



ORIGINAL  
*Tuning*  
BOARD™



## The Tuning Board: Key Concepts and Bibliographies

## THE ORIGINAL TUNING BOARD™

### KEY CONCEPTS AND BIBLIOGRAPHIES

- **The Tuning Board is an instability resistance training device (IRT);**
- **It is a psychokinesthetic tool that promotes verticality, creative embodiment, and the exploration of the body as primary resource;**
- **It gives the user an embodied experience of the paradox of stability and motion;**
- **Its motion stimulates the nervous system and the brain.**
- **It is a tool that supports the creative transformation of the self.**

The Tuning Board is a somatic tool that produces motion, which goes through the entire body including the viscera and the autonomic nervous system. Sensory information registers, consciously and unconsciously, through the spine and up to the top of our neocortex, improving vertical integration. Motor nerves respond and stimulate the muscles that work our balance and postures. The feet are in the brain and the brain is in the feet.

#### Tuning Board and IRT References

[www.tuningboard.org](http://www.tuningboard.org)

Behm, D., & Colado, J. C. (2012) The effectiveness of resistance training using unstable surfaces and devices for rehabilitation. *International Journal of Sports Physical Therapy*, 7(2), 226-241.

Sanchez, D. (2001). Sophia's smile: Movement and creativity in healing and transformation (Doctoral dissertation, Western Institute for Social Research).

Sanchez, D. (2004). The Tuning Board. *Structural Integration: The Journal of the Rolf Institute*, 32, 6-10.

Sanchez, D., & Gettliffe, V. (in press). Dancing with gravity: Using the Tuning Board to promote vertical embodiment resources and vertical integration. *International Association of Structural Integrators Yearbook*.

St. Just, A. (2006). *Relative balance in an unstable world: The search for new models for trauma education and recovery*. Heidelberg, Germany: Carl-Auer. Retrieved from: <http://tuningboard.org/St.JustonTuningBoard.pdf>

## **CREATIVITY AND CREATIVE TRANSFORMATION**

- **In Creativity, something new and useful to humanity or the individual is brought into being;**
- **Creative integration is finding the ability to manage order and chaos;**
- **Transformation, creating newness, is an inherent imperative;**
- **Our innate self seeks to be both fluid and grounded;**
- **Our ever-changing self is a balance of transformation and coherence.**

### **References on Creativity**

Boden, M. A., Ed. (1994). *Dimensions of creativity*. Cambridge, MA: A Bradford Book, The MIT Press.

Bohm, D. (1998). *On creativity*. Edited by Lee Nichol. New York: Routledge:

Dacey, J. S., & Lennon, K. H. (1998). *Understanding creativity: The interplay of biological, psychological, and social factors*. San Francisco: Jossey-Bass Publishers.

Feldman, D. H., Csikszentmihalyi, M., & Gardner, H. (199. 4)*Changing the world: A framework for the study of creativity*. Westport, Connecticut: Praeger.

Hershberg, S. G. (2011). Interfaces Among Neurobiology, Cognitive Science, and Psychoanalysis: Implicit and Explicit Processes in Therapeutic Change. *Psychoanalytic Dialogues, 21*, 101-109.

Lifton, R. J. (1993). *The protean self: Human resilience in an age of fragmentation*. Basic Books.

Vartanina, O., Bristol, A. S., & Kaufman, J. C., Editors (2013). *The Neuroscience of creativity*. Cambridge, MA: MIT Press.

## **VERTICALITY AND INTEGRATION**

- **Humans are vertical beings;**
- **Verticality is the primary orientation of our nervous systems;**
- **Integration is necessary for good function and flow;**
- **Integration means parts associate and function in unity;**
- **Integration promotes harmony and emotional well-being;**
- **Use of the Tuning Board promotes integration, and especially, vertical integration.**

See the handout *Vertical Integration and the Tuning Board* for an explanation of vertical integration.

### References on Verticality, Integration, and Vertical Integration

Feldenkrais, M. (1949). *Body & mature behavior: A study of anxiety, sex, gravitation & learning*. New York: International Universities Press.

Hanna, T. (1980). *The body of life*. New York: Alfred A. Knopf.

Rolf, I. (1977). *Rolfing: Reestablishing the natural alignment and structural integration of the human body for vitality and well-being*. Rochester, Vermont: Healing Arts Press.

Sanchez, D., & Gettliffe, V. (in press). Dancing with gravity: Using the Tuning Board to promote vertical embodiment resources and vertical integration. *International Association of Structural Integrators Yearbook*.

Siegel, D. J. (2006). An interpersonal neurobiology approach to psychotherapy: Awareness, mirror neurons, and neuroplasticity in the development of well-being. *Psychiatric Annals*, 36(4), 248-256.

Siegel, D. J. (2009). Mindful awareness, mindsight, and neural integration. *The Humanistic Psychologist*, 37(4), 137-158.

