Motor activity [is] a major means of gaining sensory integration...perception merges into movement so that it cannot be said where one ends and the other begins.
—Jean Ayres

Learning is the opening of ourselves to the experience of life. The opening is a motor act; the experience is interaction between sensory and motor happenings. When the experience of movement is integrated into our education, our perception of ourselves and the world changes.
—Bonnie Bainbridge Cohen

**MOVEMENT AND SOUND ARE THE FUNDAMENTAL OF BEING**

Movement and sound—these simple elements of the evolution of creation—Nature¹—are the source of human intelligence, knowing, communication, learning and development, meaning-making, creative artfulness, and all that these spawn in the Nature–human–culture interrelationship.

**HOW IS THIS SO?**

We must move first to perceive our world. This is so, evolutionarily and developmentally, from the micro-life of a single cell to the macro-movements of our whole body. This patterning begins in utero where our first perception to develop is the recognition of movement and sound, resonance, and vibration.

The pervasive movement-sound environment of the womb stimulates the development of our movement-perceptual system—the vestibular of the inner ear. This foundational system is visible in the embryo-fetus at eight weeks; and by five months it is our first fully developed sensory system. The vestibular system orients all experience, through movement, to the gravitational pull of the earth. This is our most primal bonding, more primal than our mother-bonding.²

As well as orienting you and me to the force of weight, the vestibular also orients us to the force of space (proprioception) and the force of time (velocity).

Movement and sound are perceived as one thing—sound is movement, and movement makes sound. From this perspective, movement is a sense perception³; the embryo-fetus must move first to receive sensory stimulation. And this experience in turn begins to build a template of nerve net pathways for the motor-sensory-perceptual experience.⁴ We begin life by learning first through movement.

Developing out of the inner ear system, the first of twelve cranial or head nerves to myelinate is the vestibular-cochlear. Myelination—the building of protective fat along active nerve pathways—happens in...
order of most importance for survival, learning, and development. Movement nerves myelinate even before nerve pathways for touch.

The vestibular-cochlear nerve registers both movement and sound as one perception. This includes movements of the mother’s body and womb, as well as of the fetus’s own body; and tone of sound vibration, as well as tone of muscle and organ-visceral tension, and cellular states. These all contribute to the embodied felt-sense of being. This movement-perceptual orientation patterns the baseline organization and integration of all of our other senses, vision being the last to develop and integrate into the movement-sound-sensory-perceptual template.

The vestibular system is very ancient evolutionarily. It is housed in our earliest brain—the brain stem—where massive motor-sensory-perceptual integration takes place, triggered by movement. It first was evolved by early fish, with their spinal orientation of head, tail, back, and belly, to better orient their moving bodies in gravitational direction, space, speed, and sound. This neat tool is little changed from our fish ancestor’s design. And in utero the vestibular movement-sound basis for organizing and integrating concrete experience becomes a template for the patterning of all later learning and development.

The movement-sound stimulus of the womb triggers the evolutionarily based development of the body-mind of the growing babe. This includes ancient neuro-cellular patterns and primitive reflexes. These support immediate and ongoing pre-natal movement-sound perception and response. Among many other things, they structure movement patterning for the birthing process and the beginning coordination of movement in gravity, space, and time in the three dimensions outside of the womb.

The vestibular system orients all experience, through movement, to the gravitational pull of the earth.


The body-mind neuro-patterning from conception, birthing, and through the first year of life forms a baseline that recapitulates—repeats—in growing complexity and sophistication for the next five years. This movement-sound-based experience of the first six years of life establishes foundational patterns—an alphabet of body-mind forms—that serve us throughout our life span.

These dynamic qualities of experience evoke in the babe a rich dance and song of motor-sensory-perceptual contours of tone, sound shape, intensity, amplitude, duration, variation, tempo, rhythm, cycle, directional force, spacial symmetries, polarities, counter-balances, and more. At five to six months in utero, the babe is able to move with the dynamic qualities of differing phonemes; at six months, with the continuum of music flow. These qualities of experience make for differing values of felt-sense. And these values of felt-sense are our primary ground of meaning making; they are imbued with feeling and emotion. By the seventh month the babe is thought to show purposeful movement. Purpose is the organization of meaning toward a goal.

