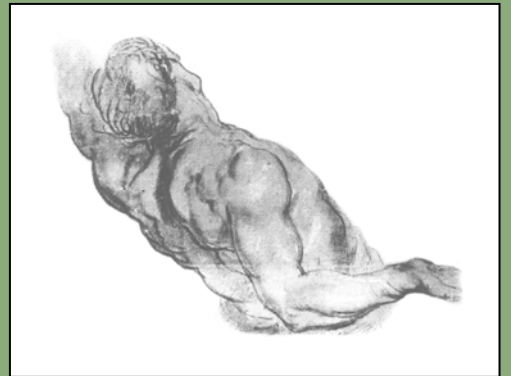


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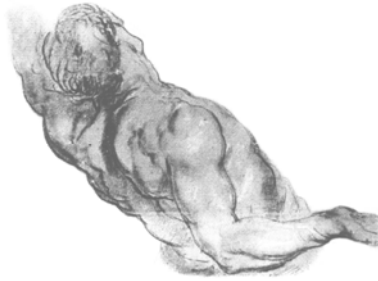


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The USABP believes that integration of the body and mind is essential to effective psychotherapy, and to that end, its mission is to develop and advance the art, science, and practice of body psychotherapy in a professional, ethical, and caring manner in order to promote the health and welfare of humanity. (revised October 1999).

# Healing Traumatic Reenactment: Psyche's Return from Soma's Underworld

Jane R. Wheatley-Crosbie, MSW, LCSW

## Abstract

Interweaving somatic, Jungian, and psychodynamic treatment approaches with affective neurobiology, this article offers a clinical application of regulation theory to a specific case of traumatic reenactment. This integrated treatment model for patients with chronically impaired self-regulation emerges out of the author's interest in early attachment trauma, its impact on the developing brain and body, and its long-term psychological and physiological effects.<sup>1</sup>

## Keywords

Affect regulation – Attachment trauma – Autonomic nervous system – Body language – Healing traumatic reenactment – Somatic countertransference

Every year in October, with an almost biological urgency, a young woman I'll call Beth would descend into the underworld of tumultuous relationship loss on the anniversary of her father's death.

Freud (1961/1920) first conceptualized such behavioral reenactments as "repetition compulsion." He believed they were caused by unconscious conflict paired with repression. Jung (1960/1934), however, following Janet, recognized that overwhelming affects in the body trigger dissociation. When part of the psyche splits off to form an unconscious "traumatic complex," it behaves autonomously, sometimes like a wild animal, reenacting the trauma.

From Schore's (2002) perspective, the attachment relationship directly shapes the maturation of an infant's developing brain. Traumatic reenactment (TR) belies structural and functional deficits in the stress coping mechanisms of the right brain, resulting from early attachment trauma (pediatric PTSD) that often goes undiagnosed. Physiological contributors to TR probably include a combination of both nature (innate vulnerability) and nurture (early attachment deficits).

Eagle (1984) notes that such developmental deficits, rather than dynamic conflict, are now being viewed in psychoanalytic theory as the source of this and various other pathologies. According to Levine (1997), traumatic reenactment is the psychesoma's attempt to repair this deficit by completing the nervous system's unfinished "fight-flight-freeze" survival cycle.

This paper emerges out of my interest in early attachment trauma, its impact on the developing brain and body, and its long-term effects as manifested in a variety of psychological and physiological conditions. After a brief overview of the neurobiology of TR, I'll present a treatment vignette and commentary. Weaving together somatic and analytic approaches, this article offers an integrated treatment model for patients with chronically impaired self-regulation.

## NEUROBIOLOGICAL ORIGINS OF TRAUMATIC REENACTMENT

Beth's story illustrates how even moderately severe early attachment disruptions can have lasting traumatic impact (Bifulco & Moran, 1998). Pathological patterns of parenting are passed down transgenerationally (Main, 1999) and often those unable to provide consistent care have never received it themselves. Beth's parents, for example, were both orphaned in childhood and also suffered other unresolved trauma. Beth's mother had been placed in an orphanage at age five when her parents divorced, and the uncle with whom she later went to live sexually abused her. While Beth felt loved by her mother, she was often left unprotected by this caregiver who later became psychotic. Beth's father had never been adequately nurtured during his early childhood due to his own mother's illness and death when he was 9 years old. Emotionally unprepared for fatherhood, he became jealous of his newly born daughter and increasingly critical of her as she developed. When her younger brother was born, her father showed marked favoritism towards him. In response to her father's emotional and physical abuses Beth began to dissociate, and by age seven depersonalization had left her unable to cry. Secretly, she hated her father, and upon his death when she was ten, she feared her hatred had killed him.

Describing the raw impact of early, unsymbolized trauma such as this on a child's psyche, Kalsched (1998) uses the image of a bolt of lightning striking the electrical panel of a house. Without a human transformer, all the circuits can be blown. In Beth's case, given the unresolved disorganization in their attachment relationship, the moment of her father's death was cataclysmic, precipitating distorted reasoning, nervous system overwhelm, dissociation, and a conditioned fear response. Here, aversive stimuli (hatred and terror) were paired with a neutral stimulus (seasonal changes in temperature and light). As an adult, when dissociated procedural memories were triggered in October, Beth reenacted the original "murder" by breaking up with her current boy friend. Despite a positive work and social life, she experienced traumatic reenactment somatically in the form of severe allergies and behaviorally in the form of intrusive thoughts, flashbacks, and reenactments.

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<sup>1</sup> As earlier version of this paper was presented at the California Psychological Association Convention in San Francisco in March 1996, as part of a panel with Allan Schore on Regulation Theory and the Neurobiology of Psychopathogenesis.

Erickson (1972/1963) recognized that mutual regulation is the vehicle through which an infant develops the trust that defines secure attachment, initially through “the ease of his feeding, the depth of his sleep, and the relaxation of his bowels.” As Bowlby (1969) clarified, infant safety and survival depend on maintaining proximity to protective caregivers who are sensitively attuned to their baby’s affects as signals. According to Blizard (ISSD V23, 5, 2005), “For infants and toddlers, any condition that prevents the child from accessing the parent can be perceived as life threatening.”

To illustrate the contributing factors in Beth’s susceptibility to traumatic reenactment, I’ve reconstructed a possible early life scenario to highlight the origins of her condition. Let’s imagine that young Beth is five months old. She’s been put to bed for the night, her parents are now having dinner, and her father is telling his wife about an upsetting incident at work that day. When their infant daughter begins to cry in the other room, her mother starts to get up to attend to her, but her father insists that she’s already been fed and they shouldn’t be spoiling her.

In her crib, young Beth begins rooting around for the nipple. When she doesn’t find it, she whimpers softly yet persists in her search. Several minutes pass, but no caregiver comes to comfort her. She cries more earnestly now, arms and legs flailing in frustration, but still no response. After awhile she resorts to screaming, back arched, limbs jerky and rigid, her tiny forehead dotted with perspiration. Still no one responds to her frantic distress. Then, terror gives way to exhaustion. Her movements go still, her voice silent. Finally, her tiny body goes limp, eyes glazed.

Freud (1961/1920) originally defined such trauma as “a breach in the protective barrier against stimuli, leading to feelings of overwhelming helplessness.” At five months of age, some infants (including even young Beth on a different occasion) might have been able to cry themselves to sleep without being traumatized. But not here. Young Beth’s nervous system has learned “fight-flight-freeze” in a flash, and for self-preservation, this conditioned fear response has been imprinted indelibly into her right brain.

Let’s trace what has happened in young Beth’s nervous system during the preceding vignette, using Figure 1 as a guide. When her parents don’t respond to her entreaties, she immediately senses the absence of that familiar touch, warmth, and smell associated with her mother. Hofer (1984) refers to these primal sensory aspects of caregiving as “hidden regulators.” Furthermore, young Beth’s eyes miss her mother’s familiar face; her ears miss the calming sound of her voice. This sensory information from the environment outside her body is received by her peripheral nervous system (PNS) and transmitted to her central nervous system (CNS) (Purvis, 2001) through a process called “exteroception” (Rothschild, 2000). All these clues signal her brain that something is desperately wrong.

Furthermore, infant Beth’s racing heartbeat and muscular tension lead to an uncomfortable “gut feeling” that corroborates this mounting danger. When no one comes to pick her up, she misses the familiar bodily movements that would send signals to her vestibular, proprioceptive, and kinesthetic senses that soothing is on its way. This sensory information from inside her body is received by her PNS and transmitted to her CNS, through a process called “interoception” (Rothschild, 2000). These additional signals also alert her brain to the escalating danger.

As her CNS processes this exteroceptive and interoceptive input, her stress response systems activate appropriate stress hormones. These neurochemicals encode this input, then the signals are transduced and channeled back into her PNS, emerging as motor output in two different parts of her nervous system: 1) somatic and 2) autonomic (Purvis, 2001).

First, we see young Beth’s somatic nervous system at work as her arms flail and her legs kick in frustration. The impulses for the contraction of these skeletal muscles are carried through the nerves of her somatic system (Rothschild, 2000). These voluntary movements are the defensive reflexes that comprise her rudimentary “fight-flight-freeze” response. Along with other behaviors and physical procedures, these movements constitute the motor output of her somatic nervous system.

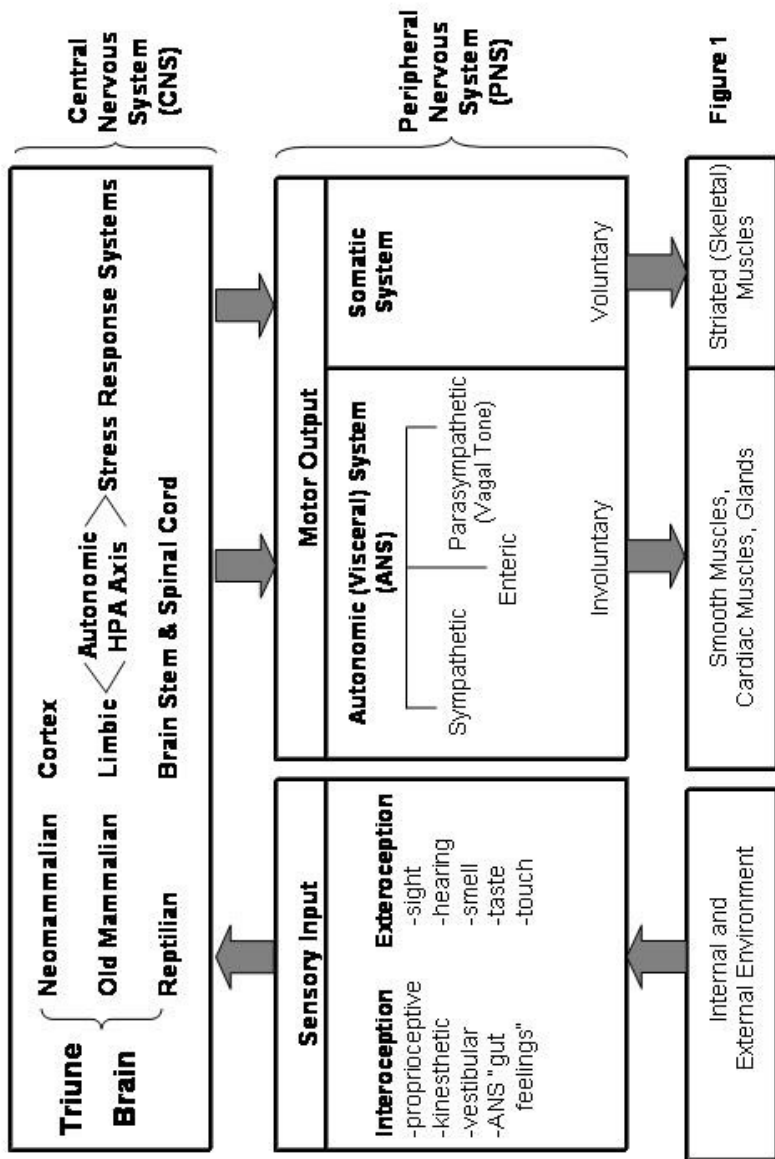


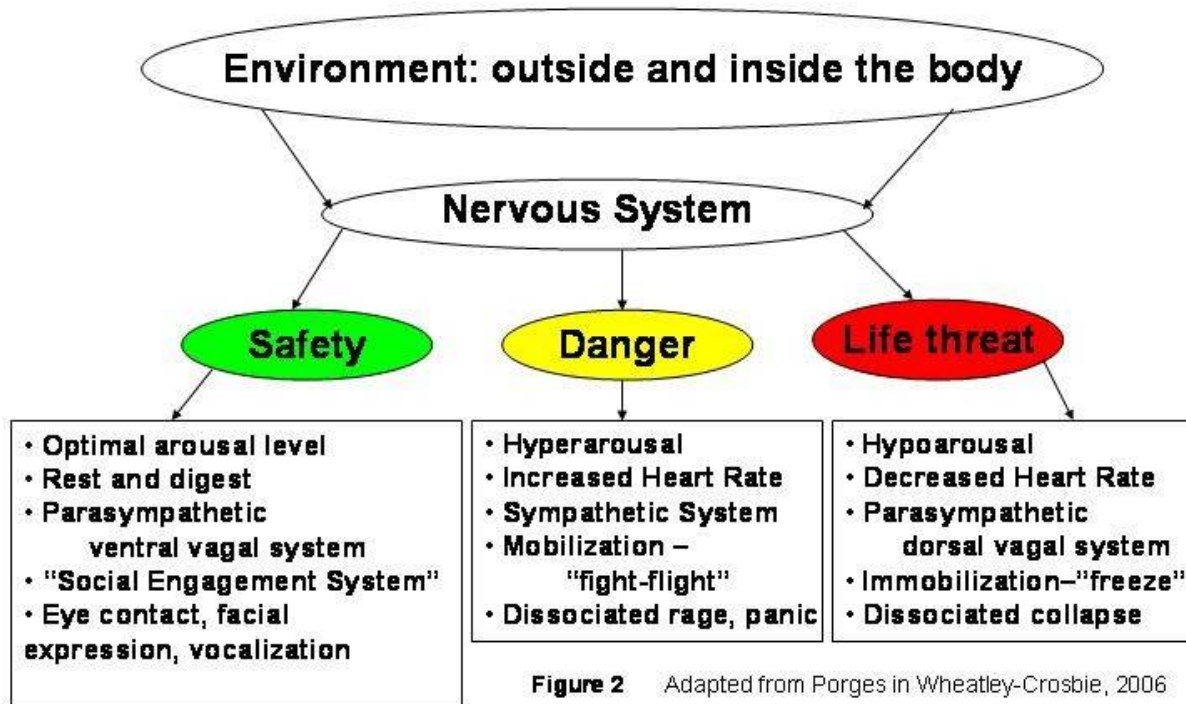
Figure 1

**Nervous System Components & their Functional Relationships**

(adapted from MacLean, Purvis & Rothschild in Wheatley-Crosbie, 2006)

Secondly, in infant Beth’s autonomic nervous system (ANS), motor output during the “fight-flight-freeze” response entails involuntary movements in her viscera, cardiac muscles and glands. For example, among other things, the ANS directs blood flow away from viscera and skin toward the striated muscles (Rothschild, 2000), so the defensive reflexes can be expressed.

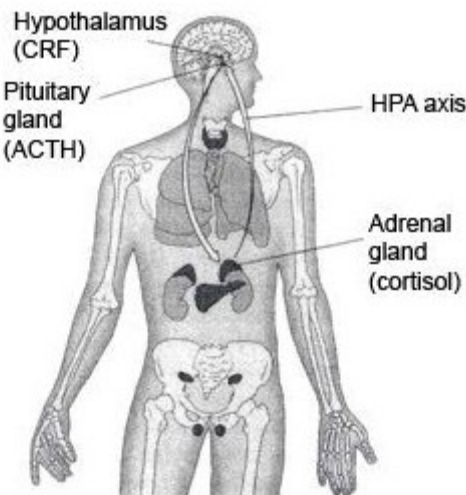
## Porges' View of the ANS The metaphor of safety



When her parents do not respond to her cries, young Beth subjectively senses a shift from safety to danger. Figure 2 illustrates how her ANS adapts accordingly. According to Porges (2006), three evolutionarily based circuits regulate arousal hierarchically in the ANS. In situations of safety with an attentive caregiver, an infant's needs are met through facial expression and vocalization via the "social engagement system." But when infants are left unattended, unmet needs constitute danger. As stress hormones mobilize young Beth's "fight-flight-freeze" circuit, she starts kicking and screaming to attract her caregivers' attention. When these strategies fail, hyperarousal escalates into dissociated panic. Ultimately, when helplessness turns hopeless, she suffers life threat. Here, the reptilian brain orchestrates an avoidance response, as endogenous opiates numb her into dissociated "freeze."

**Figure 3**

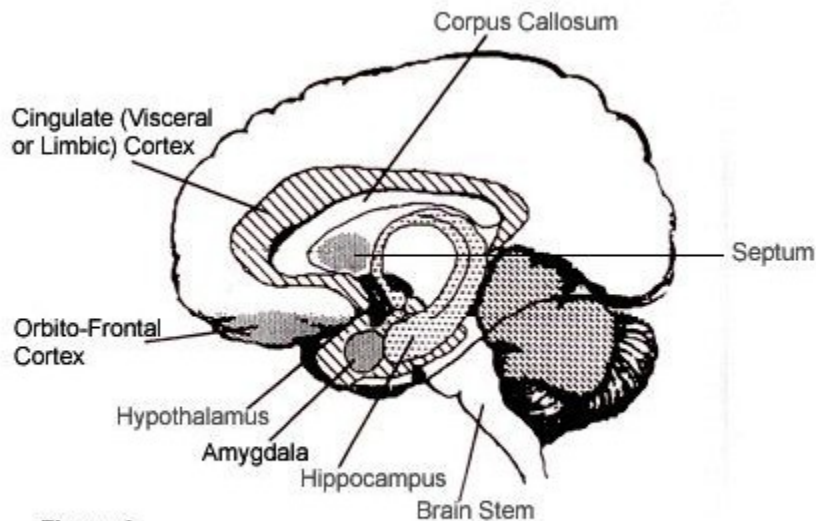
During young Beth's network mediates between her brain systems, organ systems. Figure 3 is coordinated by the the head ganglion of the ANS, motion and triggers her stress major locus of body-mind-brain Her HPA axis links stress hypothalamus, and the pituitary major regulatory systems of her endocrine, and immune neuro peptide network



crisis, a complex chemical communications within and stress response systems and illustrates this network, which hypothalamus. Considered to be the hypothalamus sets it in hormones via the HPA axis, a communication (Rossi, 1993). hormones from the and adrenal glands, to all the body, including autonomic, systems, as well as the (Bremner, 2002).

The HPA axis links stress hormones to all the major regulatory systems of the body: autonomic, endocrine, and immune systems, and the peptide network.

Adapted from *Does Stress Damage the Brain?* by J. Douglas Bremner



**Figure 4**  
Limbic structures of the right hemisphere, medial view.  
From *Affect Dysregulation and the Origin of the Self* by Allan N. Schore

As illustrated in Figure 4, connections between young Beth's hypothalamus and her ANS are more deeply wired into her right brain, rather than the left (Schore, 1994). The right brain is dominant for attachment, stress coping, and bodily awareness. Her hypothalamus has two-way communication pathways with her endocrine and immune systems (Blalock, 1989), her limbic system (Guyton & Hall, 1996), and her right orbitofrontal cortex (OFC). Though her OFC won't come online till she's 10-12 months old, it will become the "senior executive" of her social-emotional brain (Joseph, 1992). During crises, the OFC will be responsible for regulating her ANS back to states of calm. During traumatic reenactment in adults, the more mature OFC shuts down, and the primitive, fear driven amygdala takes over control of brain organization.

According to Schore (1994), chronic states of dysregulation and the ongoing presence of stress hormones severely reduce neuronal growth in the infant's developing right brain. The consequence for young Beth?—future susceptibility to traumatic reenactment due to structural deficits in her right orbitofrontal cortex (OFC). These deficits cause potentially permanent abnormalities in her capacity for self-regulation. The effect?—reduced functional effectiveness of her stress-response system's ability to inhibit arousal.

The most central and far-reaching of these abnormalities is "sensitization," a heightened psychophysiological reactivity to everyday stressors (Allen, 2001). Caused by impairment in the cortical capacity for discrimination (Kolb, 1987), sensitization leaves patients unable to filter out irrelevant stimuli. Meares' research (2005) shows that individuals with sensitization feel stimuli more intensely or painfully than other people.

In our client Beth, sensitization has impacted the functioning of her HPA axis (causing her difficulty in dealing with novel stressors) and her immune system (creating heightened reactivity to foods, pollens, and environmental chemicals). Sensitization also manifests in Beth's exaggerated startle response, heightened emotionality, sensitivity to sound and light, sleep disturbance, and tachycardia (increased heart rate).

Sensitization and ongoing nervous system dysregulation form a vicious cycle of ever escalating physiological distress that contributes to traumatic reenactment. Undischarged "fight-flight-freeze" responses in the body are analogous to depressing a car's accelerator and brake pedals simultaneously. According to Levine (1997), these survival cycle responses must be completed and released from the body-mind-brain if traumatic reenactment is to be healed.

## DISSOCIATION AND MEMORY IN TRAUMATIC REENACTMENT

As we saw earlier, young Beth's first impressions of "fight-flight-freeze" come through her senses, as they perceive the growing sense of arousal and disorganization in her body. Yet at the tender age of five months such unbearable bodily sensations are not yet translated into words. Rather, they remain in the somatic unconscious (Jung, 1998/1930's). Consequently, these overwhelming sensory experiences cannot be processed or stored as conscious or explicit memory by her hippocampus (see Figure 4). Instead, these implicit, procedural memories are encoded in the form of sensory fragments (van der Kolk, 1996) that are stored subcortically in a variety of different memory systems: the amygdala, brain stem and other primitive neural systems. Mediated by stress hormones and seared indelibly into her developing right brain, these unconscious traumatic bodily memories last forever (LeDoux et al, 1989).

When infant Beth's cries fail to influence her caregivers, mounting despair leaves her feeling invisible, undeserving of love. During infancy the primary protective mechanism against such unbearable stress is dissociation, which Putnam (1997)

refers to as “escape when there is no escape.” Schore (2006) describes dissociation as the disintegration of vertical right brain limbic and autonomic circuits.

Functionally, dissociation leaves young Beth unable to integrate what’s happening in her environment with what’s happening in her body. She may be terrified she’s fragmenting into pieces, dissolving into space with no orientation, or falling forever. Perhaps she can no longer even sense any connection to her own body. These terrifying impressions form the basis of her dissociated, unconscious traumatic memory.

As young Beth falls into dissociative collapse, she enters a dark, inchoate state. All she knows is that something is terribly wrong. Since no one is there to help, all she can conclude is that something must be wrong with *her*. As Winnicott (1992/1958) understood, infants suffering such unthinkable anxieties experience not frustration, but threat to their sense of “going-on-being.” Paradoxically, in an effort to preserve the child’s existence, the mind splits the personality apart. The goal?—organizing the protection that should have been provided by the primary caregivers.

Segal (1981) suggests that splitting is the mind’s way of differentiating “good” from “bad.” According to Bion (1967), the primitive mind splits by attacking the links between thinking and feeling, thus producing a state of fragmentation. Feeling is experienced and expressed through the body. When infant Beth is overwhelmed with feelings, her primitive mind decides that these feelings and the body they are housed in are “bad,” and any connection to them must be severed.

As her mind splits off from her body, young Beth’s nascent self is shattered, and we witness the birth of a “traumatic complex” (Jung, 1960/1934). As Jung (1912) observed, ongoing fragmentation keeps the intensity of the original terror from ever reaching full consciousness. Consequently, the emotional significance of the complex remains hidden, while its terror continues to be reenacted in adulthood.

As outlined earlier, such fragmentation is possible because the brain stores its recall of experiences in separate memory systems (LeDoux, 1996). Since each of these systems processes the same traumatic memory in different ways, dissociated aspects of experience, and thereby dissociated aspects of self, are able to coexist. According to van der Kolk (1989), dissociated traumatic memories can trigger behavioral reenactment when held in striated muscles and somatic reenactment when held in smooth muscles.

Furthermore, traumatic memories are “state dependent,” meaning they are linked via stress hormones to the psychophysiological state of arousal encoded at the time they occurred (Rossi, 1993). Though dissociated trauma continues to remain outside conscious memory, if a similar psychophysiological state arises years later, these state-dependent memories can be retriggered, appearing in the form of intrusive experiences or flashbacks. These sudden somatosensory experiences seem immediately and palpably real, even though the original event is long past (Briere, 1992).

Sensory intrusions of this kind reflect states of psychophysiological “sensitization.” Fear conditioning has contributed to the development of this sensitization, precipitating overgeneralized responses to traumatic or even neutral stimuli. For example, in Beth’s adulthood even subtle anger in another person’s voice or facial expression could leave her suddenly disoriented and uncomprehending. At stressful moments like this Beth’s “father complex” would suddenly overtake her. Then, unbearable bodily memories from the past—nervous system hyperarousal that arose originally in reaction to her physically abusive father’s angry voice and frowning face—would suddenly inundate her present reality. Such sensorimotor intrusions are expressions of the somatic unconscious (Jung, 1998). Their palpable presence confirms, “every complex has a body” (Schwartz-Salant, 1989).

Scaer (2001) hypothesizes that the brain has an arousal/memory circuit fueled by unresolved “fight-flight-freeze” and conditioned fear responses. This arousal/memory circuit triggers two processes: 1) sensitization (as mentioned earlier, heightened reactivity to external stressors), and 2) kindling (heightened reactivity to internal stressors). In kindling, internal stressors consist of dissociated traumatic procedural memories that arise unconsciously and continually reactivate the individual’s nervous system, preventing its return to complete rest. Both sensitization and kindling are contributing factors in the above example of traumatic intrusion as Beth’s father complex is triggered.

## TREATMENT IN TRAUMATIC REENACTMENT

Treatment of TR requires two primary mechanisms: 1) regulation of affects and “fight-flight-freeze” responses in the body, and 2) reintegration and symbolization of dissociated self-states in the psyche. Within the safe enough container of the transference-countertransference relationship, therapists help patients re-experience trauma in the present moment, this time in manageable doses. As complexes are triggered, bodily activation can be accessed and interactively regulated. Then, bodily and behavioral suffering can be translated into meaningful feeling and linked to imagery through play. Only then can symbolic processing of traumatic experience, rather than concrete reenactment of it, begin to unfold. Gradually, attachment wounds are healed, positive new internal working models develop, and destructive patterns of TR are eclipsed by the emergence of a more integrated self.

Even within a safely regulated container, the nervous system of a traumatized patient can easily become overactivated. During one session, Beth arrives tearful and terrified that her boyfriend will leave her. Complaining of an intractable knot in her solar plexus, she reports a panic attack the day before. As she becomes caught in the underworld of her hopelessness, Beth fears “going crazy” like her mother and succumbing to another round of catastrophic October loss. These traumatic intrusive thoughts illustrate Winnicott’s (1974) notion of “fear of breakdown.”

Tuning into Beth’s body language, the therapist notices a paradox. Her slumped posture suggests a helpless child-like state that could easily shift into parasympathetic collapse. On the other hand, her solar plexus tension indicates a state of



sympathetic hyperarousal. Prioritizing the client's physiological disorganization rather than narrative, the therapist suggests that Beth might feel more comfortable if they first ease the pain in her solar plexus. Beth immediately frowns, begins coughing, and exclaims, "It's not a pain! That's not me! It's more like bracing against a storm."

