



FEATURE

# The Yoga of Creative Consciousness and Cognition in Neuropsychotherapy (Part 2)

KATHRYN LANE ROSSI

*I said: What about my eyes?*

*God said: Keep them on the road.*

*I said: What about my passion?*

*God said: Keep it burning.*

*I said: What about my heart?*

*God said: Tell me what you hold inside it?*

*I said: Pain and sorrow?*

*God said: Stay with it. The wound is the place where the Light comes in.*

*Rumi (1207–1273)*

**M**ost psychotherapists focus on the mind—*What do you think? How do you feel?* Yoga Story Therapy (YST) integrates the entire body into a creative psychodrama exploring archetypal myths of everyday life and psychology in word and deed. The richness of YST can facilitate optimal consciousness and cognition with neuropsychotherapy. People can enhance their best self by asking questions, engaging sensitive mind-body (chakra) scans, tuning in to their breath, and practicing meaningful movement through Yoga Story Therapy and the mirroring hands approach of Hill and Rossi (2017).

Part 1 of this series reviewed neuroscience theory and research for integrating mind, body, spirit and society through the classical ancient practice of Patañjali's 8 Limbs of Yoga with Buddha's 4 Noble Truths, the basic rest-activity cycle (BRAC), and the 4-stage creative cycle to provide a path for creating new consciousness. Myths, legends and personal stories are illustrated for inspirations to recreate our better and new selves. Readers were encouraged to explore questions about their own autobiography of personal enlightenment. We now turn to the theory and practice of Yoga Story Therapy utilizing all we learned in Part 1 of this neuropsychotherapy series.

### *The silver lining of Yoga Story Therapy began with my surfboard accident*

Yoga Story Therapy began in 2008 when I went to Panama to learn how to surf and sustained a severe head trauma! A small but strong rogue wave came out of nowhere and

slammed my long-board on my head. I looked around in a dazed panic for help. Dave Oliver, an award-winning teacher, came to my aid. He generously taught yoga to anyone who wanted to join his morning and evening practice. Dave was unlike anyone I'd ever met. While he could help me into and out of yoga postures safely, he was more interested in my breathing. At the end of class while in the resting pose (*shavasana*), he would tell ancient Hindu stories. After five days of yoga practice with Dave I felt great relief from my head trauma. I turned to him and said, "I feel like I am in the top 10% of my intelligence." Dave replied, "That's why people practice yoga!" I wanted to know more about "Dave's yoga", which was so different from therapies I'd previously practiced (Rossi, Erickson-Klein, & Rossi, 2008–2014). Surprisingly, after my injury no thoughts came into my mind unless I invited one in. My brain was very quiet and peaceful. It was a surreal experience. I became curious as to how I naturally experienced "no mind" that many people work for years in meditation to achieve. I came to an understanding that yoga is not merely physical exercise. In fact, I realized that the practice of the 8 limbs of classical yoga can have profound implications for developing spiritual consciousness and therapeutic cognition.

### *Trauma-informed therapy*

Trauma-informed therapy is at the forefront of today's mind-body work. Peter Levine (2010, 2015) and Bessel van der Kolk (2014) have reviewed research detailing how traumatic memories can become frozen in unresolved cycles, causing further trauma. They both spe-

cialize on working with severely traumatized people. Levine has designed somatic experiencing, which focuses on the client's perceived body sensations paired with memory; and van der Kolk has introduced yoga into trauma-informed therapy via research on heart-rate variability (HRV). HRV measures the relative balance between the sympathetic and the parasympathetic nervous systems. A healthy HRV has a balanced in-breath. An inhale stimulates the sympathetic nervous system, which increases heart rate. An exhalation results in the parasympathetic nervous system, decreasing heart rate:

Changing the way one breathes can improve problems with anger, depression, and anxiety. . . . Yoga can positively affect such wide-ranging medical problems as high blood pressure, elevated stress hormone secretion, asthma, and low back pain . . . but could it help with PTSD? (Van der Kolk, 2014, p. 269)

Mental problems such as depression, anxiety and PTSD (post-traumatic stress disorder) create an unsettled HRV. For thousands of years yoga stories were told to treat PTSD with simple breathing practices, postures, and mindfulness forms of meditation. Mindfulness meditation and the BRAC affect brain neural mechanisms differently. Sevinc et al. (2018) found that the strength of neural interaction between brain regions associated with present-moment awareness and bodily attention increased during both types of body-scan meditation; but

each program also showed unique patterns of brain activity, in line with the different theoretical orientation of each program. The BRAC body scan strengthened coupling between neural regions commonly associated with deliberate control, including the inferior frontal gyrus and supplementary motor areas. Conversely, the mindfulness body scan strengthened coupling between neural regions associated with sensory awareness and perception. Van der Kolk found that 20 weeks of once-a-week yoga classes helped chronically traumatized women activate their critical brain structures involved in self-regulation—specifically, the insula and medial prefrontal cortex.

Levine and van der Kolk have surveyed the relationship between mind and body and have a new sensibility of how to bridge the C. P. Snow (1965) gap between science and the humanities. How wonderful it is that they have developed new levels of sensitivity. Can we further extend this sensitivity to develop new personal stories of consciousness and cognition? It may be helpful to return to fundamental evolutionary stories of what created humanity.

*The four stories of evolution: Physics, chemistry, biology, psychology*

In the deep psychobiology of psychotherapy, now called neuropsychotherapy, we can trace the origins of the quantum evolution of body, mind and consciousness from the Big Bang via physics, chemistry, biology and psychology (Bucke, 1901/2010; Rossi, 2001). The primeval oscillations of quanta energy condensed into atoms. Atoms clustered into self-reflection

