

Landscaping the Learning Environment to Create a Home for the Complex Mind

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by

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A Story to Begin With

It must have been four and a half decades ago when I first read the poetry of Alphonse de Lamartine. I was in secondary school then and Lamartine was one of the poets whose work we had to read for French class. That being the case, the chances were slim that I would get excited about what I read. I was not supposed to become excited. In fact, I had been socialized not to become excited about such matters.

When I went to school in The Netherlands in the 1950's, students were habitually divided into two streams, designated A and B. Students in the A stream were inclined towards the humanities; those in the B stream towards science and math. If your strength was in science, you were presumed to be weak in the other areas; if, on the other hand, you were good at languages, history, geography and the like, your mindset was presumed not to be inclined towards science and math. The B curriculum emphasized physics, chemistry, biology and math, yet also included almost all subjects of the A stream, though with a lighter load. The overall perception of the school system was that being in the B stream was something to be valued more highly than being in the A stream, a perception that was reinforced by the additional curricular load given to the B stream students.

Since a very early age, I have been fascinated by the wonders of nature. As a toddler, I would seldom miss an opportunity, as my parents later told me, to take things apart, to reassemble them, or to create my own inventions, not necessarily ones that would have any useful application. School did not particularly appeal to me, but it was part of life, I was told, and I accepted it, developing a generally acceptable behavior while doing what I was supposed to do. Meanwhile I was daydreaming, and, while dreaming, pursuing my own interests. Following my dreams, I would sometimes lose my way to school and end up in the reading room of the municipal library of the city where I lived. It allowed me to be away from a world with which I had difficulty coming to terms.

What I learned in school appeared to be of marginal interest to my pursuits. Occasionally I found a useful link, but at times, I was also troubled to find that the excitement I had known while doing things on my own disappeared when those same things became part of the official school curriculum. Then they suddenly appeared "ordinary," nothing but yet other pieces of an undesired and undesirable homework load. Nonetheless, there being more connection between the B curriculum and my own

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interests, than was the case for the A curriculum, I ended up a student of the B stream. Consequently, I was set not to get excited about Lamartine. Reading poetry in school or for homework was altogether another experience than reading poetry – which I also did – with a friend, looking out over the majestic waterfront in Rotterdam, the city where I spent my childhood and adolescent years.

Forty-five years later I find myself walking amidst the beautiful landscape of southern France, listening to the radio on my earphones. There is Lamartine's poetry again, asking questions about life and death, questions that this maturing adolescent had been asking himself more than four decades ago. 'What more is life than a prelude to the eternal song of which death sounds the first note?' Liszt had been profoundly disturbed by these words. They had motivated him to compose his symphonic poem "Les préludes." I recall the occasion when I first heard a radio broadcast of "Les préludes" and liked it. I was as much fascinated by music as I was by the wonders of nature. Luckily, in the case of music, no formal system had yet put itself between the object of my fascination and myself. I also recall the occasion that I first read Lamartine and did not like it. I don't recall either experience getting connected in my mind to the question that had inspired both men and troubled me as an adolescent, too. How could I have missed it? How could I have anticipated that someone whose work I would later admire, the poet/singer Georges Brassens, would find consolation in Lamartine's "Thought of the dead?"

The Wondrous Ways of Learning

I am using this personal story by way of introduction to the 2001 lecture and workshop in the David Kinsey Dialogue Series. It's just the story that happened to me when I went out for a walk to think about what I would write for the lecture I had been invited to give. It could have been a different story,² but it just happened to become this one, triggered off by what appears to be an accident, a radio broadcast I tuned in to.

The stories of learning are always extraordinary. As part of a research project, initiated by the Learning Development Institute early last year, we have collected numerous learning stories of people in different parts of the world -- ordinary people, but always with extraordinary stories. The stories were generated by a simple prompt: the request to write down, in an unprepared fashion, the most meaningful personal learning experience the person has had during his or her life, explaining why it should be considered meaningful, and elucidating the conditions that promoted and facilitated it.

The results analyzed so far (Y. L. Visser & J. Visser, 2000) are revealing. They shed light on the conditions that must apply for people to perceive their learning as meaningful. This is, for instance, the case when learning results in ownership of knowledge, in other words, when it involves autonomous processes of making decisions, choices, guesses, mistakes and discoveries, as well as developing the various emotions that accompany those processes. A learning experience is also perceived as meaningful when it can be seen as an integrated component of a person's lifelong endeavor to learn and grow. Particularly relevant in this context is the generative nature of learning, or, put differently, the capacity of any true learning experience to raise the questions that lead to further learning and growth. Learning must also have implications in the real-life context, that is, it must be seen as inherently relevant, before it can be perceived as meaningful.

