International Journal of Public Mental Health and Neurosciences (2014) in press, December

Integration of Classical Yoga and the 4-Stage Creative Process of Modern Science

Psychosocial Genomics of Psychotherapy and Optimal Health

Kathryn Rossi, PhD
The Psychosocial Genomics Institute
125 Howard Avenue
Los Osos CA 93402 USA
Kathryn@ErnestRossi.com

Jane Mortimer, PhD
Psychology Department
University of Adelaide
Adelaide, Australia
jane.mortimer@gmail.com

Ernest Rossi, PhD
The Psychosocial Genomics Institute
Los Osos CA, USA
ErnestRossi.com
Ernest@ErnestRossi.com

***Abstract*—We present a new spiritual yoga practice consistent with modern neuroscience research on optimizing consciousness and sleep. New and unexpected research documents how sleep cleans the brain to optimal states of being. This research can help us understand the scientific dynamics of how faith, belief, meditation and spiritual practices of all cultures throughout the ages operate. We propose how personal and unique experiences of the 4-stage creative cycle during life transitions optimize health and happiness. Very gentle practices of a new spiritual yoga are outlined so everyone can easily experience the new RNA/DNA theory of the quantum transformations of consciousness and creative cognition in everyday life as well as art, the humanities and science.**

***Index Terms*— Yoga, 4-stage creative process, humanities, science, spiritual, RNA/DNA theory, consciousness, quantum**

Introduction

What are the mind-body psychological interactions that can facilitate becoming our best and most healthy selves? Seminal new research by Xie *et al*. [1] uncovered the purpose of sleep is to clear the brain of toxic metabolites by 60%. This allows cerebral spinal fluid (CSF) to bathe and nurture the neurons of the brain. We sleep to facilitate an open mind, to be able to think clearly, and effectively communicate "top-down" from mind to body. This offline processing during sleep is essential for clearing the way to new consciousness and brain plasticity. William Deresiewicz [2] describes the process of becoming a "soul" (*atman*):

> "Learning how to think is only the beginning. There's something in particular you need to think about: building a self. The notion may sound strange. 'We've taught them,' David Foster Wallace once said, 'that a self is something you just have.' But it is only through the act of *establishing communication between the mind, heart and experience, that you become an individual, a unique being—a soul.*"

The New Neuroscience of Psychotherapy

Rossi & Rossi [3-6] have illustrated in great detail how the 4-stage creative cycle can be applied on all levels from mind to gene expression and brain plasticity in everyday life. This concept is freely available online in *The New Neuroscience of Psychotherapy, Therapeutic Hypnosis and Rehabilitation: A Creative Dialogue with our Genes.* This 4-stage creative cycle is based on natural robust 90 to 120 minute chronobiological rhythms are active 24 hours a day [7,8] while awake and sleeping as illustrated in figure one. Utilizing these basic-rest and activity-cycles (BRAC) are immensely helpful in optimizing therapeutic change of physical and mental health. This is especially true when augmented by the psychological sense of wonder, mystery and tremendous what have been called the *numinosum* [9] or the Novelty-Numinosum-Neurogenesis-Effect (NNNE). Scientists have outlined the theory, research and practice of modern psychotherapy with the RNA/DNA theory of the quantum transformations of consciousness and creative cognition in everyday life as well as art, the humanities and science [5, 6, 10].



Fig. 1. A Cartoon of the 4-stage creative process. Stage one is getting a new idea and starting to work on a problem (first two panels on the left). Stage two is the typically difficult experience of incubation, struggle and emotional conflict trying to solve a problem. Stage three is the creative moment of getting a flash of insight. Stage four is the happy verification of the problem solution in the real world. (With permission, Tomlin, [11].