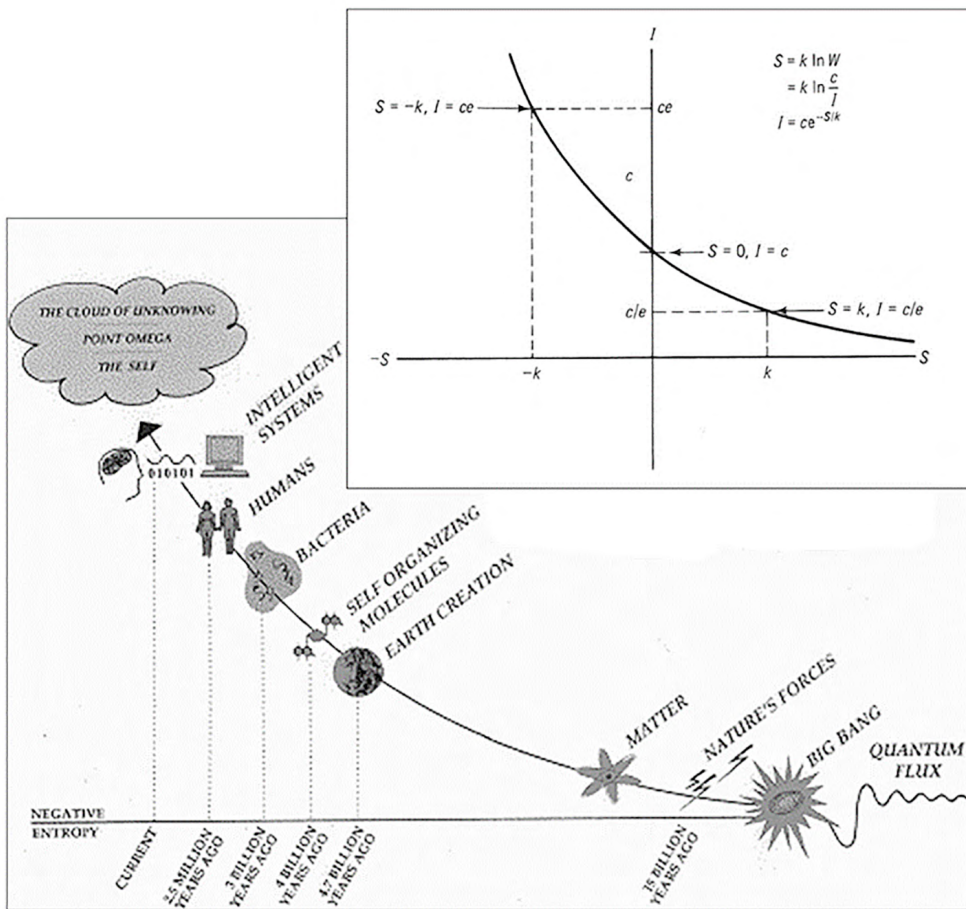
molecules that evolved into self-sustaining dynamic structures that we call life. Life evolved consciousness and cognition from mirrors of self-reflection, creating a new story about its own nature. These stories continue to evolve through the relationship between the physical structure of our neurons and their quantum networks that we call the brain.

The fundamental question for a deep psychobiology of neuropsychotherapy is: “How do we integrate the many levels of mind-body communication and healing from the psychosocial to the cellular-genetic, molecular

and quantum?” Is it possible to use the concept of information and the transformations of information to do this? Is it possible to create a new science of *information transduction* that explores how information experienced as human cognitive behavior (thoughts, words, images, emotions, meaning, etc.) is transformed into other forms of information expressed as the physical structure of our genes and proteins and vice versa?

A visual summary of Tom Stonier’s (1990) *Information and the Internal Structure of the Universe* and living systems has been described

Figure 1. Information and the internal evolution of the universe, life and consciousness (based on personal conversations with Tom Stonier and Ernest Rossi, circa 2000).



by Frank Wilczek (1999) as “getting its from bits”. That is, how can “its” (physical structures) evolve out of “bits” (codes of information) from the quantum flux of the Big Bang origin of the universe? Information is the mathematical connection that brings together quantum physics, biology, psychology, consciousness, creativity, and culture. Information organizes the energy and physical dynamics of nature. Information is contained in thoughts, words, feelings, images, stories and imagination. How, therefore, do we facilitate the transduction of information from one modality to another in creative experience and healing in neuropsychotherapy? (Figure 1)

The four scientific stories tracing the cosmic evolution of life, consciousness and cognition are:

- Story 1. PHYSICS: Quantum oscillations (or waves) potentiate into the inflation and expansion (or explosion) we call the Big Bang.
- Story 2. CHEMISTRY: Quantum energy (or waves) condense into matter.
- Story 3. BIOLOGY: Matter becomes molecular self-sustaining systems called life.
- Story 4. PSYCHOLOGY: Life, via quantum self-organization and self-reflection (or mirroring) becomes consciousness and neurotherapeutic cognition.

We experience these quantum fluctuations of consciousness and cognition in cycles on a daily and hourly basis in what yoga calls the “subtle body” chakra system, which we now call the evolution of quantum information into

life consciousness and cognition as we now experience it.

### *Chakras and the subtle body of quantum consciousness and cognition*

Mind-body work integrates thoughts and experiences with physical and quantum levels of perception. People experience creating new consciousness through different body sense modalities. In yoga traditions, chakras are used to advance consciousness on psychological and spiritual levels. Chakras are energy centers of the subtle, rather than the physical body. Chakras are experienced in cycles, as are our thoughts and emotional processing during the 90–120 minutes of the BRAC and the 4-stage creative experience.

Pūrnānanda Giri in 1550 CE expanded ideas of chakra energy centers from the Vedas and Upanishads into the *Shat (6) Chakra Niruupana* (satcakranirūpana). One hundred years ago Arthur Avalon translated these texts into English in *The Serpent Power* (1919/2003). Yoga was brought to the Western world by Swami Vivekananda in the 1890s and to the United States by Paramahansa Yogananda in 1920. Yogic philosophy was so new, unusual and complex that it was difficult for the average Western person to understand. As a result, the complex foundations of yoga were simplified to accommodate growing curiosity. At some point in the 1940s simple rainbow colors representing the main chakras were introduced, and the classic six-chakra system became seven. (Figure 2) Could it be more interesting to explore the complexities of our emotional, psychological and spiritual lives through chakra

perceptions that include many subtle quantum modalities that are often overwhelmed by the chronic busyness of our overactive lives?

The neuroscience of chakras outlined in Table 1 represents the psychological mind-body connections on quantum level sensibilities.

**Neuroscience reveals quantum oscillations in all sensory-perceptual chakra systems**

Our eyes and ears play tricks on us. Oscillations, or strobes, are a general feature of human sensation and perception. While our conscious experience appears to be continuous, research documents how perception, attention, consciousness and cognition are intrinsically rhythmic in nature. This has profound implications for our understanding of human behavior, how we interact with environment and make decisions (University of Sydney, 2017).