The newborn enters life outside the womb with the meaningful purpose to communicate. And this quest is mediated and grows through the babe’s movement-sound-based template—the encoded internal alphabet of body-mind forms of experience that match the ever-changing contours of our world, us in it, and our relationship with one another.

**LANGUAGING**

The newborn hears and moves in rhythm to the mother’s voice in the first minutes of life. There are no random movements; every movement of the newborn has meaning, with particular movements being linked to particular sounds.

—Carla Hannaford

It turns out that a newborn infant has a clear expectation of human sense and is active in starting a personal quest for meaningful stories in good company.

—Colwyn Trevarthen

The developing alphabet of body-mind forms can be thought of as cognitive universals. They are encoded prototypes of human and pre-human experience. And they have two parts. One is the concrete biology of motor-sensory-perceptual integration. This builds
internal maps of our experience in space, weight, and time in the three dimensions. The second part is the felt-sense of such experience. Our felt-sense is congruent with our biological experience. The contours of concrete reality have psycho-emotional meanings built in.  

This is our psychobiological reality. The tone and tempo of a loon’s song has a different felt-sense than that of a wood thrush’s song. The weight of lightness with the direction up has a different felt-sense than the weight of strength with the direction down. Try moving these contrasting qualities yourself. And the contour of the vowel sound “o” can be experienced as open and having long duration and even intensity; while the contour for the consonant “t” can be experienced as closed with short duration and sharp intensity.

These all communicate particular feelings and meanings. Psychobiological reality is inherently and immediately communicative. It is contextual. Gestural expression and corresponding meanings are non-arbitrary and embodied. They are non-verbal. This is our first languaging. It is the very dance and song through which a newborn continues to be in communication with our world.

The dance and song—movement and sound—of meaningful stories in good company (mine) is communicated joyfully to me by my eleven-week-old grandson. Tristan gyrates and gastrulates to sounds that he revels whole body-mind up to expound. He seems to get a running start for each voicing that he sings, each with a distinct and differing quality synchronized with his movement. He looks directly at me, he speaks directly to me. The exuberance and beauty of his up to ten-minute performances are his first play of art-making—his first felt-sense organization and expression of what he knows so far about these meaningful stories, these narratives of being.

**ART MAKING**

Intensive analysis of sound films have revealed that human behavior is ordered and rhythmical, at many levels, with respect to both speech and body motion and to personal and interactive behavior. It is this startling rhythmical and participant nature of human communication which suggests that human interaction may be inherently dance-like in form.

—William Condon

It is not usually pointed out that ceremonies are, in fact, comprised of arts—are collections of arts...The similarities between mother-infant interactions and ritual ceremonies are suggestive...Both are performative events composed of operations upon vocal, visual, and kinesic modalities.

—Ellen Dissanayake

[First human art-making] was a kind of play that was specifically targeted and specifically dedicated to exploring and sharing new perceptions...Paleolithic art is that first clear spoor of advancing creativity in the human line.

—Dale Guthrie

The first languaging between infant and mother is a dance and song of body, face, and sound gesturing. It is feeling and emotionally imbued. It is a tightly synchronized exchange—reciprocation—of rhythmic, energetic, and phonetic attunements.

My grandson expresses high-pitched voicing. I spontaneously raise my eyebrows, shoulders, and upper torso with high intensity energy, synchronized with voicing at a slightly lower pitch and slightly shifted intonation. I am not imitating. I am translating sound gesture into movement and energy gestures; and harmonizing and paralleling in sound gesture. I am making resemblances. I am expressing me in our exchange of stories with one another.

My felt-sense of Tristan’s communication integrates into my motor-sensory-perceptual template of encoded body-mind prototypes. This evokes psychobiological meaning-making. This template is multi-sensory in its nerve-net connectedness and meta-sensory in its translating action. My experience is connected and translated across and within sensory modes. What I feel, see, and hear translates into what and how I move and voice.