As Winnicott (1974) reminds us, trauma retires to the past only after being experienced directly in the present. Patients' reactions to therapists' inadvertent misattunements can be an important mechanism for recapitulating early trauma in the transference/countertransference. Bromberg (2003) and Bucci (2003) agree and add, in accordance with LeDoux (1996), that in order for dissociated experience to become symbolized in conscious awareness, the following key steps are necessary.

As early trauma is revisited, the body and the amygdala must remain calm enough for sufficient working memory to be available for the following tasks: 1) visceral, sensory and motoric elements of early trauma (which are nonconscious and dissociated) have to be activated and consciously felt in the present moment, as they were here with Beth; 2) a mental representation of this physiological activation must be created; and 3) a mental representation of the self as agent in the present must also be created.

Yet, physiological activation related to catharsis of early trauma triggers arousal in the brain stem and evokes "fight-flight-freeze" physiology. In traumatized patients, such catharsis can lead to nervous system disorganization and potentially damaging retraumatization, unless it is carefully regulated. "Fight-flight-freeze" states constitute "bottom up" brain organization. In such dysregulated states, intense bodily urges and affects shut down the OFC, and the fear driven amygdala dominates brain organization. Interactive regulation is needed to restore calm to the autonomic nervous system so the OFC can come back online. Then, "top down" brain organization is restored, and memory is again available to influence present brain processes (LeDoux, 1996).

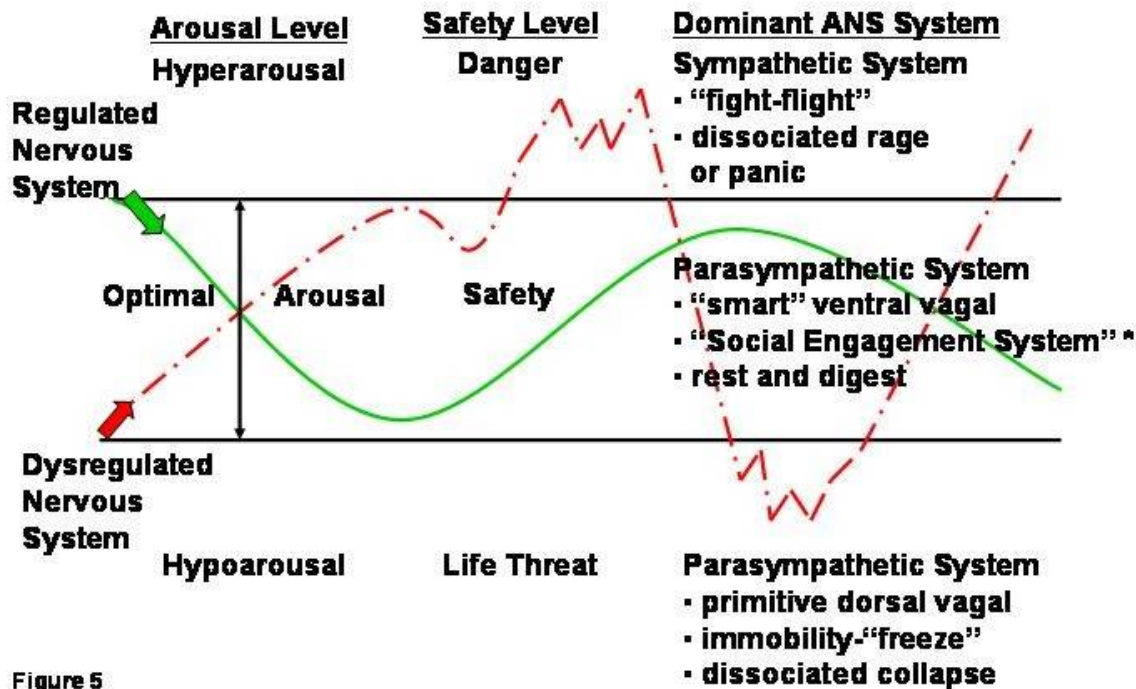
Beth's "fight-flight-freeze" response during the therapist's earlier misattunement is shown in Figure 5. Her dysregulated nervous system is illustrated by the dotted line shooting up past the boundary of the optimal arousal zone. If left unregulated, Beth's hyperarousal would later drop down below the optimal zone into hypoaroused "freeze." On the other hand, if Beth receives sufficient soothing (nervous system regulation), her sympathetic and parasympathetic systems can return to fluctuating within the optimal range, as illustrated by the curving solid line.

The therapist realizes that Beth's earlier rejection of the word "pain" could be a dissociative strategy. Compartmentalization is one way for traumatized patients to distance themselves from unbearable affects. With Beth, for example, the present misattunement may have triggered an unconscious procedural memory associated with her father's painful abuses in the past. Initiating an interactive repair, the therapist uses non-interpretive interventions, such as clarification, mirroring, acknowledgment, and validation (Holinger, 1999), until the agitation in Beth's body and tone of voice begins to subside.

Levine's (1997) Somatic Experiencing (SE) method provides a model by which therapists can attune to the dysregulated nervous systems of their traumatized patients and restore them to a state of organization. This method integrates Gendlin's (1981) "felt-sense" with Schore's (2006) regulation theory. While clients tell their stories, therapists track moment-to-moment shifts in posture, facial expressions, sounds, gestures and other movements, as well as changes in skin color, musculature, and breath in their clients' bodies as well as their own.

As if exploring a waking dream, the therapist helps Beth bring her conscious awareness more fully into her body. Together they track specific subjective details of the sensation in her solar plexus—for example, its dimension, sensory quality, movement, texture, and temperature. With the help of her imagination, Beth creates a mental representation of this dissociated experience, describing it as a dark "storm" of hot swirling energy about the size of a grapefruit. Afterwards, she reports that she is slightly calmer. In other words, paradoxically, the simple act of bringing attention to a disorganized area of the body can restore some level of organization there (Levine, 1997).

# Autonomic Nervous System Arousal



**Figure 5**

Adapted from Levine, Porges\*, & Ogden in Wheatley-Crosbie, 2006

Nevertheless, Beth’s susceptibility to panic, sensitization, and kindling indicate the need here for further nervous system stabilization. After asking permission to work further with Beth’s body, the therapist fosters a deeper experience of the client’s embodiment (Aposhyan, 2004) by suggesting that Beth might place her own hand on the tightness in her solar plexus. Beth does so, and during the silence that follows, the therapist offers gentle encouragement as the tempo of Beth’s breathing pattern begins to slow down. Inviting the client to allow her attention to sink more deeply into her solar plexus via the weight and warmth of her hand, the therapist guides the patient toward a more restful parasympathetic state.

After a period of silence the therapist asks how this touch feels, facilitating integration of the client’s sensory and affective experience. When Beth says it’s soothing, the therapist invites other soothing associations. Beth remembers a languorous summer vacation on a Greek island, and the therapist encourages her to savor these sensory memories: lying on warm sand by the Mediterranean, the salty smell of the sea, the sound of waves lapping against the shore, sand granules between her toes, and the sun’s heat cooled by a soft breeze. Gradually, Beth’s breathing flows more easily, and the seemingly intractable tightness in her solar plexus eases to half its former intensity.

Having settled down in response to this interactive regulation, Beth is once again available for “top down” reflective function. Using Beth’s image of the dark swirling storm, the therapist facilitates what Krystal (1998) calls “desomatization.” Here, Beth consciously differentiates bodily sensations, such as solar plexus tightness, from affects, such as abandonment terror. Following Levine’s (1999) SIBAM model, the therapist helps Beth “connect the dots” as it were between dissociated elements of sensation, imagery, behavior, affect and meaning, toward an integration of self.

Then the therapist suggests gently to Beth, “Maybe, when your boyfriend doesn’t call, your body remembers the stark terror of infancy, when your needs were left unmet by your parents.” Beth cries softly in response. When interventions match the developmental level at which the patient currently presents, a deeper level of trust is fostered. Beth’s disorganized regression to the pre-object relations level of development (Kumin, 1996) is met appropriately through this reconstruction. The therapist validates Beth’s early abandonment terror and acknowledges how its unconscious procedural memory may be embedded in her present panic, precipitating its traumatic reenactment.

The trauma of early abuse and neglect often leads to a breakdown in the capacity to mourn (Levy & Lemma, 2004). Beth’s tears reflect the conscious mourning of a loss of basic caregiving that occurred before she was old enough even to know what she was missing. By acknowledging the importance of Beth’s tears, the therapist facilitates the grieving process that is crucial to resolution of early childhood loss.

Later, to foster a return to homeostasis, the therapist invites Beth to find an image that’s opposite her helpless state of panic. The client remembers a recent dream: she’s standing in a meadow on a sunny day, bare feet in the warm dirt, watching a sunflower bobbing in the breeze. Following Woodman’s (1985, 1982, 1980) inspiration, the therapist encourages Beth to enter the realm of play, bringing the sunflower image inside the wounded place in her body.

A few minutes later Beth describes the sunflower's seed face as comprising her entire torso and head. Giggling slightly, she adds that its petals are her hair. The therapist responds playfully, "Oh, of course-- anybody can see that!" and they laugh together. Beth describes a sturdy stem that will keep her grounded amidst a storm. The therapist validates her new sturdiness, encouraging her to savor it, and Beth responds with tearful gratitude. As Schore (2003) reminds us, a psychobiologically attuned caregiver not only minimizes negative affect but also maximizes positive affect.

During the developmental shift from merging into autonomy, playful relaxation and the neurochemistry of joy arise naturally out of the shared state that Winnicott called (1971) "potential space." Working with embodied imagery fosters the development of symbolization, a capacity often lacking in traumatized individuals yet essential for mature selfhood. As Beth's trust of her therapist grows, a symbol of her supportive caregiver develops in the form of an "internal working model" (Bowlby, 1969)

There is a moment of silence after Beth's play with the sunflower. Then, suddenly, the patient frowns, takes a sharp inhalation of breath and exhales forcefully, after which her shoulders go into a slump. When the therapist comments on the client's body language, Beth reports having heard a derisive inner voice spewing, "This is stupid," accompanied by a feeling of shame and the familiar pressure to break up with her boyfriend. Here, the therapist notices that a traumatic complex (Jung, 1960/1934) has been triggered.

Rather than engaging first at the level of verbal content, the therapist prioritizes interactive regulation at the bodily level. Together therapist and client observe that Beth's defensive reaction includes hypervigilance and bodily constriction, indicating the return to a "fight-flight" state. They also notice that the shame accompanying her bodily slump suggests a state of collapse associated with the "freeze" state.

Casement (1985) describes patients for whom the experience of "feeling better" can serve as a signal affect that stimulates further anxiety and nervous system hyperarousal. This linking of two such seemingly discreet events is an example of what Levine (1999) calls "overcoupling." Overcoupling can be a common occurrence in traumatized individuals when a conditioned fear response is triggered in response to kindling (heightened reactivity to internal stressors, such as unconscious procedural memory). In this instance Beth's fight-flight-freeze response may have been inadvertently triggered as the result of an unconscious memory of an earlier experience of safety that was immediately followed by a traumatic experience.

As if tracing a figure-8 image, the therapist helps Beth "pendulate" (Levine, 1999) back and forth between sympathetic arousal and parasympathetic rest. Gradually, the level of her activation is "titrated" (Levine, 1999) until homeostasis is restored. Then, after revisiting the connection they made earlier between bodily tightness and feelings of terror, client and therapist explore the traumatic complex that has been constellated.

Ferenczi (1955/1933) proposed a model for how these complexes take shape: before the ego solidifies, one part of the personality regresses to an infantile state, while another part progresses, becoming precociously mature. Winnicott (1988/1965) described the progressed part as a "pathological mind-psyche" that has split off from the body. Though originally intended to serve as "protector" for the weaker part (Kalsched, 1996), this dissociated introject "identifies with the aggressor" (Ferenczi, 1955/1933) and repeats the original parental abuse intrapsychically. Acting in true autoimmune fashion, this dissociated self-state loses "self-tolerance" (Kalsched, 1998). Shaming Beth's vulnerable self by referring to her creative play as "stupid," the protector/ persecutor takes control by banishing the emotions—and relationships-- that cause this younger aspect of herself to become overwhelmed.

Having already titrated the patient's nervous system hyperarousal, the therapist wonders about possible precipitants for the activation of Beth's complex. Here Beth is able to reveal her frustration about the therapist's misattunement earlier in the session. As they work with Beth's anger, the client discovers that the protector/ persecutor's angry shaming has essentially turned the anger she initially felt toward the therapist back against herself. With the therapist's prompting, Beth rallies an emerging capacity for self-care. "Stop calling me stupid!" she barks in rebuttal to this pathological mind-psyche. Setting limits with its persecutorial tone, Beth is autoregulating the self-hatred endemic in early trauma. Afterwards, the client reflects upon the protector/persecutor's controlling behavior: "This shaming part of my mind only makes things worse. I need to let this mind go."

The therapist notices the musicality in Beth's last phrase and mirrors it back, encouraging her to express the same feeling rhythmically with sound rather than words. Beth begins, "Hmm...mm...mmm... mmm. Hmm...mm...mmm...mmm." The therapist then notices that, in accompaniment to her voice, Beth's arms are making rhythmic gestures. Nobel laureate Sperry (1981) wrote, "The brain is first and foremost an organ for action." According to Darwin (1998), "The goal of emotion is to effect physical movement and regain a state of physical equilibrium." In this moment Beth's brain has transduced her newly discovered feeling of empowerment into bodily action.

At this point the therapist has a visceral, somatic countertransference reaction to Beth's arm movements and decides to reveal it, saying excitedly, "When your arms released into movement, my belly released with a burp!" Sidoli (2000) wrote, "An analyst must be genuine and real in the relationship with the patient, unafraid to display emotions appropriate to the situation." Initially, Beth is unaware her slumped posture has shifted and her defensive reflexes have sprung into action. Thrilled about the client's achievement and eager to affirm it, the therapist immediately recognizes that the burp seems to punctuate this point.

In other words, somatically resonating with the client's bodily truth, the therapist's burp reflects a spontaneous recognition that Beth has completed the "fight-flight-freeze" cycle that must be resolved if trauma is to be healed. The therapist then clarifies that Beth's arms seem to be pushing away what she doesn't want and pulling toward her what she *does* want. Here the therapist validates that Beth's arms are taking transformative action. As the client pushes away those negative

aspects of the inner persecutor that do not feel protective, she differentiates defense from self vis a vis her own unmet survival needs.

The therapist's body is an essential instrument for empathic psychobiological attunement (Dosamentes, 1997). In response to nonverbal messages from clients, therapists may react in a variety of unconscious somatic ways: visceral responses, nervous system activation, changes in rate or quality of breath, onset of headache or other pain, and postural shifts. Awareness of internal bodily reactions in both patient and therapist provides fundamental clues about what's happening in the transference/ countertransference relationship in the present moment.

Beth is able to see herself more fully through the therapist's eyes as a result of this somatic self-disclosure. In the process of absorbing the image of what the therapist has reflected back about Beth's bodily actions, the patient completes the last of the steps for symbolizing dissociated experience: acquiring a mental representation of herself as agent who can reflect upon the here-and-now. Once higher reflective function rests upon the solid foundation of a well-integrated self inhabiting a well-regulated body, the role of unconscious conflict and repression in traumatic reenactment (Freud, 1961/1920) can be explored more effectively.

## CONCLUSION

When early abuse has become a self-fulfilling prophecy, the traumatized client's desperate need for healing can motivate a heroic journey. In the dance of interactive regulation that emerges between therapist and patient, movement pendulates between "then" and "now," rupture and repair, terror and courage. As an alliance of self-states consolidates, the traumatized patient moves toward "psychosomatic indwelling" (Winnicott, 1974) and the wholeness of being one self while, at the same time, many (Bromberg, 1998). Carrying the tension of the opposites (Jung, 1956/1916), an integrated self comes to face and embrace its true suffering, and this courageous act paradoxically transforms hopelessness into healing. Then, a coherent narrative of the journey can unfold as psyche returns from soma's underworld.

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#### Biography

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# Frozen Transference: Early Traumatization and the Bodypsychotherapeutic Relationship

Robert Lewis, M.D.

## Abstract

This paper delineates my clinical construct, cephalic shock, as a specific form of frozen character structure which becomes frozen transference in the therapeutic situation. Cephalic shock is related to A) Winnicott's (1965b) construct: the mind as the locus of the False Self B) current trauma research and literature, especially neuropsychobiology. C) Attachment theory research and literature: the special strengths and limitations of a bodily approach to early and later trauma- when the perpetrator is the primary attachment figure- are discussed. The material is illustrated via a vignette of a mother-infant pair on a video, plus three clinical vignettes from my practice.<sup>2</sup>

## Keywords

Cephalic – Frozen transference – Nonverbal – Resonance – Shock

## INTRODUCTION

In Wilhelm Reich's concept of character, a person's muscular armor can be understood as the embodiment of his (I will use the masculine pronoun for convenience's sake) past experience. It is, in other words, his history engraved or frozen into his body's form and motility. If one defines transference as some form of bringing the past into the present, it is a small step to view character, as we experience it in the therapeutic situation, as frozen transference.

This paper will stress a particular kind of frozenness of character to which I have given the name "cephalic shock". About 25 years ago (Lewis, 1981) I began writing about a group of my patients who were old before they were young, who could not stop thinking, and who thus had no "peace of mind". It was and still is my thesis that these patients had turned to a body-oriented therapy, because they were trapped and tormented by the mind within their head – a mind which ripened too soon in order to protect them from trauma. Now, as part of their post-traumatic shock, this ever-vigilant mind gave them no peace and robbed them of their deeper life experience. So, over these past three decades, I have brought a different orientation to the somatic psychotherapy of Reich and Lowen. They tried to get a patient out of his head and into his body. This never worked for me when I was a bioenergetic patient. I was always watching silently from some place deep within my head. I began to realize that the symptoms of cephalic shock- the rigidly frozen head and neck and incessant mental activity- were cephalic armor against losing one's mind and going insane. Winnicott (1965a) had described something quite similar in the "unthinkable anxieties" (p.58) which resulted from deficient empathic handling: falling forever, going to pieces, having no orientation, having no relationship to the body.

These people could not get out of their heads in order to get into their bodies. Their heads were already in shock. They actually needed to get back into their shocked heads and to begin to thaw them out, so that they could experience their head as part of their body.

So, to summarize my basic assumption, the classical bioenergetic approach, which tries to get the patient out of his physical head, 1) is a bioenergetic impossibility 2) only furthers the patient's dissociation. The underlying terror of insanity, and the compulsive thinking-ego or mind as False Self- (Winnicott, 1965b) with which such patients hold onto a false sanity, can only be dealt with where it is (in the head), not where it is not (in the abdomen or the pelvis).

Actually, as we will see from some clinical vignettes, the shock of being handled by a caregiver who does not recognize/accept the autonomy of a child's psyche/soma, can take many complex forms as that child develops.

## CEPHALIC SHOCK

### What Does It Look Like in the Adult Patient?

When we say that a person "lives in his head", we mean by this on one level of description that he is unconsciously holding on in a state of traumatic shock with the anatomical structures of his head. His head has become a cerebral fortress: it no longer feels like a part of his alive body. It is barely moved by the wave of breath which expands and contracts the rest of the body. The mind within this shocked head becomes dissociated- divorced from the living process. It is perhaps counterintuitive, but nonetheless true that a patient in this shocked state does not experience his head as a three-dimensional part of his body: it is numb (we might say frozen), so he cannot feel its weight, its warmth, its flesh and blood substance.

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<sup>2</sup> This paper was read at a symposium in the psychosomatic division of the Park Hospital in Bad Rothenfelde, Germany. The symposium, entitled "Psychotherapie-mit Leib und Seele"(Psychotherapy with Body and Soul) was held in 2001.

How do I diagnose this muscularly-anchored holding attitude of the head/neck and shoulder girdle, and in the process hopefully get the patient into better contact with his head- as opposed to getting him out of his head? (Lewis, 1984).

The patient presents with some variation of the theme that he cannot stop thinking, that he never or rarely experiences peace of mind, and that he lives in his head. He often points to an area low on his brow, between his eyes as being the locus of this perpetual cerebral motor. Our patient has a frozen or shock-like appearance i.e., his head, neck and shoulders move as one unit- there is very little movement at the joints. The face is mask-like, with no play of expression, the eyes look vacant, or glazed or terrified. The above signs may be grossly present and obvious or subtly and fleetingly present. The presentations of this construct are so varied because no two people experience a given trauma identically, and people hold onto themselves for dear life **with their heads** in infinitely varied ways. For instance, one patient, Ben, had, in addition to a mother who was insecure ground, a father who was brutally physically abusive, and beat him about the head. The “jaws of death” that Ben saw when energy moved strongly into his head, make his cephalic shock unlike any that I have ever or will ever again work with. In general, however, I look for any lack of harmony or unity between the head and the rest of the body, such as a head that looks like a cerebral fortress sitting on top of a more vulnerable, alive looking torso and limbs.

How Do I Further Explore Whether My Patient is Trapped in this Unnatural Fight Against Gravity, Which I Call Cephalic Shock?

I have the patient lie on his back, so that there is very little real need to fight with gravity. **I gently support his neck with my hand, and observe the degree to which a subtle movement with each breath in and out is transmitted through the neck, physically unifying the head with the rest of the body.** It is a basic tenet of bioenergetic analysis (Lowen, 1970) that “Breathing is the basic pulsation (expansion and contraction) of the whole body” (p. 43). In other words breathing is a total body movement. Therefore this simple diagnostic test reveals a great deal about your patient’s psyche and soma. To repeat: to the extent that the respiratory wave subjectively and/or objectively, does not move up in inspiration past the chest through the neck to the head, and then down again in expiration, to that extent, the unity of mind and body, psyche and soma is split. Of course, in the clinical encounter, nothing is all that simple. A person has to trust me and my hands on a deep level before they will really let me have the weight of their head. Furthermore, the wave of respiration can be trapped, broken, smothered or otherwise distorted by the tissues of a person’s head and neck in infinitely varied ways.

Moving now back to my patient in consultation, I have already begun to assess the degree to which he can let me support the weight of his head. Typically, the patient, caught in the cephalic attitude of self-holding, will lift his own head automatically without being told to do so, the moment I touch the back of his head. When I call this to his attention, he still is unable to give over to me more than a small fraction of the weight of his head and this only with difficulty. When I hold my patient’s head firmly between my hands, he is stunned that I am actually supporting his head in a predictable, reliable manner, and says, “At last I can let go. I’ve been holding me all this time.” His words are a verbal response to the nonverbal dialogue between his head and my hands. This nonverbal dialogue is the language of the body and may also include the quality of eye contact between us and the resonance of our voices. As my patient, let us call him John, gradually lets go of his head, he has very little sense of how heavy it actually is, and he is very afraid that it is much too heavy for me. After a minute or so he has a sense of peace, of being deeply understood. Soon, however, comes a sense of profound mistrust, isolation, and feeling that he has never been understood. This sequence can be helpfully seen as the emerging of John’s frozen past traumatic lack of attunement, to be reworked via the transference/countertransference between us. This frozen transference emerges as the shocked body tissues thaw in response to my attuned touch in the here and now. This approach is specifically for trauma which is not encoded in words or images.

John is a composite of the many people I have worked with in this way over the years. Let me share a little more of his story. When I first rock his head from side to side, John is unable to relinquish control. When I make my movement less predictable, he feels terrified. We stop. (We always agree on a stop signal, and a safe place if necessary.) John says, “It felt like I could lose my head, go crazy”. Over a period of some months, this work continues amidst the other issues he brings to therapy. Slowly, he is able to explore his fear of insanity, his underlying not knowing and unintegration. The head- rocking becomes a mutual kind of playing, sometimes frightening, sometimes sweet. “I’ve never been able to play”, he says. He takes over the movement himself at times- at his own rhythm and intensity. As he slowly lets me hold that part of his being which he entrusts to no one, the threat is that his mind will fall to pieces before the support of my hands delivers the peace of mind which comes from surrendering to someone outside of himself.

Throughout this process I am offering John in the quality of contact in my hands, my eyes, voice, etc., an invitation to give over to me some of the self-holding of his false, caretaker self; on a body level, to relax the muscles of the skull, face, jaw, shoulder girdle and thoracic diaphragm. To the extent that he relaxes this bracing which cut off his going-on-being, he risks the unthinkable anxieties but finds his spontaneous gesture.

What Causes Cephalic Shock?

In the mid-seventies I described (Lewis, 1981) what happens to an infant who is raised by parents with significant borderline/narcissistic pathology. Such a parent, typically, is so poorly attuned to their infant that they fail to provide a crucial function: they fail to help the infant modulate and organize its emerging and core bodily self; the infant’s rhythms,

states and energy are not met and mirrored adequately. So the infant is thrown back on its immature nervous system, a system that simply is not ready to maintain homeostasis—**there is no deeper issue than this**; this is the first and deepest life and death issue once the umbilical cord is cut.

Our shocked infant will have to find a way to hold on, hold together and hold against the parent who cannot provide it with auxiliary ego, a parent who is missing big pieces of its own ego. I refer you to the films by Brody and Axelrod (Brody, S. and Axelrod, S. *Mother-Infant Interaction Series: Forms of Feeding at Six Weeks*. 1962) on mother-infant interaction: one is stunned and barely able to sit through these films in which the infant is chaotically assaulted by dysrhythmic, gross mishandling at the hands of mothers who love their children and are consciously trying to do their best by them.

Let me describe a part of one of the feedings by a dysfunctional (rated low in empathy, control and economy of time and movement) mother in this film (video):

This mother took three hours to feed her infant boy. She told the interviewer that each feeding took about three hours and that she found feeding was a burden. For a six-week old infant that would work out to a minimum of fifteen hours spent in feeding each day! In the film portion presented, this infant was clearly hungry and wanted the bottle. In this six and one half-minute segment of the video the mother allowed her hungry infant to suck for eighty seconds, never more than three seconds at a time. During the same period she tried to burp him between one and two thousand times!! Trying her best, this mother simply could not hold still for more than a few seconds. She would offer her infant the nipple which he would seize with wild enthusiasm, only to have her pull it away a second or two later in a motion she appeared unaware of. Her infant would tense up his body and scream. She would then immediately try burping him in numerous different ways. She would wildly pat his back and/or jiggle it up and down while looking at him with puzzlement. She appeared to want him to stop crying before she would offer the bottle again, oblivious to the fact that he was crying because he was hungry. After several moments of this tense, jarring, jiggling and patting, this infant's head, neck and arms would become tensed in a startled position and his eyes would reflect shock. At that point he would stop breathing and crying. His mother then laid him back, offered the bottle and after a few seconds the whole sequence was repeated.

An infant will startle, i.e., exhibit a Moro (startle) reflex, whenever a subtle change in its equilibrium occurs. The reflex will be triggered, for example, by sudden movement, noise or temperature change or even its own energetic crying. The handling to which a borderline/narcissistic parent inadvertently subjects an infant, creates a chronic state of disequilibrium or shock, if you will, that is way beyond the shock that the infant can discharge in the Moro (startle) reflex. This is the unique shock of mis-attuned, unempathic handling, a daily occurrence, repeated perhaps hundreds of times a day in the course of feedings, diaper changes, etc. The infant is having the ultimately crazy-making experience of being held by someone who is out of touch with it.

There is now a great deal of neuropsychophysiological research data that begins to document what happens to an infant that experiences traumatically high, that is, overwhelming levels of arousal, which are not adequately soothed or as a current infant researcher puts it, "interactively repaired" (Tronick, 1989) Patterns are being laid down in the infant's immature nervous system which become part of its hard wiring (Schore, 1996). **Structure which is both neural and at the same time psychic is being imprinted into the circuits of the infant's cortex and limbic system.** When an infant is at the limit of what he can tolerate biologically, I would say, when he is being cephalically shocked, the danger registers at brain stem, midbrain and thalamic levels, and apparently engraves long lasting damage (Perry, 1997).