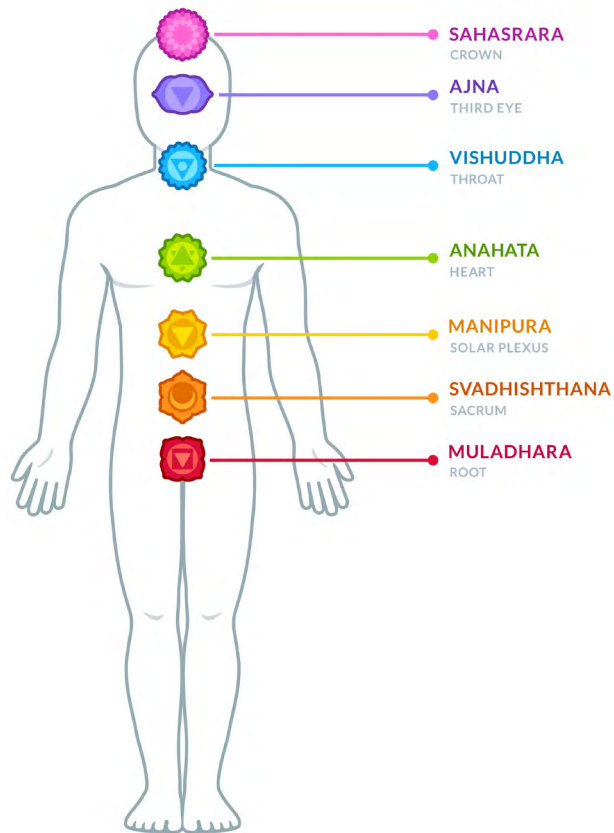


Figure 2. The rainbow chakra system

**SMELL: Mūlādhāra 1<sup>st</sup> chakra at the base of the spine**

The olfactory sense has a unique intimacy with emotion. Phylogenetically it is the most ancient sense. Unlike other senses, olfactory neuroanatomy is intertwined, via extensive reciprocal neuro connections, with the primary emotion complex that includes the amygdala, hippocampus and orbitofrontal cortex.








Olfaction has long been associated with primitive experiences of reward, threat and homeostasis. It is evolutionarily engineered to sustain an organism’s internal physiological equilibrium (Krusemark, Novak, Gitelman & Li, 2013).

**TASTE: Svādhiṣṭhāna 2<sup>nd</sup> chakra at the sacrum**

Research into human taste receptors extends beyond the tongue to some unexpected places: A mouthful of bittersweet chocolate cake with a molten center can trigger potent memories of pleasure, lust and love. But all it takes is one bad oyster to make you steer clear of this mollusk

Table 1

The Ancient Chakra System adapted from the Shat Chakra Niruupana

Chakras	Location	Sense	Element	Sound	Sanskrit	Geometric	Essential	Shakti
	Above body	Higher consciousness Bliss	None sun & moon <i>haṭha</i> come together	silence	<b>Sahasrāra</b> 1000 petaled lotus is the seat of highest consciousness	Full moon with sunrise elements	Union/ Creation	none
	3 <sup>rd</sup> eye Center of forehead	Mental faculties of mind	Sun- <i>sūrya</i> Subtle body <i>Sukshma</i>	aum om̐	<b>Ājñā</b> Enhanced knowledge	No form	Self- realization	<i>ardha</i> <i>-nārīśwara</i> <sup>1</sup> <i>hakini</i> <sup>2</sup>
	Base of throat	Sound/ Hearing Balance Equilibrium	Space <i>ākāśa</i>	ham hṃ	<b>Vīśuddha</b> Pure place of communication between body & mind	Circle ○ With ◡	Intuition	<i>śakini</i> <sup>3</sup>
	Heart	Touch Proprio- reception	Movement <i>Vāyu</i>	yam yṃ	<b>Anāhata</b> Unstuck – the place between heart beats	6-pt hexagon/or 2 triangles ▽ & △ ♀ & ♂	Knowledge	<i>kākinī</i> <sup>4</sup>
	Navel	Sight	Fire <i>tejas</i>	ram rṃ	<b>Maṇipūra</b> Filled with Jewels	Triangle ▽	Love, faith, duty	<i>lākinī</i> <sup>5</sup>
	Sacrum	Taste	Water <i>āp</i>	vam vṃ	<b>Svādhiṣṭhāna</b> Self-established “You” place	Crescent ◡	Sex & family	<i>rākinī</i> <sup>6</sup>
	Base of spine	Smell	Earth <i>prithvī</i>	lam lṃ	<b>Mūlādhāra</b> Root Support	Square □	Security	<i>ḍākinī</i> <sup>7</sup> ( <i>Sky dancer</i> )

1. Shiva + Shakti together, non-duality union of yoga
2. Unconditional truth, non-duality
3. Inner transformations of the body
4. Emotional devotion for all – and she removes obstacles
5. Sees in 3 ways: Mind, Intellect & “I”
6. Splits energy between “I” and “other”
7. Gatekeeper of new beginnings and mysteries of self. She is fierce tempered and plump in body



for life. Neuroscientists who study taste are just beginning to understand how and why the interaction of a few molecules on your tongue can trigger innate behaviors or intense memories (“Sweet Guts”, 2018).

The sensors in our mouths that detect basic tastes—sweet, salty, bitter, sour, umami, and arguably a few others—are only the start of the story. The way the brain, and other parts of the body, represents these tastes is very complex. Researchers have recently developed a “gustotopic map” (Chen, Gabitto, Peng, Ryba, & Zuker, 2011) based on the quantum idea that, just as each taste bud on the tongue responds to a single taste, so there are regions of the brain that are similarly dedicated.

*SIGHT: Mañipūra 3<sup>rd</sup> chakra in the solar plexus*  
*SOUND: Viśuddha 5<sup>th</sup> chakra at the base of the throat*

Neurons in one area of the brain learn the representation of the stimuli, and another area categorizes that input to ascribe meaning to it. . . . When a child learns a new word, it first has to learn the new sound and then, in a second step, learn to understand that different versions (accents, pronunciations, etc.) of the word, spoken by different members of the family or by their friends, all mean the same thing and need to be categorized together. . . .

At an evolutionary level, humans and animals need to understand who a friend is and who is foe, and sight and sound are integral to these judgments. (Georgetown University Medical Centre, 2018)

*TOUCH AND PROPRIOCEPTION: Anāhata 4<sup>th</sup> chakra at the heart*

We notice the quiet space between heartbeats. Music is appreciated in the space between the notes.

A decade ago, no one would have thought that perception is constantly strobing—flickering like an old silent movie. . . .

This research shows one thing very clearly: our sensory perception of the world is fundamentally oscillatory, like a strobing light or a wave waxing and waning. . . . This strobing [quantum oscillations] of attention binds together information at regular time points and allows new groupings of information to reassemble at other moments. (University of Sydney, 2017)

The researchers [neurophysiologists Ingvars Birznieks and Richard Vickery] found the brain uses periods of “quiet” between the impulses to make judgements about the environment, and this flies in the face of the conventional view that says neural activity is the main driver of human perception. (University of New South Wales, 2017)

*SOUND AND HEARING involves balance and equilibrium: Viśuddha 5<sup>th</sup> chakra at the base of the throat*

Auditory perception oscillates over time, and peak perception alternates between the ears, which is important for locating events in the environment. These auditory cycles happen at the rate of about six per second (University of Sydney, 2017). This may seem fast, but not in neuroscience, given that brain oscillations can occur at up to 100 times per second.