This is a process of synesthesia—meaning with all senses together. It is the very nature of motor-sensory-perceptual integration, such as when a sound can evoke the perception of a color, or when the seen slope of a hill can be felt and expressed in a movement, or the song of a loon can arouse a visceral emotional tone.

Our motor-sensory-perceptual template of encoded prototypes arises in our body-mind as images. All kinds of images—visceral, moving, feeling, hearing, touching, smelling, tasting, seeing, and more. These internal forms are the ingredients of imagina-
tion, memory, thought, and dreams. For the forms themselves can be enlisted by any sensory-mode for meaning making—an imaginative process. This is the cross-sensory nature of psychobiological reality. For me the sound of a loon’s wail expresses the color indigo and evokes deep voluminous, visceral feelings:

My core resonates
The color of indigo
Tone of a loon’s song

Art making naturally arises out of the foundational communicative patterns of human experience beginning in utero. That is, out of the deep, visceral, embodied movement-sound multi-cross-sensory template of psychobiological prototypes. Foundational communication is at its core the scaffolding for—is—metaphor and analogy. These are processes of knowing and making meaning through resemblances to something already known. I come to know the enchantment of a loon’s song through what I know of the color indigo. I know my grandson’s feeling state by making resemblances with my own body and voicing. This process is the very heart of all embodied communication and is amplified in art making. Meanings are evoked through non-verbal felt-sense of body-emotion and imagination—kinesthetic, empathic, and aesthetic ways of knowing and communicating.

Even at the verbal level in art making—such as poetry—the igniting felt-sense of meaning comes from underlying non-verbal operations. In the above haiku it is the vowel alliteration of the round voluminous "o" sounds, the evoked images of color, resonance, tone, and embodiment that translate meaning. The meaning, as in all authentic art making, is open ended, an improvisation in the moment.

The tone of a loon’s song can evoke the analogue sounds and shapes and contours of felt-sense expressed in human language. We have just seen how this develops biologically and artistically. This understanding is intrinsically related to the primal mythological saying—*In the Time When Animals and Humans Spoke the Same Language.* It is the same language of my grandson’s first art making—narratives danced and sung.

**NATURE**

[W]e are and all living beings are embodied and ecological metaphors. And although metaphor is a relation, not a thing, it is not an ideal-ist or spiritual add-on. Life is metaphor all the way “down” and material all the way “up.”

—Patrick Curry

[Nature’s] prodigy is not identity but resemblance and its universe of reproduction is not assembly line but incessant creation. Because this is so in nature, it is so in metaphor... Resemblance in metaphor is an activity of the imagination; and in metaphor the imagination is life.

—Wallace Stevens

Art—real art—connects artists, and their art, and those who experience their art, to the metaphysical background of the world, to the imaginal world that lies deep within the physical. This is, in part, its ecological function.

—Stephan Harrod Buhner

When we attend to our experience not as intangible minds but as sounding, speaking bodies, we begin to sense that we are heard, even listened to, by the numerous other bodies that surround us.

—David Abram

The internal prototypes of fetus-womb and infant-mother dialogues arose through foundational movement-sound interaction with surrounding place. This is so genetically, evolutionarily, and individually through the unique personhood and unique experience of the fetus-infant. These internal prototypes are designed to match our world and us in relationship with it.

Developmentally, the direct in utero surrounding place can be thought of as primarily Nature. After birth, the direct surrounding place can be thought of as a mix of varying degrees of Nature-culture, with the scale tipping more and more toward cultural-synthetic human designed and engineered artificial worlds. But for 99 percent of human evolution, it can be said that our surrounding place was exclusively of the Natural world, including cultural creations made exclusively with our own hands. The patterns of human communication serving survival and creative play and exploration evolved in direct, embodied intercommunicative relationship with Nature. This is a reciprocal, intersubjective patterning beginning from the micro-life of a single cell to the macro-movement of whole bodies:
For hunting and gathering peoples knowing the
animal cues, tracks, habits; meanings of cries, calls,
and soundings; patterns of movements, habitat, local
and seasonal migrations; growth cycles; plant char-
acter and properties; patterns and character of land-
scape, waterscape, and weather, were all a matter of
immersion in the immediate language of Nature.