## TRAUMA AND A BODY-ORIENTED APPROACH

### Frozen Transference-The Body Does Not Lie

I will begin this section by focusing on the special strengths and limitations of a bodily approach to trauma. The implication of the phrase "frozen transference" is that with the above outlined approach, which operates on a core body level, one can by thawing the frozen transference out, recover the perfectly preserved record of the traumatic past. The stories we tell in spoken language about our past, whether they concern trauma or ordinary events, have been shown by current trauma research to be fallible, even if they are substantially correct. But when an experience has been traumatic, it has, by definition, overwhelmed our psychosomatic unity. It leaves us with disoriented and fragmented bodily sensations, feelings, and movements. These may be exact imprints of what happened to us at the time of the trauma. If so, they would be a more reliable record of the past than verbal memories have proven to be. My clinical experience convinces me that an approach that works directly on a core bodily level gives us access to the sensory-motor language, which **is the only available memory of the trauma.** My patient, Claire, for instance, was not involved in a legal battle with her parents when during our session she began to wheeze asthmatically as her frozen, rigid chest softened. Therefore, we did not have to concern ourselves with the absolute historical truth of her recovered bronchial contractions- they were very convincing to both of us and they reminded her of the many times from six years on up when she had been locked in the cellar after having been beaten by her mother. In addition to her cephalic shock, some of Claire's trauma was frozen in the bronchial tree of her lungs. Modern trauma theory suggests that we were desensitizing Claire's state-dependent memories so that they could be put in a time and place as part of a verbal narrative. Brain imaging techniques might have shown Claire's Hippocampus and Broca's area light up as she found (Herman, 1992) "a language to speak of the unspeakable" (p.175). Ultimately however, a story told that restores a sense of dignity and affiliation, may be more precious, more healing, than the historical truth.



## An Ideal Approach

Bioenergetic therapy is ideally suited to the challenge of helping the fragmented, frozen body tell a healing story. Pierre Janet (1925) taught us that trauma was laid down in the body, and that traumatic memories were state-dependent. Work on a core bodily level gives us access to these shock states. **It allows us to explore in nuanced detail, in sensorimotor slow motion, the trapped fragments of the past.** If we are not too countertransferentially threatened by this chaotic, nonverbal material, the patient will slowly find the inner and then the spoken words to fit his experience. This is not only true of cephalic shock, that is, early trauma. **IT IS TRUE OF TRAUMA OCCURRING ACROSS THE LIFE CYCLE.** In cephalic shock the trauma occurs when the infant's young mind cannot grasp what his organism is experiencing. There are no words or images to adequately encode his body sensation. This is preverbal trauma. But, as we have already said, trauma at any age is largely a nonverbal experience. It breaks us, shatters us, overwhelms our psychosomatic unity. It leaves us with a sensory-motor language that is divorced/dissociated from a story placed in time and space and told in words.

## Early and Later Trauma

You will never see an adult patient walk into your office with a pure case of cephalic shock. No two people have the same life experience, and a given trauma and everything that comes after it affect each other reciprocally. Recent research (Schoore, 1996) is documenting how the experience of being attuned to (for instance, effectively comforted and soothed at times of stress) in infancy hard-wires the basic bodily trust into the nervous system, into neurobiological patterns of coping with stress. We used to say the infant internalized the attuned care as an ability to regulate and soothe itself; it treats itself the way it was treated. We are beginning to measure the neurochemistry of how this gets built into babies by their experience. Their levels of cortisol, for instance, and the balance of their sympathetic and parasympathetic nervous systems reflect their ability to modulate their energy and feelings and to recover smoothly from adversity. The babies in the video internalized a chaotic experience many times a day. Unfortunately, each traumatic feeding is likely to have made them less able to cope with the next. This is how their daily developmental trauma makes them more vulnerable to the next "shock" trauma that life has in store for them.

Furthermore, the same caretaker who cannot respond to his infant in a well-attuned, emotionally responsive way in the earliest months of life, will tend to have long term difficulties with the child as he matures. The child will not be well-attuned to on a core bodily level, or genuinely engaged with on an intersubjective level. Additionally, any actual patient may come from a family of origin in which his unempathic handling was embedded in a chaotic, neglectful and violent environment. In such families of origin, his daily bread, so to speak, may consist of physical abuse, sexual abuse, spousal abuse, substance abuse, and extreme neglect, which leaves him and such children unattended and therefore additionally at high risk for accidents and further abuse from predators outside of the families.

## Betrayal and Attachment Theory

My construct, cephalic shock, is enriched when it is informed by attachment theory and research. The biological purpose of the attachment system, you will remember, is to maintain physical closeness between the young child and the mother, as a protection against predators. But how are we to understand what happens to the psyche/soma of a child whose body's flight response propels it back to the traumatic danger? Because this is exactly what happens to the cephalically shocked infant: his primary attachment figure is also the perpetrator. The infant's scream, his cry of distress, is the biological signal by which he maintains proximity to an attuned caregiver. What is terrible about the feedings in the Brody-Axelrad video is that the babies' signals of distress do not bring them relief, but only increase their abusive handling. When the danger comes from your secure base, your deepest neurobiological survival mechanisms fail you. Your body and mind go into shock.

Attachment researchers have recently described a most disturbed category of insecurely attached children who seem quite similar to those I describe as cephalically shocked: they call them "disorganized/disoriented" (Main, M., & Solomon, J. 1986). When such a one-year old child is reunited with its parent after Mary Ainsworth's (1969) naturalistic "Strange Situation" test, it may typically go toward the parent, then go away, spin around, bang its head on the wall, kick the floor. Instead of comfort, the return of the parent leads to a state of disorganization in the child. The researchers have found this kind of behavior in the presence of abusive, frightening, and disorienting parental behavior. The researchers also described "prolonged freezing, stilling or slowed, underwater movements" in these disturbed children

(In the stunned six-week old infant in the video, one can see him protesting his poorly attuned care. One can see his repeated Moro or startle reflex easily enough, and one sees him becoming overwhelmed, glassy-eyed and limp. One can reasonably describe both these six-week old infants and Main's disorganized one-year olds as more or less frozen stiff in the combined state of chronic hyperarousal and numbed immobility which Herman (1992), van der Kolk (1996) and most trauma researchers have identified. On yet another level of description one can reasonably hypothesize that brain stem catecholamines and endogenous opioids are mediating these states, and that the more time the infant/young child is at their mercy, the more deeply they are etched into his maturing neuropsychobiological circuitry.

## THERAPEUTIC PROCESS AND RELATIONSHIP

## First Vignette

I am thinking of Charles, a man whom I worked with whose neuromuscular system was locked in such somatic terror and confusion.. His core body feeling about his bond with his mother was that her touch felt like that of the water leeches that suck your blood. But leeches need your blood to live, so if he moved, she would die...and as noxious as she was to him, she was also his life source. So he froze...his spastic muscles rather than his skin became his containing membrane. As he put it, " You need a mother to learn how to use your muscles properly." As an adult he moved mechanically and without pleasure and felt that he had been able to organize a false neuromuscular self with his left brain. In a poignant attempt to hold himself, he had substituted his musculature, a part of himself, for the too dangerous significant other. He had done the same thing with his mind, literally splitting his thought process into a speaker and a listener. It was not easy to change this in therapy because beneath his control lay chaos. He sensed his flexor and extensor muscles contracting simultaneously instead of alternately; and beneath this paralysis, was the fear that he would go out of control, move violently in opposite directions and, in so doing, tear himself apart or destroy others. Charles slowly learned in our therapy how to reorganize himself in his body by internalizing how he could bodily be with me- that is, how he could touch, move and breathe with me. He learned, for instance, that he could move for himself and still be in contact with me. Charles' path to a vital connection with his core bodily self was via a somatic and emotional attunement and engagement with me.

## Second Vignette

My second vignette illustrates how Freud's fundamental rule of psychoanalysis has in my approach been broadened. In addition to the spoken word, the patient is invited to share without conscious censorship his pre-symbolic sounds or vocalizations, bodily sensations and movements. My patient Anne, a fifty-year-old woman, was one of two surviving children of parents whose own parents had been either incarcerated or murdered by the Nazis. Lying on my somatic psychotherapy couch, she put her hand over her solar plexus, where she said she was experiencing a burning, pressured sensation/feeling. Anne and I attempted to explore what her bodily sensation was expressing about her inner state. I watched her breathing. Her respiratory wave, as it moved along the front of her body, was shallow. She was pursing her lips, and swallowing frequently. I encouraged her to breathe into and sense with her hand the area of her body to which she had called our attention. Over some five or ten minutes, the burning sensation moved up into her throat, as her breathing deepened. I asked Anne if she heard an inner sound or words or sensed any tone in her burning throat. She was uncertain. I suggested that she give sound to her exhalation, allowing anything to come out that wanted to. She then emitted a very high-pitched, far away sound...it cut off after several seconds. She then described it as "weird", and said it made her feel "inhabited" as if by some kind of "poltergeist". We waited. I was sitting next to her. She felt both frightened and intensely curious. After several minutes, the burning over her solar plexus became more intense, and another wave of feeling moved up the front of her body, culminating in another high-pitched, extremely difficult for me to listen to, wail, for which Anne, moments after, used the word "horror". She then said, in a horrified tone, "it's an old woman...it's my father's mother's voice...he carried it, and now it's in my body". The history was that her father alone had survived. His entire family had been shot by the Nazis. Let me note that while it did not happen in this particular session, Anne would often appear initially or at moments when she was threatened by her material, quite frozen and unable to feel anything at all. At these times I might physically hold and mobilize her muscularly braced head and neck in the manner described earlier in this paper.

Anne saw that I absorbed and contained her scream or wail with difficulty. We were communicating intersubjectively, but on a core bodily level (Stern, 1985). With my explicit support Anne was directly experiencing the not yet verbally encoded and/or highly charged material in her own body. She and I were communicating in a split-second, mostly out-of-awareness fashion. The elements of this non-verbal dialogue included our level of arousal and energy, motor activity, the size of our pupils, the tone and pitch of our voices and lots more.

Actually, the above vignette with Anne, in which we were both surprised by her grandmother's voice, was not really representative of the work-a-day somatic, nonverbal work that we did. In our initial session, Anne had explained her reason for entering therapy with me: she wanted to explore her youthful manner and appearance...which belied her almost fifty years of age. She said this to me in the tone of voice of a young girl. Anne had been in psychoanalysis for close to fifteen years before she got to me. She had grown immeasurably during this time, but still feared to more fully assert her creativity, independence and authority. In this phase of her therapy with me, sessions often began with the burning or other physical sensation over her solar plexus or throat. When I encouraged her to be with the sensation and see what happened, Anne's bodily state would change. Sounds and movements came out of her and moved through her; not those of a murdered grandmother, but rather those of a hitherto hidden, private self. At times the room would fill with a level of energy, arousal, vitality and sound many times that of the fifty-year-old woman with the little girl's voice. At other times Anne would tell me she felt a band of tension cutting off her voice and breath at her solar plexus and/or throat. She would ask for help and I might put a hand on her body where she felt the tension. Whether and where and how I touched Anne on a given occasion is difficult to convey in a paper, in part because it is largely determined by implicit, nonverbal process. It is difficult to convey because there is such a multi-layered mix of things moving between Anne and myself. Consciously, I hear Anne's voice catch in her throat, and I know from experience that a firm, but light massage of her thyrohyoid membrane just above the cartilage that houses her larynx will likely reduce her choking and help to open her fuller vocal resonance. But I am also affected by

the largely unconscious, nonverbal projective identifications that move in a split-second time interval between us. Let me elaborate briefly. Anne has a strong ego and functions at a high level in the world. She does not hallucinate. But when she connects with the primal sensation and movement of her dissociated self, things get...very primal. There is, for instance, a sudden, terrified body memory of sexual abuse by an uncle. Or a sense of her abdomen being inhabited by snakes or worms. Or a frantic sense of being trapped inside her thorax. As I sit next to Anne, I am aware that this material makes me uncomfortable- I don't like snakes, I hate being trapped and I really hate being sexually abused. But I believe two things are helping me to stay appropriately present to Anne. First, since I am trained to work with a person on a direct bodily level, Anne is having an opportunity to embody and renegotiate this primitive material. Consequently, my burden of having to receive and contain via projective identification is not so heavy. Secondly, Anne does not leave me floundering too long in her speechless terror or guttural (visceral) rage: Her observing ego finds the inner and then the spoken words that make her chaos more comprehensible. Nevertheless, how much overwhelming, chaotic material can I tolerate without subliminally showing Anne my dilated pupils, or pressing too hard on her thyrohyoid membrane in order to tone down her self-expression. Additionally, let me note that, although it is beyond the focus of this paper, never to be forgotten is the issue of whatever countertransferential feelings I may be having about working at close range with Anne who, in spite of her childish voice, is an attractive adult woman (Lewis, 2000).

But let me return to the question of how I responded to Anne's request that I help her reduce the band of tension that was cutting off her voice. At times my physical touch seemed to reduce a physical restriction and/or support an inner resonance which then came close enough to the surface of Anne's being to enter her consciousness as a sound she could hear and a movement she could think about. She felt exuberant and terrified, ferocious and loathsome as she came to more fully embody the fifty-year-old woman that she was. It is difficult to do justice to the explicit transferential issues that are imbedded in the implicit somatic material I am emphasizing. Having said this, let me note that at times I was Anne's lethally narcissistic mother in the transference, as Anne was overcome with shame and barely able to believe that I could tolerate eye contact with her after she had delivered herself so vitally into the room with me.

### Third Vignette

My final vignette concerns Ben. His clinical picture was very much that of cephalic shock as I have outlined it earlier. Ben, if you remember, was the man I mentioned earlier who saw what he called "the jaws of death" when his head relaxed enough to let a lot of feeling into it. His mother was insecure ground and his father beat him about the head as part of being brutally physically abusive. Let me share some of the heart of our encounter:

For close to two years, we met twice weekly. The bedrock from which our work emerged was my constant physical presence and warmth. Over a period of months, Ben's center of gravity slowly dropped from his head and seemed to embrace his heart, his solar plexus and his pelvis. Throughout our work, this movement downward and toward the core was catalyzed both by my releasing Ben's deep head and neck tensions with my hands, and even more often, by his own spontaneous brow and head movements

Each crack in Ben's cerebral fortress reverberated in the rest of his body. Once it was not all anchored in his head, his guts and his heart began literally to spew out in pulsatile waves the trauma and toxicity he had lived with. He erupted many, many times in energy/movement/sensation/pre-emotion as his shocked organism struggled to come down from his head into his heartland and into a new way of being with another human being. For example,

Ben sits up (he has been lying on the bed). "You're repulsive- I want to puke everybody out- get out!" he screams. He pulls at his solar plexus and groans, "I want to reach in and turn my insides out--shake everyone out and start over again." (Later, he says this was about "bad love."): He jumps up onto his feet, as though choking on all that he has taken in and swallowed down. He is overcome by deep, racking sobs, crying out that he feels he is dying. Later he says he felt "suffocated" in the throat and "poisoned" in the solar plexus.

Before I tell you how it was for me to accompany Ben on this wild journey to places that neither of us had been to, I want to offer a limited explanation as to how it could be that in the middle of this awful process Ben began to report that his sex life with his wife had become fuller and more exciting: when you work deeply with the head, the thoracic diaphragm is activated. A partial explanation for this is that the phrenic nerve, which supplies the diaphragm, originates in cervical nerves 4 and 5 in the neck. The diaphragm in turn seems to be a major gateway to the rest of the body: the medial lumbo arch of the diaphragmatic muscle with the upper part of the psoas major contributes to the ilio-psoas muscle which descends to the pelvis and thigh. This anatomy sketch is offered in the spirit of a very limited explanation as to why Ben reported that his chest was glowing and his legs were flowing.

But let us return to my relationship with Ben. In my own Reichian-based bioenergetic therapy (Reich, 1973) the idea had been to dissolve my armoring. Once we got down to the core level of my biopathy, the goal was to reorganize a truer, more spontaneous bioenergetic self. While to some extent this happened during my own therapy, I think it took a decade or two of living with myself, my good wife and children, before I began to exist in a truer, more unified way from somewhere closer to my center. So how was it for me to help Ben to go where I had never been? At times I was envious of, at times thrilled by, and at times terrified of the depths to which he let his process take him (us!). Often, as in the above session where

Ben fought on a core bodily level to free himself of toxic introjects, or when he demanded my warmth and presence, the action was so gripping and palpable, that my excitement won out over my fear, and our attunement was “good enough”.

Ben taught me about *Leib und Seele* (body and soul): at times his words seemed like echoes from the depths...like utterances from a man buried deep below the earth's surface. I found myself intuitively holding onto his words as if they were precious vessels from a place where spirit and matter are one. One can only approach, never hope to touch directly this inner flame. Ben said:

There is a box, a place in me that I never let anyone into... I can't trust...could be too hurt.. To get what I want, it feels like I must show some part of myself that was meant to remain private...in this private place in me – energy and matter are mixed in a really delicate way- it's a shimmery thing...I'm very fragile there... like the flame of a candle in gunky protoplasm...I'm terribly shy...I need hope, bravery ...the light mingles, resonates with an essential part of my self...I want to shine-glow out of that vulnerable place. I remember as a child running naked in the woods...I think I made a sound ...which kept something in me from being broken.

I believe that in Bioenergetic therapy we sometimes have mistakenly equated physically touching our patients with truly touching and being touched by them. I mean by the latter, a touch that is well-attuned to the patient's inner state or being. Ben had bravely compensated for a profound lack of early attunement with a mind and a language that wrapped themselves around people and held them in his head. Now, using metaphor and analogy, his spoken language increasingly touched me from the deepest recesses of his being. His words cried out from a place of cosmic isolation. They were the vessels for the hope that his inner being could be known, held and embraced, even when our bodies were not in direct physical contact.

As a child, Ben had stared for hours at the back of his father's head, wondering how he might make contact with and be taken in by him. He had given up on being seen directly, and mentally/visually tried to bore his way into being held (known, apprehended) in his father's mind. Now Ben's poignant metaphor and analogy allowed me to attune to what no one may touch directly in another human. The pain of his isolation emboldened him to risk losing his private self. I rarely found words in the moments when Ben's nascent psyche-soma touched the nascent (shy, fragile) hidden parts of my being. But I believe these shared moments brought both of us a fuller sense that we really were “insiders” in the community of humans.

## CONCLUSION

This paper has delineated my clinical construct, cephalic shock. Cephalic shock has been related to Winnicott's construct: the mind as the locus of the False Self. An attempt has been made to integrate these early shock states with the neuropsychobiology of modern trauma research. Additionally attention has been drawn to the similarity between my construct and the recently described disorganized/disoriented one-year olds in the attachment literature. My clinical vignettes have described how in a somatic psychotherapy Freud's fundamental rule of psychoanalysis has been broadened and deepened. Somatic and emotional attunement occur in split-second time – intersubjectively, but on an implicit, core-bodily level.

As I reflect on my work with John, Anne and Ben, it is only when things are going perfectly that my countertransference gives me a rest. And as you can imagine, this rarely happens . When there is not quite enough happening, I am at risk of failing at my chosen ego identity: that of being a therapist...a failed therapist is a wounded healer. But when almost too much is happening, I am still shaken: once again the wounded healer in me is stirred, the self that was broken by my own early and ongoing traumas and never fully healed.

In summary, when you have no words for your feeling, for what happened to you, for what is missing in you, we listen to the inner resonance- of your inchoate secrets- as it lives in your body. We help you to sense and amplify this inner resonance until its movement comes close enough to the surface of your being to enter your consciousness.

But we also listen carefully to your words and we are touched by them when they come from a depth of your being that no one can put a hand on. We invite you to surrender to the spirit of your body and the body of your spirit- and in so doing, to embrace your true self.

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#### Biography

**Robert Lewis, M.D.**, in private practice in New York, is a senior trainer on the IIBA faculty, and a member of the clinical faculty of the NYU/Mount Sinai Medical Center. He has published extensively on the integration of early developmental and relational issues into the basic bioenergetic approach. Bob has long been interested in the sensory-motor story which trauma engraves in our bodies. He coined the term “cephalic shock” to capture the psychosomatic experience of what Winnicott called the mind as the locus of the false self. His elucidation of Cephalic Shock and way of working with the head, voice, and diaphragmatic connections to the pelvis, are beyond words. He has found the Attachment paradigm deeply confirming of the centrality of relationship in his clinical approach. Bob aims for and is touched by the moments of encounter in which implicit mystery becomes almost palpable. He leads workshops in Europe and the Americas, and residential intensives on Long Island, New York. He can be reached at [boblewis@inch.com](mailto:boblewis@inch.com)

# Neuroscience Book Review

## Part III Neuroscience in Somatic Psychotherapy

Aline LaPierre, Psy.D.

*This is the third of a three-part review. In Part I: Understanding the Mind-Brain and Nervous System, we explored foundational books that map the essential principles of neuroscience. In Part II: Affective and Developmental Neuroscience, we considered the work of Jaak Panksepp and Antonio Damasio, Allan Schore's regulation theory, and Daniel Siegel's interpersonal neurobiology. In this issue, we review publications that apply neuroscientific principles to somatic and psychological theory and clinical application.*

### Abstract

This third section of our neuroscience review considers the emergent connections between neuroscience and somatic practice. Does neuroscience support or challenge our existing somatic approaches? Can neurobiological information be organized into a framework that enlightens our clinical somatic practice? Does it lead to new guidelines for crafting therapeutic interventions and suggest refinements and modifications to our existing frameworks? Intuitively, one would have to answer a resounding YES! Indeed, there is much to be excited about.

### Keywords

Neuroscience book review part III – Somatic psychotherapy

As we have seen, the brain is a complex organ that constructs experience from many channels of sensory input, regulates our responses through thoughts and emotions, and controls our actions. Its *raison d'être* is to learn from experience so that we can adaptively meet the ever-changing challenges of our environments. In Part I we noted that we humans have a unique dual perspective on the brain; whereas neuroscientists grapple with the workings of the physical brain from an external viewpoint and examine its neural firings *objectively* with increasingly sophisticated instruments, psychologists study it *subjectively* from the position of what it feels like to *be* such a system. This dual viewpoint applies equally to the body. Whereas traditional medicine evaluates and investigates the functions of the body objectively and treats them with increasingly sophisticated instruments, contemporary somatic psychotherapy studies the body subjectively, from the position of the *experience* of being one.

Understanding the biological nature of perception, learning, memory, thought, feeling, and consciousness has emerged as the central challenge of the biological sciences. In Part I we reviewed the work of neuroscientist John Ratey who suggests that, in order to approach psychotherapy more effectively, we need a new, multifaceted paradigm. Because the body's neuronal memory is the ground within which our life experience is imprinted, Ratey proposes that psychological treatment begin with tracking experience. A clinician, in his opinion, should begin by investigating how a patient experiences the world, focusing the primary diagnostic inquiry not on "How do you *feel*?" but rather on "How do you *perceive* and comprehend the world?" He believes that because emotions are created by the physical firing of neurons, clinicians should delve below the emotional surface of feelings, first considering their biological cause and effect.

The approach Ratey recommends has been in development in our somatic practices since Wilhelm Reich who understood that the body's communication goes beyond the symbolic representation of verbal expression. Reich and his followers taught us how beliefs are bound in posture and movement; inner realities emphasized, masked, or betrayed by facial expressions; and emotions revealed by the rate and pattern of breath. Thus, in somatic work, posture, movement, breath, facial expression, and vocal tone provide important clues about the congruence between embodied inner experience and its outer expression. This legacy finds itself renewed and refined in the new generation of neuroscientifically informed books that bring current findings to somatic clinical practice.

In somatic psychology, the body is not separate from the self. From a body-centered perspective, our innovative therapeutic objectives seek to elicit a sensory dialogue that sets up a meeting point and establishes a conscious unity between mind and bodily self. One of our principle goals is to help our patients develop the ability to observe the bodily activities that reside on the fringes of sensory awareness and that are difficult to put into words—that is, experiences such as body heat, involuntary and voluntary muscular contractions, organ vibrations, and skin sensitivity. Our body-centered approaches focus on felt sensory experiences as they rise, *bottom up*, from the implicit realms. Somatic methods use sensory tracking and the recognition of movement impulses to access the interactive links—or lack thereof—between sensation, behavior, affect, and cognition. Somatic work encompasses not only experiences processed in the neocortex, but reaches into experiences processed through the limbic, mid and lower brain centers. We could say that somatic work intends to harness the plasticity of the brain and nervous system, that it seeks to stimulate dendritic growth and neural connectivity by supporting the biological completion of developmental tasks and disruptive traumatic events.

### Neuroscience in Somatic Psychotherapy

*The mind is like the wind and the body like the sand; if you want to know how the wind is blowing, you can look at the sand.*

—Bonnie Bainbridge Cohen

**Body–Mind Psychotherapy: Principles, Techniques, and Practical Applications** by Susan Aposhyan. W.W. Norton, 2004.

**Trauma and the Body: A Sensorimotor Approach to Psychotherapy** by Pat Ogden, Kekuni Minton, & Claire Pain. W.W. Norton, 2006 (in press).

These two books each propose a theoretical integration that expands the existing somatic traditions they draw upon and weaves them into the fabric of psychotherapy and neuroscience. Susan Aposhyan calls her work *Body–Mind Psychotherapy* (BMP), and Pat Ogden, Kekuni Minton, and Claire Pain call theirs *Sensorimotor Psychotherapy*. Both approaches work with the basic tools of body–mind integration—body awareness, breath, and movement—providing what Aposhyan describes as the framework for understanding how body and mind are fundamentally connected in psychological development and growth. In addition, they create a clinical interface for the maturing evidence brought forward by developmental and affective neuroscience that confirms the significant importance of nonverbal processing, attachment, autonomic regulation, and implicit memory.

#### Susan Aposhyan

The basis for *Body–Mind Psychotherapy* lies in experiential anatomy, physiology, and early motor development. In her first book *Natural Intelligence* (1999), Aposhyan had introduced working with “a synergistic intelligence that combines all the creative resources of every tissue and fluid in the body down to the cellular level” (p. 34). *Body–Mind Psychotherapy* now looks at the relationship between psychological process and the tissues, fluids, and cells of the body. *Body–Mind Psychotherapy* continues to draw its foundational somatic principles in large part from the work of Bonnie Bainbridge Cohen (1993), founder of *Body–Mind Centering* (BMC), then greatly expands its reaches to incorporate the latest research in neuroscience. Aposhyan, who is a certified practitioner of the School for Body–Mind Centering, also acknowledges the strong influence of her 30 years of contemplative meditative practice.

