' Could the learner sound any more passive? Could the learner sound any more like the receiver of commands? This semantic pitfall illustrates an underlying attitude toward 'the learner' that has often been a pitfall to educational systems.

As educational systems designers we inherit a language, a view, a history and an instrumental philosophy much indebted to Plato and his teacher Socrates. We inherit an educational perspective that considers the learner to be a responder to stimuli, input and commands.

Many instructional technologists are consciously working towards greater interactivity in learning programs. Multi-media and the internet have offered the educational technologist new possibilities for the presentation of materials. There is a desire expressed 'to engage' the learner.

But we rarely address the question: who is the agent of learning? The teacher or the student? Is the one who conveys the information the agent or the one who interprets the information? Both. When both the student and the teacher are changed by an interaction, then they have experienced an authentic conversation, a conversation in which egalitarian dialogue has occurred.

These sorts of dialogues are rare even in face-to-face encounters between teachers and students. I believe that technological educational systems can increase the likelihood of authentic conversations occurring, not just between teachers and students but between teachers and teachers, students and students, administrators and both teachers and students, not to mention all the possible connections that can be made through networking and the internet. We have a possibility for creating freedom of conversation never before known or perhaps even contemplated.

Technological systems can take many burdens off the teacher, leaving her more time for interactive conversations with students. Technological systems can deliver a variety of packaged information that will give both students and teachers alternative pathways in their educational journeys. Technological systems can create options for active participation in co-agentic learning environments.

Orwellian Techno-Tyranny or Technological Bio-diversity

Already we can access information sources from almost anywhere via the internet. As the technology evolves we will be able to participate in oral and written dialogues with people of different backgrounds. Computer technology gives us access to information but it also gives us access to each other.

Technological educational systems designers do not have to buy into what Nelson calls 'the myth of technological determinism':

The myth of technological determinism seems to hold captive both the public and the computer priesthood. Indeed the myth is believed both by people who love and by people who hate, computers. This myth, never questioned because never stated, holds that whatever is to come in the computer field is somehow preordained by technical necessity or some form of scientific correctness. This is cybercrud. (Baeker 1995:40)

There is nothing determining us as designers to treat technology merely as a delivery system; nothing but past Platonic educational praxis. In fact, if we respect our democratic mandate we will be obligated to a formulation of heterarchal mechanisms for dialogic interactions.

When unknown-answer questions become as vital to an educational system as known-answer questions then we have a learning environment which will encourage co-agency, co-construction of meaning and democratic action.

Training and Co-Agency

Educational conversations which are not conversationally dialogic, from learning alone with a textbook, audio, video or computer program to listening to didactic lectures, have been considered training.

Training, as the word suggests, derived from a follow-the-leader type of pursuit in which the purpose is to follow as closely in the path of the leader as possible: train cars proceeding in a carefully, necessarily regimented line.

There is nothing wrong with this sort of instruction. Very often we have developed processes for which it is absolutely critical that the learner follow an exact procedure. All kinds of education will have elements of training. Follow the leader can be a very interesting and gratifying experience. Especially if the leader is committed to co-agentic learning and interested in his students. Then training goes beyond mimicking. Learning through co-agentic conversations. teaches people to think independently. As Vygotsky explains:

True thought is nothing other than discussion or argument carried on within an individual. Piaget was able to substantiate this idea genetically and to show that a conflict of opinions, an argument, should arise early in a children's collective, so that thought might later develop among children of that collective as a special process in inner activity which would be unknown to a child of an earlier age. The development of reflection is begun in argument, in the conflict of ideas; such is the fundamental conclusion of this research. (1993:196)

Argument is essential to learning because argument is essential to thought. As McCulloch describes:

We express much less [than what is in our minds] because a nerve of a thousand axons has $2^{1,000}$ possible states - which is more than there are particles in the universe, - whereas the muscle it drives has a paltry thousand possible tensions. (1968:107)

Training can increase what's inside our minds but only conversation can build the muscles we need for self-expression.