We know of contemporary indigenous languages
that actively demonstrate intimate entwinning with the
language of Nature.\(^{24}\) Such languages incorporate
the utterances, sounds, and phrases of animals and
birds. They include the gestures and sounds of land
and waterscape, plants, and weather patterns. This
includes onomatopoeic soundings—that is, names,
phrases, and meanings that resemble the very sound-
ings of birds, animals, elements, and weather that they
are naming. This Nature-entwined language is part
of a complex order of analogical and metaphorical in-
terrelationships.

Nature is languaging—narratives of inter-being.
Human culture arose from this languaging. As with
Paleolithic peoples, contemporary indigenous Na-
ture-culture relationships are aesthetically imbued.
Analogical and metaphorical interrelationships of
Nature and culture incorporate vast ecological, so-
cial, and spiritual orderings. They integrate poetics of
myth, dance, song, art, ritual, and ceremonial perfor-
mance with ecological knowledge, ethics, and practice,
with social sentiment, taboo, and morality, and with
spiritual depth, meaning, and cosmology. The natural
landscape itself speaks and is spoken with—movement
and sound—In the Time When Animals and Humans
Spoke the Same Language. An enchantment.

WHY IS ALL THIS SO IMPORTANT?

Enchantment will survive. Like the Earth—the
ultimate source of enchantment, I believe—it
does not need us but we need it; so it will con-
tinue to animate, unpredictably and uncon-
trollably, our relationships with each other,
with other animals, with nonhuman nature,
with places, with art and artefacts...

—Patrick Curry

Francis Bacon (1561–1626), like Galileo, was
one of the most important progenitors of the
scientific revolution. He called for scientific
researchers to “bind” and constrain nature using
mechanical inventions so that she “could

"Psychobiological reality is inherently and immedi-
ately communicative."
be forced out of her natural state and squeezed and molded”, and thereby “tortured” into revealing her secrets.
—Stephen Harding

Detached imagination is what is usually studied in empirical moral psychology, what Western schooling emphasizes, and what undergraduates in childhood encourages.
—Darcia Narvaez

**ENCHANTMENT**

To be in an enchantment is to perceive an interplay of hidden and implicate meanings of movements and sounds of place. The Latin root—*incantare*—means to be immersed inside song (*cantare*) or chant or incantation; to sing up and to be sung up, to awaken and be awakened by presence of place—place’s singing. To be in an enchantment is to be in a reciprocal dance and song with an animate, communicating Natural world—an embodied encounter.

Embodied immersion evokes, is the interplay of, non-verbal languaging—the immediacy of kinesthetic-empathic-aesthetic awareness and dialogue. These are fundamental to experiencing our Kinship with all of creation. Even at the resonant atomic level, animate gestures of dynamic quality can be encountered—such as the even-blending-reliable gestural qualities of carbon, or the fickle-airy-illusiveness of hydrogen, or the ardent-catabolic-ravenousness of oxygen.

Embodied human psychobiology is rooted in evolution from the single cell to fish to amphibian to reptile to the mammalian characteristics of nurturing, play, and emotional value of felt-sense of experience, to the human character of these embodied narratives. Denial of this evolutionary linage fertilizes a disembodied perceptual world view. Within this world view enchantment is not possible.

Disembodiment as the philosophical, scientific, and political singular means for knowing what is real and valid arose in the seventeenth century under the guise of “enlightenment.” This meant that the theorizing detached mind, and not the experiencing immersed body, became the mediator for valid knowing, and from that came established, institutionalized, universal truths.

One institutionalized truth of the theorizing detached mind is anthropocentricism—that in all of creation, human orientations are the central measure of all things, all truth, and all values. Who and what that are other-than-human are devoid all human capacities, such as consciousness and the animate intelligence of feeling, languaging, expression, awareness of death, and so on.

Having any kind of felt-sense, intersubjective languaging with other-than-human beings is labeled *anthropomorphizing*—falsely projecting human characteristics and consciousness onto what is claimed to be mechanical, inert, non-sentient, inanimate, non-responsive constituents of the Natural world. This dis-enchantment of world underlies modern exploitation and the non-reciprocation rule—to take more value than value given in exchange. This leads, among other things, to corporate-driven devastation of Nature and indigenous ways of life, the sado-dispassion28 of scientific animal experimentation, and the disidentification of the super wealthy from the meanings of immersed, grass roots, social and community praxis.