An interesting contributing factor to the meaningfulness of learning, identified in the aforementioned study, is the interaction with the learning of others that forms a basis for one's own learning. This is exemplified, for instance, by the experience of people, such as teachers, parents and siblings, who try to help other people to learn

² An alternative story about the author's learning experience, generated in a different context, can be found among a collection of such stories available on the Web site of the Learning Development Institute, <http://www.learndev.org>, as part of the Meaning of Learning (MOL) project.

something and who then discover that their efforts to share their experience with someone else have been rewarded by a deepening of their own understanding.

Many people also refer to the negative self-perceptions they had to overcome before learning could become meaningful to them. Tragically, those negative self-perceptions were frequently reported to have been induced, at an early age, by the very environment that was supposed to have instilled in them the love of learning . . . the school. In such cases, the learning is perceived as meaningful because of its ability to help change negative self-perceptions into positive ones. Related to this aspect of the meaningfulness of learning is the discovery of persistence as a strategy to manage life's challenges, indicating the importance of situating learning in the context of serious long-term pursuits.

In the above three paragraphs I have indicated some of the major factors that make, according to the learning stories we have analyzed, learning meaningful. We also asked respondents to identify what it was that had particularly facilitated those most meaningful learning experiences for them. Our analysis (Y. L. Visser & J. Visser, 2000) found learning to be particularly facilitated when conditions that were initially negative could be transformed into positive challenges; when role models were present or emotionally significant support was available in the environment of the learner; or when there were opportunities for independent exploration of one's learning and metacognition.

Perhaps the most striking finding in the analysis of the various case stories – we used Sapsford and Jupp's (1996) iterative method for the analysis of unstructured data³ – is the tremendous complexity of interconnected events that somehow, though not necessarily in a linear fashion, result in the emergence of a new state of consciousness, a heuristic experience that makes the learner aware that he or she has learned, and has done so meaningfully. The story with which I started this paper is a case in point. It took 45 years and an accidental radio broadcast to make the pieces of a puzzle fall into place in such a way that their separateness became resolved and a new synthesis emerged, thereby raising new questions.

It is therefore no surprise that few of the learning stories that were collected as part of the Learning Development Institute's "Learning Stories" project, made any direct reference to the school context. Among those that did, only a small proportion reported positively about the school. The larger proportion represented stories of survival, i.e., stories of people who had been able to overcome the negative impact of the school environment on them and therefore, as mentioned above, to turn this initially negative condition into a positive challenge.

I make reference to the school context because existing discourse positions it as the major factor in promoting and facilitating learning. I contend that this is wrong. Our learning stories offer a picture that contrasts sharply with the idea of school as a predominant factor in promoting and facilitating learning. Rather, these stories point towards the need to rethink how societal resources (not only financial resources, but particularly also effort, creativity and imagination) should best be distributed to create a multiplicity of *diverse* conditions -- instead of just one narrow spectrum of conditions -- that reflect the way in which learning naturally evolves as a complex phenomenon. The school system, or more generally the totality of instructional opportunities – which I shall later refer to as the instructional landscape – constitutes but one area to which such resources should be directed.

I am going to use the opportunity presented by the 2001 David Kinsey Lecture to bring together some of the ideas expressed in my recent work, and to reflect on my decades-long experience in creating the conditions for the development of learning in an international context. That experience, and my reflections on it, has led me to

³ Other useful methodological considerations regarding this kind of research can be found in Miles and Huberman (1994) and Patton (1990).

recognize that learning is an immensely more complex phenomenon than most of our current practice to promote and facilitate it would have us believe. Consequently, I have come to the conclusion that the complex human mind is poorly at home in much of the environment supposedly created to nurture it. Neglect of the essential conditions for its sustenance and growth has led the mind to lose its natural habitat, putting it at risk of becoming extinct. My emphasis will therefore be on what should be done to landscape the learning environment in such a way that the complex mind can find a home in it. I shall develop my ideas and raise questions about this issue, while calling attention to a number of key concepts. Let us begin with the idea of mind.