What Kind of Assessments? Whose Standards? Whose Purposes?

It is not easy to assess co-created meanings. We inherit a system which separates assessment bodies from educational sites. Perhaps more co-agency between assessment bodies and educational bodies would allow for an appreciation of collaborative meaning making in education. When students learn to create meaning they are also learning to create value.

I question the instrumental rationality W. Damon presents:

At some point we must determine whether or not a particular act of learning has contributed in a positive way to the learner's intellectual development... Determining what is positive in a developmental sense requires a framework of assessment derived from the functions that intellectual activity serves in an individual's life. That is, an act of learning can be judged to have developmental significance if and only if it enhances the learner's ability to perform some specified function.

(Resnick et.al. 1991 :387)

Damon implies that the ultimate aim of education is to teach people to be useful. But useful to whom and for what purpose? I do not believe that we have the right to determine someone else's usefulness. I think we have the responsibility to help people learn how to create their own meanings and purposes.

The traditional praxis of educational systems design suggests a backward chaining from assessment to instruction. The importance of assessments as a driving force in educational systems cannot be ignored. But perhaps it might be mitigated.

Spender asks us to consider, 'where do these standards come from? Who made them up and for what reason? They are not neutral standards, nor are they absolute' (1982:89). When we accept the responsibility to design educational systems that promote the training of individuals to standards, we must consider very carefully the nature of those standards. We cannot assume that the underlying ethic of a standard is beneficial to students. The ethics of standards of assessment are open to discussion at all levels of education but certainly at the level of educational systems design.

Dewey makes the bold and shocking assertion that, 'all rankings of higher and lower are, ultimately, out of place and stupid' (1934:227). Lest we think that

Dewey was just having a bad day, he makes many equally strong statements - for instance, 'There are three characteristics of a standard. It is a particular physical thing existing under specified physical conditions; it is not a value. The yard is a yard-stick, and the meter is a bar deposited in Paris' (1934:307).

Standards sometimes need to be softened. Nussbaum provides us with a lovely anecdote whose message is just as wary of strict and absolute measurements as Dewey's more sarcastic statements:

Aristotle illustrates the idea of ethical flexibility in a vivid and famous metaphor. He tells us that a person who makes each choice by appeal to some antecedent general principle held firm and inflexible for the occasion is like an architect who tries to use a straight ruler on the intricate curves of a fluted column. No real architect does this. Instead following the lead of the builders of Lesbos, he will measure with a flexible strip of metal, the Lesbian rule, that 'bends to the shape of the stone and is not fixed.' This device is still in use, as one might expect. I have one. It is invaluable for measuring oddly-shaped parts of an old Victorian house. ... It is also of use in measuring the parts of the body, few of which are straight. We could anticipate our point, not too oddly, by saying that Aristotle's picture of ethical reality has the form of a human body or bodies rather than that of a mathematical construct. So it requires rules that fit it. Good deliberation, like the Lesbian Rule, accommodates itself to the shape that it finds, responsively and with respect for complexity.

(Nussbaum 1990:69-70)

Success or Failure

When we are designing educational systems it is commonplace for us to ask: 'How would you know if you saw one?' (Briggs et. al. 1991:64) William James has the answer I like the best: 'When a man's pursuit gradually makes his face shine and grow handsome, you may be sure it is a worthy one' (McDermott 1977:795).

When we see our students faces shine with wonder and growing confidence, the system is working: there is learning going on.

Clearly we cannot divorce ourselves from standardized tests and assessment procedures. But perhaps we can help validate qualitative analysis of educational praxis. Perhaps as instructional technology designers we can find ways to encourage and reward laughter, companionship, courage, health, kindness and independent thinking, qualities that cannot be quantitatively assessed.

Instructional designers can introduce collaborative conversational systems but as Orlikowski reminds us, we must beware that:

People's mental models and organizations' structure and culture significantly influence how groupware is implemented and used. .. [when] the culture provided few incentives or norms for cooperating or sharing expertise, .. the groupware on its own was unlikely to engender collaboration. (1995:197)

Continuing relationships between designers and the people who use their systems would change the dynamics of success and failure from a simple single judgment to an ongoing relationship and process.

