

**CONSCIOUSNESS:**  
**NATURE IMPASSIONED – IN OUR OWN IMAGE**

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**TOWARD A SCIENCE OF CONSCIOUSNESS:  
CONSCIOUSNESS AND ITS PLACE IN NATURE**

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Although **passion** is construed as an emotional expression, anthropomorphic in quality and activity, our experience of consciousness is animated by levels of engagement that characterize human activity. Consciousness does not only have a place in nature, but is nature because we know it. What we understand as consciousness may be based in physiological hardwiring that prompts the search for congruent pattern and behavior. Like a would-be lover seeking a partner, **consciousness** is vitalized and satisfied only when matched by a reciprocal correspondent. Awareness has no function without an object.

Consciousness is acknowledged when caught in excitation, verified in the moment of reflected recognition. Each tenant of the oscillating alternating current is fueled by the other, dislodging inertia by the passion of engagement, a single potent energy of contact being conducted between the poles.

That which characterizes consciousness is also intrinsic to evolutionary growth. It is necessary to be reflected to exist. To be nourishingly reflected is to grow. To be passionately reflected is to flourish, eroticized in the most humane sense of the word.

*“What every human being seeks from the moment of separation from the womb is the immediacy and fullness of a relationship...coessentia...to exist is an event of relationship and it is the event of relationship that “begets” the subject.” (The Biopsychology of Sexuality and Orthodoxy: Some Reflections, John T. Chirban, Editor, Chapter 8, George Morelli, “Personhood: Orthodox Christianity and the Connection Between Body, Mind, and Soul”)*



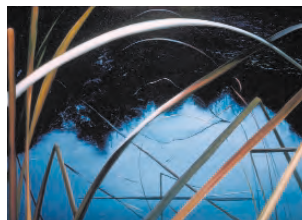
Over a period of 30 years, I have developed a series of hypotheses showing consonance between the forms of paradigmatic physiological systems and perceptual patterns affecting physical and emotional health, behavior and culture. These investigations have led me to believe that **consciousness is hard-wired in our physiological bodies, and that the focus of consciousness is relational on all levels and clearly points toward behavior benefiting the greater good.**

**In the 1970's I noted that floral forms in my circular paintings very much resembled Hebrew letters. It occurred to me that the organic**



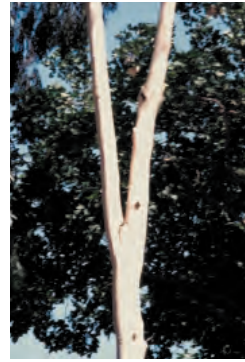
**forms of the letters may have something to do with intuitive gesture, emulating external natural form perceived by the ancient scribe.**

**In the early 1980s my focus became trained on a pond in Southern California. I noticed that the reeds around the pond broke into triangles, angles, arcs etc.**



**It was not long before I began to “read” the landscape in Hebrew, as well as other alphabets that were familiar to me. I spent much of the 80's in solitary wilderness sojourns of varying lengths of time up to a year and a half. I was glued to the landscape, photographing the “field” of information yielding the original forms of the Hebrew alphabet, 22 letters which underwent 27 transformations from early 3500 BC to the 19<sup>th</sup> CE. Not only was I “reading” Hebrew letters and words in the landscape but in other languages as well.**





**“OT” - The Hebrew word for “letter”, created from the first letter, Aleph, and the last letter, Taf, of the Hebrew alphabet, as found in roots in Northern Canada. (Reading right to left.)**

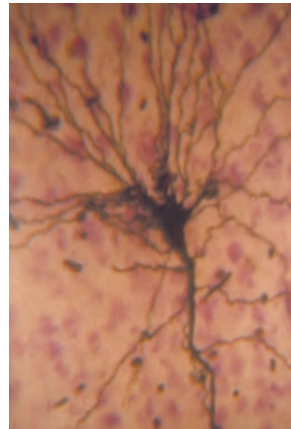
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**First forms at the far left column.**