In a pilot study using DNA microarray techniques to assess a brief psychological intervention (Mind Body Therapy Transformations, MBT-T) was linked with turning off key genes associated with oxidative stress and dysfunctional chronic inflammation. Moreover, the data showed a significant increase in amount of healing stem cells activated 24 hours after the administration of the MBT-T [10, 12]. Further research will be required to determine whether these therapeutic results are correlated with Xie's discovery of the purpose of sleep is to clear metabolites from the brain. Can we facilitate this cleaning and clearing of the mind through optimal therapies such as the MBT-T? These studies require replication with larger numbers and control groups.

In a series of recent research publications on stress reduction it was found that cognitive/behavioral methods were effective in turning off (down-regulating) genes associated with cellular oxidative stress and dysfunctional chronic inflammation while activating (up-regulating) stem cell genes associated with relaxation and physiological healing [4, 13-17] and yoga [18].

Most of these publications utilized DNA microarray techniques to measure gene expression in the various body fluids (saliva, urine, blood, white cells, etc.) to evaluate their human subject's response to stress reduction with therapeutic cognitive/behavioral interventions. Many of these studies only used small numbers of subjects, however. We propose to use large subject samples with a number of innovative therapeutic cognitive/behavioral techniques, such as yoga, assessed with DNA microarrays.

Integrating Classical Yoga with the 4-Stage Creative Process

Allowing new perspectives to filter into our lives is the root of creating new consciousness, happiness and bliss [24-27]. The practice of yoga as described in Patañjali's Yoga Sutra [28-29] can be limitless with its many permutations. We need courage to open up to new possibilities. Rich in a history of more than 5000 years yoga encourages contemplation and healing through philosophy, physical movements, stories and meditations. Swami Lalitananda [30] in *The Inner Life of Asanas* encourages finding personal meaning within the postures. For example, the fish pose, Matsyasana, teaches us how to swim, navigate and breathe in new and unique ways.

> *As I hold the position [fish] I feel streamlined, strong yet flexible. Looking at the world upside down and backwards is startling and fresh – like being in another element* (*pg 21*).

We add a new dimension of numinous Hindu stories to stimulate the Novelty-Numinosum-Neurogenesis-Effect (NNNE). The meanings of the stories underlie the physical yoga postures (*asana*) combine with simple 4-stage patterns for integrating new understanding of yourself. These four patterns are expanded from Buddha's 4 noble truths and are illustrated in figure two.

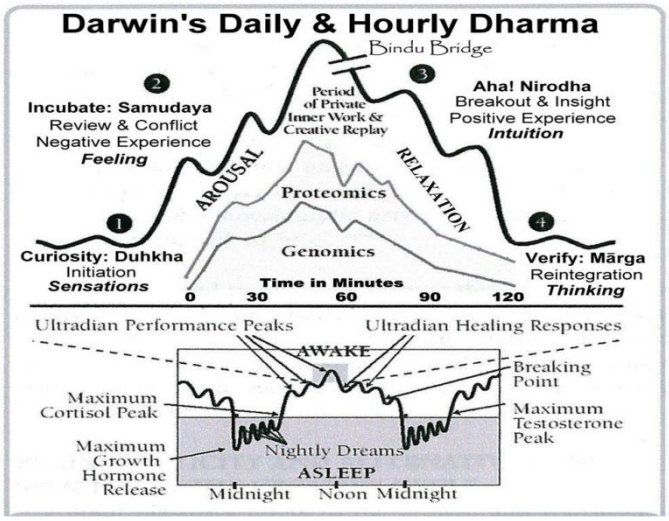


Fig. 2: A profile (90-120 minutes) of the 4-stage creative process in psychotherapy, including Buddha's 4 noble truths, is illustrated in the top portion of this figure (upper curve). The proteomics (protein) profile in middle curve depicts the energy landscape for protein folding within neurons of the brain required for brain plasticity. This proteomic profile arises from the functional concordance of co-expressed genes illustrated by the genomics profile below it. This genomics curve represents the actual gene expression profiles of the immediate-early gene c-fos and 10 other genes (alleles) over the typical Basic Rest-Activity (BRAC) period of ~90-120 minutes. The lower diagram illustrates how these ultradian dynamics of consciousness are typically experienced as Kleitman's ~90-120 minute Basic Rest-Activity Cycle within the normal circadian cycle of waking and sleeping [19-23].

