

***CURVES: THE CREATIVE ABODE OF  
VIBRANT SCIENCE\****

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**ABSTRACT**

To have a better understanding of helping the self and self care, a better understanding of our culturally situated knowledge of science is proposed and elaborated upon. Not only is science a culturally situated knowledge and rule-governed form of story-telling, where “facts” are actually “artifacts,” it is also a re-presentation of all of the more or less developed human perceptive and epistemic practices—sensory body-knowing, story-telling/singing, valuing, imaging, conceptualizing, and theorizing—the habits of mind of each, particular scientist. Conventional Western habits of mind, especially, are reductionist, compartmentalized, and frozen by beliefs—all of which pollute clarity. Science will be coherent and vibrantly whole when the perceptions of more scientists become unfettered by false assumptions such as: the universe is made of matter, life forms are machines made out of matter, evolution is based on competition rather than cooperation, and scientific research is best guided by patriarchal politics and economics. When accurately perceived, science will be more consonant with a poetry that is ultimately beyond what theories can portray. Beginning with a democratic model of the heart—the heart as anatomy as well as the core of

\*Revision of: *TOWARDS AN ECOLOGY OF KNOWING: Knowing-Through-the-Heart, Root Epistemologies, and Imagination*, presented at the Second Feminist Epistemologies, Methodologies, Metaphysics, and Science Studies Conference, “Knowledge That Matters,” Arizona State University, February 2007.

consciousness—this article embraces some new and emerging methodologies, which uncover how scientists create themselves and their sciences. It presents an ecology of knowing and being that is life-centered, dynamic, and grounded in the human body and its inner techniques: knowing-through-the-heart, root epistemologies, and imagination.

## INTRODUCTION

Conventional physics, chemistry, and biology believe in matter—atoms and molecules—as the “building blocks” of everything, that life forms are machines made out of matter and can be described by mechanical statistics derived from the behavior of gases in a closed container, that evolution is based on competition rather than cooperation, and that DNA controls life. The new physics, chemistry, and biology are fundamentally quantum—underneath the apparent physical solidness there is nothing other than energy, and living systems are coherent (organized as a whole), dynamic, and not controlled by DNA [1]! Conventional biological sciences, for example, are fettered by the belief that organisms have to be killed in order to be studied and so have a long tradition of fixing, pinning, pulping, homogenizing, extracting, and fractionating—which gave rise to and reinforced the misperceptions [2] of a static and atomistic view of organisms. Scientists rarely observed *living* systems. With the use of more sensitive and precise techniques, however, they can now analyze without destroying and can begin to observe and appreciate the coherent and very cooperative character of living processes as Mae-Wan Ho has accomplished [1]:

. . . [B]ased on empirical findings from our own laboratory, as well as from laboratories around the world . . . the most suggestive evidence for the co-herece of the organism is our discovery, in 1992, that all living organisms are liquid crystalline.

In the breathtaking color images we generated, one can see that the activities of the organism are fully coordinated in a continuum from the macroscopic to the molecular. The organism is coherent beyond our wildest dreams. Every part is in communication with every other part through a dynamic, tunable, responsive, liquid crystalline medium that pervades the whole body, from organs and tissues to the interior of every cell. Liquid crystallinity gives organisms their characteristic flexibility, exquisite sensitivity and responsiveness, thus optimizing the rapid intercommunication that enables the organism to function as a coherent whole.

The visible body just happens to be where the wave function of the organism is most dense. Invisible quantum waves are spreading out from each of us and permeating into all other organisms. At the same time, each of us has the waves of every other organism entangled within our own makeup. . . . We are participants in the creation drama that is constantly unfolding. We are constantly co-creating and re-creating ourselves and other organisms in the universe, shaping our common futures, making our dreams come true, and realizing our potentials and ideals [3].