Coming from the perspective of disembodiment, a pathway can be traced from the beginning movement-sound seed in utero to the issue of modern ethical consciousness. In utero the movement-sound evocation of animation and communication begins to pattern a fetus-being suited for empathic interrelationships—part of kinesthetic-empathic-aesthetic (K-E-A) grounding. But this natural patterning can be altered and/or disrupted by practices in a theory-driven, disembodied cultural milieu—toxic womb, electromagnetic field and ultra-sound interference in DNA and cellular formations, non-rhythmical confinement of mother’s movements, induced labor, and routine cesarian section, for example.

A pathway can be traced from the beginning movement-sound seed in utero to the issue of modern ethical consciousness.

Infant-parent relations, as well, can be fraught with theory about child rearing rather than wisdom about the age-old natural ways of empathic communication. This wisdom includes long-term nurturing needs for immediate and ongoing movement, touch, closeness, non-verbal languaging, breastfeeding cued to the infant’s rhythms, and more—or what in part is now being referred to as the fourth trimester by young people with a wisdom-oriented commitment to what we know about the 99 percent of human evolutionary needs for sensitivity to infancy and child rearing.

Virtually all human evolutionary nurturing needs
can be understood as the “evolutionary developmental niche” (EDN), as it is termed by some in developmental psychology-neurobiology. Our evolutionary nurturing practices of Paleolithic and indigenous cultures allow for the development of embodiment, empathy, and ways of imagining that foster care for people, community, and cultural life ways that are inherently moral and ethical and inherently capable of attunements with Nature, therefore fostering a grounded ecological ethic.

The loss of EDN nurturing practices and understandings are directly linked to patterns of emotional insecurity and therefore self-defensiveness and narrowing of outlook; undermining of relational empathy and social openness; and promotion of detachment in body-emotion-imagining. Disembodiment is directly related to cultural norms that foster self-centeredness and self-aggrandizement as a result of suffering isolation and alienation in early childhood—a disconnectedness from others and Nature.

On the verge of massive extinctions in ecology, our remaining indigenous languages and cultures, human civil rights, and grassroots democracy, understanding the primacy of embodiment is more than an interesting idea; it is imperative. Embodiment—sourced in movement and sound beginning in utero, the grounding for the first six years of life and on through adolescence—is the critical ingredient for the regeneration of enchantment and all that that implies.

US, SCHOOLING, AND THE RE-ENCHANTMENT OF LEARNING

The potential of the humanities for an ecological and ecocentric apprehension of nature as living, wild subject is thus inversely mirrored by technoscience’s drive to turn it into something inanimate, bounded and inert.

—Patrick Curry

Learning the tertiary languages we have hitherto regarded as of primary or basic importance, the “three r’s”, depends on the skill with which we use the expressive arts of interpersonal movement within rhythms . . . to give reality to the perceptual and cognitive skills that hitherto we have assumed were the basics.

—Eliot Chapple

SCHOOLING

I am reading through a recently published book written for children, say from ages eight to fourteen. The book is teaching about writing poetry. With an unconventional format and varied font that seem to want to stimulate sensory experience in the moment, the book is basically a set of definitions, rules, examples, and exercises. In reading I am repeatedly disenchanted. The book is primarily coming from a theoretical perspective on poetry. What this perspective does is displace poetry conjuring from the embodied languaging that is spontaneous to being human; and from what children, given the opportunity, will openly create without instruction. It also displaces the making of poetry from an immediate, natural, and valid child expression to something that is the province of famous adults—the poets whose poetry is given as examples. Poetry making is intrinsic to us all. It comes from that psychobiological languaging arising from our deep movement-sound template of cross-sensory perceptual being in the world. We are “embodied and ecological metaphors,” each and every one. Schooling oversteps this fundamental.

Theory is an activity of the abstracting and disembodied mind.