*MENTAL—generalized thinking: Ājñā 6<sup>th</sup> chakra in the center of the brain includes 3<sup>rd</sup> eye*

Yoga describes the center of the brain as the pineal gland, which regulates circadian (daily cycle) rhythms and reproductive hormones. What then regulates the pineal gland? It is our limbic, or emotional system, at the very center of our brain that connects all parts of our mind. In other words, how we experience emotions directly affects our consciousness, cognition, perception and interpretations of life, love, happiness and misery. All our senses are cyclic in nature whereas our consciousness perceives them as continuous, much like we watch movies frame by frame. The quiet spaces allow flexibility and growth of new neuronal connections. Henrik Jörntell, Associate Professor at Lund University, and colleagues have shown that previous findings indicating that the brain has a sparse coding mechanism are wrong (Spanne & Jörntell, 2015):

If sparse coding were to apply, it would entail a series of negative consequences for the brain. The largest and most significant consequence is that the brain would not be able to generalize, but only learn exactly what was happening on a specific occasion. Instead, we think that a large number of connections between our nerve cells are maintained in a state of readiness to be activated, enabling the brain to learn things in a reasonable time when we search for links between various phenomena in the world around us. This capacity to generalize is the most important property for learning. (Lund University, 2015).

The 3rd eye is located on the forehead between the eyebrows in the prefrontal cortex, specifically the superior frontal gyrus. It is

associated with higher order executive brain functions involved in self-awareness in coordination with the action of the sensory system, shown in fMRI studies (Goldberg, Harel, & Malach, 2006).

#### *Prānāyāma: Life force and breathing*

Meditation and breathing exercises can sharpen your mind. Breath-focused meditation and yogic breathing practices have numerous known cognitive benefits, including increased ability to focus, decreased mind wandering, improved arousal levels, more positive emotions, decreased emotional reactivity, along with many others. Pranayama breath follows the 90–120-minute BRAC. The human nostrils open and close alternately with the breath. One nostril opens while the other remains blocked. The breath alternates opening and closing according to the BRAC (Arya, 1979).

The research documents that breathing—a key element of meditation and mindfulness practices—directly affects the levels of a natural chemical messenger in the brain called noradrenaline. This chemical messenger is released when we are challenged, curious, exercised, focused or emotionally aroused, and, if produced at the right levels, helps the brain grow new connections, like a brain fertilizer. The way we breathe, in other words, directly affects the chemistry of our brains in a way that can enhance our attention and improve our brain health. (Ramirez & Baertsch, 2018, p. 314)

#### *Asana: Postures*

Asana is the physical practice of haṭha yoga. *Ha* is the physical sun and *tha* the phys-

ical moon. Together they integrate body and breath. Long breaths paired with steady postures develop physical strength and flexibility. In physical yoga practice, balance and equilibrium are challenged through reciprocal movements, like a dance of the opposites. Back bends and forward bends are practiced with the aim of finding a stable center. Physical practices may awaken muscle and body memories. Yoga Story Therapy pairs postures with meaningful stories to create personal psychodrama transformations. It is interesting to note that the true meaning of asana is *to sit*, that is, to sit more easily in meditation and contemplation, facilitating integration.

Learning appropriate postures is best done with a sensitive and qualified teacher. Excellent books are: *Light on Yoga* (Iyengar, 1966), *Ashtanga Yoga Practice and Philosophy* (Maehle, 2006), and *Gravity and Grace: How to Awaken your Subtle Body with the Healing Power of Yoga* (Sterios, forthcoming).

Names of postures depend on the school of origin. Schools of Ashtanga, Bihar and Iyengar share many names of postures, but not all. For instance, *downward facing dog*, in the Ashtanga tradition, is called *mountain* in the Bihar school. As I was initially trained in the Ashtanga school, developed by T. Krishnamacharia in Mysore, India, these are the posture names I use.

### Story

To the brain, good stories are good stories, whether first-person or third-person, on topics happy or sad, as long as they get us to care about their characters. Intriguing yoga stories

evoke the novelty-numinosum-neurogenesis effect (NNNE), which then optimizes the neuroscience sequence of activity-dependent gene expression, protein formations, brain plasticity and quantum oscillations of neural networks that generate emerging creative consciousness and cognition. The vagus cranial nerve, which connects the brain stem to the body, is stimulated through story and has oxytocin receptors. The man behind the discovery of the behavioral effect of a neurochemical in the brain called oxytocin wondered if the molecule might motivate people to engage in cooperative behaviors. In a series of tests using videos, his lab discovered that compelling narratives cause oxytocin release and have the power to affect our attitudes, beliefs, and behaviors. Compelling, numinous narratives cause oxytocin release and have the power to affect our attitudes, beliefs and behaviors.

Oxytocin is an astonishingly interesting molecule. It is a small peptide synthesized in the hypothalamus. It is made of only nine amino acids and is fragile. Oxytocin is classically associated with uterine contractions and milk secretion for nursing. Animal studies have shown that under physiologic stress oxytocin is released in both brain and body. This is unusual for a brain-derived neurochemical that increases prosocial, altruistic behaviors. The neurochemical oxytocin is synthesized in the human brain when one is trusted, which motivates reciprocation.

After years of experiments, I now consider oxytocin the neurologic substrate for the Golden Rule: if you treat me well, in most

cases my brain will synthesize oxytocin, and this will motivate me to treat you well in return. This is how social creatures such as humans maintain themselves as part of social groups: they play nice most of the time. . . . Oxytocin had a positive correlation with participants' feelings. The narrative may be over, but oxytocin effects linger. (Zak, 2015, pp. 3-4).

### ***Shavasana: Integration***

We integrate yoga with a key concept of the psychosocial genomics of mind-gene communication: nothing, it seems turns on gene expression, brain plasticity and creative consciousness and cognition as much as the presence of others of the same species! We believe this psychosocial genomic concept was conserved by evolution. This simply means that nature found brain-mind-gene communication useful in forms of life from fruit flies to humans. What scientific evidence do we have today that explores the validity of this fascinating communication cycle between consciousness, creative cognition, gene expression and neuropsychotherapy?

A pilot study has made a new beginning to answering this question about the famous Cartesian gap between mind and body (Rossi et al., 2008). In the past decade, DNA microarray technology has made it possible to measure the expression levels of many thousands of genes simultaneously in a single psychotherapeutic experience in groups. This novel experimental approach has revolutionized research in molecular biology and become a new standard in personalized medicine. Recent research has

documented the use of DNA microarrays for assessing therapeutic responses to psychological relaxation and meditative practices on the molecular-genomic level. This suggests that further research is required to document the pathways of neuropsychotherapy on all levels from mind to gene. In this pilot study, we used DNA microarrays to evaluate a new therapeutic protocol: mind-body transformations therapy (MBT-T), the predecessor of mirroring hands (Hill & Rossi, 2017). Our pilot study assessed the hypothesis that a top-down positive experience of the 4-stage creative cycle could modulate gene expression on the molecular-genetic level. A DNA microarray data analysis of the white blood cells of three human subjects was performed immediately before, one hour later, and 24 hours after an experience of MBT-T.