Furthermore, the structural alignment of liquid crystals is easily affected by electromagnetic energies/fields. The electromagnetic spectrum ranges from wavelengths of  $10^{-14}$  m at one extreme to  $10^8$  m at the other, spanning a range of  $10^{22}$ . In terms of doublings,  $10^{22} = 2^{73}$ , or 73 octaves. This is the range of nature's music, of which we are a part, and to which we can tune into. A human being's own subtle and exquisite music is less than nature's range but still enormous:  $10^{-7}$  m to  $10^8$  m [4]. These electromagnetic energy systems/fields, from the atomic to the galactic level, are toroid in shape, and are a very stable form for energy—once generated and set in motion, they tend to self-perpetuate [5]. These fields can be identified by their frequencies (oscillations per second), and stand in simple whole-number ratios to each other, e.g., the Golden Mean, *phi*, and other sacred geometric ratios and proportions; that is, harmonics [6].

Our solar system is toroid in shape and function. Fluctuations in the energy fields of the sun produce disturbances in the corresponding magnetic lines of earth, such as those that result in the aurora borealis, or northern lights. Earth's magnetic field is a torus, with lines of force arcing out and around the globe. And the electromagnetic fields of the human heart are also toroid. Thus, we live in a nested hierarchy of toroidal curving energy systems that are holographic as well—any point within the torus can access the information of the whole field: “One implication of this is that each of us centered within our heart torus is as much the center of the universe as any other creature or point, with equal access to all that exists” [7].

Images, such as computer projection of the heart's tori (Figure 1) [8]; and magnified views of energy, cardiac bioelectric fields, arcing out from a living heart (Figure 2) [9].

## KNOWING-THROUGH-THE-HEART

### Organic Living Currents

The heart has major influences on the self care and self help of human beings. What determines a human life is the beating of a human heart. And the heart is so much more than a pump—recent research has uncovered the following facts: that the heart has an intelligence system all its own, which communicates constantly with brain and body by means of neural pathways and neurotransmitters, biochemically with hormones, with pressure waves, and electromagnetically [10]:

- Neurons comprise 60-65% of the heart, and this nervous system and nerve ganglia process information and send it to the neocortex. Many more nerve ganglia extend from the heart to the neocortex, rather than the other way around.
- The heart is a hormonal gland producing its own neurotransmitters—dopamine, epinephrine, norepinephrine, the catecholamines—which affect the kidneys, adrenal glands, and circulatory system as well as neocortex.

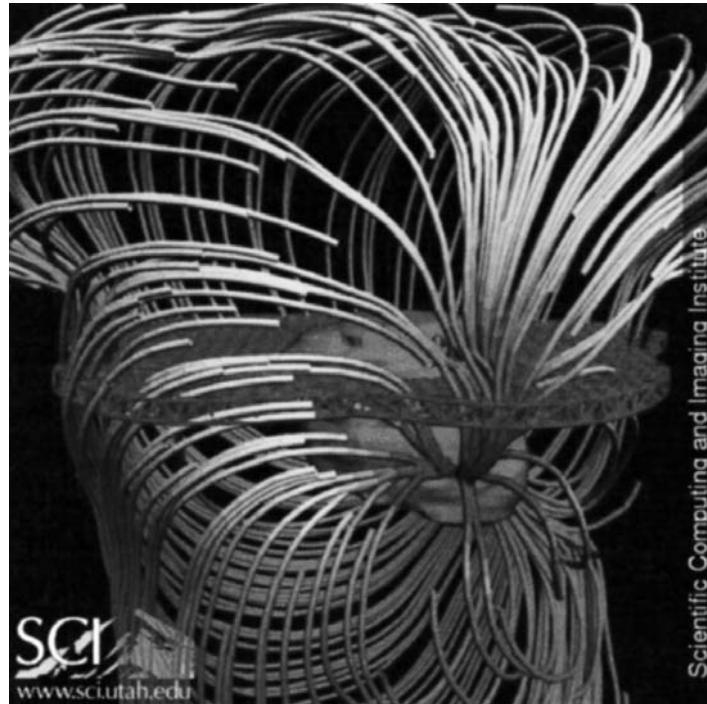


Figure 1. A computer projection of the heart's tori, courtesy of the Institute of HeartMatch. (Source: [7, 8])