Now or Later

Traditionally we only allow co-agentic learning at the very highest levels of authorship. Many years of training are normally the pre-requisite to entering a dialogic conversation as an equal partner who has enough authority to be given the rights of co-agency.

Educators contend that there is no time for conversations in classrooms, that dialogue leads nowhere and is basically a waste of valuable time. But I agree with Freire that, 'Any delay caused by dialogue - in reality a fictitious delay - means time saved in firmness, in self-confidence, and confidence in others, which anti-dialogue cannot offer' (1973:121). I have seen in my own praxis with students the truth of his remark.

Freedom and Responsibility

My suggestion is to introduce co-agentic conversation, limited and balanced by the necessity of other forms of conversation, at all levels in all aspects in educational designs.

Freedom is a big responsibility and it requires a great deal of responsibility. Freedom requires us to make a great many choices and to listen to others with an open mind. Clark and Holquist describe Bakhtin's philosophy:

There is no way for a living organism to avoid answerability, since the very quality that defines whether or not one is alive is the ability to react to the environment, which is a constant responding, or answering, and the total chain of these responses makes up an individual life. (1984:227)

We need to design educational systems which allow students to practice responding to strangers, experts, peers, collaborators, and friends. The more types of conversations a student can have, the more flexible and powerful their expressive muscle, the more creative their contribution to their world. As Schank explains in *Explanation Patterns: Understanding Mechanically and Creatively* 'knowledge structures function best if they're dynamic .. We expect that as knowledge is used, it changes... As we undergo experiences we learn from them' (1986:7).

The more practice we can arrange for people to experience how their choices create consequences which affect the further choices they and others will be able to make, the more we are teaching people the skills that they will need to function as unique, responsible citizens in a democratic environment. As Shotter states, 'we must offer each other opportunities to contribute to the making of agreed meanings' (1993:27).

Our constitution takes for granted and encourages United States' citizens and groups to act in our own self-interest. Our democratic system is one of equal representation of individual groups and a balance of power among government agencies. Citizens are considered individuals with the right to vote and live according to what they think is right.

But how does one decide what is right? Our founders saw that this was exactly the weakest link in a democratic system: where would the continuing ethic of equality come from?

If people do not know how to decide what is right, if they have no experience of ethical inquiry and determination, they will not be able to represent themselves adequately as voters or as members of democratic communities.

Democracy is the habit, the lifeworld, of equality. Creating that lifeworld requires a great deal of education, experience and effort on the part of its constituents continuously to reproduce the system.

The effort required to maintain democratic systems is so rewarding to its participants (who are, after all, creating the world in their own image), that it is unlikely that any active agent in a democracy would choose an alternate form of government over self-government.

Democrats believe in differentiation as part and parcel to democracy. Every leveling tolls a doomsday bell for democracy. Nature can not be leveled. Nature veers always toward variety and complexity. Diversity is essential to the continuation of life.

We can organize systems without leveling the participants but this will require new, perhaps bionic system models. If we are looking for simplicity we will find it in bionic patterns in which there are elegant structures, languages, fractal and holographic patterns that promote growth by providing structures which support life.

Agency in a functioning democracy cannot be permitted to derive from any single interest group lest it devolve to oligarchy. Nor can agency be leveled to a norm lest it dissolve into tyranny.

Categories of Knowledge

I have established that democracy mandates educated citizens; that citizens of a democracy must be capable of practicing equality and maintaining freedom through that practice. I will now examine the choice we have today in our categorizations of knowledge.

When we produce educational technology and systems, we are creating artifacts that we hope will promote learning.

There are three categories of knowledge relevant to the issue of the creation of knowledge-based artifacts: these categories concern themselves with the process level of the knowledge, that is, with the level of formalization that has been achieved in a specific knowledge domain: fundamental knowledge, expanding knowledge, and heuristic knowledge.