Stage 1: Suffering happens (duḥka)
Stage 2: What are the causes of suffering (samudaya)
Stage 3: New insights (nirodha)
Stage 4: Integrating new consciousness into everyday life (mārga)

Modern neuroscience has confirmed how Buddha's 4 noble truths may be expressed as a 4-stage creative cycle in math, science and the humanities. Hadamard [31], for example, summarized *Poincaré's famous 4-stage creative c*ycle in mathematics in this way:

Stage 1: Data Collection (About any math problem)
Stage 2: Incubation (Contemplation of the problem)
Stage 3: Insight (The famous A-ha! intuition about a possible solution)
Stage 4: Verification (Applying the solution to the math problem)

The Psychosocial and Cultural Genomics

The most profound implication of the psychosocial genomic functions listed in Tables 1 and 2 is that they

represent a first approximation of the types of top-down molecular-genomic processes that *The MBT-T Protocol* may modulate. In plain language they illustrate how mind (consciousness) influences matter (molecules, RNA, DNA, genes, etc.) in living systems in general and in psychoneuroimmunology in particular. In the language of classical western philosophy this would mean that there is no Cartesian Gap (or fundamental dissociation) between mind and body. In psychotherapy this means that at best we engage the actual psychosocial molecular/genomic pathways for coping with and acute and chronic post-traumatic states of stress, anxiety and depression. In psychiatry this would engage the psychosocial genomic essence of placebos, psychosomatic medicine and top-down translational medicine. We propose that *The MBT-T Protocol* and many related psychotherapeutic paradigms of yoga, meditation and ancient and modern healing rituals [32, 33] are the real science that underpins what is called "complementary, alternative or holistic medicine."

PSYCHOSOCIAL GENOMIC FUNCTIONS IMPLICATED	
1. Leukemia	11. Oxidative Stress
2. Lymphoma	12. p53 Signaling Pathway
3. MAP Kinase Signaling Pathway	13. Pain: Neuropathic &Inflammatory
4. Mesenchymal Stem Cell	14. Human Parkinson's Disease
5. Necrosis	15. Schizophrenia
6. Neurogenesis	16. Signal Transduction Pathway
7. NFκB Signaling Pathway	17. Stem Cell
8. NFκB Signaling Targets	18. Stem Cell Signaling
9. Oncogenes & Tumor Suppressor	19. Stem Cell Transcription Factors
10. Oxidative Stress Plus	20. Stress & Toxicity Pathway

PSYCHOSOCIAL GENOMIC FUNCTIONS ENGAGED	
21. Human Synaptic Plasticity	31. Circadian Rhythms
22. Cell & B-Cell Activation	32. DNA Damage Signaling Pathway
23. Tumor Metastasis	33. Dopamine& Serotonin Pathway
24. Alzheimer's Disease	34. Embryonic Stem Cells
25. Apoptosis	35. GABA & Glutamate
26. Autophagy	36. Glucocorticoid Signaling
27. Cancer Pathway	37. Glucose Metabolism
28. Cell Cycle	38. Hematopoiesis
29. Cell Death Pathway	39. Inflammatory Response & Autoimmunity
30. Cellular Stress Responses	40. Innate & Adaptive Immune Responses

Tables 1 & 2: Psychosocial Genomic functions implicated and engaged using the MBT-T Protocol[15] of how mind (consciousness) influences matter (molecules, RNA, DNA, genes, etc., in living systems in general and in psychoneuroimmunology in particular.

Matsya is an ancient cultural Hindu fish story similar to Noah and the Ark from the Christian Bible. *Matsya* is the first of ten avatars of Vishnu whose purpose is *to bring about balance and harmony* by resolving chaos, disputes and problems illustrated as half man/half fish in figure three. Vishnu came to earth first *to protect all the seeds of new beginnings of people, plants, animals and ideas*. Troubles were brewing and one morning the first man, *Manu*, sat contemplating on the seashore when he heard a little distressed fish crying out for help. Good naturedly he scooped the little fish up in a cup of water and added some sea lettuce for food. As time passed Matsya outgrew even the largest container and Manu released him back to the sea to free him to grow to his full potential.