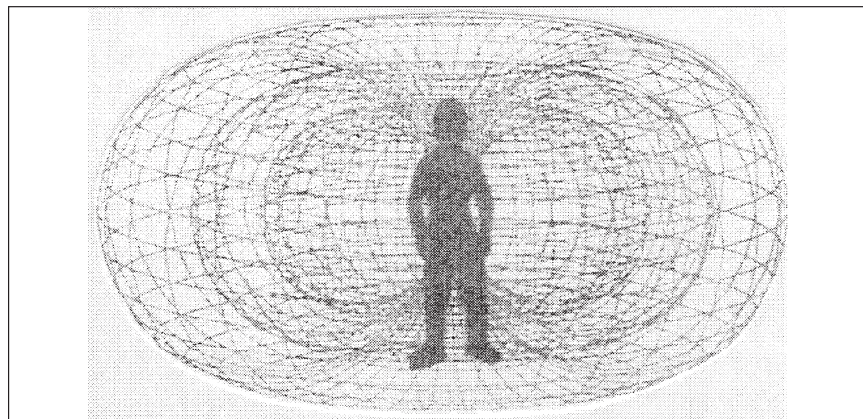


Figure 2. A magnified view of the actual energy arcing out from a living heart, made at the University of Utah using a magnetic imaging device. (Source: [7, 8])

- The heart generates 45-60 times more amplitude electrically than our brains, and this electrical “field” responds to emotions.
- Electricity emanating from the heart of person A can be detected and measured in the brain waves of persons near or touching person A [11].
- Cellular memory resides in heart cells, as has been demonstrated in transplant cases.
- DNA can be altered in the hands of a person practicing heart-head “entrainment” [12] (also known as yoga, or meditation).
- The heart’s EM fields are directly involved in intuitive perception [13].

### Curving Creatress

If there is going to be effective self help and self care, there needs to be communication on the vibrational and other non-local levels. While a good deal of conventional scientific opinion still asserts that all biological communication within individuals, between individuals, and between people and their environment occurs only at the chemical/molecular level through the key-lock action of neuro-chemicals, more and more research is demonstrating that this communication is vibrational and resonant, and has atomic and quantum levels of action that are non-local and non-temporal. Even so, most physicists still consider this energy to be “dumb” (i.e., randomly, eventually, evolving into the universe and life as it is); Kundalini (“coiled Creatress,” “human ultimacy in potentia”) Yoga demonstrates this energy to be intelligent, creative/participatory, maturing, and coiled, i.e., a toroid:

Gratitude, (praise), forgiveness, apology, faith, hope, awe, humility (persevering non-omnipotence), reverence, ecstasy, hellish dread, compassionate love, and longing comprise the terminology of core sentiments common to numerous spiritual traditions. Consider these words as pointing toward flickering feeling-traces which might reliably guide our possible development as embodied souls toward some ultimate maturation. Consider the terms as pointing to sentiment-radiances that issue throughout the body as efflux from the soul: “And to imagine a language means to imagine a form of life” [14].

In *yogic* psychology, these spiritual sentiments are found in the *yamas* (regulations) of *ahimsa* (nonharming love), *satya* (honesty; idealistic truth), *asteya* (respectful nontaking), and the *niyamas* (cultivations) of *kshama* (forgiveness), *daya* (compassion), *santosha* (contented optimism), *astikya* (faithful optimism), *hri* (apologetic contrition), and in the Buddhist psychology as meditatively discerned *anicca* (poignant impermanence) and yogic emotionalities of *bhakti* (devotional longing). These sentiments are also found in the Judeo-Christian tradition as *soteriology*; forgiveness, faith, and gratitude as a spiritual or redemptive path. Here, “redemption” is the moment-to-moment, ever-truing of development—as guided by these radiances, sentiments, or words—toward ultimate maturational possibilities: toward eternal impermanence lived as such.

Here powers of forbearance and compassion can heal the psychological effects of abuse or strife through forgiveness of self or the other with only fleeting vengeful angers, grievings, or victim identifications. By forgiving, we become forgiving. Our glands secrete soteriological chemistries into the poignant fires of compassion, forbearance, and forgiveness, and this emotional alchemy matures us. Little by little, embodied character—not mere ego—development is fostered. Thus, according to Kundalini yoga, the embodied soul is the foundation of this path—this path of felt time passage, called “a lifetime” [15].