The field of education has for some time now figured in the neurobiology of the differing hemispheric functions of our brain in learning and development—the right and the left. More recently the clarification of the two hemispheric processes is one of world view rather than specific, functional tasks and traits. The differences in world view have to do with embodiment and theory.

Embodiment is living experience. It is the moment-to-moment, motor-sensory-perceptual, psychobiological reality in which we are immersed. Embodiment is immediately communicative and functions largely through implicit knowing and the non-verbal. This knowing is founded in the deep underlying movement-sound template that begins forming in utero. From this arises our deep emotional and metaphorical ways of being attuned with primary caregivers and social others and with the Natural world. Embodied processes are mediated through the world view of the right hemisphere of the brain. The right hemisphere processes the unfolding moment and therefore includes our relationship with the unknown, the undefined, the ambiguous, the elusive, and with open-ended, contextual meanings. Creatively, this is the deep domain from whence the Muse arises.
The coherence of the brain is determined by the coherence of the heart.
—Carla Hannaford

Coherence is synchrony of wave patterns—frequencies—within and between systems. We are immersed in wave frequencies from our cellular states to our heart and brain wave patterns, to the relational, movement-sound-shared central nervous system oscillations between infant and mother, to the electro-magnetic frequencies of Nature.

Our body’s cellular frequencies seek to entrain with the sound frequency of the planet Earth—the Schumann Resonance. From our cellular resonant grounding with the Earth, to our vestibular-gravitational stimulation of movement-sound based, motor-sensory-perceptual-integration, to our heart and brain wave frequencies, coherence within and between systems organizes health, communicative relationship, learning, and development.

Our heart is considered to be a brain within itself—electro- and bio-chemically, and hormonally. Our heart continually monitors our grounding with Earth, our internal and external states, and our emotional feelings of love and safety. These influence heart coherence. And in turn the coherence of our heart dictates the quality of integrative coherence in our brain by sending messages via the vagus nerve through to the brain’s emotional centers. Earth-vestibular-heart-brain synchrony sets the quality for the human dance and song—the K-E-A—of our movement-sound template, infant-mother communication, our kinship with nature, and our moral and ethical empathy. Our psychobiological reality is a coherence of life flow, an analogical continuum of interactional synchronicities within rhythms.

Theory is an activity of the abstracting and disembodied mind. It is a system of ideas seeking to explain and organize something independent of a living context. The practice of theory isolates and reduces the play of reality to smaller bits and pieces to be put together like a puzzle and acted upon from an detached stance that channels for a predictable outcome. This is the province of the left-hemisphere world view. The left hemisphere is reductionist in that its scope is confined to what is already known from past experience, what is explicit. It likes to consciously control and specifically define, to make certain, to list facts and categories, and to make dry and dead and therefore manageable the otherwise wild, ever-flowing, shape-shifting, and seemingly untrustworthy domain of the living, never-fully-knowable present.

The left hemisphere has a necessary place in evolution and in the development of human intelligence. But since it only takes into consideration bits and pieces of the already known, its world view is not designed to be the lead in human endeavors. This is the mistake of the disenchantment of learning in our educational politics. Left-hemisphere schooling is a top-down, teacher-centered, intellectual, thinking, and skills-based endeavor. It oversteps the primary ground of kinesthetic-empathic-aesthetic (K-E-A) immersion in the contextual metaphorical and analogical flow of interrelationships.

Dance and music are the ancient and ever-present sources of insight into these present attempts to understand the role of rhythm and temporal regularity in social behavior.
—Martha Davis

The dance and song of infant-mother communication is a multi-rhythmic flow of attunements and entrainments. This is a life flow that rides on oscillating nerve impulses. This primary cross-sensory flow is metaphorical and analogical, a continuum based in life rhythms expressed in resonate and coherent oscillations of our central nervous system. Interactional movement-sound rhythms happen within and between the body, heart, and brain of babe and mom, at micro- and macro-levels. This agile play of synchrony and alteration is an evolutionary template that characterizes mammalian and human social belonging and cooperation, from patterns of emotional intimacy to the capacity for moral and ethical empathy.
serve the analogue vitality flow of interactional synchronicities that is communication, meaning making, and learning.