1) Fundamental knowledge is information that has achieved a high degree of standardization. This is data but more importantly for design purposes, must be understood as algorithms. This is knowledge that can be expressed in terms of rules and principles. For example, most maths up to calculus, languages, beginning biology/chemistry/physics, principles of historical and textual analysis are manifestations of fundamental knowledge.

2) Expanding knowledge is information that is timely. There are a great deal of data, facts and anecdotes contained in this body of knowledge. The data are interpreted in terms of the principles outlined in fundamental knowledge but because of the randomness of the information, expanding knowledge can not be considered completely standardized. For example, any current events subjects, experiential learning events in which students explore within a relatively defined but not completely defined domain, creative performance, creative writing, creative arts practice, science fairs are instances of manifestations of expanding knowledge.

3) Heuristic knowledge is knowledge-in-the-making. This is the knowledge that concerns experts. There may be a great deal of data and even considerable standards of categorization but there tend to be higher proportions of unknown-answer questions than known-answer questions driving the structures of organization of the searches. For example, genetic engineering research, astronomical exploration, philosophy, writing original music, producing film, video or audio productions, democratic self-government, learning about oneself are instances of the manifesting of heuristic knowledge.

Knowledge in all its categories presupposes communication. Information is not knowledge until it's communicated, that is, transferred.

Discourse communities are groups of people between whom the transference of information is coded so as to facilitate the most effective applicability of that knowledge to a community of practice.

We cannot merely dismiss as Luddites, those people who view technology as the medium of choice for tyranny. Orwell's *1984* contains the classic example of technology used to brainwash and control. Educational technologists have the responsibility to answer arguments like the following of Habermas:

The gist of Habermas' argument was that scientific and technological knowledge were not per se harbingers of domination, but rather the danger arose from the inappropriate application of technological reason to questions of value and politics. To convert political and moral value choices into technological goals represented an erosion of the public

domain, and indicated covert political domination through technical rationality. (Ray 1993:13)

Educational technologists cannot afford to apply technology inappropriately. I believe a good test of appropriateness of application of technology to education is precisely whether or not the technology is increasing or decreasing the freedom and responsibility matrix for the learner. If the technology is significantly hampering a learner's flexibility in determining the course of her learning, then the technology is eroding the student's domain, usurping her right to self-determination. If, on the other hand, the technology is increasing the connectivity of the student's lifeworld, then I believe technology is serving the student and the interests of democracy.

The act of communicating our experiences, changing our knowings into knowledge by making them available to others, this is the beginning of understanding, the fundament of mutuality which itself is a fundament of democratic communities. As we increase learners' communication options, we are increasing their ability to create knowledge, and increasing their ability to contribute to democratic communities.

Learning is natural. An educational systems designer can do as the character Martha Nussbaum describes: 'She lets herself not stop it, she decides to stop stopping it' (1990:278). And instead, she can work with the natural processes that underlie learning and the exchange of information, for the health of the living systems that participate in the learning.

Media

The medium is not the message but, like all containment structures, a medium can represent as well as protect the messages, purposes and values it is meant to store or transfer. I recommend that our media reflect transitivity, flexibility, coherence and the democratic freedom/responsibility matrix.

Communication and thought only ever happen in the now, in the existential moment. But the systems within which these acts occur accumulate and dissipate over time and are affected by human agency acting from philosophical levels and for purposes that may or may not be existential. The communicative act is the moment ontology, epistemology and existential reality collide.

Whether or not the purpose of an educational system is positively directional, when it contacts an individual learner, she has the responsibility to choose. She can choose to accept the proffered epistemology: learn what she is taught. She can choose to make her own ontological analysis: learn what she needs to know. Or she can choose to refuse response ability and become defensive, resistant, or ignorant.

Instructional systems designers are in the business of producing knowledge products. Not surprisingly knowledge products reflect the three levels of knowledge they are meant to convey. Texts, movies, video and audio

productions, computer programs are the media suitable for storing and transferring fundamental bodies of knowledge.