Mind

The Encyclopaedia Britannica (1999) refers to three fundamental assumptions that underlie the concept of mind: thought or thinking; knowledge or knowing; and purpose or intention. The word mind goes back to the Anglo-Saxon “gemynd,” which means memory. In the context of our discussion of the concept of “mind,” the word “memory” should be interpreted in an active sense, related to our capacity to will. This is quite unlike the way the word is used in today’s computer terminology, where its meaning is restricted to the capacity to store information. Of course, storing information is one of the things we do, but we do much more while being mindful: we give information meaning, intentionality. Thus, a close relationship develops between our ways of knowing and how we act.

These lectures are given in the memory of David C. Kinsey. That means much more than just storing the information that, once upon a time, there was a man by the name of David Kinsey, a brilliant and outstanding educator who touched many lives and who taught at the Center for International Education at UMass, Amherst. Commemoration means more than just retrieving that information once every year. Commemoration is a process of participating in someone else’s mindfulness, that other person’s intentionality. We are here to celebrate the meaning of David Kinsey’s life by enhancing the human condition as we find it during *our* passage through life.

David Kinsey is described on the website of the Center for International Education (CIE – Projects and Activities, n.d.) as “one of those original, creative minds shaped by deep interest in community development, nonformal (*sic*) education, and adult literacy.” Being a “mind,” he embodies a memory, not just of his own thoughts and actions, but also of those on whose shoulders he stood and those whom he had in mind – you and me – to follow in his wake.

What applied to David Kinsey, applies to all of us: we are a memory, a mind.⁴ As such, we are both ephemeral and eternal. The idea is well expressed in the Yoruba culture, as described by Wole Soyinka in a TV interview with Wim Kayzer (VPRO, 2000). Soyinka refers to three spheres of existence in Yoruba culture, “the world of the living, the world of the unborn, and the world of the ancestor.” These are not separate worlds. They “move into one another.” Ours is “a particular passage from the world of the unborn to the world of the ancestor.” Every individual has the responsibility to enhance the process of existence during his or her passage from the world of the unborn to the world of the ancestor. One is thus part of the community of those who came before and those who will come after us. “The responsibility of creating an environment, which makes this particular passage in which one finds oneself congenial, is a communal responsibility.” Indeed, the story at the beginning of this paper assumes that I belong to a community of mind of at least three other people, two of whom were dead before I was born and one who was still alive but who died before he ever got to know me.

⁴ I owe the thought that, during our brief passage through life, we are “memories in the making,” to my daughter and partner in creative collaboration, Yusra Laila Visser.

Mind's Matter

Mind, memory,...but what about its material basis, the brain? Mind and brain are related, but they are not the same. Pinker (1997) notes: "...the mind is not the brain but what the brain does, and not even everything the brain does, such as metabolizing fat and giving off heat" (p. 24). In other words, mind is a process, "a special kind of process depending on special arrangements of matter" (Edelman, 1992, p. 7).

Science has, for many centuries, had difficulty in dealing with the mind. Proper scientific inquiry assumed processes that excluded, as much as possible, intentionality. Kronig (1969), for instance, reflecting on half a century of his involvement in theoretical physics and reacting to imminent tendencies during the late nineteen-sixties, preferred to qualify as "pseudo-sciences" those endeavors that, while trying to model themselves on the rigor of the physical sciences, wished to include the human being as subject in their considerations. There was no place for the mind in science. Dualism had been invented to keep the worlds of mind (*res cogitans*, in Descartes' terminology) and science (*res extensa*) apart. Edelman (1992) argues that even behaviorism, which is apparently monistic, is "simply dualism reduced by denial of the mind as a scientific object, and therefore left with one end hanging" (pp. 11-12). Merleau-Ponty (1964), opens an essay that otherwise analyzes the deep motivations behind the art of painting, with the following statement on science: "La science manipule les choses et renonce à les habiter" (science manipulates things and refuses to inhabit them).

Two events may be seen to be contributing to bringing the mind back into nature. One has to do with changing views of the physical sciences themselves (at least among some of their practitioners) and of the role of the physical sciences in (re)-connecting human beings to the experience of reality. I refer in this connection to, for instance, the work of Nicolescu (2000 and, earlier, 1985), and that of Heisenberg, Pauli and Bohr (cited in Nicolescu, 2000) earlier in the 20th century.