In the book’s first of four parts, Aposhyan gives us a concise overview of the developmental lines of our field. She traces our somatic lineage back to the organic view that psychological forces use physical energy, first brought to the fore by French psychiatrist Pierre Janet. She connects our somatic origins to neurologist Sigmund Freud, whose early career was devoted to finding the neurophysiological basis of psychological disorders. Importantly, Aposhyan reviews the established principles of somatic psychology and positions her *Body–Mind Psychotherapy* within this framework:

- *Body and mind function in mutual feedback loops.* The state of the body reflects the mind, and the state of the mind reflects the body. This principle is the key to integrating cognitive and somatic processing in a therapeutic context. The recognition of mind–body mutuality is also the basis for processes of somatic self-discovery that emphasize an exploration of the relationship of sensation, posture, and movement to mental and emotional states. In BMP, this principle is articulated as the *positional functioning theory*. Following the Body–Mind Centering model, Aposhyan anchors this somatic portion of her theory in the stages of motor development. She writes: “By grounding diagnosis in early motor development, there is an indication of the direction of future development within the present structure” (p. 13).
- The link with early motor development leads to a second fundamental premise. Early development, which forms the template for later stages of development, is primarily nonverbal. Therefore, *the body provides direct access to early developmental nonverbal and implicit behavioral issues*. Aposhyan makes the point that as mammals, we all have the capacity to read the signals of each other’s physiology; however, the cultural overemphasis on the verbal has somewhat obscured the cultivation of this ability to translate nonverbal bodily states into verbal consciousness. Whereas past somatic approaches have stressed the nonverbal, at times even to the exclusion of the verbal, BMP supports the maturing trend of integrating the body into mainstream psychology. Working through the body allows access to the physiological aspects of autonomic neurological regulation, so necessary in the treatment of posttraumatic stress, dissociative processes, depression, and anxiety. Thus, BMP stresses the skillful integration of verbal and nonverbal awareness, explicit and implicit memory, and cognitive and somatic processing. It also stresses the importance of training therapists in the subtleties of nonverbal as well as verbal attunement. Clinicians who want to practice integrative mind–body psychotherapy must include a focus on their own ongoing mindfulness and deepen their understanding of somatic states. To this end, BMP recommends and offers embodiment training for clinicians.
- *Somatic approaches articulate concrete methods of cultivating and sharing positive affective states.* Attention is given to help clients develop resources that enhance their level of vitality and well-being and their capacity for self-care and self-regulation.

- *Somatic approaches provide concrete access to behavioral change.* Simple changes such as how to stand or walk are expanded into more complex changes like how we reach towards others or pull away, and move on to greater interactive complexities such as sexuality.

As noted, *Body–Mind Psychotherapy* incorporates the principles of Bonnie Bainbridge Cohen’s Body-Mind Centering. Advocating self-knowledge through direct bodily experience, BMC supports the immersion in experiential physiology at the micro levels of cellular and molecular behavior, where body and mind are indistinguishable. Our conscious awareness tends to reside in the larger orders of affects, cognitions, and sensations, with little attention paid to the subtle dynamic processes out of which they arise. We now know that intelligence extends far beyond the human brain to every cell of the body. BMC trains its practitioners in the direct conscious experience of the processes of cellular metabolism and energy production so that they can connect with the various systems of the body’s intelligence: cellular intelligence, chemical intelligence, vascular intelligence, neurological intelligence. I believe that this aspect of BMC, which brings us to experience ourselves on the microscopic level, is of the greatest consequence. The genius of both Bonnie Bainbridge Cohen and Susan Aposhyan is that they guide us to experience ourselves at smaller orders of magnitude than we normally use in the conscious perception of our embodied experience. The belief is that with focused attention, microscopic processes can be brought within perception’s reach, no longer condemned to remain implicitly preconscious or unconscious. Bion, in his paper “Evidence”, wrote that “we may be dealing with things which are so slight as to be virtually imperceptible, but which are so real that they could destroy us almost without our being aware of it.” *Body–Mind Psychotherapy* reminds us that the focus on macro awarenesses may well curtail a rich web of accessible direct microfeedback, if we center our attention on the subtler internal aspects of our experience.

As if this were not enough, *Body-Mind Psychotherapy* goes further in building its theoretical foundation. Aposhyan uses the wisdom of evolutionary psychology, highlighting the fact that the evolution of the nervous system is the result of the body’s need for a communication network that links all body systems together. Anchoring this aspect of her work in the affective neuroscience of Jaak Panksepp (reviewed in Part II) that shows how evolutionarily based emotional operating systems set up our fundamental brain–body states and movement behaviors, adding Damasio’s somatic marker theory, Hebb’s rule for neuronal connections and associations, and the fundamental work of Schacter and Singer on how implicit memory unconsciously dictates behavior, BMP offers a clinical approach that focuses on facilitating cooperation among all systems, thus supporting the integrative role of the nervous system.

From these principles, Aposhyan unfolds the work of integrating cognitive and somatic processing by using the brain as a modulator and coordinator, rather than controller, of the various body systems. She identifies self-talk and body sensations as distinct players in the mutual brain–body feedback loops and weaves them together to generate behavioral changes that in turn support brain changes. BMP is about balance; its intent is to optimize the brain–body partnership, to facilitate an internal cooperation that can shift the emotional set-points that affect brain states and baseline moods. For Aposhyan, somatic techniques are not tacked on to psychological practice. Following the conclusions of mother–infant attunement research which calls for the inclusion of the nonverbal in the playing field of treatment, Aposhyan’s sophisticated understanding of the realm of the body gives us a rich array of somatic resources with which to interface with psychological states.

### ***Pat Ogden, Kekuni Minton, and Claire Paine***

This is a book that intends to spread the word about the irrefutable value of somatic principles in the world of traditional psychology. *Trauma and the Body* addresses the traditional psychological market with theoretical underpinnings and treatment approaches that are clearly anchored in body-centered tradition. In the introduction, the authors write: “...while the majority of therapists are trained to notice the appearance and even the movements of the client’s body, thoughtful engagement with the client’s *embodied* experience has remained peripheral to traditional therapeutic intervention.” They make the point that given the new research, the body is central and cannot be left out of the therapeutic field. Although the methods used in this book address trauma, the sensorimotor approach is equally applicable to the nontraumatic range of childhood and family dynamics that shape personality and interactive capacity.

The many influences that have gone into this broadly integrative work weave together a who’s who of the fields of developmental and affective neuroscience, trauma, and somatic psychology. Ogden, Minton, and Paine draw on neuroscience to construct the underlying rationale that supports the introduction of somatic interventions into the traditional model of the “talking cure.” Readers will find most of the neuroscience principles used in sensorimotor psychotherapy reviewed in Parts I and II of this neuroscience book review series.

*Trauma and the Body* is divided in two sections: theory and treatment. Part I is devoted to theory that draws on the work of contemporary experts in the area of trauma treatment, neuroscience, attachment, and dissociation to (1) provide the rationale for the somatic treatment of traumatic disruptions in physiological and emotional regulation; (2) describe how the body develops a low tolerance for arousal and falls prey to survival-oriented autonomic hypo and hyper arousal and dysregulation; (3) make the distinction between interactive and autoregulative; (4) explain the various kinds of orienting responses and the stages, for the traumatized person, of reintegrating sensory responses; (5) show how to recognize survival-related defensive responses and reestablish adaptability and flexibility; (6) describe the psychobiological systems that have evolved to support adaptive responses that optimize survival. The last chapter of this first part features as guest authors the well-respected neuroscience researchers Ruth Lanius, Ulrich Lanius, and Janina Fisher, who show how neuroimaging



technology has made possible the detailed study of how trauma impacts both cortical and subcortical processing of information.

Part II of *Trauma and the Body* describes the treatment philosophy and techniques of sensorimotor psychotherapy, putting into practice the theoretical material described in the previous chapters. The work emphasizes what has already been proven to be sound approaches to working with trauma: careful pacing, clear boundaries, and gradual reconnection with the body. Ogden, who acknowledges 30-plus years of professional collaboration with Ron Kurtz, draws heavily on his Hakomi method to describe techniques that focus on the organization of experience in the present, rather than on insight, and on mindfulness techniques that facilitate the regulation of arousal. Issues of transference and countertransference specifically related to working somatically with a client are covered and will no doubt be useful to those who are new to working with the body.

Treatment itself is divided into three phases. Phase 1 describes the development and use of somatic resources that help clients to bring their trauma related autonomic dysregulation under greater conscious control so as not to exacerbate symptoms. This first phase, which expands a client's self-regulatory skills, paves the way for the processing of traumatic memories in Phase 2. The renegotiation of trauma involves developing a sense of mastery over the intense feelings, body sensations, and impulses associated with the traumatic memories. Very closely following a protocol developed in Peter Levine's *Somatic Experiencing*, this chapter reviews how memory is safely reevoked, and how resources are retrieved, how empowering actions are discovered and executed. In Phase 3 the focus of treatment shifts to establishing a life beyond trauma. Somatic interventions are used to help clients resolve relational issues, reengage society, tolerate increased intimacy, take risks, and mediate change. Utilizing body states and movement together with highlighting increasing tolerance of positive affect and capacity for pleasure create a template the client can use to practice new ways of being until they become automatic tendencies.

The authors give attention to the concerns that could be experienced by therapists who are new to the idea of working with the body and find this new terrain intimidating. Having personally struggled with professional encounters where clearly, the idea of working from a body-centered perspective was considered marginal, I am grateful to the authors for addressing this educational aspect. For those of us who have colleagues who want to be introduced to, or better understand, the somatic approach, this book is a great educational reference.

Sensorimotor psychotherapy can be woven into psychodynamic or cognitive-behavioral models of therapy, including EMDR, to help bring together body and mind. It combines the best of all worlds by examining each level of the triune brain-information processing separately, interweaving cognitions, emotions, and sensorimotor responses, supporting the interplay between bottom-up and top-down interventions. For example, although top-down techniques offer effective *management* of dysregulated body states and can provide significant relief, they do not fully address the issues. In sensorimotor psychotherapy, the top-down direction is harnessed to *support* sensorimotor processing: through mindful tracking (top-down) of physical sensations and impulses (bottom-up) this approach further develops the tools to work with the body and mind mutual feedback loops. This extremely well-written book will leave the reader with a clear understanding of how harnessing the principle of biological completion helps transform personal tragedy into personal triumph.

### **The Implicit, The Intersubjective, and the Flow of Consciousness**

*It is about experience as it is lived.* —Daniel Stern

**The Present Moment** by Daniel Stern. W.W. Norton, 2004

The present moment can hold the past within its small grasp, and the past is only “alive” when on the stage of the present moment. Yet, because past, present, and future are so intimately intertwined, it can be difficult to remember and reflect on the *now* of our lives. Both Aposhyan and Ogden emphasize the fact that working somatically—in particular, when reclaiming the self out of traumatic events—entails working in the present. Stern's inquiry into the nature, structure, and duration of the present moment is therefore both appropriate and particularly helpful. Stern's philosophical discussion about what comprises the present moment gradually reveals how the architecture of the present moment permits us to make sense of experience directly, while it is happening, thus allowing us to be in our lived story as it evolves—in the *felt present*.

Daniel Stern is the author of the highly acclaimed *The Interpersonal World of the Infant* and several other landmark books on the mother-infant relationship. His appreciation of the present moment came about in the 1960s and 1970s when he began to use film and video to study mother-infant interactions. It is from the frame-by-frame examination of these dyadic interactions that the pivotal mother-infant attunement research evolved. He writes: “These tools gave me a sort of microscope to see an interaction unfold. A fascinating world opened up. I grew to realize how much occurs in a moment that lasts only seconds. I began to think of these moments as the basic building blocks of experience” (pp. xi–xii). Stern tells us that the frame-by-frame process remained unexplored outside of the mother-infant arena, and its greater potential “doggedly” followed him for several decades.

Healing occurs in the present moment. This book is not about explaining the present in terms of establishing and interpreting associative linkages with the past, as do usual clinical approaches. If we are not in the present moment, Stern writes, we are lost in the past or in the future, in our memories, in our dreams, in our conditioning. In my view, *The Present Moment* takes its place next to Eugene Gendlin's *Focusing* (1981), the little book that has been so foundational to somatic

theoretical development. Just as the concept of the felt sense brought a new focus to the clinical process, so does Stern's use of the felt present moment. The technique of focusing was born out of Gendlin's perceptive observation that patients who benefited from therapy did something different within themselves, namely, use their bodies to experience their feelings. In a similar fashion, when Stern focuses his attention on the micro-analysis of a patient's experiential moment, a different therapeutic sensibility arises that opens subtle levels of communication between the therapist and the patient. Of course, focusing on the present moment is not new, but Stern's attention to the *micro-moment* expands the therapist-patient ability to explore the interplay between three basic neuroscientific concepts: implicit knowledge, intersubjectivity, and the flow of consciousness.

In order to cue us into the incredible wealth of detail packed within the present moment, Stern developed the *micro-analytic interview*. The micro-analytic interview reconstructs an event of short duration—rarely more than a minute—and the recounting focuses on the smallest remembered happening, feeling, thought, or action, which is told and retold until it is exhausted of remembered content. He points out that although the micro-analytic interview is an “after-the-fact telling,” it sheds light on the speed of the information that streams through consciousness. The result is a layered, co-constructed narrative, a *composite narrative*, which is not the lived experience itself, yet moves the therapeutic dyad closer to treating the lived moments between with increasing mindfulness. The composite narrative is analogous to the micro-analysis of the mother-infant interactions examined frame-by-frame. Although of extremely short duration, the composite narrative goes far deeper than the normal telling of an event and sets the tone for the therapeutic work. In a therapy session, the clinician-patient dyad moves along together, linking present moments. Stern writes: “A therapy session (or any intimate dialogue) is made up of a series of present moments that are driven forward by the desire for intersubjective contact and an enlargement of the shared intersubjective field” (p.219). For Stern, moments of change, whether therapeutic or intimate, happen when the present moment collides with the past. It is in the moment of their coming together, in the here and now, in the way in which now is experienced between two people, that the past is rewritten.

Stern has developed a detailed vocabulary with which to discuss the intricacies of the present moment. He takes us into the *now moment* of emergent properties that results from the patient-therapist's *moving along process*. He describes how a now moment can become a *moment of meeting* “that implicitly reorganizes the intersubjective field so that it becomes more coherent, and the two people sense an opening up of the relationship, which permits them to explore new areas together implicitly or explicitly” (p. 220). Memory plays an important role in the structure of the present moment. The *present remembering context* refers to how the totality of what is going on in the moment triggers the selection of memory fragments that arise in consciousness. Neurologically, the past is always being permanently revised, based on the new information emerging in the moment, both as a neural pattern and as an experience of recall. In the present remembering context, small pieces of the past are continuously brought up to be updated. The emergent properties within now moments and moments of meeting permanently alter the selection of the past brought to bear on our assessment of the present.

Central to Stern's micro-analysis of the present moment is a newfound access to *nonverbal and implicit events* that usually do not emerge in the broader therapeutic dialogue. The nonverbal implicit level plays an important role in the creation of the context within which the verbal explicit level can emerge. The relationship between conscious and unconscious has been well studied, but the relationship between the implicit and the explicit is far less well known. In the implicit, Stern realizes, thinking is largely in the form of visual, sensorimotor, visceral images, and feelings—not language. To create a coherent therapeutic narrative, the speaker must transduce images, sensations, feelings, and intuitions from the implicit domain into the verbal explicit domain. And, conversely, the listener must transduce the speaker's words back into images, sensations, feelings, and intuitions to connect the speaker to his or her own implicit experience. When implicit and explicit interweave in this way, Stern notices that the impact of the exchange is more affective than cognitive and the “whole body and mind is gathered up in reappraisal.” Looking through the lens of the present moment, Stern describes how the clinician who becomes simultaneously and equally attentive to a patient's implicit nonverbal experience in concert with its explicit verbal content greatly enriches the shared relational field and thus increases the spectrum of therapeutic possibility.

Stern's *The Present Moment* is inspirational reading, reminding us that less is more and that attuned relationship in a felt present is powerful medicine. The book poetically does justice to its William Blake opening quote: *To see a World in a Grain of Sand and a Heaven in a Wild Flower...*

## Neuroscience and Psychotherapy

*Although the idea that the brain is built by experience during development and rebuilt during psychotherapy feels new, it was in fact suggested by Freud at the end of the 19<sup>th</sup> century.*  
—Louis Cozolino

## **The Neuroscience of Psychotherapy: Building and Rebuilding the Human Brain** by Louis Cozolino. W.W. Norton, 2002

In his book, which is part of Norton's series on interpersonal neurobiology edited by Daniel Siegel, Louis Cozolino draws on neuroscience to substantiate the psychological theories of how people change. Inspired and supported by Dan Siegel and Allan Schore, he uses the lens of neuroscience to consider psychotherapy as a tool for rebuilding the brain.

Cozolino writes for therapists and using a framework in which neural integration plays a central role in the growth process, he gives us “new insights into the possible mechanisms underlying how psychotherapy works” (p. x). What emerges is a new paradigm of the psychotherapist as neuroscientist. This paradigm can serve as a useful guide for somatic practitioners as well.

Cozolino finds that the recent discoveries in the neurosciences seem to support the value of psychotherapy as an agent of change. With this scientific support comes a renewed optimism for the view of the brain as an organ of adaptation able to remain flexible and to benefit from enriched environments *throughout life*—what is now called *use-dependent development*. The brain’s use-dependent adaptability, which is repeatedly emphasized in the books evaluated in this review, counters once and for all the old belief that can now be filed in our archives, that the brain is a relatively static entity, determined by the interaction of genetic preprogramming and early childhood experiences.

Cozolino presents his view of what is most interesting and relevant in the neuroscience research, inviting readers to become part of the informed clinicians who test new therapeutic applications. In a beginning chapter on rebuilding the brain, he lays out his view of how psychotherapy and neuroscience come together. He writes that regardless of theoretical orientation, “from the perspective of neuroscience, psychotherapy can be understood as a specific kind of enriched environment designed to enhance the growth of neurons and the integration of neural networks” (p. 27). The growth and connectivity of neurons are the basic mechanism of all learning and adaptation. Given that at the heart of psychotherapy is an enriched learning environment, by necessity it must contribute to the building and rebuilding of neural networks. With new learning comes the process of neurogenesis—the growth of new neurons—and with the integration of new states of being comes the branching of dendrites as the brain expands and changes the connections between existing neurons. Thus Cozolino concludes that “all forms of therapy are successful to the degree to which they have found a way to tap into processes that build and modify neural structures within the brain” (p. 45).

From the basic neuronal building blocks to the complex organization of experience, Cozolino describes the development and organization of the healthy brain so that we have a reference from which to understand the experience of the private and social self and the pathology of such problems as perceptual distortions and defense mechanisms. In an engaging way, he gives an important place to the role of the different memory systems in psychotherapy noting that “just about everything we do in therapy depends on the patient’s memory” (p. 84). The descriptions of the healthy brain cover the executive brain, laterality, the interpersonal sculpting of the social brain, and the construction of the narrative self.

Cozolino uses the work of Panksepp and Schore to show how “emotions reflect our ability to subjectively experience states of our nervous system” (p. 31). Psychotherapy helps individuals experience increasing levels of positive and negative affect. By building tolerance for stress and increasing levels of arousal, psychotherapy expands neural organization and creates networks of descending control to help inhibit and regulate affect. He also relies on the work of Dan Siegel to reflect on the importance of language and narratives in psychotherapy. Language, he notes, particularly in the form of stories, appears to be a key mechanism of integration. Referring to both Siegel and Rossi (see following review), he describes how a storyline includes verbal and nonverbal expressions of emotion, activates both left and right hemispheres as well as cortical and subcortical processing. There appears to be at least three levels of language functioning during psychotherapy: (1) a *reflexive social language* that maintains ongoing communication; (2) an *internal dialogue* that guides, and is guided by, our thoughts and behavior and which often differs from our social language, allowing for survival-enhancing deception; (3) a *language of self-reflection*, which examines the social language and the internal dialogue. It is this third level of language that is most active in psychotherapy. It allows us to know what we are feeling about our thoughts and what we think about our feelings. It is a higher level of integration utilizing top-down and left-right processes to blend cognition and affect. These integrations seem essential to positive change.

The bridges between psychotherapy and neuroscience are most solid in the treatment of stress, anxiety, trauma, and codependency. Cozolino demonstrates that “because we now know that the mind and the brain, and nature and nurture, are one and the same, all of the disorders we have thought of as ‘psychological’ need to be reframed to include neurobiological correlates and mechanisms” (p. 319). And so, he shows us how we can use the new science to diagnose, treat, and educate our clients who suffer from the disorganization of experience leading to narcissism, pathological caretaking, an anxious and fearful brain, and the continued effects of trauma. Taking into consideration the reality of damage or dysfunction in the brain itself, he suggests that treatment should be delivered in a context of support. Treatment should give attention to creating scaffolds for erratic executive control and to developing skill-building techniques for disorganized functions. He joins the rank of those who believe that psychotherapy must expand its horizons and break down traditional barriers to reach out to other disciplines. In his case, he sees the need to connect to such approaches as cognitive rehabilitation.

Cozolino repeatedly emphasizes that “the impact of an enriched environment has demonstrated the brain-building capacity of positive experiences throughout the lifespan” (p. 303). He concludes that it is in the understanding of the workings and limitations of our brains that we can take an essential and mindful step in the growth of human consciousness and move toward greater compassion for ourselves and others.

## Gene expression and Neurogenesis

*Experiencing creative moments is the phenomenological correlate of a critical change in the molecular structure of proteins within the brain associated with the creation of new cell assemblies, memory and learning*

Ernest L. Rossi.

## The Psychobiology of Gene Expression by Ernest L. Rossi. W.W. Norton, 2002

Ernest Rossi has dedicated his life to developing therapeutic applications based on the merger of biology and psychology. Utilizing the biological nature of the human mind, he is a pioneer in what Nobel Laureate in physiology Eric Kandel calls the new science of mind. Rossi tells us that contrary to past beliefs, we now know that the human brain is capable of generating new brain cells throughout the life cycle. We are not, he reminds us, prisoners of our genes (nature) or environment (nurture).

In 1953, when James Watson and Francis Crick discovered the structure of the DNA, they revolutionized biology by providing a framework for understanding how information from genes controls the function of cells. This led to further breakthroughs: how the needs of the cells regulate the protein production of the genes, and how the course of development turns genes on and off to establish the body plan of an organism. Genes, Rossi writes, are an active society within every cell of our brain and body that respond in a cooperative and adaptive manner to signals from our environment. They also respond to our inner environment: Our hopes and fears, our thinking, passions, and strivings all can turn families of genes on and off to make the proteins that generate new brain cells.

Rossi's inspiration comes from Eric Kandel's seminal paper "A New Intellectual Framework for Psychiatry" (1998), from which he quotes the following:

Insofar as psychotherapy or counseling is effective and produces long-term changes in behavior, it presumably does so through learning, by producing changes in gene expression that alter the strength of synaptic connections and structural changes that alter the anatomical pattern of interconnections between nerve cells of the brain....Stated simply, the regulation of gene expression by social factors makes all bodily functions, including all functions of the brain, susceptible to social influences. These social influences will be biologically incorporated in the altered expressions of specific genes in specific nerve cells of specific regions of the brain.

As Rossi outlines the foundation of functional genomics, he unfolds his rationale for the creation of a new discipline that he calls *psychosocial genomics*. When it comes to genes, Rossi tells us, we are still in kindergarten. He hopes that his book serves as an inspiration and propels us to explore the possibilities of functional genomics to expand the effectiveness of mind-body psychotherapy.

How then, asks Rossi, can we maximize the expressive potential of our genes? Given that novelty or psychological shock can equally trigger molecular transformations in the brain, leading either to constructive learning or psychopathology, can we have a "psychobiological dialogue" with our genes that would modulate their expression in the positive direction of self-creation and physical healing? *The Psychobiology of Gene Expression* gives us the neuroscience of gene expression and a beginning exploration in how we may creatively facilitate the psychodynamics of gene expression, neurogenesis, and healing. Readers interested in a brief overview of Rossi's recent work can refer to an article entitled "The Genomic Science Foundation of Body Psychotherapy" in Volume 3, Number 2 of this journal.

### *The Fundamentals of Gene Expression and Neurogenesis*

The brain, by design, strikes a balance between *circuit permanence* and *circuit plasticity*. We saw in Part I that the brain's plasticity is an essential feature of our capacity to learn and change, and its permanence stabilizes our psychological development, allowing us to establish long-lasting attachments. Rossi links brain plasticity to gene expression. A plastic brain has an open capacity to learn, adapt, and reorganize. Although in early life the brain has specific sensitive periods of development, its growth is not exclusively limited to these windows. Studies have shown that throughout our lives, repeated stimuli trigger the genes to transcribe and translate new proteins and stimulate the growth of new synapses. Over the lifespan, every part of the nerve cell is altered by its on-going responses to a stimulus-rich environment. Even in the adult, the receptive properties of the brain are clearly not fixed but shift within certain yet-to-be-quantified limits.

According to Rossi, three factors promote the gene expression that optimizes the constructive learning that leads to brain plasticity, neurogenesis, and healing at the molecular level: (1) *novelty*, (2) *environmental enrichment*, and (3) *exercise*. To influence the mechanisms of gene expression, he therefore proposes a therapeutic approach that maximizes the use of novelty, environmental enrichment, and creative experience. Rossi believes that the genetic genius of the brain and body can be unlocked, that we can learn to turn our genes on and off to create a better brain, improved health, and added well-being.

Rossi's work with gene expression comes as the crowning of a long career as a pioneer in new approaches to mind-body healing. From the beginning, with the publication of *Dreams and the Growth of Personality* (1972/1985), Rossi explored the implications of early research that documented how the psychological experience of novelty and enriched environments was encoded as new memory and learning in the organic structure of the brain. He is a pioneer of the widely accepted somatic approaches that cultivate positive affective states and empowering resources. As a Jungian analyst and close collaborator of Milton Erickson, who's *Collected Works* he edited, Rossi is a master at developing a language that elicits healing resources from the world of dreams and the unconscious—what he has come to call "the novelty-numinosum-neurogenesis generative cycle of consciousness." Those who, over the years, have had the opportunity to observe Rossi's therapeutic demonstrations at conferences have witnessed how strongly he believes in the power of positive curiosity and wonder, and how enthusiastically he communicates his belief in the creativity of the unconscious. His nondirective way of

holding the therapeutic space fosters the emergence of the implicit and supports the psychological utilization of biological wisdom.

In previous books, Rossi has presented his 4-stage creative process which he sees as the key to healing and regeneration. Briefly, the four stages are as follows: (1) Preparation and data gathering; (2) Incubation; (3) Illumination; (4) Verification. In *The Psychobiology of Gene Expression*, Rossi continues to develop the pathways that maximize the vital link between consciousness and health. Building on the foundation of his 4-stage creative process, he explores the new terrain of the Human Genome Project and articulates how the research data bring fresh vision and possibility to our view of human experience. With him, we take our first steps in exploring the surprising research on behavioral state-related gene expression: how behavioral states such as sleeping, dreaming, vigilance, emotional arousal, or depression are associated with different patterns of gene expression. We learn how a special class of genes, called *immediate early genes*, can respond to life events and psychosocial cues within minutes. We see how another class of genes, the *experience* or *activity-dependent genes*, generate the synthesis of proteins that encode new memory, learning, and behavior. It seems that our daily and hourly life experiences can modulate gene expression in ways that actually change the physical structure and functioning of our brain.

This book is full of fascinating facts. For example, Rossi explains how the genetic basis of individuality comes from the three million small variations in our genes—called *single nucleotide polymorphism*—which give each of us a unique psychogenomic endowment. This is thought to be the source of our unique perceptions, potentials, and problems, as well as of the uniqueness of our individual paths to self-realization. This book demonstrates theory with clinical vignettes, session excerpts, and language suggestions that use implicit processing heuristics to facilitate gene expression. This book also gives self-care suggestions for those who want to put theory into practice in their personal lives. From highly theoretical color diagrams on the temporal gene expression mapping of central nervous system development to self-help suggestions on how to orchestrate our days to optimize our own genetic regeneration, Rossi moves from the theoretical to the therapeutic to the practical with the ease of a man of vision who also has a personal interest in the daily steps that optimize longevity and graceful aging.