## ROOT EPISTEMOLOGIES

### Neuroscience and Bio-Cultures

The Biocultural Paradigm [16] reveals the origins of human perceptual [17] and epistemic frameworks, and demonstrates that there are distinctly different epistemologies of/for: theorizing (logos); linear thinking and conceptualizing (left-brain mimetic); holistic imaging, visual arts (right-brain mimetic); storying, relating, nurturing, caring, music (mythos); bodies sensing and moving (maia); intuition, subtle and causal metaphysics (mature mythos).

In addition to the heart, prefrontal lobes, and cerebellum, we have five brains/centers of intelligence [18]” the reptilian, including the amygdala—which stores the conditioning received while in our mother’s womb and all our fears, as well as the memories of life until age three (to which we have no access until our own memories appear as ours with the development of the hippocampus); the limbic, which includes affection, emotions, and direct connections to the heart (these two primary brains function only as vibrations, i.e., “unfilled” geometries of wave-fields, which become filled with movement and sound); the right hemisphere of the neocortex, which fills the vibrations/geometries of reptilian and limbic brains with light/color and transforms them into three-dimensional visual objects; the left hemisphere, which is constantly looking at the images of the right brain and translates them *selectively* into conceptual thought and symbolic language that it creates by a logic of its own in order to make this language social AND to control what it does not understand of the right brain’s activity; and finally, the “interpreter module,” which has the capacity not only to invent beliefs and talk about them *ad nauseum* without any corroborative support (from our other brains/centers of intelligence and knowledge production) but also to act on them [19]! Three examples of the interpreter module’s activity are below:

Previews for the movie *StarTrek: First Contact* said, “Imagine a race of beings possessed of one mind, driven by one will, and intent on one purpose—to seize our past and control our future [20]!

In *The chuetrain manifesto, the end of business as usual*, there are many references to typical corporate management phrases like “extended enterprise client server,” which the authors call TechnoLatin, “a vocabulary of vague,



but precise-sounding words that work like the blank tiles in Scrabble: you can use them anywhere, but they have no value [21].

In a much-quoted 2004 *New York Times* article, journalist Ron Suskind described a 2002 conversation with a senior Bush advisor, wherein the aide said that the new world of empire doesn't work the way "the reality-based community" believes it does—where solutions emerge from a judicious study of discernible reality. "We're an empire now," said the aide, "and when we act, we create our own reality. And while you're studying that reality—judiciously, as you will—we'll act again, creating other new realities, which you can study too, and that's how things will sort out. We're history's actors . . . and you, all of you, will be left to study what we do." And despite the many facts that have thoroughly discredited this conception of how reality works, the neo-cons continue to act this way, with little self-correction [22].

Through mutual interaction biology in humans becomes culture and culture exercises and stimulates the neural passages in humans, thus accounting for multiple brains and cultural diversity: culture conditions and stimulates biology, while biology conditions and makes cultures possible. Cultures and brains may be distinguished from one another through identification with specific functions or combination of functions that are exercised habitually, becoming neurally "hard-wired" through repetition. The human species has bioculturally acted upon itself and its environment [23]. Our brains evolved according to need, or exercise, building themselves as neural pathways and brain centers and as external realities or cultures for the humans who used them. Thus, we know of cultures that are maia types because the brain serving as "pilot" was primarily the reptilian, as in the child after birth; or mythos types, because these cultures developed primarily the limbic brain, as in children between the ages of 1 to 11; or right brain mimetic, because these cultures acted on the "language" of images of the right hemisphere, as in children between the age of 4 to 15; or left brain mimetic, because these cultures acted primarily from the left hemisphere, as in children from the age of seven on; or logos types, those whose experiences are imageless, experts in the invention of substitution systems but unable to deal with any of the other forms of knowledge coming from the right hemisphere.

These biocultural types are invariant in the sense that they represent individual and social possibilities of human realities and development [24]. And, if our brains are not properly exercised, they do not develop in full [25]; or, if one brain and its way of knowing is socially sanctioned as more important than the others, then cultural imperialism—as well as individual loss—may follow. Imperialism at its worst may be the result of arrested development in the individual or in the culture.