The second event is the development, started during the later part of the 20th century, of technologies and methods that are allowing our very humanity, or what we thought it was, to become the object of scientific inquiry and manipulation. This includes the insights we are getting into the workings of the brain as well as our genetic make-up. Subject and object are, so to say, boking each other in the eye; they can no longer be kept apart. Edelman (1992) thus concludes:

There must be ways to put the mind back into nature that are concordant with how it got there in the first place. These ways must heed what we have learned from the theory of evolution. In the course of evolution, bodies came to have minds. But it is not enough to say that the mind is embodied; one must say how. To do that we have to take a look at the brain and the nervous system and at the structural and functional problems they present (p. 15).

On The Matter of Consciousness

It is an intriguing thought that we, human beings, are mere material entities among a vast universe – tiny, almost insignificant ripples in a continually enfolding and unfolding reality (Bohm, 1980). It is equally intriguing to realize that the organizational complexity of our material existence has endowed us with the capacity to reflect upon ourselves and stand in awe of who we are and how we relate to our environment. Part of that capacity is associated with our ability to generate language. The way in which our brain evolved has something to do with that capacity. Pinker (1994) and Deacon (1997) provide different perspectives on that evolutionary process.

The development of language has allowed human beings to interact with their environment in mindful ways, through the creation and use of symbols that let them query their own actions, leading them to progressively understand themselves and the universe of which they are part, as well as to deal with problems related to their being in their universe. An extensive treatise on man's use of symbolic forms in language, myth, religion, art and science by Cassirer (1953), originally published in German in 1923, remains a compelling account of this perhaps most human of human abilities.

The debate about how matter and consciousness relate to each other is far from resolved. As alluded to earlier, the approaches to inquiry that have so successfully contributed to the scientific understanding of our surrounding world, have also obscured the development of visions of the universe that include the human mind, and thus consciousness, as an integral part of it. The development of such visions was in fact part and parcel of the pre-scientific ways of inquiry and knowing. As Heisenberg (1954) explains, we have, over a period of thousands of years, gradually removed ourselves from our ties to nature, objectifying it as something exterior to ourselves. Because of that long history, and the success of the application of its accompanying rationale, there is still an understandable hesitation among scientists to revive the earlier integrative ways of knowing. Those who try to bring consciousness back into the discourse, like Bohm (e.g. 1980), Heisenberg (1954) and Nicolescu (1985 and 2000) show both foresight and – considering that their attempts may easily be interpreted as “unscientific” – courage. Their conceptualizations may appear speculative at this stage, as Bohm for instance recognizes, yet it is such speculation, such symbolizing beyond the present set of symbols, that is a necessary prerequisite – as the history of science compellingly shows – that allows the human mind to advance.

A word of caution is in order. The above must not be interpreted as a call to tamper with disciplined inquiry as such (or to develop, as some do, quasi-scientific substitutes for vanished religious experience, mainly based on poor understanding of key scientific concepts, thereby doing a disservice to both religion and science). Rather, I contend that it is important to remain true to what it means to be conscious, namely to persist in reflecting, not only on our actions, but also on our reflections, our ways of inquiry, continually challenging the assumptions and conceptualizations that underlie our current modes of thinking.

Inquiry into consciousness, however daunting that challenge may seem, is essential to advance the understanding of our humanness. To do so, it may be necessary to reconnect to some essential wisdom of the past as well as to broaden our perspective of inquiry beyond the points of view represented by individual disciplines. Part of that broadening of perspective may have to do, as Nicolescu (1996) so eloquently argues, with the development of ways of thinking that are no longer based solely on the principle of the excluded middle, the powerful underlying assumption of Aristotelian logic. Nicolescu credits Lupasco with the development of an alternative logical framework, the logic of the *included* middle, which, according to Nicolescu, was shown by Lupasco to be “a true logic, which can and has been formalized, is multivalent...and non-contradictory” (p. 44).

It is well known that the need to overcome the shortcomings of classical logic first became apparent in the development of quantum mechanics early in the twentieth century. It was there, too, that it first became necessary to look at reality as something we become conscious of at different levels (an idea entertained by Bohm (1980) with reference to the notion of enfoldment and unfoldment).

One can extend this idea of varying levels of reality, as Nicolescu (1996) does, to our ways of knowing in general. Many of the apparent contradictions in our fragmented cognition can be resolved by complementing our disciplinary insights with transdisciplinary ways of inquiry, based on “the three pillars of transdisciplinarity – the levels of reality, the logic of the included middle and complexity.”