### How the World Comes Together

*The essential functions of incoming signals are to trellis, shape, and otherwise sculpt the intrinsic activity to yield a survival-facilitating, me-in-the-world representational scheme*

—Churland & Llinás

**Sensory Integration: Theory and Practice** by Anne G. Fisher, Elizabeth A. Murray, & Anita C. Bundy (Eds). F.A. Davis Company, 1991.

Sensory integration theorists ask the following question: How do we know reality? We now move out of the microscopic genomic level to a larger order of magnitude in order to consider how the external world is actually represented in the brain. As we saw in Part I, each and every perception of the world around us is actively constructed from the building blocks of individual sensory cues such as edges, contours, line orientation, color, form, pitch, volume, and movement. Sensory experiences include touch, movement, body awareness, sight, sound, and the pull of gravity as well as motor planning and the ability to adapt to incoming sensations. Each perception is processed in a separate region of the brain and, by the process of *reentry*, interfaces with all other regions to form a composite picture of who we are physically, where we are in space, and what is going on around us. Sensory integration is the critical brain function that produces this composite picture and provides the crucial foundation for complex learning and behavior. Given the absence of a computer-like central processor in the brain, it is believed that reentry could be the unique, single most important feature of higher brain organization, the vital component of integrated, complex cognitive tasks. If reentrant interactions are blocked, entire sections of consciousness disappear.

### *Jean Ayres and the Science of Coherence*

Understanding the therapeutic importance of sensory integration comes from the work of Jean Ayres, an occupational therapist who was interested in the way in which disorders of sensory processing and motor planning interfere with life function and learning. Ayres died in 1988, and this book, published in 1991 honors her work. Directly or indirectly, Sensory Integration has had an effect on somatic psychology. We include it in our review because it offers a marvelously inclusive and specific introduction to this particularly important aspect of working with the nervous system. Ayres' research, theory, and intervention strategies are anchored in the fields of neuropsychology, neurology, physiology, child development, and psychology. As somatic practitioners working with the nervous system, a closer look at the important information this approach has to offer is helpful to better recognize difficulties in our adult patients who bear the imprint of undiagnosed sensory integration problems.

For most of us, effective sensory integration occurs automatically, unconsciously, and without effort, developing in the course of ordinary childhood activities. But for some, sensory integration does not develop as efficiently as it should. When the process is disordered, a number of troubles in learning, development, or behavior may become evident. The integration process can be inefficient and the resulting sensory dysfunctions demand various degrees of effort and attention

that put undue stress on daily functioning. How much a person efforts to compensate for their sensory dysfunction often remains in the sphere of their own private anguish. It is therefore essential to recognize that sensory integration plays an important role in child development and that the result affects the adult's adaptive capacities. Awareness of a patient's sensory integration history can give us important clues to his or her sense of the world and self. It can be a valuable guide in making therapeutic experiences available that are specific to that patient's needs for growth and maturation.

A basic tenet of sensory integration holds that because mind and brain-body are interrelated, meaningful activity that promotes the health and development of one does so for the other. Ayres brought to the forefront an awareness of the fact that sensory integrative dysfunction can have far-reaching effects that interfere with academic learning, social skills, and self-esteem and lead to problems that affect a person's relationship with self and the world: over- or undersensitivity to touch, movement, sights, or sounds; delays in speech, motor skills, or academic achievement; physical clumsiness or carelessness; social and/or emotional problems such as poor self-concept; unusually high or low activity level; lack of self control, impulsivity and distractibility; inability to unwind or self-calm; and difficulty making transitions from one situation to another. Sensory information that remains in dissociated fragments may cause consciousness itself to shrink or split. Sensory integrative problems are not confined to children with learning disabilities; they affect all age groups and all intellectual levels and socioeconomic groups. Underlying sensory dysfunction may be caused by the following problems:

- *Premature birth.* With a higher rate of survival than ever before, premature infants enter the world with fragile, easily overstimulated nervous systems and multiple medical complications. Caregivers need to learn how to avoid overstimulation and give premature infants the sensory nourishment required for optimal development.
- *Autism and other developmental disorders.* The hallmark of autism is severe difficulty with sensory processing. Autistic children seek out unusual quantities of certain types of sensations and are hypersensitive to others. Autism is infrequent, but traits similar to autism are often seen in children and adults with sensory processing disorders. Ayres showed that improving sensory processing leads these individuals to more productive contacts with their environment and the people in it.
- *Learning disabilities, delinquency, and substance abuse.* As many as 30% of school-age children are estimated to have learning disabilities. Most of these children, although normal in intelligence, are likely to have underlying problems with sensory integration. Numerous studies indicate that repeated school failure opens the door to self-destructive activities and that these children are at risk for later delinquency, criminality, alcoholism, and drug abuse. Interventions that take into account possible problems with sensory integration may interrupt the vicious cycle of failure and prevent serious social problems later in life.
- *Stress-related disorders.* Difficulties with sensory integration that begin in childhood are often not outgrown. Adults who suffer from sensory inefficiencies cannot perform optimally in the workplace and therefore suffer from accumulated stress. There is mounting evidence that stressed adults are more prone to child abuse, violence in the home, and problems that pass from generation to generation. Recognition of the sensory processing component of these problems contributes an important element in aiding people to achieve greater satisfaction in their home life and competence in their work.
- *Brain injury.* Brain trauma caused by an accident or stroke can have profound effects on sensory functioning.

Sensory integration has developed a standardized protocol\* to evaluate sensory responses and diagnose disorders. Standardized testing consists of structured observations of responses to sensory stimulation, posture, balance, coordination, and eye movements. Meaningful play is the primary treatment medium and in sensory integration therapy, patients are guided through selected activities that help them organize successful responses based on their motivation and point in development. Intended for both entry-level and advanced practitioners, the authors give us insight into the behaviors that issue from abnormalities in sensory integration. They present an in-depth discussion of the clinical picture; hypothesize about the neurological basis that underlies the behavioral deficits seen in clients with sensory dysfunction; provide the philosophical, ethical, and practical background to interpret the results of an evaluation; and implement a comprehensive treatment. The occupational therapists who authored this book have brought together a rich array of sensory bridges to help those who experience difficulty with sensory processing and impaired motor planning that affect their social skills.

\*Test standards are available from *Sensory Integration International*, PO Box 5339, Torrance, California 90510-5339.

## Conclusion

*Consciousness is like a sense organ perceiving inwardly.*

—Marc Solms

The trend in the current literature is clearly moving toward developing an increasing awareness of micro-processes, toward relating to ever smaller increments of our experience. The authors reviewed emphasize the importance of increasing our capacity to pay attention to, penetrate, and affect smaller units of ourselves. They also point to the fact that this would not be possible without allowing the nonverbal and implicit reality of our bodily experience to have an equal voice with the verbal and the explicit.

As the principles of neuroscience create a new scientific lens through which to look at the brain-body, the biological reality of inner life is coming into focus. One could argue that the field of work that addresses the body-mind is thousands of

years old. Bringing awareness to the subtleties of bodily processes as they emerge, cultivating consciousness in order to contact the sources of inner knowledge, the secrets of creativity, intuitive wisdom, and healing constitute the core of yoga and meditation and other disciplines that are older and more extensive than the fields of psychology or neuroscience. Yet, as the “new kid on the block,” neuroscience anticipates that its biological analysis may possibly unveil the secrets of the human mind. It is quite possible that, in a way that speaks to our modern sensibility, it will.

Neuroscience and psychology, and I will add somatic psychology, can now meet at the convergence of objective scientific data and the subjective experience of self, embodied self, and self-in-relationship. It is becoming apparent that in the convergence of these disciplines, no one field takes precedence over the other. It is my belief that the long tradition of somatic psychology and its clinical importance now stand poised to find their rightful status in relation to neuroscience and psychology. For their part, psychoanalysis and psychotherapy seek to help the brain organize its internal representations so that we can experience a harmonious resonance between self and reality. For its part, somatic psychotherapy employs the body’s natural regulatory mechanisms to support the brain’s relationship to and interpretation of its own sensory experience. It contributes unique approaches to encourage new neurological connections, organize and facilitate neural interconnectivity, elicit dormant impulses, nurture neurological deficits, and stabilize activation. Somatic practices are offering integrated, neurobiologically sound theoretical frameworks and clinical applications. There is every indication that serious research opportunities will become available to further grow and validate our field’s important contribution.

#### Biography

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# A Topography of the Mind

Michael Coster Heller, Ph.D.

## Abstract

In this paper, I will summarize a few points of my model of the *topography of the mind*<sup>3</sup>. I will try to explain how I distinguish individual and shared awareness, resonance from intersubjectivity. The paper has two aims. The first aim is to present to psychotherapists a model which they can use in their practice, which is compatible with contemporary neurology and psychology. The second aim is to specify through which types of mechanisms it can be said that interacting with others is a necessary way of calibrating individual psychological capacities. I will focus on a few key elements of my model, leaving more detailed descriptions for future presentations.

## Keywords

Intersubjectivity – Neurology

*When we look at the sun, we imagine it as about two hundred feet away from us, an error which does not consist simply in this imagining, but in the fact that while we imagine it in this way, we are ignorant of its true distance and the cause of this imagining. For even if we later come to know that it is more than six hundred diameters of the earth away from us, we nevertheless imagine it as near. For we imagine the sun so near not because we do not know its true distance, but because an affection of our body involves the essence of the sun insofar as our body is affected by the sun. (Spinoza 1677, Book II, proposition 35, Scholium)*

## Epistemological Premises

### *The Levels of Matter*

The general model of levels of matter allow one to situate atomic particles, atoms, molecules, cells, tissues, organs, organisms, groups, institutions, etc. It is assumed that each level is an emergence of the organization of elements of the preceding level. The most often quoted example<sup>4</sup> is that of water. A water molecule contains one hydrogen atom and two oxygen atoms. When oxygen or hydrogen is put in contact with fire, flames become more intense. But if water is poured over flames, flames diminish. This property cannot be observed when analyzing oxygen or hydrogen separately. Chemists therefore assume that the antagonistic association between water and fire is an emergent property derived from a particular type of *organization* of water and oxygen. Thus a system is not only defined by the elements it contains but also by its organization.

In the water example, we have a bottom to top reading of the levels of the matter; here is a top down example. To explain why certain cells of wood are situated under my computer while I am typing these words, a bottom to top reading would be useless. One needs to start with vague notions of evolutionary and social history, of the function of tables in general, and how a particular table became the one I like to write on today. This may also involve particularities of my own history. All these causal chains and many more are involved in explaining how a certain tree was cut and used to make a table, and how its cells arrived in a certain state at a certain location at a certain time.

When I was a psychology student in Geneva, I became interested in the fact that no one could situate psychological dynamics in the levels of matter. I also noticed that no one was exploring how the levels of matter were connected in a systematic way. A typical example of this issue was the debate on mind and body. Neurologists could show that some neurological lesions influenced what an individual was aware of, but they could not explain how nervous impulses created the impression one has when one is aware of a thought. The dominant model on this matter remains various forms of *parallelism*, in which one assumes that thoughts follow a causal sequence that is relatively independent from neurological ones. Although the capacity to count may have neurological logistics, one cannot explain why  $2+2=4$  with physiological models. One was also beginning to notice that what one thinks, what one pays attention to, may influence how certain nerves connected with each other, or that certain ways of managing one's emotions could influence – via the nervous system – muscular tensions and even certain forms of physiological dynamics through mechanisms that were designated as “psychosomatic”. This led to intense discussion on whether one should mostly use a bottom to top conception of nature (e.g., everything is innate), or a top down set of procedures (e.g., social structures organize how organs combine).

My choice, in these discussions, was to focus on what was missing in these discussions: the assumption that there exist systems that regulate the levels of matter. Both Jean Piaget and Wilhelm Reich, who were the main influences when I was at the university, stressed that a human organism has many regulation systems, some of which are psychological. I

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<sup>3</sup> This model owes a lot to long detailed discussions with George Downing and Philippe Rochat over many years, and to the stimulating presence of Daniel Stern.

<sup>4</sup> The metaphor was first used in psychology, to my knowledge, by Vygotsky (1934, p. 4), in an analysis of how thought and language associate: “It may be compared to the chemical analysis of water into hydrogen and oxygen, neither of which possess the properties of the whole and each of which possesses properties not present in the whole. The student applying this method in looking for the explanation of some property of water – why it extinguishes fire, for example – will find to his surprise that hydrogen burns and oxygen sustains fire.”



reformulated these discussions by remembering that an organism can be analyzed as a coordination of several levels of matter (atoms, cells, organs...), and included in others (a group, a society, a species, nature, planets...). Like food in my stomach, I have a set of particularities that can be more or less easy to digest for my environment. What regulates my organism is regulated by what surrounds me. The social environment I am in could not survive if individuals did not exist to sustain it. These thoughts changed my way of dealing with the current opposition between mind and body. I started to explore how a thought, a gesture, nervous and arterial dynamics could combine to form an organismal regulation system. I also wondered how these heterogeneous mechanisms could be integrated, or could influence, the interactions of which I was a part.

To summarize:

1. Intra-organism systems are formed by regulatory systems that connect atoms, cells and organs situated within a particular organism. I am assuming that particular psychological dynamics are a regulation of a wide series of heterogeneous systems that focus on tasks that are relevant for the organism taken as a global entity. This formulation does not imply that everything is linked to everything. Not all cellular activity participates in global organismal functions in a direct way (Kagan, 1998, pp. 22-23).<sup>5</sup>
2. The levels of matter in which an organism can be situated are groups, cultures, institutions, societies and ecological niches. The connections between an organism and events situated at these levels form the interactive and psychosocial dimensions of a person's psychological dynamics. Once again, the only relevant social dynamics for a psychologist are those events which have an impact on organismal dynamics, or which are sensitive to these dynamics.

I therefore assume that psychological phenomena have their roots in the organismal level of matter, and that they connect events occurring at this level with events one can situate at other levels (e.g., cells and institutions). I also assume that these systems are necessarily nonconscious. I designate as nonconscious all events a) that cannot be explicitly explored by introspection, and b) that influence the regulation mechanisms of an organism.<sup>6</sup>

### *Functionalism and Logistical Forms of Analysis*

Functionalism is an intellectual tool that looks for functions common to structures that are materially different. For example, legs, horses, cars, boats and airplanes have a common function: that of allowing the displacement of human organisms. A logistical analysis will show that although legs and planes share a certain number of functions, they are not made in the same way, they are not connected to a brain in the same way, and they cannot be used in the same way. Psychologists often use logistical analysis to differentiate mechanisms that seem to have the same effect, but that are generated by different systems (e.g., for a logistical analysis of consciousness, see Kagan, 1998). It is on the common ground of their underlying logistics that I will differentiate individual and shared awareness, which is the basic theme of this article.

I will now describe certain logistical aspects of mental regulation systems, with the aim of differentiating what are sometimes referred to as individual awareness systems and shared awareness systems. The main difference between approaches of my generation (e.g., K. Uvnäs-Moberg, 1998; B. Beebe & F.M. Lachmann, 2002) and that of my predecessors is that I clearly differentiate inter- and intra-organism regulation systems. I was brought up in a tradition that assumes that psychological dynamics are mainly inter-organismal (Vygotsky, 1934; Piaget, 1967; Tomasello, 2003; and Rochat 2001), which is contradictory to many of the options I take when I work as a psychotherapist, or when I study how bodies participate in an interaction. In both approaches, one assumes that what happens inside an organism is connected to what happens around the organism, but in the Vygotsky-Piaget approach one tends to think of a single loop that connects the inner dynamics of several persons. For example, Philippe Rochat (2004, p. 277) assumes that awareness is not an "individualistic phenomenon" but "first and foremost a social construction that is negotiated with others". In the more modular approach that I have become familiar with, I assume that interaction is a system that can associate heterogeneous mechanisms which each have separate histories. The muscles of my arms may be included in the same system that allow me to pick up a baby, but these muscles also have a history that is independent of my relation to that baby. How to associate such heterogeneous histories as the gaze of the baby and the muscles of my arm in a set of equally heterogeneous interactive patterns is one of the tasks of contemporary psychology I am involved in. It is thus possible to surmise an association between regulation systems that are distinctly intra-organismal and others that are distinctly inter-organismal. It is in such a frame that I analyze how an individual's conscious experiences are calibrated and developed through social regulation systems, which themselves are calibrated and developed by individual dynamics.

### *Intra-organism Processes*

In this section, I will review some well-known facts to show how complex they become as soon as one focuses on how they associate. I use the metaphoric notion of "editing" to designate how heterogeneous information is "translated". For

<sup>5</sup> This formulation is slightly different from what Catherine and Malcolm Brown propose in their theory for an Organismic psychotherapy (e.g., Malcolm Brown 2001).

<sup>6</sup> Differentiating nonconscious and unconscious dynamics is a complex task I have elaborated elsewhere (Heller, 2004b). The crucial difference is that unconscious thoughts have been conscious and may become so again (e.g., during hypnosis). Nonconscious events can never become conscious. See also Pally, 2005.

example, muscular activity regularly activates nervous activity. These two forms of activity are of a different nature, of a different format, with different underlying mechanisms, using different cells. Yet the association of these two activities participates in a wider set of regulation systems that coordinate breathing and blood circulation so that the muscle can operate in a relevant way. In this article I will focus how such editing devices participate in the formation of human individual conscious experiences, and how they also participate in the coordination of what several individuals experience.

Bit by bit, I will gradually show how I imagine that individual regulation systems actively connect with each other to form a variety of social regulation systems.

### *Cellular Communication*

The transactions between an environment and a human organism are at first all nonconscious. Some are designed to reach psychological systems more directly than others. Cellular organisms such as germs and viruses flow in and out of the organism constantly. Those that can be harmful to the organism are often detected by the immune system, which activates defense mechanisms that do not involve psychological resources. When immune defenses are not sufficient to deal with these stimulations, symptoms such as colds and coughing are activated that instantly mobilize psychological and interactive mechanisms. Once the immune reaction is experienced as fever, help from neighboring organisms and medical institutions can then be mobilized. There is a fine point here. I am not saying that fever is designed to activate resources only conscious dynamics can mobilize, but that awareness systems necessarily detect events which involve the whole organism. More specifically, consciousness detects some aspects of generally nonconscious forms of global organismal regulation systems. This is a bottom to top description of a system that also has top down causal chains (e.g., being anxious may influence some aspects of immune dynamics). The modular model I am using assumes that there is no direct route between a thought and cellular dynamics, but that a wide variety of small, relatively independent intermediary mechanisms can influence each other in a variety of ways (Heller, 2005a). I surmise that it may for example be the same structure which produces a conscious impression of a moving arm, and which activates a sensory-motor circuit which produces a correlative arm movement. In the case of a cold, we already have two types of communication systems:

- a) Communication between external cells and a physiological system capable of detecting cells that were not fabricated by the organism. As in all biological mechanisms, the system does not have a perfect fit, as errors are not rare (as in cancer and immune diseases).
- b) Chains of organismal reactions that respond to whatever has been detected by the immune system.

Sensorial organs are different from immune reactions in the sense that they are designed to associate non-neurological events with neurological response systems. One of the functions of a brain is to centralize information coming a) from most parts of the organism and b) the environment, to organize a system of response that can coordinate a wide variety of systems to accomplish a task that requires global organismal resources. Psychological dynamics seem to be one of the emergent systems based on such a global coordination of specific distinct mechanisms.

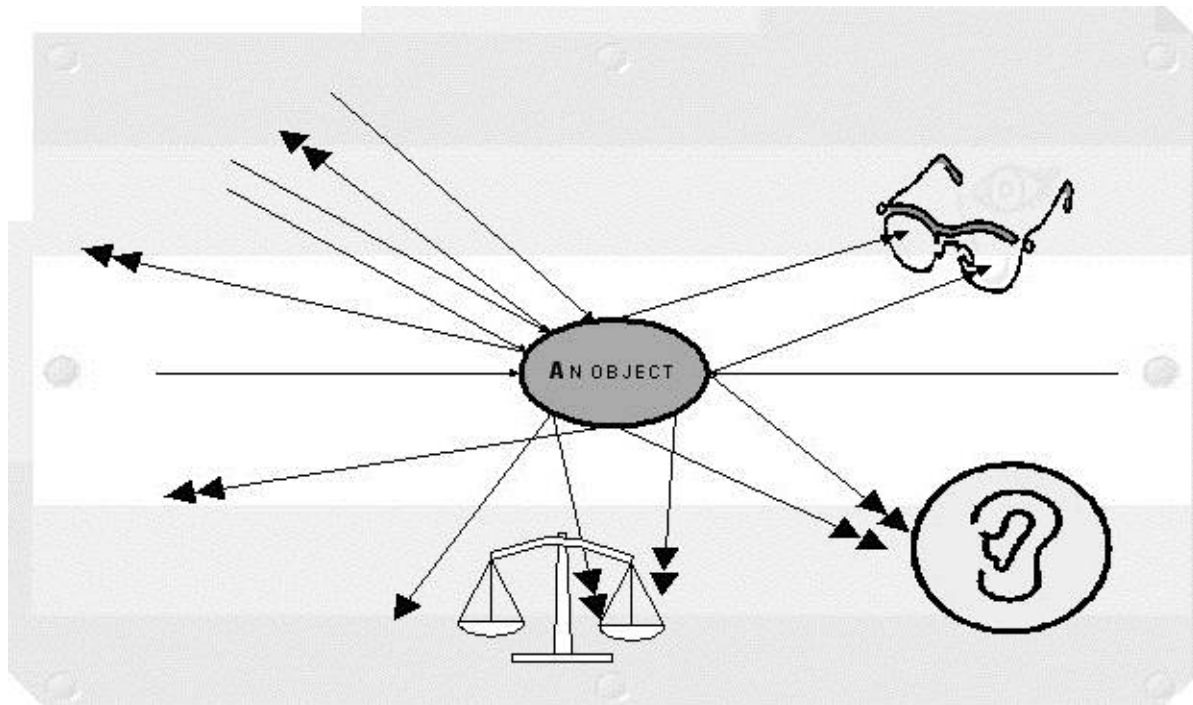
*Objects and Sensorial Organs*

Figure 1: A perceived object

An object is situated in a vast chain of physical and chemical causes and effects. Some of these effects are grouped by a sensorial organ and transformed into nervous impulses. From the point of view of the object this grouping is partial and arbitrary.

Objects are inserted into a web of causes and effects that we humans cannot comprehend. Senses select some effects of an object and define them in terms of the function of the mental operations they are capable of activating. The retina, for example, is sensitive to what scientists define as wavelengths. Not only does the retina react to this effect of an object and no other, but it also reacts to it in a particular way, as some wavelengths activate certain cells that create the conscious perception of redness, while others are grouped to form an impression of blueness. Cats and dogs also perceive wavelengths humans do not react to. An object may also create modifications of air pressure. The human ear responds to air pressure modifications by classifying some as a deep tone and others as a high tone. The categorization systems used by organs are arbitrary.

There is no way a scientist can list all the effects of an object, as humans can only detect those that have been recorded by their organs and their machines, using categories that fit their mind, not their environment. Sensorial organs select a few physical indices that can be managed by the brain, and then transform these indices into nervous activity. The advantage of this strategy is that a wide variety of information is finally reduced to a single format of signals that the organism can digest and associate.

This is for me the first layer of editing systems used by the brain: external physical events are translated into specific neurological dynamics using a coding system the brain can deal with. Certain electromagnetic waves are, for example, “translated” in brain dynamics that will be experienced consciously as redness. This translation does not imply that an object is red, but only that redness correlates with how magnetic waves bounce on the object.

*Basic Neurological Algorithms*

Senses filter information by being sensitive to particular events, which they automatically transform into nervous impulses. A second layer of neurological editing systems classifies these nervous impulses into events the organism can react to. To achieve this task, the simplified data that enters the nervous system is transformed into a vast quantity of *derived nonconscious inferences*. This task is managed by a variety of highly specialized modules. Each module uses a particular algorithm to transform a local neurological activity into another set of nervous activities. The term “local” designates the fact that a module is only sensitive to activity that occurs around it, and generates a particular form of nervous activity in the same area of the brain without having the capacity to sense how what it produces will be used. These reactions form a first level neurological database. Some are sensitive to contrasts and colors, which allow others to extract shapes and identify objects. Another set of modules is sensitive to variations of activity in some optical nerves. Among these, some will infer that a certain shape moves, and another will compute in what direction this shape is moving at a particular moment.

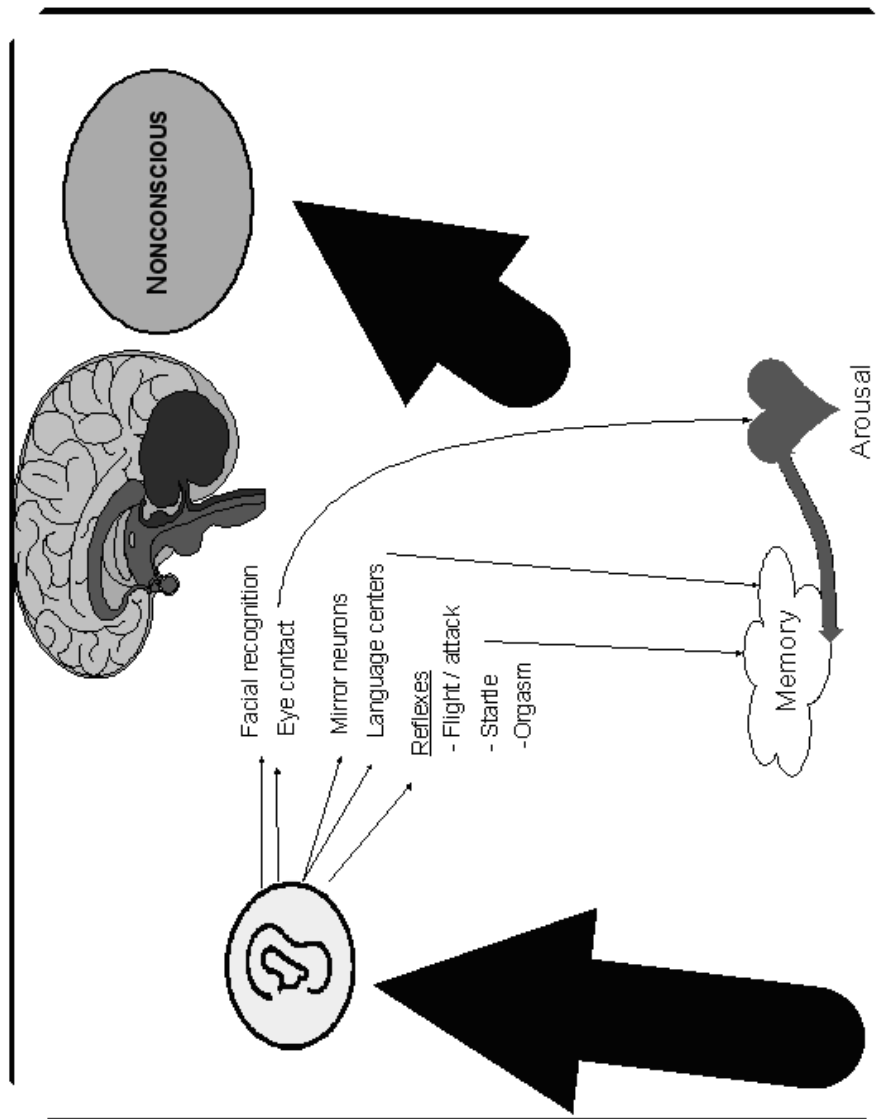


Figure 2: Sensory filtering

Sensorial organs filter and reduce physical data in a common nervous format that can be used by a multitude of nonconscious activators. These activators multiply the data in function of their own criteria. I have drawn thick arrows when the influences are numerous and heterogeneous.