*I conjectured that as early man and woman roamed the landscape looking for food or foe, they were repeatedly struck by certain patterns in nature that they eventually used as alphabetic morphology. I hypothesized at the time that ancient humans recognized these shapes because they mirrored the shapes of the neurons and neural processes of perception and cognition.*

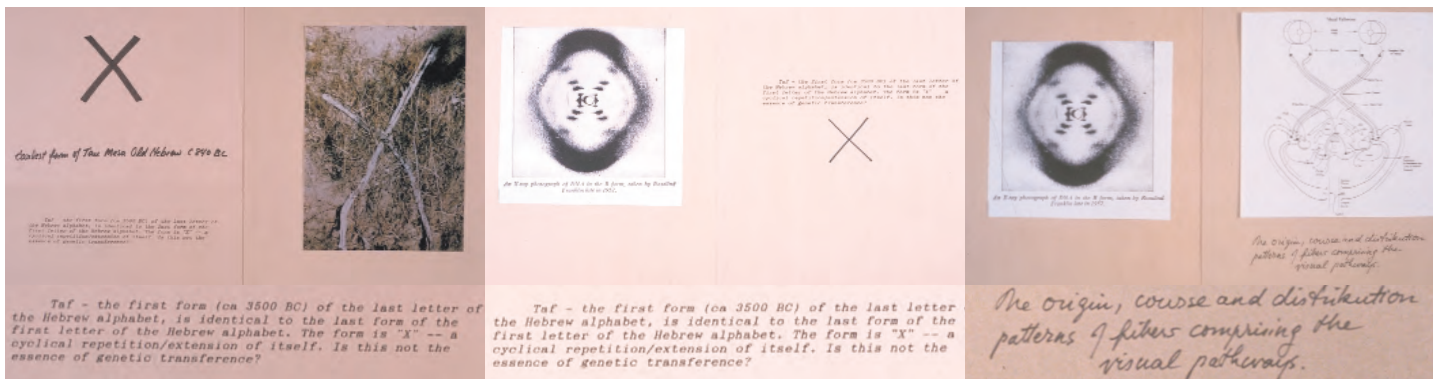


root



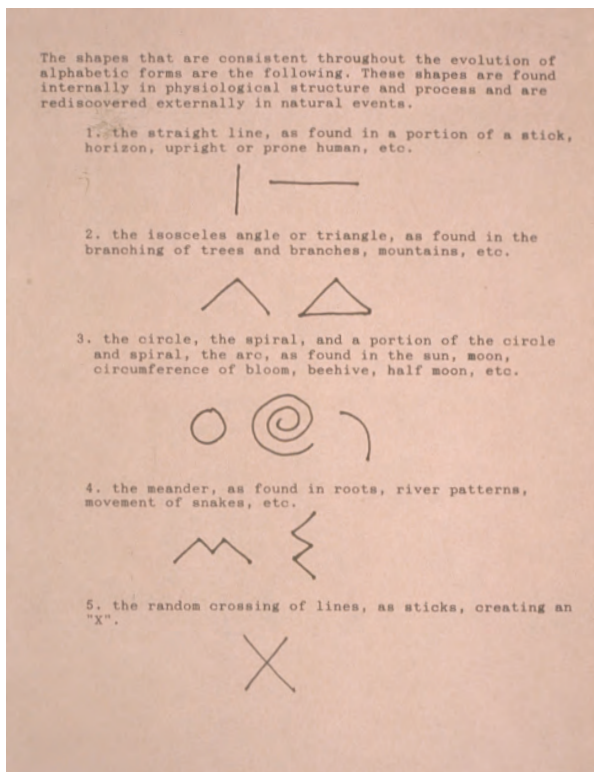
neuron

**DO WE SEE BECAUSE OF WHAT WE THINK OR DO WE THINK BECAUSE OF WHAT WE SEE?**



Almost twenty years later I read “What if it were true that nature speaks in signs and that the secret to understanding its language consists in noticing similarities in shape forms?...Look at the FORM”, Jeremy Narby, The Cosmic Serpent: DNA and the Origin of Knowledge, 1998 (Tarcher/Putnam.) And “The organism is involved in relating to some object and the object in the relation causes a change in the organism”, writes Antonio Damasio in The Feeling of What Happens, (1999, Harcourt.)