Siegel, D. J. (2010). *Mindsight: The new science of personal transformation*. New York: Bantam Books.

### POSTURE AND POSTURAL MOTION

- **Trauma, stress and habitual function can result in freezing and dissociation;**
- **Postures can become fixated;**
- **Movement restores awareness and health;**
- **Changes in postural behavior can change psychology.**

### Posture and Postural Motion References

Blakeslee, S., & Blakeslee, M. (2008). *The body has a mind of its own: How body maps in your brain help you do (almost) everything better*. NY: Random House.

Foster, M. A. (2007). *Somatic patterning: How to improve posture and movement and ease pain*. Longmont, CO: Educational Movement Systems Press.

Levine, P., with Frederick, A. (1997). *Waking the tiger*. Berkeley, CA: North Atlantic Books.

Scaer, R. C. (2001). *The body bears the burden: Trauma, dissociation, and disease*. Binghamton, NY: The Haworth Medical Press.

### Postural Impact References

Arnette, S. L., & Pettijohn, T. F. (2012). The effects of posture on self-perceived leadership. *International Journal of Business and Social Science*, 3(14), 8-13.

Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010). Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. *Psychological Science*, 21(10), 1363-1368.

Huang, J.L., Galinsky, A. D., Gruenfeld, D. H., & Guillory, L. E. (2011). Powerful postures versus powerful roles: Which is the proximate correlate of thought and behavior? *Psychological Science*, 22(1), 95-102.

McNeilly, R. B. (2000). *Healing the whole person: A solution-focused approach to using empowering language, emotions, and actions in therapy*. New York: John Wiley & Sons.

Price, T. F., Peterson, C. K., & Harmon-Jones, E. (2011). The emotive neuroscience of embodiment. *Motivation and Emotion*, 36, 27-37.

Riskind, J. H. & Gotay, C. C. (1982). Physical Posture: Could It Have Regulatory or Feedback Effects on Motivation and Emotion? *Motivation and Emotion*, 6(3), 273-298.

### MOTION CHALLENGES STUCKNESS

- **Thought, feeling, motivation and movement are a wholeness.**
- **Movement is more than physical action.**
- **The body and the mind interact and are inseparable.**
- **Conscious and unconscious movement affects function and reflects personality.**
- **Relationships and social skills rely on communication through postures, gestures and vocal expressions.**
- **Changes in movement behavior can change psychology.**

### Movement Impact References

- Bohm, D. (1998). *On creativity*. Edited by Lee Nichol. New York: Routledge.
- Foster, M. A. (2007). *Somatic patterning: How to improve posture and movement and ease pain*. Longmont, CO: Educational Movement Systems Press.
- Hanna, J. (2007). The power of dance: Health and healing. *The Journal of Alternative and Complementary Medicine* 1(4), 323-331
- Levy, F. J. (1988). *Dance movement therapy: A healing art*. National Dance Association.

### PSYCHOLOGICAL WELL-BEING

- **Vertical integration is vital to psychological well-being.**
- **Embodied attunement lowers anxiety and increases ability to self-calm.**
- **Creativity promotes self-confidence.**
- **The Tuning Board promotes vertical integration, embodied attunement, confidence, and creativity.**

“At the level of the species, creative ideation and behavior allow for adaptation to a changing environment and hence improved survival odds. (Richards, 1999). At the level of the individual, creativity has been viewed as a facet of self-actualization (Rogers, 1961) and the expression of a fulfilled life (Maslow, 1970). It has been correlated with positive personality traits such as openness to experience and self-confidence (Feist, 1999).” (Carson, 2013, p. 176)

### References on Psychological Well-Being

- Carson, Shelly (2013). Creativity and psychopathology: Share neurocognitive vulnerabilities. In O. Vartanina, A. S. Bristol, & J. C. Kaufman (Eds.), *The neuroscience of creativity*. Cambridge, MA: MIT Press.
- Rolf, I. (1977). *Rolfing: Reestablishing the natural alignment and structural integration of the human body for vitality and well-being*. Rochester, Vermont: Healing Arts Press.
- Siegel, D. J. (2006). An interpersonal neurobiology approach to psychotherapy: Awareness, mirror neurons, and neuroplasticity in the development of well-being. *Psychiatric Annals*, 36(4), 248-256.
- Siegel, D. J. (2009). Mindful awareness, mindsight, and neural integration. *The Humanistic Psychologist*, 37(4), 137-158.
- Siegel, D. J. (2010). *Mindsight: The new science of personal transformation*. New York: Bantam Books.

## EMBODIMENT

- Being embodied means the capacity to fully experience and to *be* one's body.
- It is the sense of incarnate wholeness of being in the human form.

