

Clinical Implications and Applications of Psychoneurology: Translating neuroscience to the consulting room

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Article #2: Individual Psychotherapy as a Right Brain Experience

While the overwhelming bias in western psychotherapy has been taught as top down and verbal, neuroscience is confirming that we can make deep meaningful changes without going into the left hemisphere.

In this second preview article we'll set aside the legitimate but more left brain aspects of Interpretations in psychoanalytic work, of Cognitive-Behavioral approaches or the very real benefits of psycho-education, and examine, instead, the more mysterious realms of psychotherapy.

In the previous article I quoted Shelley Alhanati from her paper entitled "STILL VOICES" which is about the non-verbal aspects of doing therapy. The psychotherapy literature, she believes, has: ". . . over-emphasized the role of the spoken word and knowledge and under-emphasized contact, vulnerability, and aliveness in the therapy room. Although this has been fine for those elements of the mind that are responsive to words, it has left us with a wide gap in our understanding of these nonverbal, intuitive layers of our experience."

It's the right brain aspects that she's referring to, so let's begin with a quick review of the **functions of the brain's right hemisphere**. It is:

- Home of the **unconscious mind**: with processes that are implicit rather than explicit. Thus, deep changes can happen without ever being experienced or processed verbally.
- **Early developing**: online and partially functional at birth
- **Attachment** related: it is where the earliest bonds begin to form.
- **Faster** than the left, and where all **new information** is processed first.
- **Anatomically** more **connected** into the **emotional limbic brain** and thus characterized by more **intense emotions** than the left. For example:
 - A. Pleasure is experienced in the left hemisphere; joy is in the right.
 - B. Discomfort is left, aggression and violence are in the right., and
 - C. Empathy is primarily a right sided experience.
- Where the **Spontaneous facial movements** that communicate pain, hurt, fear and love are signaled and received.

Thus, much of what happens in psychotherapy happens right-brain to right-brain. One might say that it is the function of the left hemisphere to put into words what the right has already experienced.

It is our job as therapist to register and mirror accurately and often to change our client's experience. We can do this because:

1. We can connect with them directly and immediately through our own right hemispheres, and because
2. In the formation of a remedial attachment relationship we have to ability to modify another's deepest neural patterning.

I'll elaborate on these two points:

1. We can connect with them directly and immediately through our right hemispheres:

Sitting with our clients, we may find ourselves resonating with their physical as well as their mental states and can use this body based feedback to understand what they are experiencing. Affective states, emotions and moods, are contagious bodily and can communicate themselves outside

our awareness and intention and beyond our conscious control because the right brain experiences holistically in a gestalt, encoding gestures, tone of voice, and spontaneous facial expressions, including the emotionally revealing micro-expressions that flash across their face too fast to be recorded consciously.

The infant is almost entirely right brained so in the first pre-verbal months of life, all the infant-mother dialogues occur implicitly relying heavily on mirroring where the child learns to see himself reflected back. We continue to communicate with one another through the same right brain modalities throughout our lives. Our training as psychotherapists allows us to add an element of conscious deliberateness to this mirroring that has great capacity to heal.

The recognition and attunement of mirroring happens through the following three modalities:

- A. **Vision:** The most information-rich visual information comes primarily from another human **face** with its numerous small, intricate facial muscles and large corresponding brain receptor areas that read and interpret these. This says **Peter Fonagy**, begins when a child sees his own emotional state reflected on his mother's face, but "marked" as "not me" so that the child's experience is organized for him as he comes to recognize his own mental states reflected back. This is the dynamic of secure attachment and is what we give our clients non-verbally as they sit across from us, the sense of being seen and felt.
- B. **Hearing:** It is in the left hemisphere that most language is spoken and received. The right hemisphere listens to the 'melody behind the words' i.e. the tone of voice, i.e. the pitch, volume, timber, rhythm and pressure we refer to as **prosody**,

Examples:

- a. Ever have a client tell you she has kept every voicemail you had ever left for her recorded on her answering machine and that she listens to them from time to time because they are comforting?
- b. Or that she calls your number on weekends or when you are out of town to listen to your recorded message because it helps to anchor her?
- c. Ever watch the couples in your office react powerfully to hints of verbal contempt, anger or disgust in their partner's voice?