"*I will never forget you and your kindness Manu*" Matsya said with a nod of his dorsal fin while swimming into new horizons.



Fig. 3. Matsya, an avatar of Vishnu, is the balancing aspect of our personality. Notice that the upper hands have the middle finger fixed in the center of the earth and he draws the circumference, encircling the earth's stability (Kartanimukha mudrā II, and the lower hands are for protection and dispelling fear (Pārvatīmudrā [34]. *(Public domain image.)*

Sometime later Manu had a prophetic dream where Matsya instructed him to build a large boat and gather all seeds, animals, sages and his family before the world was flooded with water. Manu did as instructed and just as he secured the last wooden board into place the skies opened and it rained for so long no one could remember when it started. As far as the eyes could see there was nothing but water. Manu had seeds but did not have extra food to feed the hungry. If he fed undeveloped seeds for the future, the world would be annihilated. Manu cried out in despair to the open sea for help, expecting none, when a very large Matsya leaped out of the water in the front of his boat.

"*Matsya is that you who has grown so huge*?!" Manu said looking into familiar eyes.

"*Yes, Manu, I am Vishnu. Please throw down a secure rope so I can tow you safety to Mount Meru, the tallest mountain in the world (highest consciousness). You will recreate yourself and your new life from these majestic heights*."

The waters receded and Manu's boat rested on top of Mount Meru. Seeds were planted and soon an abundance of ideas bearing fruits coalesced into new beginnings for Matsya, the sages, his family and the plants and animals.

In the story of Manu and Matsya the four patterns are:

Stage 1: Ask for help

Stage 2: Review perplexing life situations and gather strength

Stage 3: Aha! Good seeds gathered may come back to help
Stage 4: Discover new ways for growing consciousness and compassion

We can use postures to tell our personal narrative through sequences of asanas to facilitate new ways of bringing insights and optimizing consciousness. The story of Matsya can be told with a four-stage sequence in figure four.

The ancient stories of India are parables, or lessons, which may open us to new ways of thinking and being, and discover new more adaptable ways to solve problems to live in greater peace and tranquility. Postures require energy and immediately afterwards a deep breath allows easy rest and release. Can this be a lesson for growing new consciousness? Can we clean the toxic metabolites out of our brain by 60% by practicing yoga as Xie's sleep research found? Can we address what perplexes us in life for a while and then let it go to take a natural, rejuvenating and healing rest rather to force ourselves beyond reasonable limits as society dictates?

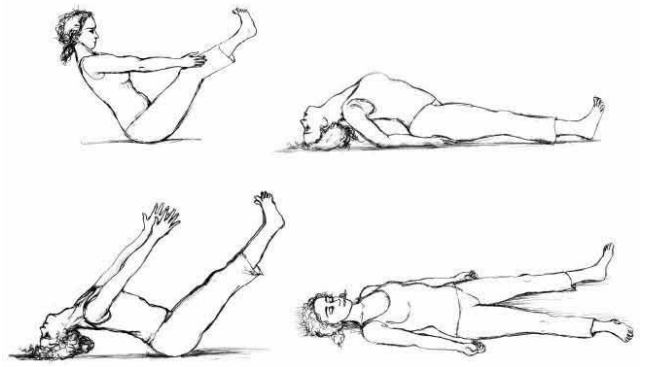


Fig. 4. The 4-stage asana sequence of the story of Matsya. Stage 1: What is the problem? (Boat/navasana). Stage 2: Gather and review the problem (Fish/matsyasana). Stage 3: Insights for future (Extended fish/matsyasana). Stage 4: A well deserved rest and integration of new life truths (Corpse pose/shavasana). (©Images by Chloe White).

