

# *The Language of Neuroception & the Bodily Self*

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**Editor's Note:** We are happy to welcome Aline LaPierre to our pages once again (see her 2006 article "From Felt-Sense to Felt-Self"), this time in the service of applying "mindful attentiveness to . . . extending our conscious relationship to the internal micro-sensory components underlying affect [that] can enhance our ability for self-attunement." This issue of finding adequate language for bodily experience remains important for all body-inclusive therapies, and we are thankful for her raising it in an articulate way.

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**ABSTRACT:** In this article the importance of language for the formation of one's self through organizing one's experience into a coherent core narrative is emphasized, especially as it relates to the micro-sensory experience of the body for which vocabulary is often inadequate. The importance of attuned caregivers helping the developing child name reality is outlined. The importance of movement, oscillations, pulsations, and sensations being included in a full experience of a psycho-somatic self is argued. The still open issue of finding adequate cortical representation of the felt sense of these neuroceptive movements is raised.

## Introduction

When I began reading neuroscience, I fell in love with the vocabulary. Words such as *neural oscillation*, *pulsation*, or *sinusoidal waves*, like music, evoked in me a sensory resonance born of a mysteriously intangible recognition. Perplexed, I surmised that this terminology activated contact with a dimension of implicit experience where words bridge the passage of the body through the mind and the mind through the body. I became interested in exploring a rationale for these powerful, yet easily overlooked responses.

## Orders of Magnitude

From the molecular to the psychophysical, ranging from the smallest structures—genes, cells, molecules, neurons—to whole-body structures such as the central and peripheral nervous systems, and even larger frames of reference such as thoughts, feelings, and fantasies, neuroscience embraces a broad range of behavior. Consequently, neuroscientists work within certain *orders of magnitude* (Llinàs, 2001).

For example, a magnifying glass allows the observation of large single-cell neurons. Two orders of magnitude down, the microscope brings in the range of synaptic transmission, and down two additional orders of magnitude, the electron

micrograph allows entry into the realm of the molecular. Inversely, two orders of magnitude up from the single-cell neuron begins the observation of organized systems and up yet two more orders of magnitude brings in the world of motricity and cognition that is familiar to us as human behavior.

This brought me to reflect upon the orders of magnitude we draw upon in the conscious perception of our subjective embodied experience. Our conscious awareness tends to reside in the larger orders of affective and cognitive narratives. More attention could be given to the *infraverbal experiential* implicit bodily processes out of which our narrative arises, to the "neural architecture which supports consciousness" (Damasio, 1999). In the interest of efficiency, the brain delegates much of what happens in the nervous system to autonomic processes. The micro-feedback levels of the nervous system are mostly transparent to conscious awareness.

Bion (1977) wrote that there are parts of our experience that 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. I wondered if the micro-movements of cellular oscillations are too far out of our perception's reach, or if we simply lack a lens and a language through which to experience them. Damasio (1999) describes how we "use part of the mind as a screen to . . . remove from the mind the

inner states of the body, those that constitute the flow of life” and that there is a cost to this skewing of perspective because “it tends to prevent us from sensing the possible origin of what we call self” (p. 29).

Meditation techniques such as vipassana or tantric yoga have, for centuries, taught practitioners to reach beneath the surface of immediate perception to access the vast world of vibration. Our focus on affective and cognitive macro-awareness may well curtail a rich web of neurological subcortical micro-sensory experience for which we as yet have but a rudimentary cortical verbal language.

### **Naming the Body’s Wordless Communication**

Naming is an all important function of developing and bringing experience to consciousness. In my clinical experience, I have noticed that very few people have words to describe their micro-sensory experience in its own right. They cannot differentiate it from their cognitive or affective story. There is as yet but a limited and often inadequate biophysiological language through which we can claim, map, and share the micro-sensory aspects of our bodily experience *in its own right*.

Developmentally, it is the attuned caregiver who begins the work of differentiation by *naming* reality in order to modulate the unformed urgency of an infant’s affect storms (Sidoli, 2000). It is believed that without word-symbols which mentalize physical experience top down, the unnamed overwhelming experiences lodge in the body and its organs and are expressed as psychosomatic symptoms (Sidoli, 2000).

In addition to the somatic encapsulation of unarticulated states, it is important to note that *the body has its own reality* and its own bottom up struggle to come into being (Orbach, 2004). In my experience, the lack of language available to support the emergence of the body’s own voice is a real clinical obstacle.