We found changes in the expression of 15 early-response genes within one hour that apparently initiated a further cascade of 77 genes 24 hours later in the study. We found gene expression turned on antioxidants (life extension) and anti-inflammatory (reduced pain) and stem cells (create new life and connections). In a second study (Cozzolino et al., 2015), 18 subjects demonstrated how 200 genes were differentially expressed. Four additional significant pathways for optimal facilitation were found: acetylation (promotes life transformations), cytosol (activates intracellular transformation), apoptosis (safely eliminates unnecessary and unhealthy cells), and negative apoptosis (stops, prevents or reduces the frequency, rate or extent of cell death). The meaning and implications of these studies will require a great deal of research to

open a new scientific perspective on the nature of consciousness, cognition and neuro-psychotherapy. (For further information and access to the protocol for the MBT-T, see Rossi et al., 2010 and Rossi, Mortimer, & Rossi, 2015a).

## THE PRACTICE OF YOGA STORY THERAPY

The practice of Yoga Story Therapy is a body-mind approach in five stages that engages the NNNE. Each session is unique according to the time, place and people involved, as well as adapting the following five stages (Rossi, Mortimer, & Rossi, 2015b):

1. Tuning in to personal questions or concerns;
2. Chakra body scan;
3. Pranayama, conscious breath;
4. Story recreated psychodrama with asana (postures); and
5. Shavasana 4-stage integration.

### 1. *Tuning in to questions and concerns*

As you find a comfortable seated position, tune into the issues that are important to you today. While keeping it private, scale your concerns on a 1-10 scale (1 = low; 10 = high). Later we can check to see if this has changed.

What questions or concerns are foremost on your mind right now? Feel free to keep this private. [*Privacy is very important to allow you to retreat from the outside world and turn inward to the psychological*] You can share later what is relevant only if you want to. [*Permission to stay private*] Now, let these questions and concerns go

to the back of your mind. [*This gives the opportunity for the subconscious mind to begin working*]

### 2. *Chakra body scan*

We begin at the base of the spine (from the bottom up) to tune in sensitively to your chakra's energy centers and to find the greatest comfort available to you. Notice if there are any places in your body that want special care today. [*This is a built-in safety feature that alerts the person to any body part that needs gentle attention*] Some people like to close their eyes while others prefer to keep them open. [*We never tell people to close their eyes. This is a personal decision. We use eye positions to understand where a person is in the 4-stage creative cycle*]

As you sit in a comfortable position, tune into the base of your spine, the Mūlādhāra at your 1<sup>st</sup> chakra. What do you notice? Are you comfortable or . . . ? Is it warm or cool? Does it have a scent? Does it have an image? Simply experience what you do.

Moving up about 2 inches to your sacrum, Svādhiṣṭhāna, the place of you in the 2<sup>nd</sup> chakra, what do you notice? What do you experience here? Is there a taste? Take a moment for yourself.

Now move into your 3<sup>rd</sup> chakra to the home of many jewels, Maṇipūra, in your solar plexus/navel area. Are there jewels of wisdom waiting for you? Or will something come later? Can you visualize it?

Arriving at your heart, the 4<sup>th</sup> chakra, Anāhata, can you feel the infinite space between your heartbeat and perhaps the heartbeat of the universe?

Upwards to the base of your throat is Viśud-

dha, the 5<sup>th</sup> chakra. How is your breath . . . fast . . . slow . . . deep . . . shallow . . . easy . . . difficult? Can you hear the pure communication between your body and your mind?

In the center of your brain is the 6<sup>th</sup> chakra, Ājñā, the seat of emotion and knowledge. Will something important come together for you today? Can you move from the center of your brain into your 3<sup>rd</sup> eye in the space between your eyebrows welcoming new awareness?

Can you now experience the peace of the 7<sup>th</sup> chakra, Sahasrāra, at the top of your head? Slowly come down on your own, one by one until you reach your first chakra, Mūlādhāra.

### 3. *Conscious breath—Pranayama Ujjayi: victorious breath*

Observe your breath to notice what your normal breathing pattern sounds and feels like (baseline breathing). Notice your inhale and your exhale. Is it comfortable? How does it make you feel? Is this difficult, or is it easy?

Prānāyāma Ujjāyī is even, slow breath with sound coming from the throat. It is important to practice with ease and not to strain or force at any time.

Sit with your spine upright. Close your eyes if you feel comfortable and safe. Inhale slowly through your nose and exhale through your mouth.

When exhaling, produce the sound “HHH-HHAAAA”.

From now on, keep your mouth closed while exhaling. Generate the same sound as before but this time with your mouth closed. The position of your throat is unchanged and natu-

ral. Make sure the sound originates from your throat and not from your nose.

Now maintain the same throat position while inhaling, producing the same murmuring sound.

Begin to balance your inhale and your exhale with the sound, quality and length of your breath. You’ll probably notice that your exhale is longer and stronger. Now you can expand and emphasize your inhale. This is the first way to lengthen your breath.

Concentrate on the turning point between inhale and exhale. Make sure you keep your breath flowing and your throat open. This is the basis for an ongoing flow of energy.

Now slowly return to normal breathing. What does this feel like?

### 4. *A Yoga Story:*

#### *Virabhadra, the Courageous Warrior*

King Dāksha’s daughter, Princess Satī, was good, kind and beautiful inside and out. She was full of joy and fully captured her father’s heart. Her favorite things to do all day were to study and dance!

One day, while meditating in the forest, Sati laid eyes on a gorgeous man. Like a moth to a flame she mind-melded with him and he with her. He was lithe, muscled, wild, passionate, kind and strong. Sati fell in love with Shiva.

They asked her father, King Daksha, for his marriage blessing. But the king was none too keen on this idea. “My daughter deserves better,” he thought, “because we are Brahmin—an elite class of people.”

Sati sweetly said, “But Papa, I love him.”

And that is all it took. Later the king regretted offering his approval. He schemed, "I will throw a party and invite everyone except my daughter and Shiva." The finest food, music and fun will lure Sati home. We will decorate everything, even the elephants!"

When the party started, Sati's handmaiden ran to the forest. "Sati, the party of the century is happening right now. You have to come!"

Jubilant Sati said, "Yes! Yes! I cannot miss this. Shiva let's go!"