“From a neurobiological standpoint, the self is embodied, meaning that it is encased in a body that is concretely embedded in a physical, social and cultural environment...The ‘primary affective core’ (Emde, 1983) involves nonconscious, preverbal, and implicit processes that are present in the womb (Schoore, 1994; Siegel, 1999). This affective core is fed and developed through a steady stream of present-centered sensory, affective, interoceptive (sensing the internal world), and exteroceptive (sensing the external world) experiences that are derived from interaction with the physical and social world. These experiences are composed of basic feelings of *aliveness* (Fogel & Garvey, 2007) and *embodied self-awareness* (see Fogel, 2009).” (Marks-Tarlow, pp.205-6)

### Embodiment References

Payne, P., Levine, P. A., and Crane-Godreau, M. A. (2015). Somatic experiencing: Using interoception and proprioception as core elements of trauma therapy. *Frontiers in Psychology*, 6:93. Doi: 10.3389/fpsyg.2015.00093

Sanchez, D. (2012). Elegance: The paradox of embodiment. *International Association of Structural Integrators Yearbook*, 15-17.

Marks-Tarlow, T. (2012). *Clinical intuition in psychotherapy: The neurobiology of embodied response*. New York: W. W. Norton & Company, Inc.

## VERTICAL EMBODIMENT RESOURCES

- **Managing a vertical relationship with gravity requires these interrelated capacities: balance, grounding, orienting, spaciousness, connection, centering, healthy myofascial tone;**
- **All of these resources have been incorporated in some way into various forms of therapeutic treatment;**
- **Using the Tuning Board accelerates embodiment of these resources.**

See the handout *Using the Tuning Board to Help the Body Reclaim its Place as Primary Resource* for more about these resources, including descriptions, psychological implications, the impact of trauma, and use of the Tuning Board to encourage their development.

### Vertical Embodiment Resource References, Including Use of One or More in Therapy

- Berg, A. L., Sandell, R., & Sandahl, C. (2009). Affect-focused body psychotherapy in patients with generalized anxiety disorder: Evaluation of an integrative method. *Journal of Psychotherapy Integration, 19*(1), 67-85.
- Conrad, A., & Roth, W. T. (2006). Muscle relaxation therapy for anxiety disorders: It works but how? *Journal of Anxiety Disorders, 21*(3), 243-264.
- Fisher, J., & Ogden, P. (2011). Breaking free: A mind-body approach to retraining the brain. *Psychotherapy Networker, 2011 March/April*, 57-62.
- Langmuir, J. I., Kirsh, S. G., & Classen, C. C. (2012). A pilot study of body-oriented group psychotherapy: Adapting sensorimotor psychotherapy for the group treatment of trauma. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(2), 214-220.
- Leitch, M. L. (2007). Somatic experiencing treatment with tsunami survivors in Thailand: Broadening the scope of early intervention. *Traumatology, 13*(3), 11-20.
- McCredie, S. (2007). *Balance: In search of the lost sense*. New York: Little, Brown and Company.
- Moorman, D. (2012). Re-Establishing 'Grounding' in Haiti after the Earthquake [Web log post]. Retrieved from <http://traumahealing.org/beyond-trauma-blog/grounding-in-haiti/>
- Ogden, P., Minton, K., & Pain, C. (2006). *Trauma and the body: A sensorimotor approach to psychotherapy*. NY: Norton & Company.
- Parker, C., Doctor, R. M., & Selvam, R. (2008). Somatic therapy treatment effects with tsunami survivors. *Traumatology, 14*(3), 103-109.
- Röhricht, F., Papadopoulos, N., Holden, S., Clarke T., & Priebe, S. (2011). Therapeutic processes and clinical outcomes of body psychotherapy in chronic schizophrenia: An open clinical trial. *The Arts in Psychotherapy, 38*, 196-203.
- Sanchez, D., & Gettliffe, V. (in press). Dancing with gravity: Using the Tuning Board to promote vertical embodiment resources and vertical integration. *International Association of Structural Integrators Yearbook*.

### KINESTHETIC RESONANCE

- **Resonance with clients uses non-verbal cues;**
- **Kinesthetic resonance is when we are embodied and present enough to fully attune to the movements, gestures, and expressions of our clients;**



- **When we are attuned, then client expressions generate therapist impressions that are useful to the creative therapeutic process;**
- **When the client is on the Tuning Board, the interaction innately encourages the therapist to become more kinesthetically attuned to the client.**

Kinesthesia, or the feeling of movement, is a sense we get from the stimulation of nerves located in our muscles, tendons and joints, i.e., our bodies. Movements and tensions performed or traveling through our bodies create this sensory or sensing experience. Resonance relates to a quality of harmonizing with something or someone in a meaningful and important manner. Kinesthetic resonance in the context of the therapist-client relationship means having an ability to harmonize with or attune to the sensations and experience of another.