Examples of such cultures are many: Early Hinduism in the *Rg Veda* is primarily a maia type of bioculture, as are the ancient and current living cultures (some are maia-mythos) of matriarchal societies of peace: Mosuo, China;

Table 1. Brain Center, Primary Sense, Form of Knowledge, and Bioculture [27]

Brain center	Primary sense	Form of knowledge	Bioculture
Reptilian— amygdala	Kinesthesia Olfactory	Memory of “body states” Control of autonomic functions	MAIA
Limbic	Auditory Visual (geometric)	Working memory Discrimination of rhythm, pitch, volume, and melody Visual/spacial acuity	MYTHOS
Neocortex— Right hemisphere	Visual- imagistic	Scanning, screening, depth, and distance acuity Color discrimination 3D spacial perception	RIGHT BRAIN MIMETIC
Neocortex— Left hemisphere	Conceptual- visual	Comprehension of “objectivity,” “universals,” values based ideals, morality Conceptual differentiation Theory making	LEFT BRAIN MIMETIC*
Neocortex— Interpreter module (inside the left hemisphere)	A-sensory Digital	Digital— kinesthesia + visual/ conceptual	LOGOS*
Prefrontal lobes Heart	Empathy— (working memory + group homeostasis)	Heart intelligence Intuition	MATURE MYTHOS*

\*Secondary biocultures (adult only).

Minangkabau, Indonesia; Andaman Islanders, Indian Ocean; Igbo, Nigeria; Tauregs, Sahara Desert; Berbers, North Africa; Seneca, Okanagan, and Iroquois, North America; Kuna peoples, Caribbean Islands; Juchitan, Southern Mexico; Polynesians, Pacific Ocean; Samoans, New Zealand; Vanatinai Islanders, New Guinea [26]. India’s culture around the time of the Bhagavad Gita (circa



Table 2. Bioculture, Text, and Technology

Bioculture	Primary text	Primary technology	Secondary text	Secondary technology
LBM	Left brain	Sight	Language of substances (e.g., English and its sentences, grammar, syntax)	Reading for information
Mythos	Limbic	Sound	Language of perspectives (e.g., musical tuning systems)	Actions to be performed (e.g., the original Greek gymnasium—tuning the body to the soul, which results in a radiantly beautiful body.

600 B.C.E.) was a mythos type, while most Buddhist cultures are right brain mimetic. Christian cultures are mostly left brain mimetic, and modern cultures of science are primarily logos types. Understanding these different biocultural types is necessary for interpreting their mythologies correctly, and also explains the difficulties in translating mythologies from one type of bioculture into another type. Each biocultural type also has a distinctly different relationship to the land—how they interact with the earth—which may lead to fighting another bioculture for territorial supremacy.

Furthermore, human beings themselves divide bioculturally. Our understanding and acting with ourselves or others is generally determined by the type of bioculture we primarily are/use—and not by the color of our skin or our country of origin. With rare exceptions, our left brain gets all of its input from the right brain. It has no access to the outside world and thus can only interpret selectively, by its own criteria, what it receives from the right brain; thus, the conceptual thinking or theorizing of the left brain has no higher authority than itself. This revelation has enormous consequences in our relationships, interactions with others, and for determining knowledge that matters! (See Table 1.)

Now a “primary text,” our human body, as the source of action and meaning, can be distinguished from a “primary technology” that activates and sets in motion the specific biological brain, which then extends and presses out (ex-presses) the sensory system into a language, for example. This makes inner orderings available to others, i.e., a system of public signs. These signs are a “secondary text,” one of the commentaries upon the primary, original text. The “primary text” lies hidden

and is associated with some forms of bodily structures and behaviors that are not reached through philosophical analysis.

For example: The “reading” (secondary technology) that most members of left-brain mimetic and logos biocultures use—reading a newspaper for information (accumulation of data)—is not appropriate or accurate for reading/interpreting the mythologies of a mythos bioculture, which have no information in them! The conceptual thinking of the left-brain mimetic biocultural type takes sight and its criteria as the primary “pilot”/organizer (primary technology) of sensation. On the model of sight, a language of substances (secondary text) is born to communicate exactly what this brain (primary text) is doing: establishing atomic things and events, within a visual space ruled by fixed coordinates of space and time. On the model of sound (primary technology of mythos biocultural type), a language of perspectives (secondary text) is born to communicate exactly what the limbic brain (primary text) is doing: establishing a multitude of relations (vibratory geometries of ratio and proportion, i.e., harmonics), which must exist before the right brain can create three-dimensional holograms (i.e., images—that the left brain then translates as material objects, i.e., solid. (See Table 2.)