And we read and mirror through the third modality which **Daniel Stern** calls

- C. "**Vitality affects**" (1985, pp. 53-60.) the feelings and energy in the room communicated by how we carry out an action, and which reveals our state of mind. For example:
 - a. Your client walks in slowly, avoids eye contact with you, hangs his head, places his hands over his eyes and begins to sob.
 - b. A second client enters, flashes you a warm smile, and sits down facing you, his posture open and relaxed.

How we brighten or slump, surge or wilt and sigh are all implicit communications of vitality. Though both the sender and the receiver may be quite unconscious of these messages they reverberate neurologically inside and between each of us.

2. The second quality that permits us to modify our client's experience is that psychotherapy functions is an attachment relationship, often a remedial one. Our research has revealed that one of the main functions of all attachment is affect regulation a good deal of which occurs through right brain implicit communication. **Allan Schore** calls this "energetic, attuned resonance" and **Daniel Siegel** refers to it as "interpersonal neural regulation". You do this automatically and unconsciously. You might find yourself dropping your voice into an embracing tone, adjusting your posture, or softening your face. This person to person regulating is profound, not only emotionally, but biologically because it stimulates the growth of new neurons in both the recipient and the sender's brains. It qualifies us all as "Neuro-architects".

In *A General Theory of Love*, a book that blends neuroscience with lyric poetry: the authors coin the term, “**limbic resonance**” of which they say: “When we meet the gaze of another, two nervous systems touch and change.” . . . “An individual does not direct all of his own functions. A second person transmits regulatory information that can alter hormone levels, cardiovascular function, sleep rhythms, immune function and more – inside the body of the first.”

And in the book’s chapter on Psychotherapy the authors say: “Psychotherapy is physiology. . . a somatic state of relatedness . . . it alters the living brain. Mammals . . . become attuned to one another’s evocative signals and alter the structure of one another’s nervous systems.” “Speech is a fancy neocortical skill, but therapy belongs to the older realm of the emotional mind, the limbic brain.”

Our clients come needing to learn how to self-regulate, and they learn these skills implicitly. They leave a therapy sessions feeling calmer, stronger, safer, and more whole without really knowing how or why. It wears off and they return; repetition carves the skills into their nervous system until they can hold the gains. They learn to hold because they practice these capacities with us: the instruction is silent, brain to brain. The lessons eventually hold because one human brain can re-carve the neural pathways in another’s brain. But such learning requires activation, an emotional response. Self-help books speak only to the left hemisphere and rarely help for long. Neural patterns have been written through interactions with another brain, and a living connection is required to revise the patterning.

This requires courage and emotional stability in the therapist. Touching into a client’s limbic world reverberates in us. Our job is to see, hear, learn and reflect, but not react. Our job is to register them limbicly, to resonate with them and, at receptive moments, to intervene. And then to intervene again; progress in therapy happens through reiteration because rewiring in these non-plastic limbic regions requires repeated firings.

This has implications for the deepest work we do in individual psychotherapy and for couples’ work as well. In this seminar we’ll spend a bit of time on the application of these principles to work with romantic partners, examining theories emerging from Gottman’s laboratory and from other neurologically informed clinicians like Stan Tatkin who has a separate ‘Continuous Seminar’ right here on the PsyBC website entitled “The Neurobiology of Couples’ Therapy: Clinical Implications of Mutual Regulation and Dysregulation”.

Our working hypothesis will be that partners in a romantic couple rely upon one another for regulation of their autonomic nervous systems, and that this dependency, like that of the psychotherapist/patient dyad, has its roots in the mother-infant attachment system. Securely attached couples can regulate each other naturally. They do so with empathy, humor and frequent reassurances. And their great advantage is that they can internally regulate their own neurology more successfully. But most of the couples who will come into therapy grew up insecurely attached. These couples can be sensitized to think consciously about what regulates or dysregulates relationally and learn to function as a regulatory team, balancing each other's autonomic nervous systems.

The third and final of these introductory articles will examine the neurological aspect of couples’ therapy.

Lewis, et. al. (2002), *A General Theory of Love*, New York, Random House

Schore, Allan (2003). *Affect regulation and the repair of the self*. New York: W.W. Norton and Co,

Siegel, D. J. (1999), *The Developing Mind: How relationships and the brain interact to shape who we are*. New York: Guilford Press.