We begin each Mind-Body Transformations Therapy (MBT-T) session with a turning inward orientation by asking what is most important in the present moment [33]. Questions may come to mind such as: *What is my growing edge*? *Do I have a concern or problem*? *Is there a joy I want to explore and develop*? *Where do I want to be most creative*? These questions encourage the Novelty-Numinosum-Neurogenesis-Effect (NNNE) stimulating mind to gene expression and brain plasticity. This is very different than setting an intention before a practice. As beautiful as setting intensions are, more often than not they are outward focused. For growing new consciousness it is important to tune into what is central for your growth that comes through dreams, your first thoughts of the day and those special moments where you allow yourself the luxury to tune inward. Once you have tuned into what is most important, be grateful, and then let go of thoughts for now and note what may transform after the practice.

A guiding principle of yoga is to be non-violent (*ahimsa*) with ourselves and other beings. It is important to provide gentle ways avoid injuries. By first focusing on breath (pranayama); second, becoming aware of where your body feels good (chakras); and third, noting and honoring where your body is stiff or sore adds a level of self-care and safety making this practice available for all fitness levels. After the asana practice we offer novel group or individual psychotherapy 4-stage hand processes described in Rossi & Rossi [35] and chapters 9-12 freely available online and in *The New Neuroscience of Psychotherapy, Therapeutic Hypnosis and Rehabilitation: A Creative Dialogue with our Genes.*

A 200 Year Perspective on the Current Evolution of Psychotherapy

Practice today in a way that allows you to practice tomorrow is a gentle mantra reminder of how these transformations of consciousness have been taking place as illustrated by the Google Ngrams presented in a recent editorial of *The International Journal of Psychosocial Genomics: Consciousness and Health Research* [36]. Google Ngrams are derived from over 15 million digitized books. They are the linguistic frequency of terms indicating hallmarks of societies' interests [37-38]. Figure five shows the current *intersection of the spiritual* words of religion, hope and faith melding with *science, brain, teaching and emerging consciousness in today's world, particularly since the 1960's.*

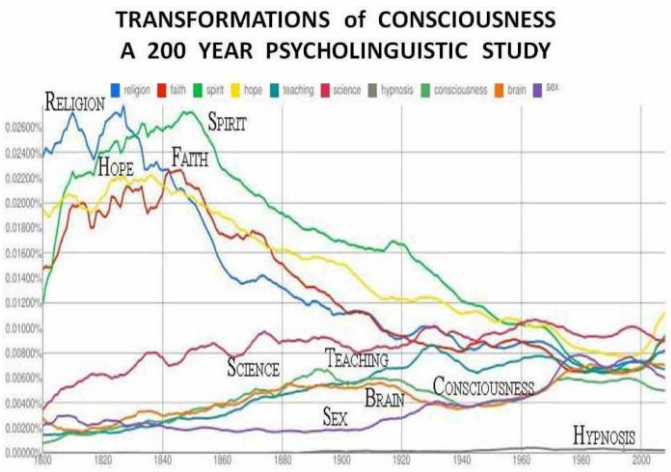


Fig. 5. A Google Ngram comparing the frequencies of English words like 'religion, spirit, faith and hope,' which have been gradually losing their digital psycholinguistic frequency over the past 200 years while words like 'science, teaching, sex, brain and consciousness' have been rising and coming together with a convergence of spirituality and science.

A more recent 100 year history of human quests for the meaning and an understanding of life on all levels is shown in figure six. Once again something dramatic seems to breaking through since the 1960's: *"DNA"* and the *"Cognitive"* appear to be leading to the future with exponential growth curves that seem to be leaving behind the more leisurely linear paths of healing transformations here represented by the words

"medicine, meditation, psychotherapy, hypnosis" and the ever present *"placebo."*



Fig. 6. A Google Ngram of the psycholinguistic frequencies of a number of therapeutic approaches to healing that appear to have linear growth in comparison with the exponential growth of "DNA" and the "cognitive" from the 1960s to the present time.