## IMAGINATION

### Making Images and Creating New Epistemologies

In January of my senior year in high school, I was sitting in my second period Honors Math class not paying much attention to the discussion of homework, when suddenly I was surprised by an image of tall, golden French doors appearing on the inner screen of my mind [28]. While looking at the image, I next experienced a kinesthetic sensation of a “loss of volume”—a decrease in the spaciousness/expansiveness/enthusiasm that I had usually known up until that moment. The image disappeared, and I felt like I had “lost something.” Nothing like this had ever happened to me before, and I didn’t know what to make of it. I wondered about it for a while, but didn’t know how to think about it, or even how to begin to understand it. I was vaguely angry for the next few months and didn’t know why, during which period of time I also lost interest in calculus as well as in the rest of high school. I was bored, done with high school, and just waited for graduation in June.

About 30 years later, in the early morning hours of the second day after a two-day Siddha Yoga Meditation Intensive with SW. Gurumayi Chidvilasananda, I was lying awake in my bunk bed in a room shared with other women and our children, when a vision (pure image) came to me [29].

There was a cave . . . with lots of bright light and earthy-gold colored walls. On the floor of this cave was a luminous pearl-white alligator/crocodile; with one gleaming black eye (it was in profile). The whole scene/image

was motionless. It just sat there, curving around me (i.e., the heart's torus), filling my field of vision. I (*ahamkara* [30]) asked a question, "I wonder if the alligator's teeth are also black?" Nothing happened: the image didn't change; the alligator didn't open its mouth. Then, there was a consciousness-force that STOPPED my busy-busy whirling mind. And the contraction that is ego (*ahamkara*) was released. There was calmness, utter calmness (*samadhi* [31]). Then another question was asked (by *anahamvadin* [32]): "Is there water in this cave?" and after this question, my sensory equipment kicked into gear. My eyes searched the cave; no water could be seen. Ears listened; none of the sounds of water, not even the littlest sloshing or lapping sounds could be heard. Nose smelled, tongue tasted; there were no such hints of water. The skin of my forearms and face felt not the touch of moisture. After all this activity of not finding water, I then experienced the tremendous PRESENCE OF WATER [33].

When it wanted to, the vision left. It was still dark outside and the others in my room were still sleeping, thus I had no way to tell how much time has passed.

What we usually call images are either memories or concepts; and most of our imagining these days is fantasy—where the image or sequence of images has a subject, or is directed by a subject, an ego. The true image, the pure image, is not so directed and is not borrowed. It is non-egoic (like the "voice" that asked the question, "Is there water in this cave?") and must be created. "Dismemberment," each sense reading and sensitizing the image, is a unique feature of deep meditation [34]. The act of imagining the pure image relies mostly on the inherent capacity for, and embodied techniques of, meditation: concentration, guided and directed will, the closing of external and other internal worlds. It is only through the creation of a pure image in meditation that sensation flows in this manner through the meditator. And the result of this process is that old habits of mind, which had previously organized sensation, are released/dissolved, and a new, larger (re)organization takes their place. The capacity/measure of one's experience increases (is "opened up," widened; e.g., "opening the heart") as, simultaneously, the experience enlarges this measure: the capacity of the body enlarges to contain larger doses of sensation, larger unities—one's ontologic horizon enlarges.

### Consciousness-Raising and Self-Reflexivity

The process of feminist consciousness-raising [35] is kin to these mystical methods, it's not only concerned with content (the power relations of politics, economics, society, and so on; see [35]). Both arise from the inherent human capacity for contemplation-meditation: women in groups, sharing their intelligence, knowledge, and experiences of patriarchal oppression, sooner or later experience "the click." After this insight, they are desensitized to their former conditionings/unities and attachments (habits of mind/sensation)—some of the veils have lifted. And they are newly sensitized to fresh sensations as their

ontologic horizon enlarges: consciousness-raising enlarges experience as it also, simultaneously, enlarges the capacity for experience. The next “click” will not require as much work or take as long. The embodied soul, the ensemble of knowing-feeling-flesh, is eager for such development; the body *likes* the centered feeling of greater/deeper freedom, the “taste” of liberation.