Similarly, Heisenberg (1954) uses the term “Erfahrungsbereiche” (fields of experience) and observes that these are always limited. Within each separate field of experience, the human pursuit to enhance consciousness is directed at specific questions (“Einzelfragen” in Heisenberg’s terminology).

As long as a particular field of the mind,⁵ continually and without becoming internally fractured, develops, the individual human being, who works in that

⁵ Heisenberg’s term for “field of the mind” is “Bereich des geistigen Lebens.”

field, is faced with specific questions, problems which, so to say, pertain to that person's craft, the solution of which, while not an end in itself, seems of real value only within the framework of the larger interconnected whole⁶ (p. 63). Such specific questions, according to Heisenberg, emerge of their own accord; no one needs to look for them. They are, in a sense, unavoidable. Dealing with them is an underlying assumption of our collaboratively being part of a larger interconnected whole. Dealing with them also means dealing with ourselves, the object of inquiry not being the outside world as such, but the outside world as it presents itself to us through the process of our inquiry, that is through the process of our interaction with it, and that includes ourselves. Ultimately, the act of knowing comes down to an inquiry into what we do to get to know, a progressive reflection on enfoldment and unfoldment of our consciousness in relation to reality, to borrow Bohm's (1980) terminology. Clearly, the thinking that underlies the practice of participatory action research reflects this principle, which brings us back to the memory – to the mind, the intentionality – of David Kinsey.

Learning

Learning has everything to do with the above relationship between reality and consciousness. In his treatise on transdisciplinarity, Nicolescu (1996) encourages us to continually overcome the apparent contradictions that surround us. The way we structure knowledge leaves us with an array of bipolar relationships. On the positive side, those bipolar relationships help us to create order in our perception of the world. On the negative side, accepting them for what they are at a particular stage in the development of our consciousness, limits the mind. To advance, we must move beyond the realities we know now, based on the particular range of bipolarities we have learned to live with, to new ones in which the previous bipolarities have been resolved.

Classical logic, Aristotle's logic, requires that we exclude anything that is not either something or what that something is not. This so-called principle of the "excluded middle" (or "excluded third") is normally formalized by saying that there cannot be a third term *T* that is at the same time *A* and its negation *non-A*. This principle works well – and has even proven to be extremely helpful – as long as we remain within a particular level at which we develop our consciousness in relation to reality. It becomes a problem when we want to move beyond that particular level. Then we must not, as Nicolescu argues, abandon the principle of the excluded third, but simply realize its limited validity regarding where we stand and add to it a new way of thinking. It means that we elevate ourselves beyond the previous way of looking at things, integrating the opposing dimensions of the previous bipolar relationship between *A* and *non-A*, by identifying a third term at a different level that encompasses the apparent contradiction.⁷

We can apply this principle to developing a new way of looking at learning. Reality and consciousness used to be seen as the two ends of a bipolar relationship. Reality was "out there" and we were here. Reality was something that challenged us both in terms of getting to know it and subsequently acting upon it. The way to get to grips with reality was by learning. Learning, then, was understood to mean creating a mental representation of the real world such that that same real world could be manipulated in a premeditated manner without the conscious mind being conceptually part of what was being manipulated.

The previously cited essay by Heisenberg (1954) is an early instance of reflections that have become more common today, leading to the realization that we have finally come full-circle. In the development of our consciousness we have, because it worked so nicely, gradually separated ourselves from reality, penetrating ever further

⁶ Heisenberg uses the term "allein wichtige grosse Zusammenhang."

⁷ The development of physics, particularly during the early half of the twentieth century, shows compelling examples of the struggle of mind involved in overcoming the contradictions it had previously created.

into that same reality through the mechanisms we could develop, thanks to our discovery of separateness as a useful tool. That process of penetration has gone so far that we now start discovering that we were the ones who made it up in the first place, and thus it will be better, now that we know all that we know, to make the next move and bring ourselves back into the picture. Learning is the way to do it, but we must conceive of learning differently from the way we used to.