Flexible transfer systems which can be accessed relatively quickly are necessary for expanding knowledge. Expanding knowledge requires information to be transferred almost as quickly as it is categorized via journals, web sites, chat rooms, discussion groups, messages of intent, conferences, works in progress (generally among specific discourse communities) are suitable.

People on a quest into the ontological world exercise a high degree of personal choice and yet the quest itself is always to some degree responsive to and determined by the needs of their society.

The Lifeworld

There is a less often mentioned category of knowledge: knowledge that emerges from the lifeworld. There is little or no media available to store this knowledge. Its transfer is largely oral. The spoken word is the primary medium of communication in the lifeworld.

The languages and discourse communities of the lifeworld are notoriously fickle, short-lived, vernacularly identified, slang-creating. Yet some remarkably long-lived features of our world are maintained from these sources of knowledge. This is where old wives tales are stored. Grandma's advice and recipes, dad's special BBQ sauce, traditions, folk tales, ghost stories, jokes, sub and counter-culture epistemologies, all find a home in the lifeworld.

Though the lifeworld is most often perceived by designers of educational systems as the source of consumers for fundamental knowledge packages, I suggest we re-consider the power and potential that resides in the many conversational realities within the lifeworld.

The technological media most commonly used for the transfer of lifeworld knowledge are those that are most immediately accessible and capable of withstanding the passion of vernacular expression: telephones and e-mail carry our voicings to one another. Spontaneity and relatively instantaneous response ability are critical for the relaying of lifeworld knowledge.

The lifeworld is a fecund source for both growing and heuristic knowledge. The lifeworld is by definition the socius where people confront ontology.

We have yet to analyze the contributions of the lifeworld to our knowledge systems much less to provide lifeworld systems with communication media that would make this fecund source of knowledge communicable.

Top-Down Delivery Systems

As long as we design top-down educational information systems, we will not be able to converse with the communities working with heuristic knowledge in the lifeworld. Top-down communication systems imply a hierarchical value system. We do not wish to encourage hierarchical dialogues in a democracy. But

perhaps more importantly, one-way communication systems deny us important sources of knowledge, knowledge that might be crucial to our survival.

Top-down educational models are undemocratic and assistencialist. As Freire reminds us, 'True humanism, which serves human beings, cannot accept manipulation under any name whatsoever. For humanism there is no path other than dialogue' (1973:113).

But if we think in terms of egalitarian dialogue and create systems which EXCHANGE knowledge, we will enter conversations the lack of which may be impoverishing us more than we can begin to understand.

Conclusion

The Asymptotic Journey

[We must] not rest content, as social beings, with half-baked abstract discourse and crude perceptions, with what James elsewhere calls, 'the rule of the cheap and easy'; but that, in public and in private, we create our lives with one another with as much subtlety, responsiveness, delicacy, and imagination as are involved in the creation of a work of literary art, dismantling our anger; fostering our gentleness. That, as a politics of perception requires, we work with patient commitment to bring to human beings the material conditions of this life of the spirit, and, at the same time, the spiritual and educational conditions of a loving relation to the world and to one another.

Martha Nussbaum (1990:216)

REFLECTIONS

Learning is an asymptotic journey. We spend our lives aiming for the best we can be. But we will never reach that goal. The purpose of the journey is the journey itself. We cannot reconstruct the past. Change is inevitable because it is part of the ontological systems that underlie existence. William James explains:

This is the philosophy of humanism in its widest sense. Our philosophies swell the current of being, add their character to it. They are part of all that we have met, of all that makes us be. As a French philosopher says, 'Nous sommes du reel dans le reel.' Our thoughts determine our acts, and our acts redetermine the previous nature of the world. (McDermott 1977:805)

Our thoughts are realized into action through our use of language in communication acts. Our democracy was not built Platonically from an ideal. The United States was constituted to reflect the potentials inherent in an already functioning system.

Education, more than any other social organization, is in a position to guard and further the critical principle of democracy: the balance of power among egalitarian organizations.