By 1983 I had isolated five forms, (line, angle, arc, meander, random crossing of sticks making an X), that I found to be present in all alphabets, ancient and modern. I was convinced that there had to be a continuous oscillating process between perception and cognition based on that which we are innately on a physiological level.

**Passion**, according to Webster's Third New International Dictionary, is "a state of desire or emotion that represents the influence of what is external and opposes thought and reason as the activity of the human mind — contrasted with action."

*Could the emotion called "passion" have been extrapolated from a neurological event?*

I was already surmising that humor had evolved because raising the corners of the mouth gave one a feeling of well-being as serotonin was spontaneously emitted, nourishing the cells. Certainly the rush of hormones stirred by "falling in love" evolved from the evolutionary imperative to procreate.

(Narby, too, speculated in a similar vein, "...the enigma of hallucinatory knowledge could be reduced to one question: Was this information coming from inside the human brain, as the scientific point of view would have it, or from the outside world of plants, as shamans claimed?" Jeremy Narby, The Cosmic Serpent)

The oscillation, give and take, of form affecting physiology continues to excite me. Matt Ridley reports in his 1999 best seller Genome, (Perennial Books), that "serotonin levels respond to the monkey's perception of its own position in the hierarchy, not vice versa...and telling people that they have low or high serotonin levels could become a self-fulfilling prophecy."

Years of world travel ensued during the 1980's and 1990's. I continued to look at alphabets, confirming my idea even further. By this time **I had observed that all things considered beautiful by all peoples share in these five forms. The nature of beauty appeared to be a reflective/reflexive system mirroring the beauty of human physiological nature.** Powerful and sustaining art and architecture lies in their potential to concentrate the ingredients of reflected beauty or life forms at the most innate level of being. For this reason all cultures responded to arcs, arches, triangles, which invariably became the sacred places. In other words, the vulva became the cave, the doorway, the house, the temple, where specific feelings of unity were aroused and enjoyed.

“Spiritual experiences are so consistent across cultures, across time and across faiths, says David Wulff of Wheaton College in Massachussetts, that it “suggest(s) a common core that is likely a reflection of structures and processes in the human brain.” (Newsweek, “God and the Brain”, 7/7/2001)

Surely this is the arena in which **nature and grace** cohabitate.

“The best therapeutic environment is said to be a place of great natural beauty,” the ancient Tibetan medical treatise, Gyu-Zhi, states unequivocally. If we call the reflecting process which simultaneously induces harmonious states of wholeness, unity, healing and health, “Beauty”, then we can deduce that non-harmonious reflections, or the removal from or distortion of these positively reflecting elements, will cause negative emotions such as anxiety, fear, rage and grief.

**Studies in psychoneuroimmunology, the medical term for mind/body healing, indicate there is a significant relationship between healing and beauty on one hand and illness and chaos on the other.**

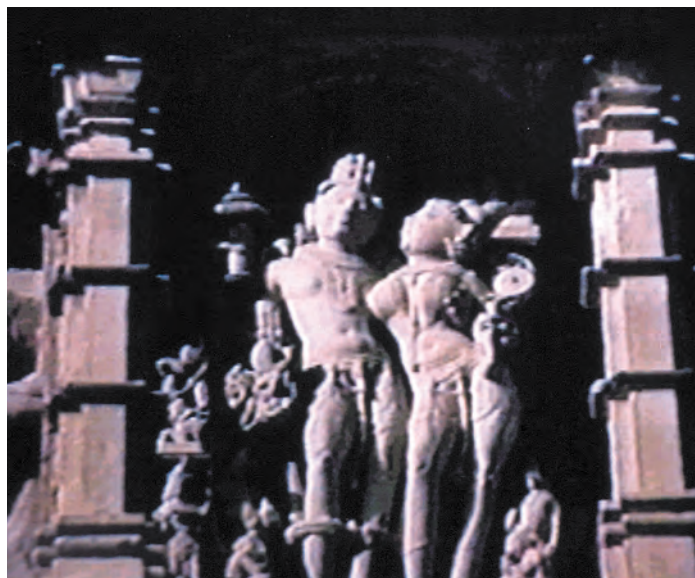
In this vein, Dr. Gordon Shaw, of University of California, Irvine, shows that the notation of Mozart's most sublime music echoes the EEGs of very bright people. The highly publicized “Mozart Quotient” has had the odd effect of popularizing classical music with the expectation of making children, as young as toddlers, as well as adults, smarter. Conversely, David R. Hawkins, M.D., Ph.D., cites clinical studies in which cocaine users in rehabilitation centers listening only to rap, or heavy metal music, but receiving identical protocol otherwise, never get better. (Power VS Force: The Hidden Determinants of Human Behavior, David R. Hawkins, M.D. Ph.D., Veritas Press) Hawkins shows through thousands of studies in applied kinesthesiology that postive