I have written about this different, more comprehensive, view of learning elsewhere (J. Visser, in print). Unfortunately, the book is not yet out and, even more unfortunately, when it does come out, it will cost \$345, as I just discovered by checking out the Website of one of the major book chains. (Someone should perhaps look for the included middle that will help us to overcome the bipolarity between publishing and profit making!) Reuniting ourselves with the world that surrounds us, conceiving of consciousness and reality as two things that belong together, requires that we recognize the essentially dialogic nature of learning. That means that we must overcome the one-sidedness of a vision that sees learning primarily as something that goes on inside the heads of human beings as a reflection of what goes on outside of them. It also means that we must reconsider the purpose, the intentionality of learning. It's not just what we do, in a premeditated fashion, to change our set of competencies so that we can make our next move in claiming our right to intervene in a piece of the outside world. Quite to the contrary, when we learn, we establish a dialogue with our human, social, biological and physical environment – and we do so both individually and as members of larger social entities – so that we can more intelligently become constructive as we interact with change. Defining learning this way,⁸ it becomes the included middle, in the sense referred to by Nicolescu (1996), that overcomes the contradiction between consciousness and reality.

Creating a Home for the Complex Mind

I have now come to the more practical part of my intervention. What should we do, not just to agree on a formal definition, which is already hard enough, but to create a new reality that expresses it? Here are my recommendations.

Organic integrity of learning

Above all, we should do away with the idea that learning takes place predominantly in instructional settings, such as the school. The message that this is *not* the case comes through loud and clear to those who listen, like we did, to the stories people tell about what they really feel is important in their learning experience.

In addition, we should recognize that every single element in people's learning experience, even the most seemingly insignificant event, is relevant and essential. Being "relevant and essential" is not the same as being necessary. There is no unique linear way in which things connect. One only discovers after the fact, just as I did in the experience related at the beginning of this paper, that things one may have overlooked earlier are, in fact, essential and relevant. Continually exercising one's mind brings things together in ever-changing perspectives, as if in a kaleidoscope, until all of a sudden a new pattern emerges that enlightens consciousness. The social communication of what individual human beings experience as enlightening may then, at a higher level of organizational complexity, lead to the shared recognition within a community, or even humanity at large, that a new insight has been born. The history of the development of human knowledge is full of examples of this happening.

If the brilliant pieces that make up the kaleidoscope of our mind are limited to just a few – the ones, for instance, that our formal schooling experience put into it, and

⁸ The formal definition presented in Visser (in print) reads as follows: "Human learning is the disposition of human beings, and of the social entities to which they pertain, to engage in continuous dialogue with the human, social, biological and physical environment, so as to generate intelligent behavior to interact constructively with change."

that are basically the same as the pieces in other people's kaleidoscopes – the chances that anything exciting will occur when we rotate them and talk about what we see with the members of our community, will indeed be slim. The kaleidoscopes of our mind only start becoming really interesting when they can be continually enhanced, with some of the colorful pieces that make them up remaining the same, or only changing very slowly over time, while other pieces can be moved in and out more flexibly, in ways that are different for different people's kaleidoscopes.

Diversity, the way it occurs for instance in the biological world, is the key requirement. Without it, evolution becomes impossible. Without it the mind becomes stale and dies. Diversity is both a prerequisite for and a product of community life. Thus, for the mind to develop there must be communities of mind. By definition, such communities of mind cannot be closed systems (if they were, diversity would soon disappear); they must be open. As open communities of mind, they interact with other communities of mind, thereby establishing complex cognitive structures at ever-higher levels of organizational complexity. Eventually, this leads to something that can best be described as a cognitive ecology, a world of mind in which ideas – elements of mindful action for that matter – are mutually in need of each other if there is to be growth of consciousness.

This same ecological conception of the cognitive environment also implies that the artificial boundaries with which we have surrounded the different portions of the learning infrastructure, such as the school, are antithetical to the proposition of this paper – just as they are out of tune with the vision that inspired David Kinsey. We have grown so used to these boundaries that we hardly see them any more. On the way back from the walk with which I started this paper, I passed the village primary school. I heard the voices of children but could not see the children themselves. They were hidden behind windows covered with an opaque white paint. A few hundred yards away a sign cautions motorists who enter the village. There are 400 children going to school in this village, the sign explains . . . 400 children whose mindset will be profoundly affected by those windows that obscure the world from them, and obscure them from the world.

How many of us grew up facing similar boundaries, physical or otherwise, longing for what lay beyond, but being disciplined not to explore and disciplined to stay focused . . . focused on what?