Some of the activity produced by these modules will be detected by other layers of modules that are sensitive to all the shapes that resemble a face, and differentiate those that are faces and those that are not. Those shapes that are assimilated to faces will then be analyzed by a variety of modules that will distinguish familiar faces from unfamiliar faces, hostile faces from friendly faces, etc. Each of these modules thus produces a series of analyses that interpret what has entered the organism in a particular way, and produce information that is not contained in the original data. *These nonconscious* inferences transform one set of data into thousands distinct sets of data. Each algorithm is simple, but as they are numerous, they can generate a complex, multi-faceted reconstruction of the environment. Artificial intelligence has shown that simple algorithms can generate highly complex data structures, and that small modifications of algorithms can generate incredibly different results (Wolfram, 2002). Thus, the genetic code of flies and humans are quite similar, but the small differences that exist are enough to generate the immediately recognizable differences between the two species (Jacob, 1998).

These layers of nonconscious algorithms are situated all over the brain, and are regulated by the whole organism. They are associated with hormonal and cardio-vascular activity<sup>7</sup>. One can now distinguish a third layer of modules capable of generating behavioral patterns, such as a startle, flight or attack or orgasm reflex. The onset of these reactions is so rapid that conscious dynamics do not have enough time to become involved. They coordinate most physiological organizations toward an aim: breathing, cardio-vascular dynamics, skeletal muscles, etc. Only the more massive behaviors elicited through these layers of mechanisms are automatically detected by consciousness. Most automatic behaviors are highly rapid and local regulations, which function at low intensities. These can only have a nonconscious existence (Heller, et al, 2001).

<sup>7</sup> Some methods used by neurologists detect which parts of the brain are active at a certain moment by detecting how parts of the brain are being irrigated. For example positron emission tomography (PET) and functional magnetic resonance imaging (fMRI) assess relative changes in brain metabolism and blood flow.

These subroutines generate a vast quantity of usable information. A small percentage of this information is used to generate immediate responses, while another small percentage is edited for awareness. However, the neurological studies of these forms of data management only detect nervous activity, muscular activity, various hormonal dynamics, and modifications of how blood supplies are distributed in the organism. Neurologists have found nothing that amounts to an explicit form of representation or judgment. One can literally take what happens at this level as signals in-formation, or as a first level of implicit information that can be used to shape various forms of awareness of what is happening.

Awareness is itself composed of slightly more complex algorithms, which I call *awareness devices*. These devices generate a wide range of psychological events that are reflexive. We know, through introspection and studies of neurological lesions, that there are many kinds of awareness systems. Some devices create forms of inner verbalization, others inner images, inner sounds, inner sensations of movement, etc. These awareness devices select some of the information that circulates in the organism, and edited in something awareness devices can deal with. Each device has a different point of view, summarizes data in a particular way and offers a differentiated set of possibilities. The selection of information for each device, and why a device becomes more prominent at one moment and not another, depends on a vast quantity of variables that are managed nonconsciously, following rules on which psychologists and neurologists have only limited information.

Freud had already used the geological metaphor of neurological layers. This metaphor is useful to create a first general impression of the complexities of physiological data management, but one then needs to set that image aside. There are no neat neurological layers, but rather a set of subroutines. Some have highly specific functions, others general ones<sup>8</sup>. One may find modules that have different functions and aims in the same area of the brain, or modules that often associate in different regions. A routine with a highly specific action may be spatially close to another that has a more general influence. The thalamus is a structure containing substructures that edit visual information, activating certain forms of fear and pleasure responses. This partially explains how one can be afraid while one is experiencing intense sexual arousal.

### *Awareness Devices and Attention*

There are two formulations that are wrong, in my way of thinking:

- a. A human can have conscious thoughts.
- b. A human can become aware of how he thinks.

Such expressions require some reformulation, as soon as one assumes that a psychological process is a nonconscious dynamic that may include a variable number of awareness devices a certain number of times. Take the explicit formulations of “2+2” and “=4”. Adults associate these two formulations relatively easily. They are automatically associated by awareness devices when one follows the other. Although this association can easily be explained, most of the time it is spontaneously constructed by nonconscious systems<sup>9</sup>.

When one teaches a young child to count, one sometimes needs more than a rapid association between two awareness devices. For example you may ask a child to stretch two fingers on one hand, two fingers on the other hand, and then to count all the stretched fingers. In this case, each stretched finger requires at least one awareness device, and also the counting of each of the four fingers. This operation thus requires at least <sup>8</sup> awareness devices, which can each be composed of several awareness modules. In such a learning context the “2+2” and “=4” process requires a greater number of awareness devices, more attention, a greater effort and more organic energy than when they are automatically associated. Attention can thus be measured by the number of awareness devices and the quantity of energy used. Each conscious step is necessarily linked to the others by a web of nonconscious processes that no one can perceive through introspection. One may have indirect information on how these nonconscious processes functioned through impressions of ease or effort, but one cannot know by introspection what nonconscious steps were used to link these awareness devices. The implication is that even the most logical chains of thoughts are composed of islands of awareness in an ocean of unconscious regulations.

<sup>8</sup> In a computer program one finds subroutines which manage a specific algorithm. One subroutine transforms existing characters in italics, another helps you to choose on which medium you want to save data and a third one manages how much memory is available for the basic routines of the computer. In this example the first subroutine has a more specific function or target than the third routine.

<sup>9</sup> The same can be said of most habitual conscious chains of thought.

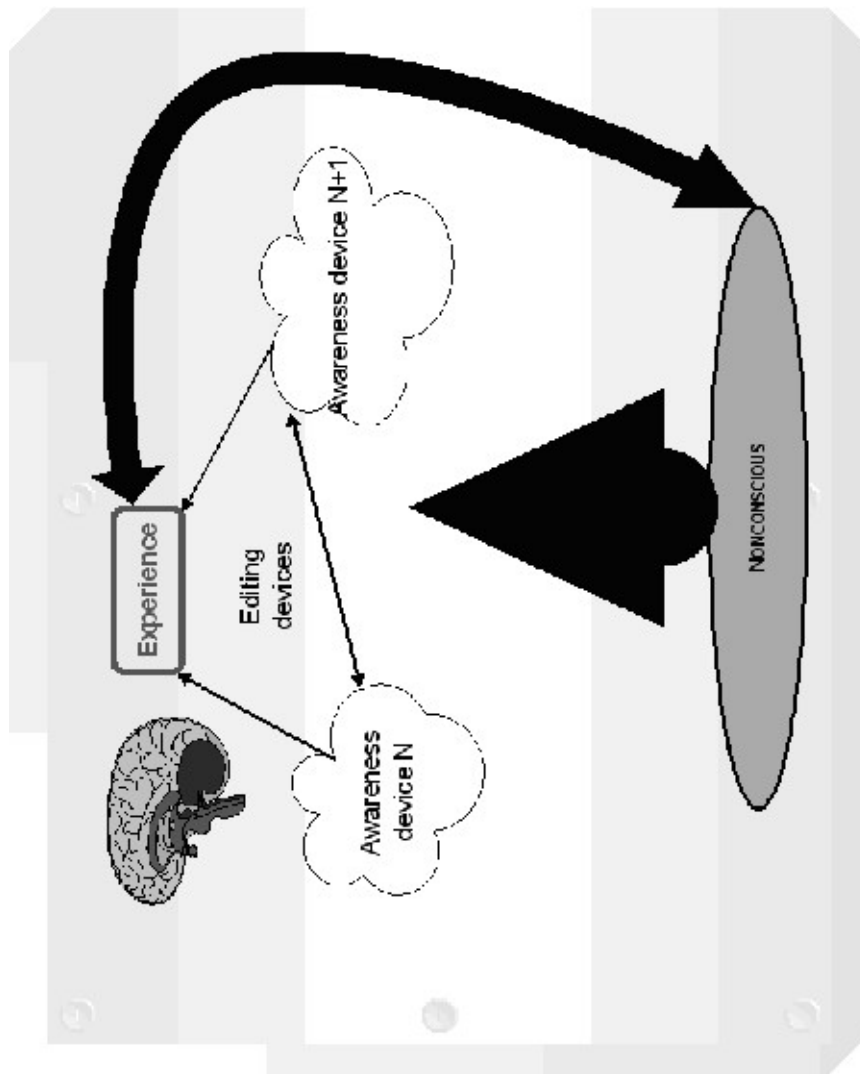


Figure 3: Conscious experience is produced by nonconscious regulation systems. I have drawn thick arrows when the influences are numerous and heterogeneous.

A mental mechanism that recruits awareness systems is like an iceberg floating in a sea of nonconscious mechanisms. From the point of view of awareness systems, the tip of the iceberg may already be impressive, but the nonconscious dimensions that regulate a conscious experience are incredibly complex, as they involve not only body dynamics, but also those of interaction and cultural know-how.

The implication of this model is that it is impossible to have a part of one cognitive system that observes the nonconscious dimensions of a thought. Although costly for the organism, it is possible to have one part of one's mind that can observe the conscious steps followed by an inner behavior. This is more easily done when one combines personal experience with the experiences of others, as in psychotherapy, meditation schools, or when in love. This theme will be developed in the sections of this article that discuss the notions of "resonance" and "intersubjectivity".

### *Necessary Awareness Illusions*

Before the impact of an object has been edited to represent what you experience when you look at it, physical signals have traveled from the object to your eyes and have been transformed into nervous activity by thousands of modules. A conscious perception is only experienced after this work has been done. This experience is edited with impressions that allow you to perceive the object with a certain level of comfort. Nonconscious editing devices have fabricated this comfort by automatically eliminating a certain number of complex issues from spontaneous awareness systems. For example, you are not spontaneously aware that your experience of what you perceive is a construction that can only have a partial similarity to what Martians, with other sensorial organs, would perceive. On the contrary, your experience of this text is spontaneously produced with an inbuilt conviction that what you perceive is what is on the paper. This conviction is what I call a necessary awareness illusion.

The material produced by awareness devices is edited by a wide range of necessary awareness illusions. A well-known illusion is that although my image of a rose forms itself in my head, I have the impression that I am in contact with the

rose that sits in front of my body. This illusion allows me to have an experience of the distance that exists between the rose and me. To give another example, imagine that you do not have the impression that the ground is below your feet, and that you only feel you have an image of it in your head. It would be a more correct sensation, but it could make you so insecure that you might be unable to run fast enough if a lion attacked you. This is also a necessary illusion: without it, how could you walk with some security?

### *Awareness & Neurology*

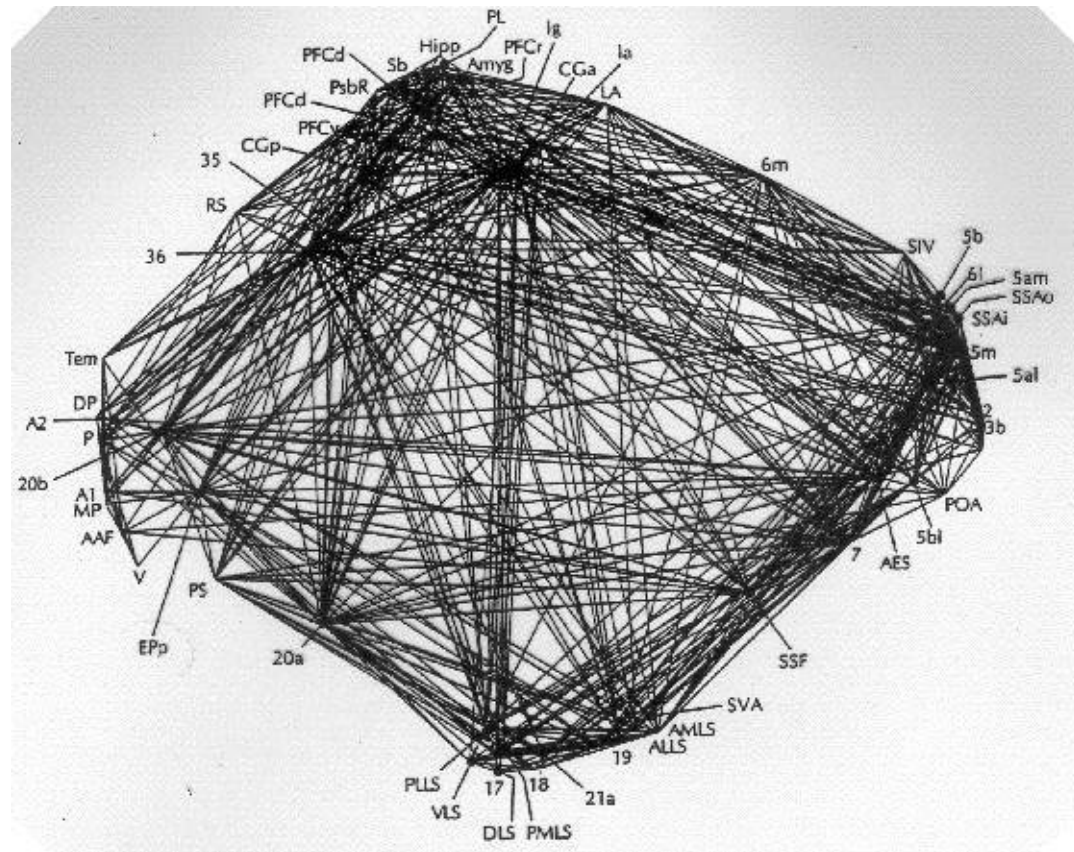


Figure 4: Awareness emerges from a tight and rapid web of exchanges that involve many parts of the brain. WHAT IS CONNECTED TO WHAT. The diagram represents 64 areas from the cerebral cortex of the cat with 1,1134 connection paths between them (the abbreviations referring to the technical names of different brain areas do not need to concern us here)... The resulting topological organization reflects their connections, not their locations in the brain. (Edelman and Tononi 2000, p. 115, Integration and reentry)

Neurologists<sup>10</sup> have shown that awareness emerges from the coordination of many parts of the brain, and that each type of awareness mobilizes some of these parts in specific ways. This coordination is a part of the nonconscious intra-organism regulation processes of individual awareness. I assume that these regulation processes of awareness devices mobilize other physiological structures. The instruments used by neurologists today detect activity in the brain by recording how the blood circulates in the brain. This implies coordination between the nervous and the cardio-vascular system. Ever since Walter B. Cannon's (1932, 1937, 1945) studies of homeostatic regulation systems, it has been assumed that hormones (e.g., neurotransmitters) and peristaltic activity (e.g., Gerda Boyesen's psycho-peristalsis) also participate in the regulation of the mind.

Neurologists also tell us that experiences one is aware of are constructed by extremely rapid and numerous exchanges of information among relevant parts of the brain. The amount of information that is exchanged in one second to form an impression is staggering. It supports the possibility that mental devices generate edited versions of some of the information that has been detected by nonconscious modules. However, this process is necessarily costly for the organism, which explains why humans tend to avoid using intense forms of awareness often.

<sup>10</sup> For example, Crick, 1995; Damasio, 1999; Hobson, 1999; Edelman & Tononi, 2000; Zeki 2003. See also Kagan, 1998, pp. 38-50 for an example of how psychologists can integrate this type of information.

*Shared Awareness*

*We put thirty spokes together and call it a wheel;  
But it is on the space where there is nothing that the usefulness of the wheel depends. ...  
Therefore just as we take advantage of what is, we should recognize the usefulness of what is not.  
(Tao Te Ching, 300 b.c., Chapter XI, p.155)*

In the previous sections I pointed out how heterogeneous the mechanisms of an organismal psychology are. The human mental apparatus requires numerous editing devices that allow these varied mechanisms to associate with a minimum of comfort. I will now show how it is precisely this diversification that has left room for the incredible communicative capacities developed by the human species.

When I analyze interactions between two individuals, I not only analyze the causal chains that can be observed between two organisms, I also assume that these causal chains are organized by emergent properties that form a new level of matter that can be addressed as a system (e.g., as in family therapies), or a particular sort of group (e.g., a family, a team, etc.)<sup>11</sup>. The theoretical implication is that the gestures and words that can be observed when two people interact are framed by how the regulation systems of each organism connect with the group's regulation systems. Given my definition of psychological systems, this is the minimum frame required for the development of a psychological system, which necessarily involves organismal regulations. A sentence or a set of gestures is regulated by a) the needs of an individual organism, b) its impact on others, and c) implicit and explicit rules of the group. This necessarily involves the organisms as global systems, in which verbal and nonverbal items, psychological and physiological dynamics are intertwined. If the possibilities offered by dynamics that actuate heterogeneous mechanisms did not exist, I cannot imagine how the association of intra- and inter-organisms to form a system could be possible (Beebe, et al, 2002 & 2005a; Heller, 2004a).

Individual awareness is a set of reflexive experiences constructed within an organism, while the sharing of conscious thoughts requires a particularly complex set of mechanisms that connect organisms. The difficult part of this complexity is that associations between organisms are necessarily nonconscious, as awareness can only exist, as far as we know, in individual awareness systems. Thus, what psychologists such as Michael Tomasello designate as "shared awareness" is another illusion that facilitates transactions. When I talk with someone I know well, editing systems create the impression that we spontaneously have the same sort of representations in our individual conscious systems, as if individual awareness systems could contact each other directly, using words and gestures as a common support to convey meaning. However, as soon as one analyzes the logistics of such a communication system, one realizes that editing systems protect individual conscious systems from dealing with a wide range of complexities. If these editing devices did not exist, we could never manage to focus our attention on a particular set of transactions, which is often about all individual conscious systems can manage. The speaker cannot be aware of and does not know the global physiological mobilizations that allow a spoken formulation to actuate itself, the thousands of body micro-gestures that contextualize a meaning, and the vocal refinements that modulate the impact of a message.

One of the difficulties is that no particular instance has a global view of what is happening, and how it actuates. It is not only individual consciousness that does not perceive or imagine how it can function. Nonconscious processes do not have a greater capacity to access or create global representations of what is happening. All we have, according to present theories, are local systems of actions that activate themselves when certain expected local activities occur. As far as I know, social conscious construction (e.g., a scientific manual) is about as global as we can get.

One set of parameters that allow individual awareness systems to form a web of reflexive systems is that most human organisms have similar structures and similar awareness devices. My perception of a rose is relatively close to your perception of a rose. However, there are no two organisms that manage information exactly the same way. The differences are strong enough to explain why two organisms may react differently to an identical stimulus. This may explain why, since at least the appearance of ants, various species have sought ways to tighten this intra-organism variability through mutual regulation systems.

*Resonance and Intersubjectivity*

The human body is composed of a great many individuals of different natures, and so, it can be affected in a great many ways by one and the same body. And on the other hand, because one and the same thing can be affected in many ways, it will also be able to affect one and the same part of the body in many different ways. From this we can easily conceive that one and the same object can be the cause of many contrary affects. (Spinoza 1677, Book III. Proposition 17, Scholium).

*Resonance*

*Two pendulums hang in space. One begins to swing, and the movement is conveyed to the other. The second pendulum begins to take up the influence of the first. (Boadella 1999)*

<sup>11</sup> A typical example is gestures that respond to each other simultaneously (e.g., Beebe and Lachmann, 2002, p. 97; Jaffe, et al, 2001).



*I say this in general, that in proportion as a body is more capable than others of doing many things at once, or being acted on in many ways at once, so its mind is more capable than others of perceiving many things at once. (Spinoza 1677, Book II, Demonstration 13)*

David Boadella (1987, 1999) proposed the term “resonance” to designate the global impression that nonconscious regulation systems are connecting inner impressions between two organisms, influencing awareness systems in ways that remain implicit. “Resonance” resembles the notion of atmosphere: a fuzzy global impression that somehow characterizes the buzzing activity of an organism at a specific moment. Atmosphere and resonance are a form of perception through which an organism can summarize the general activity of the organism for individual consciousness. Its contours are hazy, but the quantity of information that is conveyed is immense. It seems that the more explicit an impression is, the less information it contains. Resonance, as I understand it, creates the nonconscious logistics that can support the construction of an intersubjective experience. Resonance designates a series of nonconscious regulation systems that allow various forms of nonconscious attunement among several organisms. One set of mechanisms that allows various forms of mutual resonance are modules that have survived because a) they are sensitive to specific cues that emanate from other persons, and b) they can be used to activate an acceptably relevant response system.

I have already mentioned a set of modules that analyzes faces and some of their mimics. An often-quoted example of such response systems is Tiffany Field’s 1981 observation that eye-to-eye contact between two organisms increases arousal and heart rate in both organisms. An organism automatically avoids an unpleasantly intense arousal level by looking away. Arousal then lowers automatically, as well as heart rate.

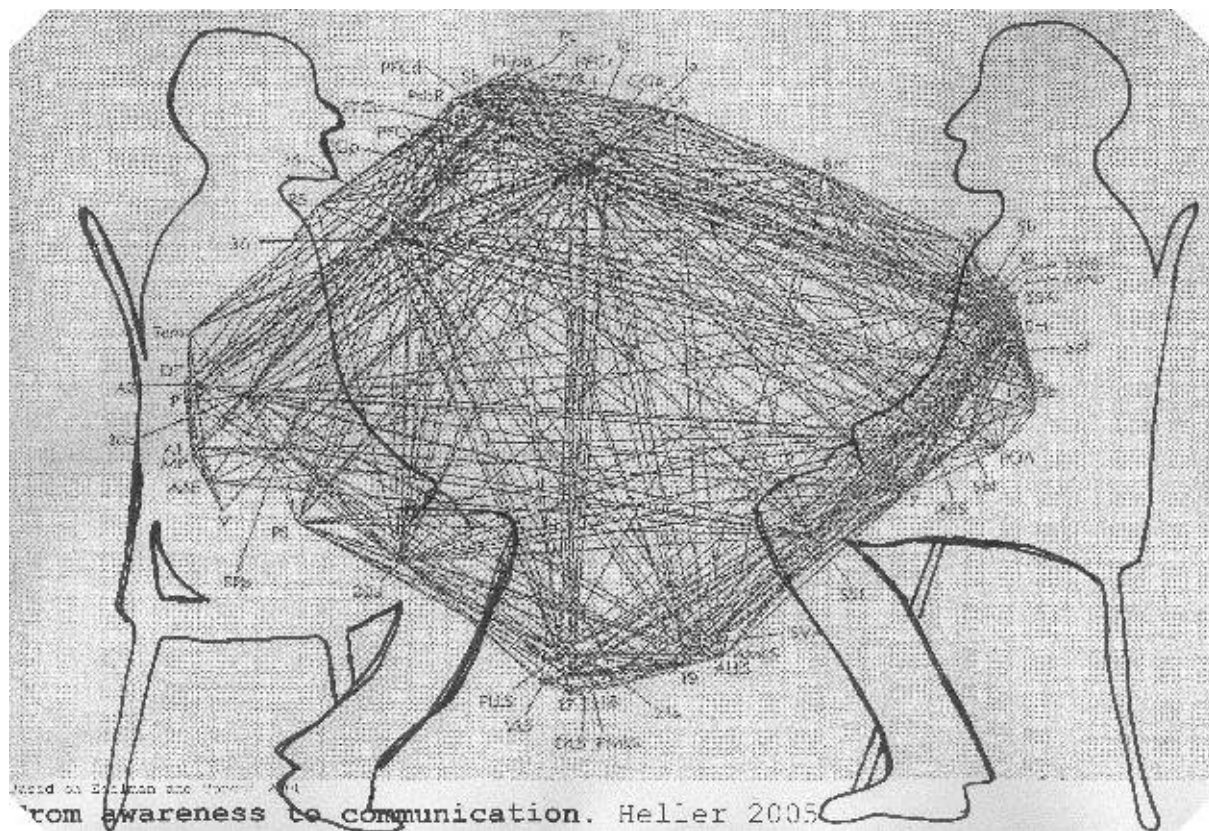


Figure 5: Nonconscious resonance between two organisms

Another set of spontaneous nonconscious activations are those known as mirror neurons, observed in the frontal lobes of macaques. It is assumed that similar neurons exist in a human brain (Gallese et al, 1996.). These neurons are activated when modules have detected that someone is trying to grasp an object<sup>12</sup>. When this happens, the organism activates the motor system it would have used to grasp this object in the same way. This is a typical example of what I call a resonance effect:

1. It is nonconscious.
2. It is rapid.
3. It is an inner reaction to what another person is doing.

<sup>12</sup> Only a few specific actions such as grasping objects trigger mirror neurons. Colleagues have a tendency to generalize and suppose that everything that is perceived creates a correlative psychophysiological inner construction. This has not yet been showed to be true by neurologists.

When mirror neurons are activated, the person in whom this activation occurs is not aware that this is happening. But if, for other reasons, this person wants to imitate the other, he may feel more pleasure and more ease in imitating him than if he did not have mirror neurons. For example, let us consider children who pass through a phase of wanting to imitate what others do. Psychologists<sup>13</sup> have showed that there are many reasons why imitation is required by a child's developmental systems. Within this galaxy of mechanisms, mirror neurons may be a form of facilitator when imitation involves grasping an object. The implication for awareness systems is that mirror neurons may eventually modulate impressions in a subtle implicit way.

In the case of mirror neurons, we have an example of a form of resonance that does not require the participation of awareness to complete its task. However, there are many interactive regulation systems that require the participation of awareness systems. Instincts and emotions, for example, can only find relevant forms of expression if awareness participates in their attempts to achieve certain aims. These aims (e.g., organizing a meal) often require the coordination of several conscious organisms and a capacity to create a set of shared conscious constructions<sup>14</sup>.

My definition of resonance is slightly different from that of Boadella and his colleagues, as they do not need to differentiate the nonconscious from the conscious. For example, in John Watkins' 1978 formulation, quoted by Boadella, resonance can be accessed consciously in explicit ways:

Resonance is that inner experience within the therapist during which he co feels, co enjoys, co suffers and co understands with the client. Resonance is a type of identification which is temporary.

In such a process, I need to distinguish four phases:

1. The nonconscious regulation system between two organisms.
2. The editing of the multitude of activities the interaction generates in the therapists, which leads to a sort of inner atmosphere than can be accessed in a fuzzy way through introspection.
3. A conceptualized metaphor of what is happening.
4. The edited illusion that this metaphor and its associated inner atmosphere corresponds to an intersubjective bond between two organisms.

These four steps are not explicitly distinguished in Boadella's model, which is why I use the term resonance to designate the first step mainly, and eventually the second<sup>15</sup>. I will now focus on the last step.

### *Intersubjectivity*

From at least the second month of life, nurtured by caretaker's compulsive empathy towards them, the infant's psychological development is shaped around the innate drive to promote fusion and intimacy with others via active seduction as the antidote to separation. It is in this primordial context that human and possibly other animals' awareness develops. (Rochat, 2004, p.278)

These numerous influences affect the body in many ways, and increase or diminish its power. Affects are then generated to create a general attitude of body and mind that allows an organism to deal consciously with what is happening: The more Reality or being each thing has, the more attributes belong to it. (Spinoza 1677, Book I, proposition 9)

One of the reasons why I have presented my material this way is to combat the notion that two individual awareness systems may have direct contact with each other. This position is often presented using Daniel Stern's notion of intersubjectivity. Although one may have the impression that one's conscious thoughts are in direct contact with another person's thoughts and feelings, this impression is necessarily an edited experience. All the complexities of the interaction have, at such moments, been excluded from conscious perception so that individuals can focus their attention on some dimensions of a relationship. The telephone is a good example, as it reduces vocal patterns to electrical patterns that pass through complex cabling systems, which can then be decoded as voice and speech by a telephone that is maybe a continent away.