**and/or negatives concepts, images, substances, will instantly affect the muscle strength of an individual, even if the substance never actually touches the individual.)**

**In 1983 and 1985 I presented my ever-growing hypothesis, which I called COSMOGRAPHY: THE WRITING OF THE UNIVERSE to the Council Grove Conference of the Voluntary Controls Division of the Menninger Foundation. I was affirmed by the unanimously enthusiastic response from scientists, psychiatrists, neurobiologists. I was invited to present this slide show in many venues worldwide and my ideas were continuously validated. In 1995 I completed a one-hour film outlining the discovery process of my theory. Audiences, ranging from one to 900, on a personal VCR to theater-sized screen and Dolby sound, universally reported that they were changed of mind and vision, that they were never able to look at their environment, nor their world, in the way they had before. They also reported that they felt differently, emotionally and physiologically: they were simultaneously stimulated by the ideas and calmed by the sequencing and content of the imagery. After each presentation in small or large groups, individuals commented that they felt emotionally and physically better. (I have recently been interested in the findings of Andrew Newberg MD and Eugene D'Aquili, MD, Ph.D., [Why God Won't Go Away, Ballantine Books, 2001], that the apex of mystical unity is experienced at the simultaneous peak of arousal of the sympathetic and quiescence of the parasympathetic components of the autonomic nervous system.)**

**Meanwhile, I was thinking deeper into the implications of the connections between neurobiology, perception, proprioception and psychoneuroimmunology (mind/body healing).**

**As an artist I knew that certain forms would catalyze direct psychophysiological affect in the viewer (as well as in the creator). Our bodies**



**are delicately entangled with our perceptions. Every emotion precipitates biochemical reactions that change the physical state of each cell of our bodies.**



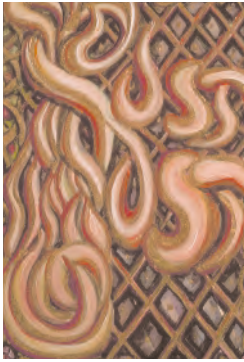
In our culture, the *only* area where this sort of direct affect is popularly acknowledged is in the realm of pornography. In Western cultures, most adults know that if a man is shown a certain kind of image, he will most likely experience a visible change in his psychophysiology. A woman may as well, but not as visibly.

(A recent article in the New York Times, 2/5/2001, dealt with the issue of virtual child pornography on the World Wide Web. “These technical advances also caused Congress to ban simulated child pornography, based on the indirect real-world consequences of the simulations. The sponsors of the 1996 law, The Child Pornography Prevention Act, said real children are hurt by fake pornography because simulated images may be used to entice real children into participating in sexual activity. They argued that *simulated images may be traded for real ones*, (italics mine), thereby driving the market for child pornography generally, and that virtual pornography whets the sexual appetites of pedophiles...Experts say the child pornography law breaks new ground. “The very creative act is the key for punishment,” said Jol A. Silversmith, a Washington lawyer who has written extensively on digital images and the law. “That has no precedent in this country.” Essentially, he added, the law has created “a thought crime.” But the real world also nags at Mr. Silversmith: “I think it is, unfortunately, plausible that the availability of child pornography on line encourages the abuse of children.”)