"No. I am not going anywhere I am not invited," Shiva answered. "Are you unhappy with me, dancing and making love? Why would you want to leave our paradise just to go to a party that no one invited you to? If you go, then you go alone."

"What is the harm in going to a little party?" Sati wondered. She arrived at the party to discover the truth. The party was designed to disrespect and humiliate her husband Shiva. Red-hot incensed and angry she burst into flames. Poof! This was the first human immolation.

Alarmed, her handmaiden rushed to tell Shiva, "Your wife is burning up right now!"

*Righteously angry*, Shiva rose up, broke a single dreadlock from his unkempt hair and threw it onto the ground. His avatar warrior, Virabhadra (meaning hero friend), woke up. "What do you need?" the warrior asked.

Shiva replied, "Go to the party and cut off the King's head."

Virabhadra forgot to ask what the king looked like. So, methodically he chopped off

men's heads one-by-one. Finally, someone screamed, "The king is dead! The King is dead!" Virabhadra completed his job by picking up the king's head and, leaning over the fire of his burning daughter Sati, dropped it in.

Vishnu surveyed the scene of hurt. Innocent and anguished people were devastated, crying in disbelief. Castle grounds were littered with the dead. He turned to Virabhadra, "Go and get Shiva."

The warrior defiantly replied, "I don't take orders from you. I only take orders from Shiva."

Vishnu said, "Well today is a different day and you will. Go and get him."

Vishnu addressed Shiva, "Look at the dead and maimed innocent people. Please fix this. Restore life."

Shiva nodded, "You are right," and he restored the innocent back to life with herbs and songs.

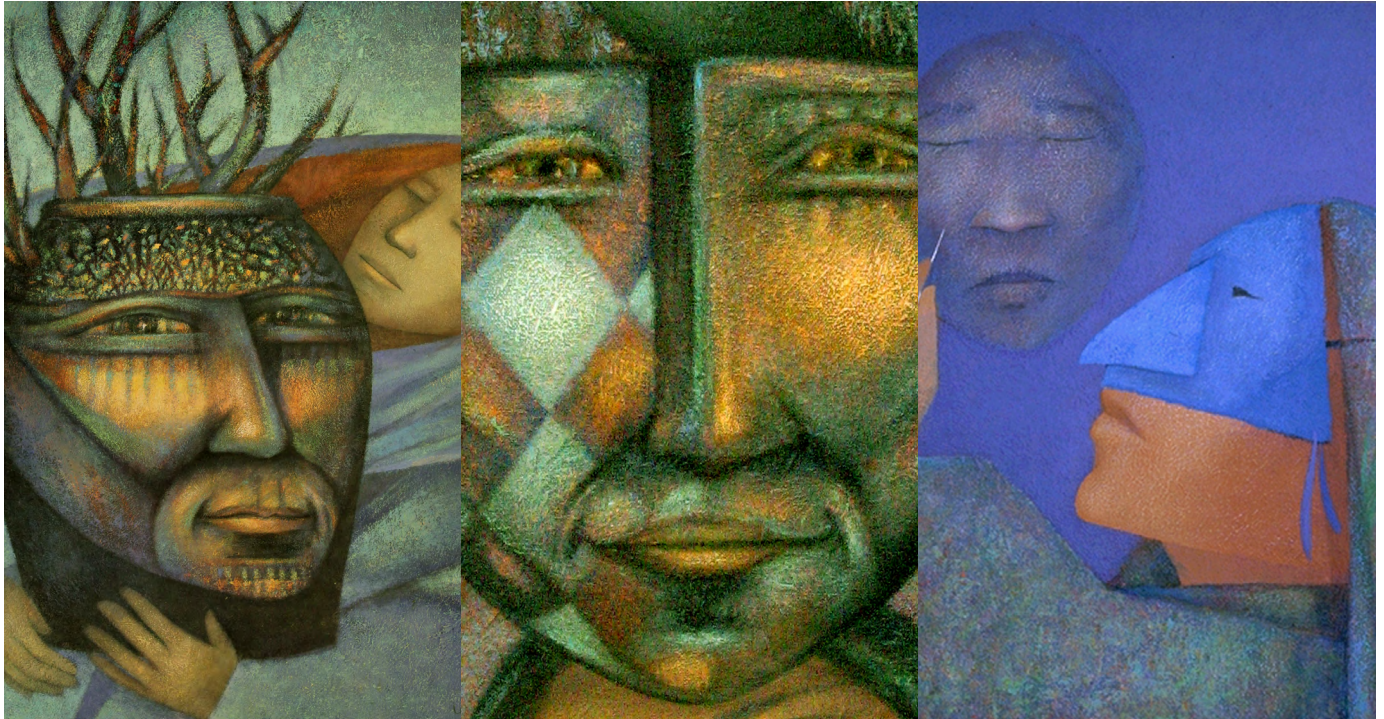
Vishnu implored, "Put the king's head back on."

"No can do." Shiva replied with an economy of words as he points to the burning fire of Sati, "It is all burned up."

Vishnu said, "Find a head. Restore the king."

Shiva remembered an old goat he saw on the way to the castle. This goat was so old it was about ready to die, with a scraggly beard, missing fur and crossed eyes. He placed the old goat's head on the king and said, "We are living in a new world . . . and by the way, this is

# AVATAR WARRIOR Virabhadra



**Ready**  
**Swords**  
**Intent & Courage**

**Action**  
**Decisive**  
**Bold**

**Reframe**  
**Let Go**  
**New View**

Figure 3. Virabhadra, the avatar warrior of Shiva. Images © Lee Lawson Lee@LeeLawson.com

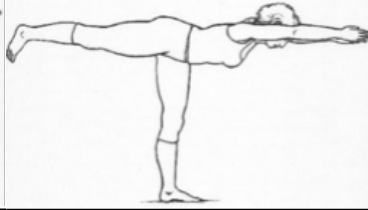
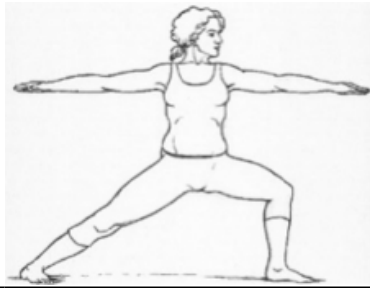
the first good-news/bad-news joke. The good news is that you will live to an old age. The bad news is that you will live the rest of your life as a goat. You acted like a goat interfering with our divine union.”

Sati is the only casualty in this story. Her anger burned her up. She is reincarnated in

many lifetimes to be with Shiva.