Examples of relationships in which the impression that strong forms of intersubjective experiences exist are those of love — between lovers, children and parents, friends, etc. Moments when it becomes obvious that the impression of intersubjectivity is an illusion may be a divorce, when the husband explains to you that he never could have imagined that his wife would demand her share of the family fortune with so much greed and hate; or when a parent discovers that his teenaged child is on drugs. The parent then typically says that he could never have imagined that this child they have raised and known for so long could have developed such a secret life. A common notion in such situations is that someone is discovering that a person who was experienced as an intimate partner is in fact a total stranger.<sup>16</sup> When love is experienced, intersubjectivity is automatically experienced, but this comfortable impression, which can be blissful, is nevertheless a form of consciousness constructed by the nonconscious coordination of two aware systems.

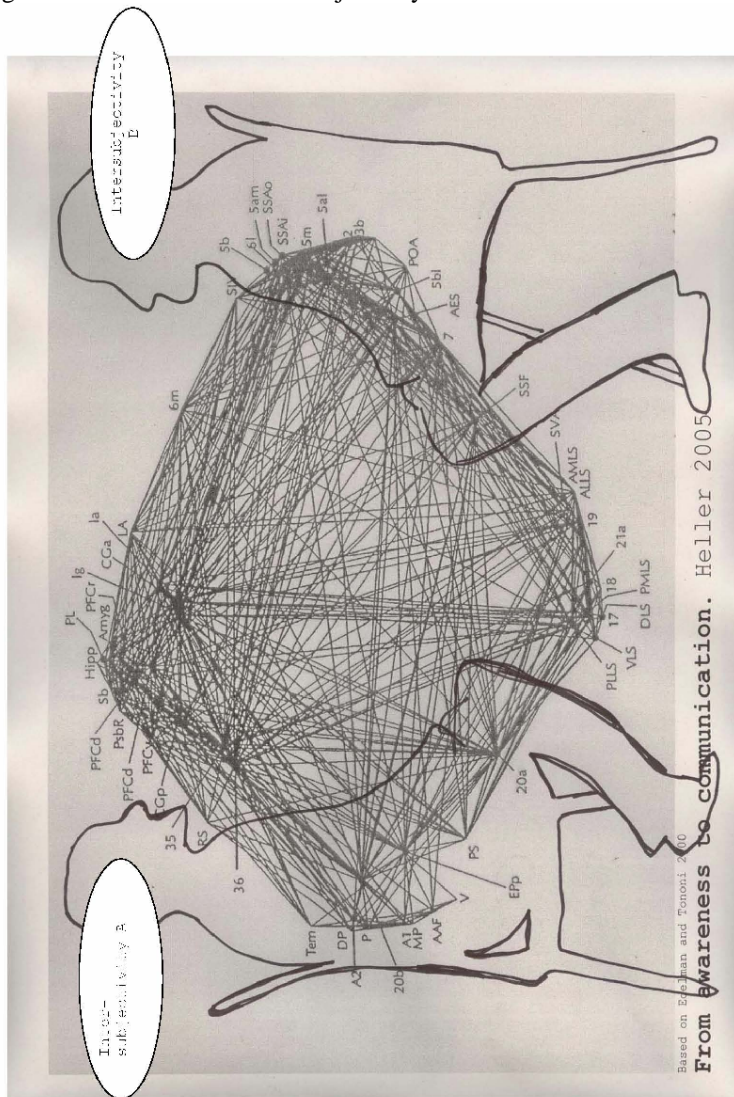
<sup>13</sup> E.g., Tomasello, 1999; Rochat, 2001 & 2004.

<sup>14</sup> I have detailed this part of my model in Heller, 2005b.

<sup>15</sup> Rubens Kingel, 2005, shows that the term « resonance » is used in a variety of ways in various fields related to psychology such as neurology. I base my own definition on this discussion.

<sup>16</sup> A more detailed description of this phenomenon can be found in Bateson, 2000, pp. 3-18.

Figure 6: Resonance and intersubjectivity



Language, emotional expression or table manners, and all such psychosocial phenomena are structured by nonconscious processes, which require various forms of calibration only awareness devices can provide. Communication is thus built on an immense series of small, specific inter-organism regulations that calibrate intra-organism regulations in such a way that some sort of common representation can be constructed in several organisms.

If intersubjectivity is a need, and if it is one of the properties of love, then love is a sentiment that mobilizes all the awareness systems and nonconscious systems, which will allow a form of intense exchanges between two organisms. Because love requires an intense intersubjective experience, it will require of the organism that it spend as much time and energy as possible to think and dream of the other, to explore the other with all its interactive capacities. The impression of intersubjectivity may be a necessary illusion, but - because it is necessary - it will increase the speed and quality and duration of nonconscious interpersonal regulation systems, of inter-organism resonance systems, and thus create a database that can support a need for maximum intersubjective experience. The pains of divorce result when the illusion is no longer supported by such intense nonconscious involvements, and when other forms of necessary illusions have not developed to support transformations of the relationship.

Secrets are the unconscious dynamics of shared awareness

One of the many implications of this model for psychotherapists is a re-evaluation of secrets. Secrets are active in some awareness systems of a group but not in all. Their participation in the systemic dimension of a group is therefore nonconscious. Their existence is sometimes of utmost importance for a group, but their impact is so deep that disclosing a secret to all members of a group will impact the dynamics of the group and how each individual relates to the whole group.

Consider the following vignette:

A woman has three children with her husband and then a child from her husband's brother, with whom she has a long-term affair. The father accepts his role as the fourth child's official father. He agrees with his wife that they should live in the same house until the youngest of his three children is 11 years old. The three older children do not know what is happening, but they cannot avoid noticing that suddenly their parents sleep in two rooms, and that they have a younger sister a few months later. They are told that the father is so busy he does not have much time for holidays. Thus, they spend short holidays with their father and mother, and the rest of the time with their mother and uncle. The children are told nothing of what is really happening, and never see their uncle sharing tender gestures with their mother.

The main impact I observed on the second child, when she became my patient, is a persistent mismatch between what occurs in a room and the conscious representation that emerges. This led to a wide range of small noticeable maladjustments. She had an unconscious propensity not to perceive what might disturb her parents, and increase their guilt. For example, her parents speak several languages and often use foreign languages to communicate on touchy matters. She developed a phobia to learning languages. She also had suicidal thoughts associated to the impression that she is not the daughter of her mother. She does not understand why her parents quarrel so violently on trivial matters, such as how meals should unfold. She cannot know that the parents' aggressive feelings look for "official" pretexts for anxieties that have other causes.

She developed communicative handicaps that inhibited her capacity to relate smoothly with others. These handicaps take non-verbal forms as much as verbal ones. In her profession, she tends to compulsively avoid reaching clear aims. She came to see me with the unconscious hope that by passing through the body I might reach the truths she refuses to perceive consciously. However, as her body expressions were associated with distorted truths, I reached false conclusions. Finally, by working verbally on the family history, I managed to clarify what was happening, but by then the therapy had already lasted five years, and the patient stopped. We discovered that her father had been raised in a similar situation, and that he found adaptation to secrets "normal". Having discovered these events, we managed to reconstruct the secrets of her own childhood.

As her parents also had numerous positive qualities, the trauma induced by the secret situation was compensated by constructive support systems. I will therefore not support the idea that secrets necessarily produce schizophrenia. However, there were certain schizoid traits in this patient, who somehow never found ways of putting brain, body, emotions and sexuality together. When she came to see me a decade later, for a few months, she was at last becoming aware of a strong anxiety she had always denied. She had managed to discuss the whole affair with her parents, and was no longer afraid that her incompetencies would raise her parents' guilt. Her creativity was finally able to reach relevant aims more easily, but not completely. Her love life was more structured, but not necessarily satisfying. The odd impression that her inner needs were aiming at an unreachable horizon persisted. In a certain way this is true for everyone, but in this case, the dilemmas had a harsher impact than on other members of her social environment.

I have developed this case to show that secrets and individual unconscious memories are distinct, although they influence each other; and that it may be useful to explore more fully than usual, and more often, the particularities of the impact of secrets. Individuals who grow up surrounded by the implications of secrets learn to trust explanations that fit all the explicit conscious information they have, but which ignore more implicit information such as the productions of inner and external atmospheres. They thus acquire the skill of surviving in situations with particularly inadequate models. This "skill" is developed at the risk of become insensitive to intrusive and obnoxious behaviors. They also tend to accept from others treatment that is experienced as insulting in their cultural environment. They thus develop interactive skills that are often detrimental to their survival in their social environment.

### *The Institutional Developments of Individual Consciousness*

For the sake of completeness, I now summarize the third layer of my topography of the mind — the social layer. Language, culture, science, arts and religion are examples of constructions that require institutional dynamics as well as those already mentioned in this paper. My central idea on how individual and institutional dynamics are coordinated to form a third type of coordination between different awareness systems is that humans have developed devices for awareness, such as books, televisions, computers, etc. Leroi Gourhan's (1964) idea is that these devices externalize and refine functions that exist in a human organism. Fine motor skills and fingers can handle objects in a variety of ways, but hammers and saws considerably enhance these capacities. Legs can be used for displacement, but with horses and airplanes individuals can travel all over the planet. The brain has the capacity to store information, but books and computers allow individuals to share memorized information even when the individuals who gathered the information have died. This coordination between individual awareness systems and devices for awareness is possible because awareness modules can be connected by nonconscious systems that have the capacity to be linked to regulation systems situated outside of the body. Institutions have emerged with the capacity to include devices for awareness in inter-organism regulation systems.

For a fish or a rat, a book is nothing but an object. However, for apes a tool can modify an individual's or a group's adaptation to its environment (de Waal, 2002). Humans have developed tools that can convey memorized information to the nonconscious procedures that edit individual consciousness. They developed this possibility in a unique direction, which even gives them the capacity to destroy the whole planet. Through science, individual awareness systems may become aware of how their organism functions without being blinded by the limitations of their introspective powers. Science on the other hand cannot access the type of information introspection can provide to individual awareness systems. The combination of these two sources of knowledge has played a crucial role in the development of spiritual and artistic imagination. They are also crucial to the development of psychology and psychotherapy. A psychotherapist combines the powers of institutionally produced knowledge, with elaborations that can only be produced through an interaction, and the powers of two (or more) introspective dynamics. The fact that such a combination helps to calibrate moods, emotions, and self-awareness is, in a way, the proof that my model corresponds at least roughly to certain dynamics involving the mind.

A generally intriguing issue highlighted by this model is the status of an individual reflexive process that participates in institutional dynamics that are necessarily nonconscious. This makes it difficult for an individual to situate himself in his society or tribe. To be able to situate oneself, an individual consciousness would have to be able to perceive what is happening from outside of the organism, in a place from which an individual mind could observe not only his body, but the whole social context in which it evolves. This is of course impossible; hence, the immense amount of literature written about an individual's dependence on information and impressions provided by others.

### Conclusion: Individual and Shared Awareness

By 9 months and with the onset of locomotion, infants become jointly attentive to objects and events in the world, in other words, attentive with others. If an infant plays with an object, she will start to check with quick back-and-forth glances between the object and the social partner, actively monitoring whether they are both interested in the same thing. (Rochat, 2004)

To summarize my theoretical position I situate the capacity to create reflexive thoughts in individual organisms only, but this capacity only becomes meaningful and useful for the species once it can be inserted in a nonconscious web which allows co-constructions of shared material in a multitude of individual awareness systems. It is this capacity which is particularly complex in the human species. I think that combining individual and shared awareness is a key element of psychotherapy. Research by Wilma Bucci shows that when communication becomes multimodal between a patient and a therapist, the psychotherapeutic relation is often productive. Multimodal means that a gesture can be answered by a sentence or a sentence by a gesture. In other words, the content of an awareness modality is not only comfortably translated from another modality within a person, but also from one person to another. Daniel Stern (1985, p. 145) sometimes used the term "resonance" to designate forms of attunement between expressive modalities, which can recast an "experience into another form of expression".

It would seem that a process of awareness-driven co-construction helps. Individual awareness systems tend either to forget experiences as soon as they begin, or to get stuck in recurrent reformulations that prevent new experiences from forming themselves. In both cases they operate at high speeds. When one passes from awareness to consciousness, a mid-range tempo appears, probably because more complex forms of data management are involved. This transforms rapid experiences into themes that can exit and enter awareness at various speeds.

Using different words and notions, other authors have developed the same theme. Beatrice Beebe (et al, 2005) has shown that this is not only true in verbal communication but also in bodily communication. When she explicitly reacts at a mid-range speed with either depressed or over-excited children, they often find more reassuring ways of regulating themselves during an interaction. In other words, by creating forms of common, shared awareness in therapy sessions, the setting can help individual awareness systems to find new forms of nonconscious regulation, and to strengthen their necessary illusions in relevant ways. A similar way of working is described by Maarten Aalberse (2001), when he discusses the use of "felt gestures" in psychotherapy.

Beebe also recommends that one distinguish self-regulation and interpersonal regulation clearly, while acknowledging that they are both part of the same system. When one talks with a problematic parent, being able to autoregulate comfortably creates different communication systems than being incapable of regulating oneself.

Edward Tronick (2005) distinguishes *individual states of consciousness* from *dyadic states of consciousness*. He then shows how the construction of dyadic consciousness can help the persons involved to modify their ways of thinking, to form richer forms of awareness which will then support modifications of communication strategies. These modifications can have catastrophic implications when infants are raised by intrusive or depressive mothers, (which can however be modified in a therapeutic context).

George Downing (2005) has established therapeutic methods using video analysis to refine how consciousness, awareness, and nonconscious process can be integrated by both therapists and patients.

Since I have differentiated awareness and consciousness in this way, I have also paid more attention to distinguishing what patients are aware of and what they share. Working on the construction of shared awareness is an essential dimension of the construction of love. During my sessions, I am creating shared images (e.g., when analyzing a dream), a common sense of how a patient experiences his body, and how he experiences me. It is by developing this shared mythology with a patient that I try to help him to transform his conscious and nonconscious way of self-regulating, of communicating, and of sharing.

I hope I have shown that consciousness cannot deal with all the information that resides in the organism from all points of view. It can only manage information that is edited in such a way that it becomes manageable for awareness devices. Because of these mental system constraints, illusions, repressed information and secrets are necessary ingredients of mental dynamics. However, because the mind is complex and heterogeneous, the coordination of its elements is necessarily messy, which explains why the choices made by editing systems can sometimes be destructive. The organism has contradictory aims. For example, when I meet patients who suffered from abuse during their childhood, I warn them that a) they cannot not love their parents, and b) they must detach themselves from their parents to protect themselves. This task is, of course, impossible to achieve without a certain amount of self-destruction, because repression systems never work so well that you can edit the past out without creating distortions in the mind.

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#### Biography

**Michael Coster Heller, Ph.D.**, psychologist and psychotherapist is recognized by the Swiss Federation for Psychologists. He was founding editor of the *Journal Adire*, of the French speaking Association of Biodynamic Psychology, and edited a volume based on the 1999 congress of the European Association

<sup>17</sup> "Communication: the interface between in and out the body" (this translation has been approved by Rubens Kignel).

of Body Psychotherapy (EABP), entitled The Flesh of the Soul. In the EABP he was chairman of the Ethical and Scientific committees, member of the Board, and vice-president. He practices in Lausanne (Switzerland) and can be contacted through [www.aqualide.com](http://www.aqualide.com).



# Right Use of Power: The Heart of Ethics,

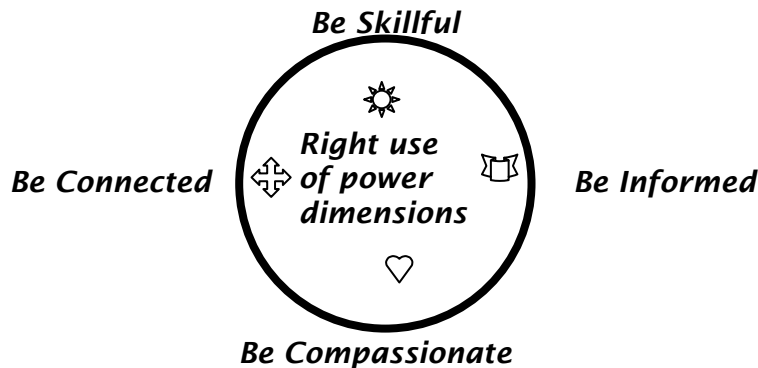
Cedar Barstow, M.Ed., CHT

## Abstract

*This paper is a theoretical and practical call to reframe professional ethics toward a larger scope. The focus is on envisioning and grounding an ethic that merges power and heart. Foundational values and four dimensions of right use of power as the heart of ethics are described. Right use of power is described as an ethical and relational use of professional and personal power that is informed, compassionate, connected, and skillful. As body psychotherapists we are in an ideal position to be influential leaders in the evolution of an ethic of power and heart. This paper outlines the proposal of such an ethic. An extensive dialogue with the explicit and implicit assumptions of other ethical approaches is the subject of another paper*

## Keywords

Compassion - Conflict resolution – Ethics – Experienced based education - Power differential – Power with heart – Right use of power.



*The greatest revolutions science has presented to us across history point to others, yet more fundamental waiting in the wings, hinged to a revolution of human spirit and ethic equally profound.*

*Joseph P. Firmage<sup>18</sup>*

*We need an ethic of compassion more desperately than ever before.*

*Karen Armstrong<sup>19</sup>*

Continuing education in ethics is a required and important part of our training and ethical awareness and accountability are essential to our work. As body psychotherapists, one can, through the quality and depth of our attention to ethics, be a vital influence in the revolution of human spirit and ethic that many see as timely and needed. This ethic of compassion is of ultimate importance in sustaining life and resolving conflicts. It is hinged to ownership and use of our personal and professional power to promote well-being as well as to prevent and repair harm. This use of power involves increasing our skillfulness in engaging our compassion and staying related through conflict. At the core, right use of power--the heart of ethics—links power and heart. This combination constitutes a revolution of human spirit and ethic.

Ethics has traditionally been understood and taught as a set of behavioral rules. Compliance with these rules protects our clients from harm. These rules set a standard for which we, in our profession, can be held legally accountable. Ethical codes provide an essential, clear, and solid base for ethical awareness and behavior.

In my passion for ethics education and accountability over the past 10 years, I have talked with people who love ethics and teach ethics in very innovative and effective ways. As a member of the USABP Ethics Committee, I was honored to be part of a team which spent untold hours to create an up-to-date USABP code of ethics<sup>20</sup> written in language that encourages, inspires, and guides both attitudes and behaviors. This code also includes much needed, thorough and innovative sections on therapeutic use of touch, multiple role relationships, peer accountability, teaching, and research. Working with other members of the Ethics Committee of the Hakomi Institute, we have developed a Grievance Process<sup>21</sup> that focuses on conflict resolution, relationship repair, and education, rather than an ethic of justice through litigation. These and many other examples represent a significant movement toward bringing more depth and engagement to ethical awareness than rules alone.

Alongside these evolutionary developments, I have also found that many of us have limited and disengaging experiences with ethics. Students come to class with a book to read, expecting to be bored. One student said, “Oh, I already

<sup>18</sup> Joseph P. Firmage, *Institute for Noetic Sciences Journal*

<sup>19</sup> Karen Armstrong, AARP Magazine, March & April, 2005, (author of *The Spiral Staircase: My Climb Out of Darkness*, Knopf, 2004, p. 64)

<sup>20</sup> USABP Code of Ethics, 2002

<sup>21</sup> Hakomi Institute, *Code of Ethics and Ethical Grievance Process*, revised 2004



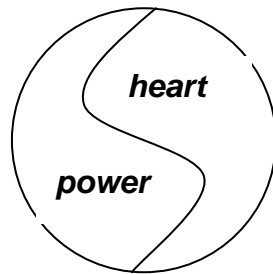
know about ethics: Don't sleep with your clients, don't sleep with your clients, don't sleep with your clients." Another said, "Oh, ethics is just another arm of the law." "Ethics is just rules imposed from the outside." Associations with the word "ethics," include: boredom, disassociation, shame, dread, self-righteousness. We need to unpack this "excess baggage," before we can re-engage with ethics in a more relational, restorative, and inspiring way.

I had many of these associations with ethics myself. Ten years ago, in a group leadership training, my colleagues Amina Knowlan and David Patterson<sup>22</sup> referred to ethics as "right use of power and influence." Immediately my energy shifted. Ethics as right use of power—this was an idea with which I could engage. It was an idea that had heart. This concept began to transform ethics from a list of good behaviors to ethics as being in right relationship. It connected with my deep desire to use my power effectively, consciously, and compassionately. This was ethics that could be learned from the inside out instead of from the outside in.

In working with the idea of right use of power, I found that many of us, as body psychotherapists and as human beings, also have extra baggage in the form of beliefs, habits, and expectations. These beliefs and wounds interfere with our ability to understand, own, and use the increased relationship power that accompanies our role as therapists that also serves our clients. When asked about their automatic and felt sense associations with the word "power," people frequently have responses such as: fear, exploitation, force, intimidation, vulnerability, anger. Most of us have experienced personal wounds through misuses of power. Because of these wounds and other negative associations with power, we, as body psychotherapists are very wary of the idea that we have increased power and influence as professionals. Through avoiding recognizing the strength and subtlety of this power differential, caregivers may misuse power by under using it. Kindness and compassion without owned, engaged power and influence reduces effectiveness and may cause harm.

Often we think that we need to choose between power and heart—between kindness and strength, between compassion and truth, between love and boundaries, between acceptance and taking charge. We need to revise our ideas about power and about ethics in order to use both benevolently and synchronistically. Right use of power and heart focuses on gaining the dynamic, relational understandings and the skills that will enable us to be both compassionate and firm. In their true natures, power is guided by compassion, and the heart is guided by strength and truth.

The practice of using power and influence benevolently calls us to own and engage our personal and professional power as an ongoing process of using power not only to prevent harm, but to repair harm, and to promote well-being. Linking right use of power with heart calls us to do the internal work of developing a personal and professional ethic of compassion.



## Definitions

Here are a few working definitions that help us bridge into an expanded conception of power and heart.

**Ethics**— a dictionary definition says that ethics is the study of what is right and wrong and of duty and moral obligation. For our purpose, ethics is a set of values, attitudes, and skills intended to have benevolent effects when applied through professional behavioral guidelines, decision-making processes, and the practice of compassion.

**Power**—most simply, is the ability to act or to have an effect—to accomplish what we intend. **Influence** is how we interact with others to make changes and have an effect. **Role Power** is the increased power that accompanies a professional role. This is called the **power differential**. **Personal power** is the generative capacity to use our gifts and make real our intentions.

**Compassion**—resonating concern, an ability to see and respond to the connection between everyone and everything<sup>23</sup>.

**Power Spiral**—a visual model for practicing right use of power in a multi-layered continuum.

**Right Use of Power**—the use of personal and role power to prevent, reduce, and repair harm. In addition, to promote sustainable well-being for all. (In this context 'right' implies that power is neutral, meaning that it can be used with integrity for the good of all. The use of the word 'right' is not meant to imply a black and white concept of right vs. wrong or good vs. evil.)

## Foundational Values

In affirming Right Use of Power as the heart of ethics, we are framing ethics and power in a more comprehensive way. The following values form the foundation for the Right Use of Power approach.

<sup>22</sup> Amina Knowlan, David Patterson, Group Leadership Trainings, lecture, 1990

<sup>23</sup> Marc Ian Barasch, *Field Notes on the Compassionate Life: A Search for the Soul of Kindness*, Rodale, 2005"

## Aspirational

We begin by acknowledging our desire and capacity for magnificence in the use of our personal and professional power. Supporting and engaging this desire accesses the “social engagement system.” According to the work of Stephen Porges,<sup>24</sup> this third nervous system is the most recently understood and highly evolved. The social engagement system has a capacity for self-correcting, complex problem-solving, expressing a large range of emotion, and staying in relationship even in conflict. When motivated by fear, shame, or lack of recognition of our capacity for goodness, we tend to disengage from this evolved system, and default to the older fight, flight, or freeze responses.

## Relational

Ethics and power are all about how we treat others by our attitudes and our behavior. Relationships are what make ethics necessary. In a conversation, a colleague challenged: “This isn’t an ethics course, this is ‘Relationship 101’.” Being sensitive to our impact and staying connected even in conflict is, however, the core of ethical relationships. Relationships are most effective and grievances are avoided when we are able to resolve problems and repair connections as they occur.

## Heartful

Right use of power is the heart of ethics. Empathy and compassion can inform often complex and challenging situations, so that both caregivers and clients will be empowered to self-correct and grow into more sensitivity. The development of compassion, “as being an ability to imagine [and feel] the connection between everyone and everything, everywhere,”<sup>25</sup> is the salve for wounds and separation, and the inspiration and motivation for those who are in positions of power and trust. We can source our power with heart.

## Reparational

We all make mistakes. Our impact is often different than our intention. We carry projections from past hurts and wounds. There are difficulties that arise in the course of care giving relationships. Often we automatically and habitually link present conflict with past trauma. When conflict triggers old trauma, we may disengage from relationships, dissociate, lose touch with our resources, and/or blame others. But by approaching ethics and power reparationally, we can put our attention toward skillful resolution, relationship repair, and self-correction. This approach supports us in discussion about ethical issues and concerns with colleagues, and attending to conflicts within a relationship, instead of feeling ashamed, accused, or out of touch with our impact on others.

## Pro-active

Responses to issues of power and ethics can be unconscious and history-based, littered with automatic behavior and outdated beliefs. By actively exploring our ethical edges, taking care of ourselves, asking for and using feedback constructively, we become more sensitive. We can increase our skills, change ineffective habits, and use learnings from our history to grow. Focusing on pro-active right use of power takes ethics to a deeply refined level.

## Experiential

Having a felt sense of the impact of the power differential is the key to understanding professional ethical issues. Experiential study is the most effective method of learning. Studies show that we remember 90% of what we say and do, compared to 10% of what we read.<sup>26</sup> Ethics, power dynamics, and compassion are best embodied through personal, practical, and engaging experience.

## Dimensions and Themes

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<sup>24</sup> Stephen Porges, *Orienting in a defensive world: Mammalian Modifications of Our Evolutionary Heritage. A Polyvagal Theory*. “Psychophysiology” 32, 1995

<sup>25</sup> Marc Barasch, *Ibid.*

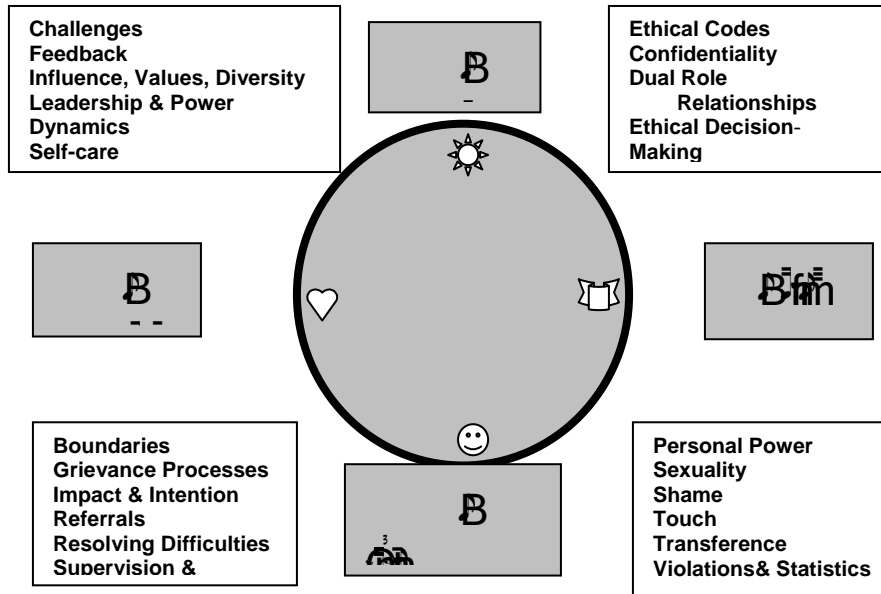
<sup>26</sup> [www.drddan.org/handout%2020.htm](http://www.drddan.org/handout%2020.htm)

Human beings are capable of magnificent acts of wisdom, compassion, and courage in using their power for healing, for connecting, and for peacemaking. Body psychotherapists speak of their yearning for the pleasure and satisfaction of finding and owning their personal power, and using it to make real their intentions, be in right relationship, and be of service.