There is obviously a great need for instructional opportunities to be offered, not only to the 400 village kids about whom I just wrote, but to all children and all adults around the world. In December 1948, the world community agreed, when the General Assembly of the United Nations adopted the Universal Declaration of Human Rights, that "everyone has a right to education" and that "education shall be free, at least in the elementary and fundamental stages" (Article 26, cited in UNESCO, 2000, p. 16). It is a great scandal that the same world community, more than half a century later, has yet to be able to create the conditions for that right to be enjoyed universally. I should probably call it an equally great scandal that so little imagination has been brought to bear upon whatever has been done so far. All too often the good intentions to provide education for all were entirely left in the hands of bureaucrats who went into the business of replicating existing patterns, paying no attention to thinking and rethinking what it means to be learning in a world full of diversity and change. While the global effort continues, it is absolutely necessary to stress that education is not the same thing as schooling and that learning is not the same thing as education. There is a great need for the entire learning environment to be conceived and implemented in fundamentally different ways.

Landscaping the learning environment

I am afraid that where I have finally arrived with the argument developed in this paper, I have set myself up to write a book-length treatise on what came to my mind when I accepted the invitation to give this year's David Kinsey lecture and suggested the

title that now adorns my writing. That book-length (and even longer) treatise is gradually being written by the communities of mind that are engaging in efforts, such as the one undertaken by the Learning Development Institute. It is the handiwork of many people and it will most certainly go on for a long time. The Website of the Learning Development Institute (<http://www.learndev.org>) provides a modest reflection of how this endeavor continues to develop. It also serves, together with similar facilities created by others, as a forum for its continuation. The workshop that supplements this lecture is an opportunity to become part of the endeavor.

I have introduced the terms landscaping and landscape to bring into perspective elements that have so far received insufficient attention from those who contribute to creating the conditions that promote and facilitate human learning. Harmony, beauty, robustness, diversity, ecological integrity . . . these are some of the concepts that come to mind in contemplating a landscape.

There are always multiple layers in a landscape. That's why revisiting a landscape is never boring. Every time we return, we see it in a different light. We normally see an intermingling of different aspects of multiple sub-landscapes when we appreciate the beauty of the whole.

The instructional landscape is but one of the many layers present in the learning landscape. It is, no doubt, an important sub-landscape. However, as alluded to earlier, the strong focus on instruction in our culture of schooling tends to obscure many of the other layers. This is a concern in two respects. First of all, the instructional reality as we know it can hardly be called a landscape. It is largely the unimaginative result of a brick-and-mortar mentality that reminds one of the worst examples of urban sprawl. One sadly observes the presence of this same mentality in the way in which the learning infrastructure of the Internet is currently being built.

The point I want to make here is a positive one, though. There is important potential in the great advances that have been made over the past decades in the field of instructional design. That potential can be harnessed in interesting ways by changing the perspective of its application. The environment to be designed must be seen as an integrated part of the larger instructional sub-landscape, which, in its turn, must be seen as an integrated component of the learning landscape. The design work itself should become a participatory activity, and the designers should be made "participants of the world they are supposed to influence, rather than mere outside agents" (J. Visser & Y. L. Visser, 2000). Within the same change of perspective, the worlds of learning and activity should be (re)connected (e.g. Jonassen, 2000).

There is a second reason why the predominant focus on instruction should concern us. Of course, the possibility to benefit from deliberate and planned opportunities to learn is a great good that should indeed be available to all around the globe. However, learning by being instructed is only one, and possibly only a minor element among the myriad mutually interacting processes through which our consciousness grows. The important challenge we now face is to rediscover and care for the other sub-landscapes that together compose the learning landscape, and to ensure that they become organically integrated among themselves. The socio-cultural organization landscape is but one of these sub-landscapes. It unfolds out of what is, in most cultures, the fundamental nucleus of organization among human beings, the family. Here the great challenge is, at least in Western society and possibly in other parts of the world, to find new ways, appropriate for our times, to rebuild this infrastructure for mutual care.

Another increasingly important sub-landscape is the media landscape. Our capacity to communicate and be informed has grown, and is still growing, exponentially. Here the challenge is to create the social forces, at interconnected levels, ranging from local to global, that will allow us to rise above ourselves. In his earlier quoted 1954 essay, Heisenberg describes how technology has penetrated the world in such a way that, wherever we go and whatever we do, we always interact with an environment that is largely of our own making. The way the media have developed and penetrated our

spiritual life, it doesn't take long before the ideas we generate come back to us through the media. The positive force we should derive from this daunting reality is to concentrate all our efforts on the development of a meta-consciousness that elevates us above the closed loop of continually feeding ourselves our own ideas.

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