Rather than leaving *medicine*, *meditation*, *psychotherapy*, *hypnosis* and *placebo* behind, however, we prefer the more positive possibility that innovative Top-Down research combining *DNA* with the *Cognitive* with the Bottoms-Up of traditional molecular biology will underpin the efficacy of the healing transformations of all cultures including Patañjali's yoga.

Summary and Creative Implications:

We believe that by bringing together the ancient spiritual and physical heritage of India with its current technological genius for assessing the molecular/genomics of gene expression and brain plasticity the scientists of India can make an important contribution to world health, culture and science. The creative implications of this paper for future research focus on these major points.

- Yoga offers the most comprehensive philosophy over the past 5000 years for optimizing communication between spirit, mind and body as well as the 4-stage creative process for developing new consciousness.
- We now need more innovative here-and-now technologies for inexpensive DNA microarrays to document effectiveness of spirit and mind to modulate gene expression in everyday life.
- The 4-stage creative process is the natural chronobiological expression of brain plasticity for advancing new consciousness.
- Facilitating sleep and utilizing ultradian rest periods through the day optimizes gene expression and brain plasticity for health and wellbeing.
- The confluence of neuroscience and biology are now coming together with new global consciousness of the psychosocial and cultural genomics facilitated by the genius of India's researchers.

Acknowledgements

Namaskāra, deepest gratitude, to my teachers: Kriya Yogi, Prakash Shankar Vyas (Guruji), Dave and Cheryl Oliver, students of Śri K. Pattabhi Jois, who are true yogacharyas and extraordinary in every way.

References

[1] Xie L, Kang H, Xu Q, Chen M, Yonghong L, Meenakshisundaram T, O'Donnell J, Christensen D, Nicholson C, Iliff J, Takano, T, Deane R and Nedergaard M (2013). Sleep drives metabolite clearance from the adult brain. *Science*, 342, 373-377.

[2] Deresiewicz, W (2014). Don't send your Kid to the Ivy League. *New Republic*, July 21, 2014.

[3] Rossi E and Rossi K (2011). Decoding the Chalmers Hard Problem of Consciousness: Qualia of the Molecular Biology of Creativity and Thought. *Journal of Cosmology, Vol. 14.* On line: http://journalofcosmology.com/Consciousness126.html. Re-Printed in: Penrose R, Hameroff S and Kak S (Eds., 2011). *Consciousness and the Universe: Quantum Physics, Evolution, Brain, and Mind*, pp. 210-227.

[4] Rossi E and Rossi K (2013). *Creating New Consciousness in Everyday Life: The Psychosocial Genomics of Self-Creation. A Video eBook available @ Amazon.com.* Los Osos, CA: The Psychosocial Genomic Institute of the California Central Coast.

[5] Rossi E and Rossi K (2014a). An Evolutionary RNA/DNA Psychosocial Genomics Theory of the Transformations of Consciousness: The Quest for Therapeutic Mind/Gene Search Algorithms. *The International Journal for Transformations of Consciousness*. Vol. 1, 1-20. http://www.globetranscons.com.

[6] Rossi E and Rossi K (2014b). Quantum Perspectives of Consciousness, Cognition and Creativity: The Dirac Equation in a New Contour Integral Model of Brain Plasticity. *Journal of Applied and Computational Mathematics:* Vol. 3(6) http://dx.doi.org/10.4172/2168-9679.1000183.

[7] Lloyd D and Rossi E (Eds.), (1992). *Ultradian Rhythms in Life Processes: An Inquiry into Fundamental Principles of Chronobiology and Psychobiology*. NY: Springer-Verlag.

[8] Lloyd D and Rossi E (Eds.), (2008). *Ultradian Rhythms from Molecules to Mind: A New Vision of Life.* NY: Springer-Verlag.

[9] Otto R (1923/1958). *The Idea of the Holy: An Inquiry into the non-rational factor in the Idea of the Divine and its Relation to the Rational*. London: Oxford University Press.