There is much in modern industrial-technological culture to disturb this analogue of vitality flow. Incoherence—disharmonious, chaotic wave forms—can be triggered throughout the body-heart-mind unity, from environmental toxins to the incoherent frequencies released from fluorescent lights, TV, and computers, to prolonged feelings of threat and a lack of safety. For developing children, key threats are conditions that do not meet deep psychobiological needs for embodied physical, emotional, and imaginative relationship and play. Children’s nervous systems are hyper-cued to the incoming signals for rich, resonant, motor-sensory-perceptual, interactional synchronicities within rhythms. Digital culture is a primal level threat to this because it interrupts the analogical life flow and communication processes at deep psychobiological levels.

Digital is non-flow. It is non-motor-sensory-perceptual. It is non-psychobiological. It is non-reciprocal-relational. It cannot make lived, interactional synchronicities. Digital is not an analogue of vitality flow. It makes “communication” by stringing together discrete, bit by bit, non-contextual, arbitrary items to replicate a lived continuum. Suited to our left-hemisphere dominate culture and educational system, digital technology perpetuates the control of immediate living experience by substituting mercenary position-holders, absent of intrinsic contextual relationship. Our body’s heart and mind at deep, implicit levels fully detect this sensory poverty and loss. This is most acutely true for our children.

THE RE-ENCHANTMENT OF LEARNING

If it should turn out that music leads to language, rather than language leads to music, it helps us understand for the first time that the otherwise baffling historical fact that poetry evolved before prose...In fact early poetry was sung: so the evolution of literacy skills progresses...from right-hemisphere music (words that are sung), to right–hemisphere language (the metaphorical language of poetry), to left-hemisphere language (the referential language of prose).

—Iain McGilchrist

We have good reason to believe that human intelligence evolved in direct contact with animals, landscapes, wetlands, deserts, forests, night skies, seas, and rivers.

—David Orr

The fecund imagination and individual ingenuity that show through in Paleolithic art forcefully point to an upbringing that encouraged creativity.

—Dale Guthrie

The seeds of Enchantment begin in utero with the deep movement-sound template underlying embodied, psychobiological being in the world. As we have traced, this primary ground serves human languaging and meaning making, relational attunement and communication, and care and nurturing. These patterns lay the ground for the potential for learning and development, empathy and embodied imagination. And these in turn form our capacity for moral and ethical connection with one another and with Nature.

The movement-sound template and developmental continuum are a part of our mammalian evolution and have roots in immersion within Nature. The re-enchantment of learning is to bring us back to this encounter and to allow the primal art of embodied languaging to be re-lived—when animals and humans spoke the same language. Our left-hemisphere world view has discredited this primal languaging and intelligence in Nature and, therefore, since we are kin of Nature, in ourselves. The primal art of embodied languaging is precursor to the three Rs—reading, writing, and arithmetic. This primal art is our kinesthetic-empathic-aesthetic ways of communicating engendered through relationship with Nature. This engendering is pre-human in its encoding. It is of a deep evolutionary lineage.

In our emersion with the Natural world, what we find is that a very different state of central nervous system frequencies and rhythms comes into play. These frequencies are in sharp contrast to the largely incoherent wave frequencies of our daily lives to which we are habituated. The shift in resonant field is palpable. Right-hemisphere connection with deep body-feeling and knowing is engaged. This is a practice in perceptual opening and of presence, a practice of K-E-A languaging. Can you feel your cells attune with the Earth’s Schuman Resonance? Can you feel yourself known by your surround?

We cannot go back to Paleolithic times when Wild
Nature was All. Where all our makings, all by our own hands—our technologies of food and clothing, hunting and gathering, shelter, tool, and artifact—came from encounter with animate Nature. That is awe-inspiring, considering that we humans could be food for the more-than-human world as much as the more-than-human-world is sustenance for us. That is a very delicate path to tread, and this encounter required an ethic of reciprocation, a consciousness of being given and giving in return—the altruism of the gift. For our more-than-human kin are not scientific subjects or industrial resources or corporate exploits—commodities. They are animate beings of intrinsic value in their own right.