Ethical behavior is not just the result of good intentions, but is indeed more complex and fascinating--more like a life-long process of empowerment and refinement. Leading from and building on the values described, I have identified four dimensions of understanding and learning how to use our power and influence that seem to encompass the inherent processes and themes. There are a number of topics that are not included in the usual ethics realm, but are relevant and timely.

Here is a visual map of the set of topics associated with each dimension. I have long been drawn to understanding and growth as a cycle rather than as a linear process. The map, therefore, takes the shape of a circle, or a spiral with many layers, organized by the cardinal directions beginning in the east, or the right of the chart.

Right use of power is informed. Being informed leads to increased consciousness. Increased self-awareness and empathy lead to deeper caring and accountability. Taking responsibility and staying related leads to more skillfulness and empowerment. The spiral continues with more empowerment leading to more information and confidence and so on.



Here is a description of the territory of each dimension.

**Dimension One:  
The Informed Use of Power**

- *Be informed.*
- *Own your power and influence.*
- *Understand your ethical guidelines.*

**BE INFORMED**

This dimension is about **information** of many kinds:

- owning and having a felt sense of the impact of the power differential role—its potential, its responsibilities, its distortions, and its vulnerability for clients—as the basis for all ethical guidelines;
- understanding and being resourced by information contained in ethical codes as wisdom culled from the lived history of our professions;
- gathering and effectively using information from clients;
- paying attention to inner guidance;
- making informed ethical decisions in complex or challenging circumstances and in everyday attitudes and interactions.

**Dimension Two:  
The Conscious Use of Power**

- *Be curious.*
- *Use your history.*

**BE COMPASSIONATE**

This dimension is about **Self**:

- understanding and learning from our attitudes, beliefs, wounds, and habits in relation to issues of power and authority;
- engaging curiosity about ourselves and our clients as a non-threatening skill and attitude;
- exploring our empowered and disempowered selves and

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- **Practice compassion.**

how our use of power and influence affects others;

- reflecting on examples of misuses of professional power;
- working with shame as a power issue because it isolates and de-resources;
- practicing compassion as a resonating concern for all.

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**Dimension Three:  
The Caring Use of Power**

**BE CONNECTED**

- **Be related.**
- **Track your impact**
- **Resolve and repair.**

In this dimension the focus is on **relationship**:

- acknowledging the complexity and power of connection;
- increasing skillfulness in tracking for difficulties and staying current in care-giving relationships;
- recognizing that our impact is often different from our intention;
- being accountable as an expression of caring;
- recognizing that we all make mistakes; understanding how relationship difficulties, when either ignored or dismissed, can escalate to grievance processes;
- practicing staying connected even in conflict and using conflict to clarify and resolve difficulties;
- attending to relationship repair and self-correcting;

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**Dimension Four:  
The Skillful Use of Power**

**BE SKILLFUL**

- **Be pro-active.**
- **Attend to self-care.**
- **Self-correct and let go.**

This dimension is about the development of **wisdom**.

- understanding that doing the right thing is more effective when it's done wisely;
- deepening skill in identifying tendencies, beliefs, and barriers that may make us vulnerable to specific misuses of power;
- understanding good self-care as vital for wise use of power;
- increasing our understanding of power dynamics and diversity issues;
- practicing the refining and resourcing skill of asking for, receiving, giving, and using feedback;
- becoming more skillful at knowing when and how to persist and when and how to let go;
- being nourished by wise and skillful uses of power as a social force for good.

**Power with Heart**

Power is the generative capacity to bring change. Influence is the realized potential for change. The spiraling journey to mastery in the use of power and influence is numinous and potent. It brings together personal development and soul work (being) with creation and accomplishment (doing). Love and creativity yearn to be expressed in form. Heartful and full use of personal and role power and influence is both a right and a responsibility.

Embodying compassionate power is this way, we become familiar with our profession's code of ethics and with contemporary ethical issues. We undertake personal restorative work with our power history and beliefs. We are willing to be held responsible for our behavior and can self-correct. We know how to track for and resolve difficulties within relationships of trust. We understand dynamics around power, and proactively assess our ethical challenges. We are actively engaged in the empowered and empowering use of our power for the mutual well-being of all.

As body psychotherapists, we are in an ideal position to be influential leaders in the evocation and evolution of an ethic of power and heart because of our commitment to body awareness and inclusivity, therapeutic use of touch, compassionate presence, and experiential learning

Spiral by spiral we can reach out our hands, not to deny or defend, but to compassionately relate. Our power and influence will be felt as peace and mutual well-being. This ethic synergizes power with the resonating concern of compassion. Right use power is power with heart, activated from the inside out. Be informed, Be compassionate, Be connected, Be skillful. These are dimensions we can continue to explore and expand in the service of a more comprehensive and satisfying approach to ethical issues of power and influence.

**Biography**

**Cedar Barstow, M.Ed.**, Certified Hakomi Therapist and Trainer, is the author of "The Right Use of Power: Ethics in the Helping Professions", a member of the USABP Ethics Committee and the Hakomi Institute National Ethics Committee, and an ethics consultant. The right use of power approach is currently being taught by Cedar and others trained as facilitators across the United States and internationally. Home-study CEUS and workshops are available using the program. Dialogue with other approaches to ethics is invited. [Cedar@RightUseofPower.com](mailto:Cedar@RightUseofPower.com)

# Empirical Analyses of the Character Typologies of Alexander Lowen and Charles Kelley

John May, Ph.D.

## Abstract

This paper discusses the results of twelve empirical studies of the character typologies of Alexander Lowen and Charles Kelley. It is a companion to a paper published on the USABP Peer2Peer web page. (May, 2006) That article describes the method and results of each study in detail. Here, the results are summarized, their meaning is discussed, implications for body psychotherapy are discussed, and recommendations for future study are made.

## Keywords

Bioenergetics – Character – Empirical analysis of the character typologies of Alexander Lowen and Charles Kelley – Radix – Scientific review

## Introduction

Is the Bioenergetic character typology of Alexander Lowen reliable and valid? How about the Radix characterology of Charles Kelley? Can body psychotherapists really agree on who they assign to those types? (in Lowen's case, Schizoid, Oral, Psychopathic, Masochistic, and Rigid; in Kelley's, Fear Blocking, Anger Blocking, and Pain Blocking) Are those types really related to psychological characteristics in the way the theories hypothesize? This paper tries to provide a partial answer to those questions by looking at twelve empirical studies of Lowen and Kelley's theories. The studies challenge certain aspects of the theories and support others.

In order to understand the implications of the studies, this paper will first describe certain aspects of Lowen and Kelley's theories. Then, after summarizing the results of the studies, the paper will discuss what they mean: are the theories reliable and valid? In what ways are they challenged and supported? Some implications for body psychotherapy will be drawn out. And finally, recommend-dations for future study to address the challenges raised by the studies will be made.

## Background

Alexander Lowen published his thoughts about character in his first book, *The Physical Dynamics of Character Structure*, later called *The Language of the Body*. (Lowen, 1958) He updated his thinking 17 years later in *Bioenergetics*. (Lowen, 1975) Charles Kelley published much less prolifically than did Lowen. Although his character theory was an important aspect of his training program, it found open publication in only one article. (Kelley, 1979)

Both Lowen and Kelley felt that character could be described by a few types. Lowen ultimately defined five: Schizoid, Oral, Psychopathic, Masochistic, and Rigid. Kelley defined three: Fear Blocking, Anger Blocking, and Pain Blocking. Both men also theorized that character finds expression in several levels of phenomena: physical morphology (shape, structure), psychological traits, social and behavioral traits, and a level of phenomena having to do with breathing and energy flow that Lowen called "bioenergetic." Both of their theories propose that traits in each of these levels co-vary—that is, they tend to exist in the company of each other, and tend to be absent in the company of each other. Thus, for instance, if one reads through the section on the Schizoid Type in *Bioenergetics*, one finds at least 25 different traits described. Among other things, Lowen said that the Schizoid tends not to be aware of emotions, tends to remain distant from close relationships, has a mask-like face, and has body halves that appear markedly different. (Lowen, 1975) These traits would all tend to appear together in the Schizoid, and be absent together in other character types, for instance the Oral.

According to Lowen and Kelley's theories, therefore, if we could classify someone as having a certain body type, it would predict that they possess certain psychological characteristics. This hypothesis defines the two questions that are explored in the 12 studies discussed in this paper: can people be reliably classified according to body morphology, and if they can, does it predict their psychological characteristics? In personality psychology, these questions are called the question of inter-rater reliability and the question of validity. Although they are not the only questions one can ask about Lowen and Kelley's character typologies, and perhaps not even the most interesting questions, they are crucial. Without reliability, it is not possible to pin down what one is talking about. When you speak of something, you may be thinking of one thing, but others may be thinking of something else. Without validity, the meanings that you attach to something are poorly supported. You may think that a certain body type suggests something about an individual, but the reality may be quite different.

In its true meaning, a "type" implies a segmented world in which people belong to distinct groups. This means that the groups are mutually exclusive, they don't overlap. A person belongs either to one type or another, and one cannot be an example of several types at once. In terms of classification or diagnosis, true types imply a single type diagnosis. One is either an Oral, for instance, or a Masochist, etc. A "trait" implies a world of continuous gradations. Traits are not distinct, and they are not mutually exclusive. A person exemplifies each trait all the time, but at different levels. A person is classified by describing the amount of each trait that they exhibit. For instance, a person might be high on both Schizoid and Oral,

moderate on Psychopathic, and low on Masochistic and Rigid, etc. (Pervin, 2003) Lowen and Kelley both used the word “type” to describe their classifications, but indicated that, despite the use of this word, they meant to indicate “traits.” (Lowen, 1975, Kelley, 1979) Their retention of the word “type” would seem to invite confusion, and indeed, their classifications have often been used as types, not traits, by body psychotherapists. The distinction between types and traits will be evident as we discuss the studies below.

## Method

I searched the PsychINFO database published by the American Psychological Association and the Dissertation Abstracts International database for 45 names that I thought might be potential research authors, and for 16 terms that I thought would represent many, if not most, body psychotherapy modalities. The terms and years of publications searched are listed in Appendix 1. I also searched bibliographies on several body psychotherapy modalities and reviewed the archives of as many body psychotherapy journals as I could obtain. I also contacted individuals that I thought would be in a position to refer me to research sources, and the home offices of several body psychotherapy modalities. This extensive search yielded many hundreds of hits. Of them, 12 were empirical studies of body psychotherapy personality theories, 11 of which focused on Lowen’s Bioenergetic characterology. (Baham, 1981; Berkowitz, 1977; Dudas, 1980; Feldman, 1978; Glazer, 1985; Hebblewhite, 1986; Kerberg, 1976; Scott, 1979; Shubs, 1982; Sonn, 1985; Tepperman, 1982) One of them focused on Kelley’s Radix theory. (Glenn, Glenn, & Clarke, 1989)

## Results

The methods and results of the individual studies have been described in detail in a previous report (May, 2006). Here, I will focus on summarizing the results and providing a discussion of their implications.

Every study in this group proceeded by classifying subjects using either Lowen or Kelley’s typology. Some, but not all, of these classifications were made via body readings. Some studies used live viewings to make body readings, some studies used photos or videos. Sometimes body readings were made by naïve judges, sometimes by therapists or physicians, and sometimes by body psycho-therapists. Sometimes people who didn’t previously know the subject made the body readings, and sometimes body psychotherapists rated the body morphology of their own clients. Sometimes these readings were made based on general impressions, and other times they were made with the assistance of checklists developed for that purpose. Thus, as a group these studies approached the issue of classification from a sufficiently wide variety of perspectives to give us confidence that they represent a fair test of Lowen and Kelley’s theories.

### *Results for the Bioenergetic Characterology of Alexander Lowen*

Let’s look at the results of the studies of Lowen’s characterology first. Several studies reported data on inter-rater consistency. Two of the 12 studies asked two judges to diagnose subjects as one or another of Lowen’s five types (single type diagnosis), and calculated the percentage of subjects on which judges agreed. The rates of agreement ranged from 38-40%. (Glazer, 1985; Hebblewhite, 1986) Two studies focused on one particular character type (the Oral type), and asked two judges to diagnose whether a subject was an example of that type or not (Feldman, 1978; Hebblewhite, 1986). These studies found levels of agreement that ranged from 70% to 100%.

Several other studies asked two judges to rate the degree to which each subject exhibited each of Lowen’s five types (ratings of continuous traits). (Berkowitz, 1977; Glazer, 1985; Hebblewhite, 1986) The average correlation between judges in these three studies, weighted for the size of the sample in each study, was .44. However, there were significant differences in the reliability of the various types. The average weighted reliabilities of Schizoid, Oral, and Masochistic were .58, .57, and .66, respectively. The average weighted reliabilities of Psychopathic and Rigid, however, were .21 and .27 respectively (see May, 2006, pages 6, 11, and 13 for a detailed presentation of the findings of these three studies). One of these studies (Glazer, 1985) presented a correlation matrix that could be used to study the relationships between the types. There were moderately strong correlations between some types, both positive and negative. Schizoid and Oral, for instance, were fairly highly correlated (.58). Masochistic, on the other hand, was negatively correlated with both Schizoid and Oral (-.47 and -.67 respectively). (See May, 2006, p. 12 for the full correlation matrix.)

As with the issue of body readings, different studies asked their validity questions in different ways. Some studies constructed pencil and paper measures of Lowen’s character types and compared body readings to those. Other studies asked subjects to complete published psychological questionnaires, and compared the results on those to the body readings. Still other studies had judges observe the body type of a subject, then based on that reading, pick the correct subject from written psychological descriptions of several different people. As with reliability, the studies approached the question of validity from a sufficiently wide variety of perspectives to give us confidence that they represent a fair test of Lowen’s theory.

Across the board, the correlations between the body types and the psychological measures with which they were supposed to correlate were quite weak. Many were not sufficiently far from zero to indicate any statistically measurable relationship at all. In some studies, a few of the psychological measures correlated with body type at levels that were

statistically significant, but even these maxed-out at levels of .30 or less. This means that, while measurable, the relationships were too small and too inconsistent to be meaningful. (The results for each study are discussed in more detail in May, 2006, p. 5-18.)

### *Results for the Radix Characterology of Charles Kelley*

Only one study explored Kelley's characterology, but its results were interesting. (Glenn, Glenn, & Clarke, 1989) In this study, photos of a large sample of subjects were shown to 23 Radix practitioners who were asked to diagnose them as one or another of Kelley's three types. One would never expect to achieve unanimity among 23 judges, so this method raised the question of how much unanimity was required before the investigators could call it agreement? These investigators decided that if 55% of the judges gave the same diagnosis, it would be called agreement. Using even this very low level of unanimity, agreement could be reached on only 51% of the subjects.

Subjects who were successfully typed were also given the Meyers-Briggs Type Inventory, and assigned types on each of the four scales of that instrument. Using a Chi Square analysis, there was a strong relationship between Kelley's body type and type on three of the four MBTI scales. Fear Blockers were more likely to be extroversive, intuiting, and perceiving; Anger Blockers were more likely to be extroversive, sensing, and judging; Pain Blockers were more likely to be introversive, sensing, and perceiving. (For the table of percent of subjects for each Radix type vs. each MBTI type, see May, 2006, p. 18.)

## **Discussion and Analysis**

In all, 12 studies of Lowen and Kelley's characterology were found. These explored the reliability and validity of their theories from a wide variety of perspectives. None of them, however, explored the construction of the theories. We noted earlier that Lowen and Kelley described their character types by using a large number of traits from four different levels (physical, psychological, social, and bioenergetic). An obvious question is whether the traits that have been grouped together for each type actually belong together. Does a body with markedly different left and right sides belong with a mask-like face, or does it belong with a top-bottom split? None of the studies explored this sort of basic question. It is not clear from the studies themselves why not. This work remains to be done for both Lowen and Kelley's character typologies, and would be a useful direction for future study.

Several different studies explored how well subjects could be given a single type diagnosis using Lowen's system. Levels of agreement were unacceptably low, 38-40%. Given that there are only five types to pick among (you'd get 20% agreement just by random guessing), we need levels of agreement that are much higher. Thus, the studies probably indicate that it is not valid to use Lowen's system clinically to produce a single character type diagnosis.

Some studies focused only on one or another of Lowen's types, asking judges to diagnose if a subject was an example of the type or not. Simplifying Lowen's system in this way improved agreement on diagnosis. The N was low, however, and one set of results came from pilot studies. Thus one cannot make too much of this finding. In addition, this approach does not represent how Lowen's system is used clinically. In the clinical situation, a body psychotherapist considers all five of Lowen's types.

On the other hand, the studies that asked the judges to rate subjects on how much of each character type they exhibited produced moderately high reliability quotients for three of Lowen's types, Schizoid, Oral, and Masochistic. Reliabilities for these three averaged .58, .57, and .66, respectively. These levels do not match the kinds of reliabilities seen on paper and pencil personality questionnaires, which are often in the .80s or .90s. They do compare, however, to the reliability of the personality disorder scales of the SCID-II, one of the best known structured diagnostic interviews. (SCID4.org, 2004) Human judgments are almost always less reliable than paper and pencil questionnaires, and so the reliability of Schizoid, Oral, and Masochistic may be acceptable, or at least equivalent to other human-judgment measures.

The Psychopathic type and the Rigid type, however, produced reliability quotients of .21 and .27 respectively. These reliabilities are low, indicating that there is almost no consistency between judge's ratings on these two scales. The meaning is that when two body psychotherapists talk about psychopathic body traits, they probably are thinking about quite different types of individuals. And the same is true for Rigid body traits.

The studies do not explain why Lowen's characterology cannot be used to make a single type diagnosis. To a large extent, the field of personality theory has moved away from types towards traits because it was felt that types were generally an inaccurate way to view the world. (Pervin, 2003) Perhaps that is the case here.

The studies also do not explain why reliabilities on Schizoid, Oral, and Masochistic were high, while those for Psychopathic and Rigid were low. One possibility is that Lowen did a better job of grouping together the correct characteristics to describe Schizoid, Oral, and Masochistic than he did for Psychopathic and Rigid. Or perhaps the characteristics that go with each type are too vague. Descriptors such as a top-bottom split or a body with markedly different right and left sides leave a lot of room for arbitrary judgment, after all. Nor is it obvious why, in one study, Schizoid and Oral correlated strongly with each other, and both correlated negatively with Masochistic. Perhaps there are really only two or three basic body types; Oral, Schizoid, and Masochistic come close to describing them, while the other two don't. We can't really know from these studies. Further work will have to be done to answer these questions.

Regarding validity, the studies clearly indicated that the hypothesized correspondence between physical type and psychological traits did not show up. The repetition of this finding across the 11 studies was powerful. As I encountered it again and again in reading each study, I began to feel it as a challenge to a very central belief in body psychotherapy: the relationship between mind and body. I searched for some reason to discount the finding, to say it was incorrect, or that it occurred because the studies were poorly done in some way. And yet, I could not say so. The studies approached the problem from a variety of interesting and creative perspectives, and it is unlikely that some mistake was recreated each time. (If you need to convince yourself of this, read through the summaries of each study's methodology in May, 2006.) These body types simply did not relate to psychological characteristics in the way they were hypothesized to do so.

The 11 studies do not supply answers as to why not. One possibility needs to be mentioned, even though it is not very palatable: perhaps the mind and body simply are not related to each other with the strength, directness, and degree of consistency hypothesized. These studies don't prove that to be true, but they certainly do not refute it. A second possibility could be that the relationship between mind and body is of a different order than the one studied. Perhaps the relationship is between body and bioenergetic phenomena, not between body and the kind of psychological phenomena explored in these studies. Third, perhaps the correspondence is one that shows up only during therapy. Or fourth, perhaps the relationship does not exist at a characterological level, but does at another level. Perhaps character is neither as stable nor as powerful a determiner of behavior as we assume it to be. We simply cannot know from these studies. What we can know is that the type of correspondences hypothesized by Lowen did not show up.

The single study of Kelley's character typology was an interesting contrast to those of Lowen's. In this study, the judges had a low ability to agree on type diagnosis. Because Kelley only proposed three types, 33% of the judges would be expected to agree for any given subject just by chance. But barely 50% of them could agree on barely 50% of the subjects. Thus, these results clearly indicate that Kelley's system should not be used clinically for the purpose of diagnosis. It is not sufficiently reliable.

On the other hand, this study's weakness may have actually been its strength. This study found large, powerful relationships between Kelley's types and three of the MBTI scales. Because only a fraction of the subjects could be agreed upon, perhaps it guaranteed that those who could be agreed upon were extreme examples of their type. Could it be that consistent characterological mind-body relationships only appear in extreme examples of type? Would going back to the 11 studies of Lowen's theories and eliminating all but the most extreme examples of type change those results? Doing so would raise another problem: what to do with the people who aren't extreme types? But it is a fascinating question! Unfortunately, this set of studies doesn't tell us. We'll have to await future studies to explore those questions.

And finally, in discussing the implications of these 12 studies, I should acknowledge that they concern only two body psychotherapy character theories: Bioenergetics and Radix. These studies do not suggest that one should adopt a different body psychotherapy character theory, one that has not yet been empirically tested. In English, at least, Bioenergetics and Radix are the most thoroughly researched body psychotherapy modalities. I admire practitioners in these two modalities for having the courage to put their beliefs to the test, for believing that their systems are sufficiently rigorous that they don't have to hide from this sort of objective examination. It is only by carefully and systematically identifying the strengths and weaknesses of our theories that we will be able to improve them.

## **Ideas for Future Studies**

This review of the 12 studies of body psychotherapy character typology suggests a few areas that would be ripe for future study. As noted above, neither Lowen, nor Kelley, nor any of the 12 studies looked at the relationships between the various traits that are supposed to go together to make up the various types. We need this kind of basic work badly. An investigator might go through Lowen or Kelley's theories and make a list of all the various traits that supposedly describe the various types. Then the investigator could secure a sample of subjects, and rate them, say 1-10, on each of those traits. Then the investigator could feed those ratings into some sort of correlational procedure, perhaps a factor analysis, to see how they actually group together.

A different line of research could involve the hypothesis discussed above that the relationship between body type and psychological traits shows up more consistently and powerfully for extreme character types. An investigator might recruit a sample, then select from that sample only the extreme cases of a body type. Then those subjects could be measured on a variety of psychological variables to see what emerged.

Yet another line of research could involve the idea that character is not the most useful level at which to look for mind-body relationships. For instance, videos of body psychotherapy sessions could be reviewed, searching for each time a subject manifested a certain body sign, for instance a quaver in the voice, pallor in the face, vibrations in a region of the body, or relaxed open breathing. The next period of time in the session could then be searched for some sort of corresponding psychological variable. For instance, after the breathing opened, the next five minutes could be searched for indications that mood was significantly brighter, or that the person was less anxious, etc. Such studies would be confirmations of clinically meaningful, but not characterological, relations between mind and body.

And finally, I need to mention the work of William Sheldon. During the 1940s, Sheldon developed a system for measuring three morphological principles: endomorphy, mesomorphy, and ectomorphy. (Kelley's Fear Blocking, Anger Blocking, and Pain Blocking types are adaptations of these three principles.) Although it is a bit complex, Sheldon's work produced the most reliable system for measuring and characterizing physical morphology that has ever been developed.



(Sheldon, Stevens, and Tucker, 1970) So far as I know, nobody has ever empirically explored what kind of relevance or use this system might have for body psychotherapy. If, in the twelve studies reviewed in this paper, instead of using general body readings, Sheldon's principles were measured using his system, I wonder what the results would have been? We can't know; it would be a good direction for future study.

## Summary

By conducting an extensive literature search, I was able to locate 12 studies of body psychotherapy character theory. Eleven studied the Bioenergetic characterology of Alexander Lowen, and one studied the Radix characterology of Charles Kelley. The studies of Lowen's characterology suggested that the system was not sufficiently reliable to be used to make single type diagnoses in the clinical situation. When used as traits rather than types, three of Lowen's classifications, Schizoid, Oral, and Masochistic, had reliability that approached that typical of other human clinical ratings. Psychopathic and Rigid, however, had poor reliability. In a very powerful cumulative effect, the studies of Lowen's characterology failed to demonstrate meaningful relationships between body type and psychological characteristics. The single study of Charles Kelley's Radix Typology found that the system was not sufficiently reliable to be used for the purpose of clinical diagnosis. However, within those subjects for whom diagnostic agreement could be reached, there was a powerful relationship between body type and scales of the MBTI.

Cumulatively, the studies seemed to be a fair test of Lowen and Kelley's theories. It could not be determined why the studies mostly failed to find the expected relationships between body type and psychological characteristics. A number of possibilities could be advanced, but future work will be needed to see if they are correct. A number of possible lines for future research were discussed.

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## Appendix 1: Search terms for the literature review.

I searched for the following names and terms on the PsychINFO database and on Dissertation Abstracts International for the years 1967-2004. ("\*" is a truncation search term. J\* finds John, Joe, Janet, Jilian, etc. "W/x" means "within x number of words of." For instance, " body w/4 therapy" means "body within four words of therapy." "Adj" means "adjacent to.")

<b>Name</b>	Boysen, P*;
Baker, E*;	Brown, M*;
Boadella, D*;	Caldwell, C*;
Boysen, G*;	Cassius, J*;

Conger, J\*;  
 Cornell;  
 DiCenso, G\*;  
 Downing, G\*;  
 Erskine;  
 Grand, I\*;  
 Grof, S\*;  
 Growell, E\*;  
 Heller, M\*;  
 Keleman, S\*;  
 Kelley, C\*;  
 Klopstech;  
 Kurtz, R\*;  
 Ligabue, S\*;  
 Liss, J\*;  
 Lowen, A\*  
 Ludwig adj Mark;  
 Marcher, L\*;  
 Marlock;  
 McNeely, A\*;  
 Meyer, R\*;  
 Moser, T\*;  
 Ogden adj Pat;  
 Pesso, A\*;  
 Pierrakos, J\*;  
 Proskauer, M\*;  
 Rispoli, L\*;  
 Resneck-Sannes;

Roth, N\*;  
 Schmidt-Zimmermann;  
 Sharaf, M\*;  
 Stepski-Doliwa;  
 Stolze, H\*;  
 Totten;  
 Ventling;  
 Weis adj Halko

#### Other Search Terms

Bioenergetic;  
 Body w/4 therapy;  
 Breathwork;  
 Core Energetic;  
 EMDR;  
 Gestalt (and) therapy (not) Bender (and) language=English;  
 Hakomi;  
 Holotropic;  
 Orgone;  
 Orgonomy;  
 Primal;  
 Radix;  
 Sensorimotor (and) psychotherapy;  
 Somatic w/3 psychotherapy;  
 Therapeutic Touch;  
 Yoga

#### Biography

**John May, Ph.D.** is a clinical psychologist in private practice in St. Louis, MO. His body psychotherapy training was with the Radix Institute. He has served on the Ethics and Research Committees of USABP, was Editor of the Journal of the Radix Institute for a few years, and served on the Committee on Therapist Sexual Misconduct of the Missouri Psychological Associati

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