Engaging our personal warrior into a mind-body psychodrama practice is illustrated in Figure 4. We begin courageously with personal and private questions, concerns or issues (stage 1). We open the possibilities to come to terms with creating and exercising new bold actions





**Prepare**

**Act**

**Reframe**

**Rest**

Swords of Intent and  
Courage

Decisive and Bold

Let Go

New View

Virabhadrasana A  
Warrior A

B  
Warrior B

Digāsana- direction  
Warrior C

Adho Mukha Śvānāsana  
Downward facing dog

Figure 4. A good warrior knows how to do four things: (1) prepare, (2) act only when necessary, (3) reframe and adapt new learning, and (4) rest. The postures represent swords of intent and courage, decisive action, letting go of outdated ideas, welcoming the new, and then enjoying a deep, well-earned rest.

(stage 2). We let go of old ideas and ways (stage 3). We welcome a new point of view (stage 4). In table 2 we offer an integration between YST practice, Buddha’s 4 Noble Truths and the 4-stage creative cycle with Patanjali’s 8 limbs of yoga.

Table 2


Yoga Story Therapy: Integration with the 4-Stage Creative Cycle, Buddha’s 4 Noble Truths, and Patañjali’s 8 Limbs of Yoga

YOGA STORY THERAPY	THEORY	PRACTICE
<b>Example: Warrior</b>	<b>4-Stage Creative Cycle</b> <b>Buddha’s 4 Noble Truths</b>	<b>8 Limbs of Yoga</b>
Stage 1: I’ve been deceived	Stage 1: Curiosity <b>Dukha</b> Suffering	<b>Yama</b> Social ethics <b>Niyama</b> Personal values
Stage 2: Burning up in anger	Stage 2: Conflict/Incubation <b>Samudaya</b> Causes of suffering	<b>Āsana</b> Physical practice <b>Prānāyāma</b> Conscious breathing
Private Inner Work	Stage 2-3: Private inner work <b>Bindu Bridge</b>	<b>Pratyāhāra</b> Withdraw from outer world, tune inward
Stage 3: How do I right the wrongs and restore equilibrium?	Stage 3: AHA! Insights <b>Nirodha</b> Calming rough seas	<b>Dhārāna</b> Focused concentration <b>Dhyāna</b> Single focus, meditation
Stage 4: Reframe to honest reality	Stage 4: Verify and apply <b>Mārga</b> Life’s path	<b>Samhādhi</b> Happiness, bliss, harmony, resonance, contentment

### 5. Shavasana Integration

Shavasana (*Śavāsana*) is the most important pose in all of hatha yoga because it is the space-time for integration when our heightened quantum sense of being has a chance to become quiet to integrate new learning. We continue with the mind-gene psychosocial genomic transformations by introducing a new shavasana of mirroring hands (Hill & Rossi, 2017).

#### Mirroring hands quantum shavasana

	<p><b>1. Preparation: Facilitating self-sensitivity</b></p> <p>When you are ready to do some important inner work on that problem will you hold your hands above your lap with your palms up . . . as when you are ready to receive something? [Therapist models]</p> <p>As you focus on those hands in a sensitive manner, I wonder if you can begin by letting me know which hand seems to experience or express that fear (or whatever the negative side of the patient's conflict may be) more than the other . . . [As soon as the person indicates that one hand is more expressive of the problem or symptom than the other, the therapist goes on to stage two]</p> <p><b>2. Incubation: Replaying conflicts</b></p> <p><i>“Wonderful . . . now I wonder what you experience in your other hand, by contrast . . . at the same time . . . ? What do you experience in that other hand that is the opposite of your problem [issue, symptom, etc.]? Good, as you continue experiencing both sides of that conflict [or whatever] . . . at the same time . . . Will it be okay to let me know what begins to happen next . . . ? Reviewing and replaying that until . . . ?</i></p> <p><b>3. Insight: Intuition &amp; breakout</b></p> <p>Becoming more aware of . . . ? Interesting. . . ? Something changing. . . ? And is that going well. . . ? Is it really possible. . . ?</p> <p><b>4. Verification: Reintegration and reframing</b></p> <p><i>“What does all this experience mean to you. . . ? How will you experience [behave, think, feel, or whatever] differently now. . . ? How will your life be different now. . . ? How will your behavior change now. . . ? What will you do that is different now. . . ? Will you be sharing some of this with other people in your life. . . ?</i></p>
--	--

After the 4-stage creative process of the mirroring hands quantum shavasana, we ask: on a 1–10 scale how would you rate your original issues? Did you experience any change? You are welcome to keep you experience private or perhaps share what you think is appropriate with the group.

In closing, we gather again once more to ask for **peace for me, peace for you and peace for all:**

Om shanti, shanti, shanti  
(*Om śānti, śānti, śāntiḥ*)

Our hands come together in Añjali mudrā, and we say *namaste* (*nama* “bow”; *te* “you”): I bow to the beautiful person you are now and are also becoming.

**Take-Home Summary**

- We have been on a long 3.8 billion-year journey of cosmic evolution from the quantum Big Bang to the cloud of human unknowing.
- We experience the 90–120-minute BRAC 12 times a day, and the 4-stage creative cycle and Buddha’s 4 Noble Truths associated with it.
- The spiritual life of yoga is to experience the subtle mind–body levels (chakras) of self-reflection and quantum sensitivity of consciousness and cognition.
- The NNNE is associated with optimal adaptive gene expression, brain plasticity, creativity, and well-being in neuropsychotherapy.

- Yoga Story Therapy integrates the entire mind–body–gene cycle into a creative psychodrama exploring archetypal myths of everyday life and psychology in word and deed.



Añjali mudrā (Source: Wikipedia)

**REFERENCES**

Arya, U. (1979). *Meditation and the art of dying*. Honesdale, PA: Himalayan International Institute of Yoga Science and Philosophy.

Avalon, A. (2003). *The serpent power: The secrets of Tantric and Shaktic yoga*. Madras, India: Ganesh & Co. (Original work published 1919)