Our encounters and makings—our humanizing of Nature—and our accompanying ethics are imbued within metaphorical inter-relationships. They are aesthetically organized—what we now call art. “Art” was not in the deep past—and should not be now—understood as an identified, separate activity. Art is the very weave through which our relationships of all kinds were ecologically interconnected—art as movement and sound, dance and song, as language, as ritual, as ceremony, as technology. That is, true art—art for life’s sake.

The re-enchantment of learning begins with the decision to return to Nature as embodied intelligence and languaging. Re-enchantment requires an open perceptual awareness and practice of immersion through K-E-A ways of knowing and communicating. Re-enchantment recognizes that the arts are the first language in which to participate and organize what is being learned, within a spirit of reciprocation. Re-enchantment requires the primacy of embodied inter-relationship, beginning in utero, to the evolutionary developmental niche of nurturing and care, the aesthetics of human communication, the creative ingenuity and imaginative artistry of our children, and the human-ecological moral and ethical consciousness that embodiment affords.

Digital culture is a primal level threat...because it interrupts the analogical life flow and communication processes at deep psychobiological levels.

We cannot go back to Paleolithic life-ways, but we can practice the how of human primal perceptual intelligence and the art of embodied languaging as the basis for learning and development. This intelligence is first and foremost relational and creative, open ended, improvisational, place-based, and of in-the-moment ingenuity. It recognizes that the pre-fabricated imaging of TV and virtual-digital technologies interferes with embodied imagination. Its structure is of a community of exploring developing kids/people, inventing their skill base on an as-needed basis. Skills are not top-down imposed acontextually, but rather arise from the lead of the engaged children in their own explorative process. Relationship with Nature is paramount, as is art making—art as mediator and as expression of inter-relationship and encounter.

This way of practicing “education” is very different from the abstract thinking and skills-based teaching and learning of the left-hemisphere orientation in conventional schooling. But the important thing is to know and understand the difference between the two hemispheric world views and their implications. The left-hemispheric world view has its place in human learning and development, but not as Master. The left is designed as servant to the deep, contextual, embodied, living relational motivations of the right-hemisphere process. The mode of operation of primal human intelligence is relational perceptual metaphor—an open-ended, improvisational, ever-unfolding attunement with the mystery of life-giving Nature—the Enchantment.

What do you envision for this re-enchantment of learning?

Rebecca R. Burrill, Ed.D is a movement-based educator and dancer who seeks to renew human engagement with the primary creative intelligences of movement, sound, feeling, imagination, and ecological conscious and their natural healing capacities. Her website is http://horsechestnutwinds.com/.

NOTES
1 My impetus to capitalize the printed word “Nature” is not a theoretical one. I am viscerally uncomfortable when I read Nature uncapitalized. Given Nature’s diminished and objectified status in modern/post-modern times—even though, in reality, we are immersed in and embodied by Nature—it seems an important action to change the status quo and bring the printed word Nature into a larger encompassing presence. This is something capitalizing can do, especially since it can perceptually upset the status quo each time it is read capitalized—a wakeup call. Although some might argue that capitalization might suggest a kind of singularity or monism, this is not my intent with capitalizing Nature, since an essential quality of Nature is multiplicity.
5 Bainbridge-Cohen et al., Sensing, Feeling, and Action.
6 Ayres, Sensory Integration and Learning Disorders.
7 Hannaford, Smart Moves.
11 Hannaford, Smart Moves, 42.
18 Dissanayake, Homo Aestheticus.
20 Abram, The Spell of the Sensuous.
21 Dissanayake, Homo Aestheticus.
23 Dissanayake, Homo Aestheticus, 171.
31 Ibid., pp. 258, 261, 264, and 268.
33 J. Fandel, Metaphors, Similes, and Other Word Pictures (Mankato, MN: Creative Education, 2006).
37 Ibid.
38 Ibid.
41 Hannaford, Awakening the Child Heart, 91-92.
43 Hannaford, Awakening the Child Heart, 49.
45 Hannaford, Awakening the Child Heart, 5.
47 Stern, Forms of Vitality, 25.
49 Buzzell, The Children of Cyclops.
50 McGilchrist, The Master and His Emissary.