## **FORM AFFECTS FEELING FEELING CONJURES METAPHOR METAPHOR DEMANDS EXPRESSION**

If the form conjures a positive feeling, — at best “the thought of enlightenment consisting of boundless love, boundless compassion, boundless sympathetic joy and boundless equanimity” (Gyu-Zhi) – or even a moderate sense of physical and emotional comfort, anxiety and tension will be reduced. When this happens, there is easier communication and attention between people, as well as between people and their environment. This quality of form is universally construed as beauty.

Form, considered beauty, then, has to do with positive affect, as it prompts evolutionary behavior, such as contact, communication, care, compassion, attunement to the interdependence of all things, thus promoting health and well-being.

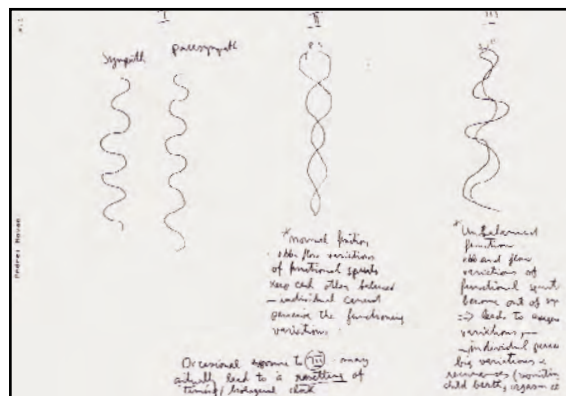


“Beauty is ...a compact, or contract between the beautiful being (a person or thing) and the perceiver. As the beautiful being confers on the perceiver the gift of life, so the perceiver confers on the beautiful being the gift of life...Each ‘welcomes the other; each — to return to the word’s original meaning — “comes in accordance with (the) other’s will.” Elaine Scarry, On Beauty and Being Just, 1999, Princeton University Press. “This reciprocal pact should assist us in turning to problems of justice...” Scarry continues, as she considers

the second attribute of beauty, “the pressure toward distribution,” i.e. if one experiences something or someone beautiful, one spontaneously wishes to duplicate it, by sharing it verbally, taking a photograph, drawing or painting, writing a poem, etc. Scarry connects the mutuality of beauty to that of justice through the use of language: “The notion of pact here again comes into play. A single word, “fairness,” is used both in referring to loveliness of countenance and in referring to the ethical requirement for “being fair,” “playing fair” and “fair distribution.” (Scarry)

*As I had hypothesized and learned from the audiences seeing COSMOGRAPHY, beauty reflects congruence between internal perceptual apparatus and externally perceived phenomena.*

For example, Dr. Andre Novac, psychiatrist at University of California, Irvine, sent me his newly considered model of the sympathetic and parasympathetic systems. When the two systems, waves, are working overlap and form the helix. When they are “chaos”, they lie in indicating lines. The reported by the audience the sine waves working in harmony, revolving around each other.



er model of the sympathetic systems. measured in sine well, the sine waves image of the DNA obstructed or lie in parallel, non-commu-depth of good feeling ences acknowledged

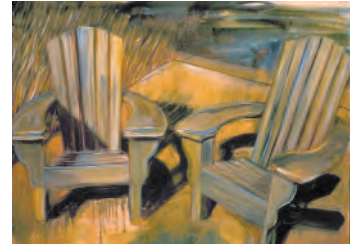
In my investigation of ancient Semitic alphabets as I “read” them in the landscape, I discovered that the last form of the first letter, *aleph*, of the first version of the Hebrew alphabet, ca 3500 BC, is identical to the first iteration of the last letter of the alphabet, *taf*, both of those resembling an “X”. Is this not a representation of cyclical repetition that is the hallmark of DNA? A section of the helix appears as an “X.” This is also the form that Darby experienced in his “hallucinations” of “cosmic serpents.” The inter-

twining, linking, crossing, contact, inherent in the X form, created by two distinctive, separate, reciprocally united components, is one of the five patterns that also occurs in neural processes of perception, such as the form of the optic chiasm.