10] Iannotti S, Cozzolino M, Castiglione S, Cicatelli A, Rossi K, and Rossi E (2014). A Bioinformatic Analysis of the Molecular-Genomic Signature of Therapeutic hypnosis. *The International Journal of Psychosocial Genomics: Consciousness and Health Research.* Vol. 1 (1), 6-11.

[11] Tomlin S (2005). Dramatizing Maths: What's the Plot? *Nature*, 436, 622-623 in Doxiadis A and Papadimitriou C (2009). *Logicomix: An Epic Search for Truth.* NY: Bloomsbury.

[12] Rossi E, Iannotti S, Cozzolino M, Castiglione S, Cicatelli A and Rossi K (2008). A pilot study of positive expectations and focused attention via a new protocol for therapeutic hypnosis assessed with DNA microarrays: The creative psychosocial genomic healing experience. *Sleep and Hypnosis: An International Journal of Sleep, Dream, and Hypnosis*, 10:2, 39-44.

[13] Cole S (2009). Social regulation of human gene expression. *Current Directions in Psychological Science*, 18, 132-137.

[14] Cole S, Arevalo J, Takahashi R, Sloan EK, Lutgendorf S, Sood A, Sheridan J and Seeman T (2010). Computational identification of gene–social environment interaction at the human IL6 locus. *Proc. Natl. Acad. Sci*. 107, 5681–5686.

[15] Cozzolino M, Rossi E, Celia G and Rossi K (2014a). The International Journal of Psychosocial Genomics Health and Consciousness Research: Celebrating the Psychosocial Genomic Evolution of Psychotherapy. A Group Editorial for Our Inaugural Issue. *The International Journal of Psychosocial Genomics: Consciousness and Health Research.* Vol. 1 (1), p.2-3.

[16] Dusek J, Otu H, Wohlhueter A, Bhasin M, Zerbini L, Joseph M, Benson H and Libermann T (2008). Genomic Counter-Stress Changes Induced by the Relaxation Response. *PLoS ONE* 3(7): e2576. doi:10.1371/journal.pone.0002576.

[17] Rossi E (2012). *Creating Consciousness: How Therapists Can Facilitate Wonder, Wisdom, Truth and Beauty: The Selected Papers of Ernest Lawrence Rossi, Vol. 2.* Phoenix: Arizona, Milton H. Erickson Foundation Press.

[18] Lavretsky H, Epel ES, Siddarth P, Nazarian N, Cyr NS, Khalsa DS, Lin J, Blackburn E, and Irwin MR (2013). A pilot study of yogic meditation for family dementia caregivers with depressive symptoms: effects on mental health, cognition, and telomerase activity. *Int. J. Geriatric Psychiatry* 28(1):57-65.

[19] Rossi E (2002). *The Psychobiology of Gene Expression: Neuroscience and Neurogenesis in Hypnosis and the Healing arts.* NY: WW Norton.

[20] Rossi E (2004). *A Discourse with Our Genes: The psychosocial and cultural genomics of therapeutic hypnosis and psychotherapy*. Available in English and Italian. (ISBN – 89396-01-6) San Lorenzo Maggiore, Italy: Editris s.a.s. Phoenix, Arizona: Zeig, Tucker and Theisen.

[21] Rossi E (2007). *The Breakout Heuristic: The New Neuroscience of Mirror Neurons, Consciousness and Creativity in Human Relationships: The Selected Papers of Ernest Lawrence Rossi, Vol. 1*. Phoenix: AZ., Milton H. Erickson Foundation Press.

[22] Rossi E and Nimmons D (1991). *The 20 Minute Break: The Ultradian Healing Response*. Los Angeles: Jeremy Tarcher. Distributed by: NY: Zeig, Tucker and Theisen.

[23] Rossi E, Erickson-Klein R and Rossi K (2008-2014). *The Collected Works of Milton H. Erickson, MD (16 Volumes).* Phoenix, Arizona: The Milton H. Erickson Foundation Press.