Consciousness-raising—the new, wider vista—was noticed first and then studied/contemplated. More subtle reverberations/resonances, such as reflexivity and self-reflexivity, were noticed later. The new wideness is our transcendent biology in action [36], just as the embodiment of the “new vista” is also our very own immanent biology at work. These same actions (“extending the wideness”) were recognized, sought after, and deeply cherished in the hymns of India’s *Rg Veda* as well as by 16th-century Christian mystics and mystics of all time.

So, what is it that distinguishes the true images and ecstasies of the mystic from the hallucinations and ecstasies induced by drugs or from pathological events such as epileptic seizures? Genuine mystical ecstasy increases the measure of one’s experience as, simultaneously, the experience enlarges that measure, i.e., it is the transcendent and immanent prototype of self-reflexivity. New epistemologies can thus be created because the mystic’s experience can be retraced, is possibly repeatable by others, and to a certain extent can be taught.

## THE KNOWLEDGE THAT MATTERS MOST

### Liberating Interiority

The knowledge that matters most is not content—it is the subtle processes by which we create any content. We need to know how our own knowing-equipment is intended to function and we need to be more aware of how it is functioning in-the-moment, as well as what adversely affects its healthy functioning. We need to know how to dissolve the sludge [37] of cultural beliefs that gunk up the living system—and so begin to liberate interiority, as part of our self care activities and to be able to more effectively help others in self help programs and activities.

Knowledge, the processes of knowing, and consciousness are all of a piece. We need to champion the human being as so much more than the current market commodity or cultural creation, and we must recover an ecological way of knowing and being:

. . . that involves the complete participation of the knowing being: intellect and feeling, mind and body, spirit and intuition. Authentic science and art are both creative activities arising out of this total engagement of nature and reality [38].

To this end, we need to affirm and continue Feminist consciousness-raising and Masculine consciousness-raising, which enlarges the ontologic horizon and

simultaneously increases the capacity for consciousness. Human maturation is “extending the *wideness*.”

While critique must continue, it must also be recognized that critique is the second step in the dance, that following movement. Let’s not get so absorbed in critique, the judicious study of others’ realities, that we don’t have enough time or energy to take the lead and change the ways that we move out of the negative aspects of a patriarchal culture for better self care and to be better able to provide meaningful and effective self help to others.

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14. L. Wittgenstein, *Philosophical Investigations: The English Text of the Third Edition*, G. E. M. Anscombe (Trans.), Macmillan, New York, p. 8, 1968.
15. Stuart Sovatsky, *Words From the Soul: Time, East/West Spirituality, and Psychotherapeutic Narrative* (New York: SUNY Press): 20-21.
16. Maria M. Colavito, *The Heresy of Oedipus and the Mind/Mind Split, A Study of the Biocultural Origins of Civilization* (Lewiston, NY: The Edwin Mellon Press, 1995). Maria M. Colavito, "Why Study Humanities?" (1999), [www.infinityfoundation.com](http://www.infinityfoundation.com), Indic Mandala, Society Today, Essays (accessed July, 19, 2007). Antonio T. de Nicolas, "The Biocultural Paradigm: The Neural Connection Between Science and Mysticism," *Journal of Experimental Gerontology* V 33, N 1/2 (1997). Antonio T. de Nicolas, "The Biocultural Paradigm," (2001), [www.infinityfoundation.com](http://www.infinityfoundation.com), Indic Mandala, Inner Science, Essays (accessed July 19, 2007).
17. Perception is movement (knowing is a flowing), which is filtered through our neural equipment (structural frameworks that result in different epistemics) and then "modified" by cultural beliefs. (Much of conventional psychology still studies "behavior modification" as if it were something natural and healthy!) Cf., biologist Lipton, "The Wisdom of Your Cells," Part 1, regarding "protein perception" and how: "We perceive the environment and adjust our biology, but not all of our perceptions are accurate. If we are laboring under misperceptions, then those misperceptions provide for a misadjustment of our biology. When our perceptions are inaccurate we can actually destroy our biology. When we understand that genes are just respondents to the environment from the perceptions handled by the cell membrane, then we can realize that if life isn't going well, what we have to do is not change our genes but change our perceptions. That is much easier to do than physically