Our constitution scaffolds us, as a nation, while we work through our zone of proximal development, to achieve the potentials inherent in the democratic experiment. We have a proud history of brilliant liberal philosophies of education. William James and John Dewey saw the potential for a uniquely American educational system, one that developed individuals capable of carrying forward the freedoms and responsibilities of egalitarian communities.

Educational systems designers must not shirk the moral responsibility inherent in democratic praxis:

Moral responsibility is the most personal and inalienable of human possessions, and the most precious of human rights. It cannot be taken away, shared, ceded, pawned, or deposited for safe keeping. Moral responsibility is unconditional and infinite, and it manifests itself in the constant anguish of not manifesting itself enough. Moral responsibility does not look for reassurance for its right to be or for excuses for its right not to be. It is there before any reassurance or proof and after any excuse or absolution. This is, at least, what one can find out looking back at the protracted modern struggle to prove - to make real - the opposite.

Bauman 1993:250)

We don't have to pretend to know the future to assume our right and our responsibility as citizens and as educational technology designers, to construct learning environments in which people feel free and responsible to engage in co-agentic dialogues.

The ubiquity of heterarchal forms of communication in the technological industry is not an anomaly. The purpose, the message, the power and the potential inherent in technological communications is heterarchal communication events. Democratic communication events drive the progress among experts in technology. Educational systems designers can choose to allow heterarchal communications events to drive the progress in educational technology.

The United States leads the growth in the computer industry because many of us participate in a democratic lifeworld that actively encourages us to embrace heterarchal forms of communication.

Instructional technologists can attempt to ensure that language is given the environments in which to work its magic. People who have the right to congregate and speak among themselves create worlds.

The limit to the exercise of our freedom of speech is the responsibility we have to hear someone else's speech.

The more we engage in dialogue, the more we are changed, the more learning occurs.

If we insist on commanding obedience through unremitting instruction we will break the soul of the mind we purport to educate.

There are people in the United States who are so silenced that, though silence is not a choice they would willingly assume, they lack the experience and permission to begin, or even enter, any ongoing conversation. For these people

the educational technological systems designer must take special care to construct open and supportive invitations so that everyone encountering a designed conversation will experience the welcoming truth of participatory reality: if anyone is left out then it is not representative. If it is not representative, it is not democracy.

Freedom feels good. Its inherent responsibilities give it an invigorating rigor. Can we systematize egalitarian dialogue? I don't know. Should we even try? Perhaps the best choice a designer has is to limit the use of technology and encourage face to face dialogues to enhance the learning made possible by the machines.

Can instructional systems capture the magic of personal exchanges between co-agentic individuals? I don't know. I hope so. But even if multi-media allows us to become more vivid in our explanations and artificial intelligence allows us to create more responsive programs, will we wish to replace human to human co-agentic learning. I think not.

I believe that William James and John Dewey were aware that people have magic in them; that, when one person comes together with another person, in a democratic spirit of equality; when those persons converse, something occurs that was never there before.

When the synergistic medium of dialogue is activated by two people in an egalitarian relationship to one another, a conversation occurs. That moment, that conversation where being and doing are one and expressed, is the ground and nature of all learning.

Educational systems designers come under a great deal of pressure to create robust systems that can guarantee outcomes. I believe that a system ought to be robust but that we ought to resist the pressure to create pre-determined outcomes at every step of a systems design.

We need to model in our practice and encourage in our designs the dialogue between persons that we know activates co-construction of meaning. We must never rely on systems and machines to replace our responsibility to respond fully, humanly and respectfully to each other.

When the matrices of education, technology and democracy collide they have one element in a pivotal relationship to all three: egalitarian dialogue can create a new matrix from the best of educational, technological and democratic praxis.

If we wish the systems through which we teach freedom and responsibility to be as exciting and invigorating as freedom itself, we will have to include significant room for egalitarian dialogue. This is the educational systems designer's challenge: to participate in two-way exchanges of information and to structure systems that allow for co-creation of meaning. That is the dialogic challenge.

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