My time alone in the forest had precipitated thoughts and writing about the nature of exile, specifically the continuum of independence to exile. At what point does the independent thinker, explorer, astronaut lose valence with the community, prevailing belief systems, continent, galaxy, and drift into exile? As

I lost connection with all humans, becoming more and more isolated, I realized that I was a herding animal, like the large animals I lived with in the forest. To fulfill the gifts of humanity, I, too, had to return to my “herd,” as it is only within one’s own herd that one can be heard.



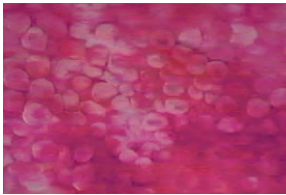
Furthermore, my years of travel in exotic cultures had shown me that **belief systems are random, contextual and convenient**. For example, in one culture one wanted many wives, in another, many husbands. In one culture, one hoped for many sons, in another, many daughters. In one homosexuality was encouraged, in another deplored. Each time I crossed a border all the gods changed. But that which was experienced in the same way in all cultures was grief, characterized by loss of contact, rejection and abandonment. While joy is often culturally determined, and predicated on achievement, grief is universally experienced by loss of contact, separation from Beauty, and Justice.

**WHILE OUR BELIEF SYSTEMS MAY VARY WIDELY,  
WE ARE FUNDAMENTALLY MORE ALIKE  
THAN WE ARE DIFFERENT.**

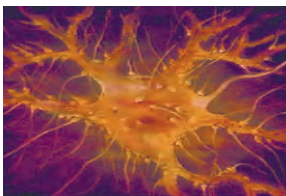
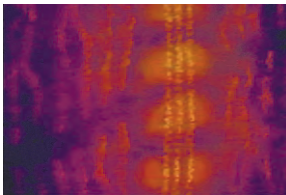
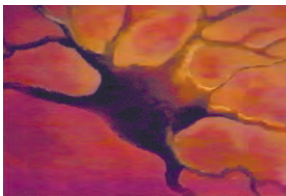
If contact and communication is the glue between animals, people, thinkers, explorers and astronauts, and valence the degree of combining power of an element, and gravity the force tethering planets and galaxies, **I believed that there must be a paradigmatic reflexive model that allows us to perceive these forms.**

***“It seems that the human mind has first to construct forms before we can find them in things,”*** said Einstein. It seemed to me that the forms were already resident in the physiology, and like fractals, were reproduced from micro to macro scale.

Taking this as the next spring-board, I began to examine human physiology from the cellular level. **If, as I had come to believe, recognition is proprioceptive, hard-wired into the psychophysiological system, the meta-model of contact and communication must lie submerged in our deeper physiological recesses as well.**

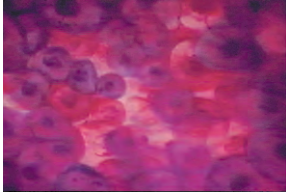
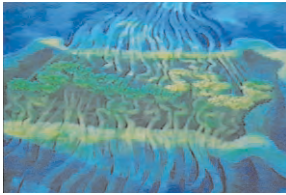


I looked at cell behavior as this seemed to be a discernable unit of life that still tends to live in groups, as do herding animals and humans.



I learned that adjacent **cells “whisper” together** through their cell membranes that vibrate in the electromagnetic field created by the valence of various facilitating hormones, minerals and neurotransmitters. The presence of calcium is essential for all of these processes to take place. If a cell ceases to be in contact with another, it becomes diseased. The synapse or “gap junction,” grows wider and unbridgeable. In trying to arrange other neighbors of communion, cells begin to proliferate, cloning themselves, becoming cancer. A recent issue of Science Magazine reports that cloned animals have short life spans. Cloning, creating identical models, is antithetic to evolution. Biological and social evolution determines and reinforces differentiation, leading to mutation, adaptation and psychological individuation catalyzing ideational growth. “The observation of difference may be the origin of the analog space of consciousness,” writes Julian Jaynes in his seminal work, The Origin of Consciousness and the Breakdown of the Bicameral Mind, (Mariner Books).