[24] Jung C (1958). *Psychology and Religion: West and East.* NY: Pantheon Books.

[25] Rossi E, Vyas B, Atkinson D, Iannotti S, Cozzolino M, Castiglione S, Cicatelli A, Chovanec E, Hill R, Virot C, Cuadros J, Mortimner J, Kerouac M, Kallfass T, Milz H, Krippner S, Frederick C, Gregory B, Bullock M, Solimany E, Rossi, and Rossi K (2010). What Makes Us Human? A Neuroscience Prolegomenon for the Philosophy of Evolution and Consciousness, Chapter 4 in Purohit AK (Ed.): *The Philosophy of Evolution*. Bikaner, India: Yash Publishing.

[26] Simpkins AM and Simpkins CA (2010). *Meditation and Yoga in Psychotherapy: Techniques for Clinical Practice*. NY: Wiley.

[27] Simpkins CA and Simpkins AM (2014). *Yoga and Mindfulness Therapy Workshop for Clinicians and Clients*. Eau Claire, Wisconsin: Pesi Publishing and Media.

[28] Zambito S (1992). *The Unadorned Thread of Yoga: The Yoga-Sūtra of Patañjali in English: A Compilation of English Translations of Śri Patañjali's Exposition on the Yoga Darśana*. Poulsbo, Washington: The Yoga-Sūtras Institute Press.

[29] Bachman N (2010). *The Yoga Sutras*. Boulder, Colorado: Sounds True.

[30] Lalitananda S (Ward K (ed.), (2007). *The Inner Life of Asanas: The Best of Hidden Language Hatha Yoga from Ascent Magazine.* Kootenay, BC: Canada: Timeless Books

[31] Hadamard J (1945). *An essay on the psychology of invention in the mathematical field.* NY: Princeton University Press.

[32] Yount G and Rachlin K (2014). A novel mouthwash protocol for noninvasive genomic analysis. *The International Journal of Psychosocial Genomics: Consciousness and Health Research.* Vol. 1, (1), 12-17.

[33] Mortimer J and Rossi K (2014). 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 for Transformations of Consciousness*. Vol. 1, 32-37. http://www.globetranscons.com

[34] Carroll C and Carroll R (2012). *Mudras of India: A Complete Guide to the Hand Gestures of Yoga and Indian Dance*. London: Singing Dragon.

[35] Rossi E and Rossi K (ed.) (1996). *The Symptom Path to Enlightenment: The New Dynamics of Self-Organization in Hypnotherapy: An Advanced Manual for Beginners*. Los Osos, California: Palisades Gateway

[36] Cozzolino M, Tagliaferri R, Castiglione S, Fortino V, Cicatelli A, De Luca P, Guarino F, Napolitano F, Celia G, Iannotti S, Raiconi G, Rossi K and Rossi E (2014b). Celebrating the Psychosocial Genomic Evolution of Psychotherapy. *The International Journal of Psychosocial Genomics: Consciousness and Health Research*. Vol. 1 (1), 7-24.

[37] Rossi E, Mortimer J and Rossi K (2013). Therapeutic Hypnosis, Psychotherapy and the Digital Humanities: The Narratives and Culturomics of Hypnosis, 1800-2008. *American Journal of Clinical Hypnosis*, 55(4), 343-359.

[38] Cozzolino M, Tagliaferri R, Castiglione S, Fortino V, Cicatelli A, De Luca P, Guarino F, Napolitano F, Celia G, Iannotti S, Raiconi G, Rossi K and Rossi E (2014c). Mind-Body Communication and Healing: A Pilot Study of the Mind-Body Healing Experience (MHE): Theory Research and Practice. Part IV in Rossi E, Erickson-Klein R and Rossi K (eds.) (2014). *The Collected Works of Milton H. Erickson, MD Volume 15: Mind-Body Communication in Hypnosis: Seminars, Workshops and Lectures Part 3).* Phoenix, Arizona: The Milton H. Erickson Foundation Press.