Bucke, R. M. (2010). *Cosmic consciousness: A study*

- in the evolution of the human mind. Mansfield Centre, CT: Martino Publishing. (Original work published 1901)
- Chen, X., Gabitto, M., Peng, Y., Ryba, N. J., & Zuker, C. S. (2011). A gustotopic map of taste qualities in the mammalian brain. *Science*, 333(6047), 1262–1266. doi:10.1126/science.1204076
- Cozzolino, M., Ciatelli, A., Fortino, V., Guarino, F., Tagliaferri, R., Castiglione, S., . . . Rossi, E. (2015). The mind–body healing experience (MHE) is associated with gene expression in human leukocytes. *International Journal of Physical and Social Sciences*, 5, 1–31.
- Georgetown University Medical Centre. (2018, April 18). The brain processes sight and sound in the same manner. *Science Daily*. Retrieved from <https://www.sciencedaily.com/releases/2018/04/180418144725.htm>
- Goldberg, I., Harel, M., & Malach, R. (2006). When the brain loses its self: Prefrontal inactivation during sensorimotor processing. *Neuron*, 50, 329–339. doi:10.1016/j.neuron.2006.03.015
- Hill, R., & Rossi, E. (2017). *The practitioner's guide to mirroring hands*. Wales, United Kingdom: Crown House Publishing.
- Iyengar, B. K. S. (1966). *Light on yoga*. New York, NY: Schocken Books.
- Krusemark, E. A., Novak, L. R., Gitelman, D. R., & Li, W. (2013). When the sense of smell meets emotion: Anxiety–state–dependent olfactory processing and neural circuitry adaptation. *Journal of Neuroscience*, 33(39), 15324–15332. doi:10.1523/JNEUROSCI.1835–13.2013
- Levine, P. A. (2010). *An unspoken voice: How the body releases trauma and restores goodness*. Berkeley, CA: North Atlantic Books.
- Levine, P. A. (2015). *Trauma and memory: Brain and body in a search for the living past: A practical guide for understanding and working with traumatic memory*. Berkeley, CA: North Atlantic Books.
- Lund University. (2015, June 25). Researchers question what happens in the brain when we think. Retrieved from [https://www.med.lu.se/english/news\\_archive/150625\\_think](https://www.med.lu.se/english/news_archive/150625_think)
- Maehle, G. (2006). *Ashtanga yoga: Practice and philosophy*. Novato, CA: New World Library.
- Ramirez, J. M., & Baertsch, N. (2018). Defining the rhythmogenic elements of mammalian breathing. *Physiology*, 33(5), 302–316. doi:10.1152/physiol.00025.2018
- Rossi, E. (2001). The deep psychobiology of psychotherapy. In R. Corsini (Ed.), *Handbook of Innovative Therapy* (2nd ed., pp. 155–165). New York, NY: Wiley.
- Rossi, E., Atkinson, D., Blake–Mortimer, J., Iannotti, S., Cozzolino, M., Castiglione, S., . . . Krippner, S. (2010). The creative psychosocial genomic healing experience©: Open invitation to mind–body psychotherapy clinical and experimental research. Retrieved from <http://www.ernestrossi.com/ernestrossi/Research%20Group%20Papers/Protocol%20CPGHE%20v1.3.pdf>
- Rossi, E., Erickson–Klein, R., & Rossi, K. (2008–2014). *The collected works of Milton H. Erickson, M.D.* (16 Volumes). Phoenix, AZ: The Milton H. Erickson Press.
- Rossi, E., Iannotti, S., Cozzolino, M., Castiglione, S., Ciatelli, A., & Rossi, K. (2008). A pilot study of positive expectations and focused attention via a new protocol for optimizing therapeutic hypnosis and psychotherapy assessed with DNA microarrays: The creative psychosocial genomic healing experience. *Sleep and Hypnosis*, 10, 39–44.
- Rossi, K. (2018, October). The yoga of creative consciousness and cognition in neuropsychotherapy, *The Neuropsychotherapist*, 6, 20–40.
- Rossi, K., Mortimer, J., & Rossi, E. (2015a). Mind–body transformations therapy (MBT–T): A single case study of trauma and rehabilitation: The psychosocial and cultural epigenomic theory, research and practice of the new neuroscience of psychotherapy and translational medicine. *The International Journal of Psychosocial Genomics*, 1, 32–40.
- Rossi, K., Mortimer, J., & Rossi, E. (2015b). Integration of classical yoga and the 4–stage creative process of modern science. *International Journal of Public Mental Health and Neurosciences*. Retrieved from <http://www.evolutionofpsychotherapy.com/download/handouts/Ernest-Rossi-Integration-of-Classical-Yoga-and-the-4-Stage-Creative-Process-of-Modern-Science.pdf>

- Sevinc, G., Hölzel, B. K., Hashmi, J., Greenberg, J., McCallister, A., Treadway, M., . . . Lazar, S. W. (2018). Common and dissociable neural activity after mindfulness-based stress reduction and relaxation response programs. *Psychosomatic Medicine*, 80(5), 439–451.
- Snow, C. P. (1965). *Two cultures and a second look*. Cambridge, United Kingdom: Cambridge University Press.
- Spanne, A., & Jörntell, H. (2015). Questioning the role of sparse coding in the brain. *Trends in Neurosciences*, 38(7), 414–427. doi:10.1016/j.tins.2015.05.005
- Steiner, R. (1998). Ujjayi pranayama: The victorious breath. Retrieved from <https://www.ashtangayoga.info/practice/inspirationen-fuer-die-praxis/980101-breathing-ujjayi/>
- Sterios, P. (forthcoming). *Gravity and grace: How to awaken your subtle body with the healing power of yoga*. Boulder, CO: Sounds True Press.
- Stonier, T. (1990). *Information and the internal structure of the universe*. New York, NY: Springer-Verlag.
- Sweet Guts. (2014). *Medical Discovery News*. Retrieved from <http://www.medicaldiscoverynews.com/shows/418-sweet-guts.html>
- Trivedi, B. P. (2012). Neuroscience: Hard-wired for taste. *Nature*, 486(7403). S7–S9. doi:10.1038/486S7a
- Tyrrell, F. (2018, May 10). Meditation and breathing exercises can sharpen your mind. *Neuroscience News*. Retrieved from <https://neurosciencenews.com/cognition-meditation-breathing-9026/>
- University of New South Wales. (2017, May 18). Tapping into the sense of touch. *Neuroscience News*. Retrieved from <https://neurosciencenews.com/touch-sensation-neuroscience-6715/>
- University of Sydney (2017, November 16). Brain is strobing, not constant, neuroscience research shows. *ScienceDaily*. Retrieved from <https://www.sciencedaily.com/releases/2017/11/171116172505.htm>
- Van der Kolk, B. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York, NY: Viking.
- Wilczek, F. (1999). Getting its from bits. *Nature*, 397, 303–306.
- Zak, P. J. (2015, Jan–Feb). Why inspiring stories make us react: The neuroscience of narrative. *Cerebrum*. Retrieved from [http://www.dana.org/Cerebrum/2015/Why\\_Inspiring\\_Stories\\_Make\\_Us\\_React\\_\\_The\\_Neuroscience\\_of\\_Narrative/](http://www.dana.org/Cerebrum/2015/Why_Inspiring_Stories_Make_Us_React__The_Neuroscience_of_Narrative/)



# THE NEUROPSYCHOTHERAPIST

is the quintessential publication bridging the gap between science and the practice of psychotherapy for mental health professionals everywhere

Become a member and have access to our complete archive.

[NEUROPSYCHOTHERAPIST.COM](http://NEUROPSYCHOTHERAPIST.COM)