altering the body. In fact, this is the power of the new biology: we can control our lives by controlling our perceptions.” Also psychologist J. J. Gibson, *The Ecological Approach to Visual Perception*, (Boston, MA: MIT Press, 1966), “. . . perception of the environment and perception of the self are simultaneously one and the same.” Cited in Ho: 196. Similarly, beginning in the 9th century (C.E.) in Kashmir, India, practitioners of the lived philosophy and yoga of Kashmir Shaivism experienced and described consciousness as a “ciousness” (suchness) that “scires” itself, i.e., the capacity for knowing (consciousness) was/is simultaneously the process of knowing as well as action/power (*prakasavimarsamaya*). Cf., Jaideva Singh, *The Doctrine of Recognition, A Translation of Pratyabhijnahrdayam* (Albany, NY: SUNY Press, 1990:6-7).

18. Paul D. McLean, “Brain Evolution Relating to Family, Play, and the Separation Call,” *Archives of General Psychiatry* V 42 (April 1985). And Michael Gazzaniga, *Nature’s Mind* (New York: Basic Books, 1992). McLean established the “Triune Concept” of the brain (i.e., old reptilian, old mammalian, and neocortex. If the neocortex is counted as right hemisphere and left hemisphere, then Gazzaniga’s addition of the “interpreter module, which is a specific area within the left hemisphere, brings the total number of brain centers to five. The latest research demonstrates the additional importance of the left and right pre-frontal lobes, and I add the heart. Thus, we could speak of the eight brain centers/centers of intelligence.
19. Gazzaniga, *Nature’s Mind: Biological Roots of Thinking, Emotions, Sexuality, Language, and Intelligence*. (New York: Basic Books, 1992).
20. Note: the Borg are an exteriorization of our own internal neural activities of the interpreter module.
21. Robert Levine, C. Locke, D. Searls, and D. Weinberger, *The cluetrain manifesto, the end of business as usual* (Cambridge, MA: Perseus Books, 2000): 104.
22. From Rosa Brooks, “A really bad case of “reality,”” [www.latimes.com/news/opinion/commentary/la-oe-brooks20jul20,0,7356522](http://www.latimes.com/news/opinion/commentary/la-oe-brooks20jul20,0,7356522). column (accessed July 24, 2007). Note that many U.S. citizens are thinking/acting the same way, i.e., fundamentalist.
23. Colavito, “Why Study Humanities?”
24. Colavito, “Why Study Humanities?” and de Nicolas, “The Biocultural Paradigm.”
25. Joseph Chilton Pearce, *Evolution’s End* (New York: HarperCollins, 1992).
26. [www.second-congress-matriarchal-studies.com](http://www.second-congress-matriarchal-studies.com). First World Congress, Selected Papers (accessed July 19, 2007).
27. Adapted from Colavito, *The Heresy of Oedipus*, and “Why Study Humanities?”
28. I didn’t know the term, “inner screen of the mind,” then. Nor were the words, “sages,” “saints,” and “mystics” in my vocabulary at that time.
29. English languages this phrase usually as, “I had a vision.” But I felt then, and still feel now, that “I” (ego) was not the author of this image and experience.
30. Sanskrit for “I-maker,” i.e., ego.
31. Sanskrit for the meditative union with the Absolute.
32. Sanskrit for “not-I-speaking,” i.e., non-egoic. The “I” that had always been “me,” didn’t ask this question!
33. It’s impossible for me to describe this.
34. Antonio T. de Nicolas, *St. John of the Cross, Alchemist of the Soul* (York Beach, ME: Samuel Weiser, Inc.): 46-7.



35. Barton, E. R. (2004). Consciousness raising. In M. Kimmel and A. Aronson (Eds.), *Men and Masculinities: A Social, Cultural and Historical Encyclopedia*. Santa Barbara, CA: ABC-Clio, Vol. 1, pp. 173-175.
36. Pearce, *The Biology of Transcendence*.
37. What I'm calling "sludge," much of conventional psychology still affirms as the "behavior modifications" that we and our children were/are subjected to—much of which is sociopathic. Cf. James W. Prescott, [www.violence.de](http://www.violence.de) (accessed August 31, 2007).
38. Ho, *The Rainbow and the Worm*, 3 and its endnote #5.

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