What Marks-Tarlow calls mutual coordination, entrainment and attuned responding is referred to here as *kinesthetic resonance*. The above attributes generate impressions in the therapist in the form of sensations, thoughts, emotions, images and possible meanings. This is a relational experience, a knowing that includes and goes beyond a solely cognitive understanding of what someone is communicating. It also includes the somatic and embodied dimensions. Kinesthetic resonance is important to our practice of embodiment and attunement, and therefore to our ability to optimally support our clients. The better our kinesthetic ability, the more embodied we feel, and the more we can feel the experience of others. It engages positive emotional states such as excitement, joy, empathy and curiosity.

### *Kinesthetic Resonance Reference*

Marks-Tarlow, T. (2012). *Clinical intuition in psychotherapy: The neurobiology of embodied response*. New York: W. W. Norton & Company, Inc.

## **ASSOCIATIONS**

- **The human being is a whole with many interwoven channels of expression and impression;**
- **Modes of expression and impression include thoughts, emotions, sensations, images, and behaviors such as postures, gestures, and vocal expressions;**
- **The associations of expressions corresponds to associations of the neurological functions that are related to them.**
- **Right/left brain integration, and integration of somatic functions with emotional, cognitive and verbal processes can lead to creative insights and transformation.**
- **The Tuning Board encourages clients to be aware of their bodies and sensations while they are processing emotions or ideas with the therapist.**

- **This encourages the integration of subjective experience and neurological functions.**

In the experience of trauma, people are unable to effectively differentiate and perceive movement through the channels and are, thus, unable to arrive at the symbolic meanings essential to creative insight and transformation.

*“The core issue is the inability to integrate the reality of particular experiences, and the resulting repetitive replaying of the trauma in images, behaviors, feelings, physiological states, and interpersonal relationships.”* (van der Kolk, McFarlane, & Weisaeth, 1996, p.7)

*“...the unconscious is in essence an instrumental system that actively relates to the external world and learns through perceptions, priming, and actions...”* (Ginot, 2015, p. 4)

*“The brain maps external and internal experiences; physiological, emotional, cognitive, and behavioral expressions; memories, beliefs, wishes, and future plans. The process of mapping helps us hold on to our perceptions and, on a more conscious level, connect images to words.”* (Ginot, 2015, p. 7)

#### Associations References

Ginot, E. (2015). *The neuropsychology of the unconscious: Integrating brain and mind in psychotherapy*. New York: W.W. Norton & Company.

Hershberg, S. G. (2011). Interfaces Among Neurobiology, Cognitive Science, and Psychoanalysis: Implicit and Explicit Processes in Therapeutic Change. *Psychoanalytic Dialogues*, 21, 101-109.

McCredie, S. (2007). *Balance: In search of the lost sense*. New York: Little, Brown and Company. (see Chapter Nine, *The Cognitive Connection*)

Sanchez, D. (2001). *Sophia’s smile: Movement and creativity in healing and transformation* (Doctoral dissertation, Western Institute for Social Research).

Siegel, D. J. (2006). An interpersonal neurobiology approach to psychotherapy: Awareness, mirror neurons, and neuroplasticity in the development of well-being. *Psychiatric Annals*, 36(4), 248-256.

Siegel, D. J. (2009). Mindful awareness, mindsight, and neural integration. *The Humanistic Psychologist*, 37(4), 137-158.

Siegel, D. J. (2010). *Mindsight: The new science of personal transformation*. New York: Bantam Books.

van der Kolk, B. A., McFarlane, A. C., & Weisaeth, L., Editors (1996). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. New York: The Guilford Press.

Vartanina, O., Bristol, A. S., & Kaufman, J. C., Editors (2013). *The Neuroscience of creativity*. Cambridge, MA: MIT Press.

## **SUMMARY**

- **The Tuning Board gives the user an embodied experience of verticality, creative embodiment.**
- **Creative integration is finding the ability to manage order and chaos.**
- **Verticality is the primary orientation of our nervous systems.**
- **Use of the Tuning Board promotes vertical integration.**
- **Trauma, stress and habitual function can result in freezing and dissociation, and postural fixations.**
- **Movement is more than physical action.**
- **Changes in movement behavior can change psychology.**
- **Embodied attunement lowers anxiety and increases ability to self-calm.**
- **Creativity promotes self-confidence.**
- **Being embodied means the capacity to fully experience and to *be* one's body.**
- **Managing a vertical relationship with gravity requires these interrelated capacities:**
- **balance, grounding, orienting, spaciousness, connection, centering, healthy myofascial tone.**
- **When the client is on the Tuning Board, the interaction innately encourages the therapist to become more kinesthetically attuned to the client.**
- **The associations of expressions corresponds to associations of the neurological functions that are related to them.**
- **Physical and non-physical processes translate and share common meanings as evidenced in metaphors, such as, “I lost my footing.”, or “I touched the sky.”**