For example, a patient might make a circular gesture over her abdomen and say: “I feel it in here . . . I don’t have any words.” I might reflect: “Your hand is making a movement. Can you describe that movement?” This intervention begins a process of definition: “Something tightening in my throat . . . its falling, swirling around my stomach.” I pursue the defining process: “Can you tell me more about this falling and swirling?” “It changes . . . its like a black hole, the closer I get, the faster it goes . . .” An image emerges as the moving sensory experience differentiates, creating an orienting anchor that helps the mind enter the specificity of the body’s experience.

By reporting sensations objectively, intrasomatic experiences can be described without interpretation or ascription of meaning so that in parallel with the psychic

self, the bodily self is mirrored, confirmed, and accepted by its cognizing mind. Putting words to the varied qualities of felt-sense neuroceptive movements—defining direction, amplitude, speed—provides coordinates for cortical representations.

Thus, intimacy with the bodily self can develop if we refine the capacity for sensory attention by co-creating, with our patients, a language to express the sensory events that arise, bottom up, from the neural networks.

I would conceptualize the task of creating a narrative for the body’s wordless communication as a multi-level, maturational journey into core consciousness (Damasio, 1999). It involves developing an expanded repertoire of targeted words, leading to increasingly differentiated orders of awareness within the bodily self which is, as Damasio illustrates, the foundation upon which the entire edifice of consciousness is built.

### **Oscillations and Pulsations As Component Sensations**

We speak in energy-images: we are full, drained, or empty, desire melts us, excitement electrifies. What are we referring to? Llinàs notes that “the ever-changing nature of the external reality that surrounds us is *emulated and matched* by the ever-changing internal electrical currents activating our neuronal oscillations” so that “mindness is the *internalization of movement*” (p. 5, italics added). The root of being can be found within the *moving* resonant activity and the *rhythmic* waves of neuronal oscillations and pulsations which mirror external reality to form the foundation of what we call our “selves” (p. 8).

Life, from amoebae to elephant, shares the common movements of oscillations and pulsations. Within the boundaries of the dural membranes, in the finer structures of the brain and spinal cord, neurons *oscillate* while the oligodendroglial cells of the neuroglia *undulate* in continuous pulsatory rhythmical fashion—what osteopathy refers to as primary respiration (Sills, 2001).

Life, in the homeostatic action of primary respiration, expands and shrinks, reaches out and pulls back in response to internal needs and outside influences. If we could, as Llinàs suggests, “feel the brain at work, it would be immediately obvious that neuronal function is as related to how we see, interpret, and react, as muscle contractions are related to the movements we make” (p. 4). The brain does not solely depend on external input; rather, like the heart, it also operates as a self-referential closed system, whose own internal sensory input generates thoughts through its own intrinsic oscillatory properties (Llinàs, 2001).

Our adult self exists in varying states and degrees of coherence to fragmentation, vitality to enfeeblement,

functional harmony to chaos, and it is the failure to bring these states into regulated balance that is at the root of the disorders of the self (Kohut & Wolf, 1978; Shore, 2003). Thus, speculating about the possible self-awareness of our neuronal circuitry, the body can be conceptualized not merely as a repository for the unexpressed, or a metaphor ripe for interpretation, but as rhythmic movement from stillness to resonance, going through cycles of expansion and contraction, organizing from chaos to coherence.

To comprehend nonverbal reality, I believe it is vital to turn our attention towards the microsensory levels of our bodily self. We, along with our patients, can learn to notice, track, and name the shifting currents of oscillations and pulsations that are the language of neurological life. Focus on these component aspects of categorical and vitality affects (Stern, 2004) can generate a sensory narrative that enters ever-more internal and minute orders of magnitude to actively expand our range of conscious embodiment and lead us to intimate regulatory contact with homeostatic disruptions.

Mindful attentiveness to the rhythms of primary respiration and intrasomatic micro-sensations and micro-movements can support entry into our autonomic and self-referential neuronal circuitry. Extending our conscious relationship to the internal micro-sensory components underlying affect can enhance our ability for self-attunement. By extension, this deepening awareness can help us better identify with the needs of our clients and, more important for those of us who are parents, to our children's developing nervous systems so

that they do not remain alone in a world to which we, as adults, have lost access.

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