Cell communication fulfilled the perimeters of my quest for a meta-model. Even at that microcosmic level, an “other” who mirrors is necessary. I had found a deeply seeded metaphor for conscious and conscientious behavior. From the moment of separation from the womb, every human being seeks the (m)other, the one with whom there is a level of engagement as secure and vital as that of communicating cells.

Recent experiments conducted by Dr. Ross Adey at Loma Linda, California, VA Medical Center, show that the introduction of enough healthy cells into a cancerous environment may reestablish sufficient communication to propel the organism back to health.

“Consciousness, as we commonly think of it, from its basic levels to its most complex, is the unofficial mental pattern that brings together the object and the self.” (Antonio Damasio, The Feeling of What Happens, Harcourt) We cannot mirror ourselves, although we may try to as narcissists. If we are physically isolated, we may begin to talk to ourselves. If severely emotionally disconnected, we may generate multiple personalities, to extend our private family. Our search is for a resonating, not duplicating mirror. Difference, although harmonious, much like a dyad or triad in a musical chord, is necessary to stimulate growth. Or as Nietzsche put it, “A good friend must be a hard bed.”

It is in the oscillation between that which is perceived and the perceiver that consciousness/knowning takes place. “The bottom line,” says neurotheologian Newberg, (Why God Won’t Go Away), “is that there is no way to determine whether the neurological changes associated with spiritual experience means that the brain is *causing* those experiences... or is instead *perceiving* a spiritual reality,” (Newsweek 7/7/01). What Newberg calls “a softening of the boundaries of the self,” when certain regions of the brain such as the orientation area are deprived of neuronal input, a sense of oneness and spiritual unity exists. Whether we are examining a mystical experience or simply an experience of existence, a “softening of the boundary” between congruent but not identical states or objects must occur.

While Robert K. C. Forman, scholar of comparative religion at Hunter College in New

York City, also quoted in Newsweek's cover article, "God and the Brain", says that, "In mystical experiences, the content of the mind fades, sensory awareness drops out, so you are left only with pure consciousness...(which) tells you that consciousness does not need an object, and is not a mere byproduct of sensory action," (Newsweek 7/7/2001), I would have to counter that by saying that the lack of boundaries allows for union with every Other, permitting an uninterrupted continuous two-way flow.

*In the state of no physical resistance and psychological surrender between the perceiver and the perceived, a condition of utmost arousal and quiescence is established in which each tenant of the alternating current is fueled by the other, dislodging inertia by the passion of engagement, a single potent energy of contact being conducted between the poles. One can imagine this being written by a physicist, such as Nicolas Tesla or Thomas Edison, describing the newly found magic of electricity. Yet relational activity is as vibrant, as energetic, as salutary when positively focused, and as incendiary when negatively targeted, as electricity itself.*

When energy is not needed for resistance, it can be used for expansion, for change, for growth, both biological and psychological. Inversely, the mild friction of communicated difference, the well-intentioned rub of stimulation, the accord in chord, catalyzes individual and communal strength. *"Consciousness begins as the feeling of what happens when we see or hear or touch...Consciousness is knowledge, knowledge is consciousness."* says Damasio. He goes on, *"If actions are at the root of survival and if their power is tied to the availability of guiding images, it follows that a device capable of maximizing the effective manipulations of images in the service of the interests of particular organisms would have given enormous advantages to the organisms that possessed the device and would probably have prevailed in evolution. Consciousness is precisely such a device."*

Passion, then, as we experience reciprocal seeking of the essence that acts as the foil, streamlines form and direction, life and purpose. edness is rooted in the evolutionary survival and gem that shines only when other hard surfaces, we, too, order to behold the infinite facets of the



ence it, exists in the relentless other, the external influence the lineament, that which concept and gives direction. This unmitigated relational instinctive passion for growth. Like the precious tumbled and sifted through must be held in reflection in the universe in its entirety.



