

# MEASURING the IMMEASURABLE



THE  
SCIENTIFIC  
CASE *for*  
SPIRITUALITY

*including*

Daniel Goleman

Bruce H. Lipton

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Gary Small

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Gregg Braden

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Dr. Peter Levine, author of *Waking the Tiger: Healing Trauma: The Innate Capacity to Transform Overwhelming Experiences*, asks the compelling question: What do meditation, sex, death, and trauma have in common, and how are they all related to enlightenment? Explaining his discoveries from decades of study, Dr. Levine provides compelling evidence about the interrelated nature of trauma and spiritual states, noting that the very brain structures that are central to experiencing trauma also mediate "mystical" and "spiritual" states. In a series of fascinating connections rooted in clinical research and science, he also uses animal behavior to analyze the nature of human trauma and spirituality.

## Trauma and Spirituality<sup>1</sup>

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*If you bring forth that which is within you,  
Then that which is within you  
Will be your salvation.  
If you do not bring forth that which is within you,  
Then that which is within you  
Will destroy you. —the Gnostic Gospels*

In working with traumatized individuals for nearly forty years, I have been struck by the intrinsic and wedded relationship between trauma and spirituality. From my earliest experiences with clients suffering from a daunting array of crippling symptoms, I have been privileged to witness profound and authentic transformations. As these individuals mastered the traumas

that had haunted them—emotionally, physically, and psychologically—unexpected “side effects” appeared. Seemingly out of nowhere, these surprises included ecstatic joy, exquisite clarity, effortless focus, and an all-embracing sense of oneness. In addition, my clients described deep and abiding experiences of compassion, peace, and wholeness. While many of these individuals realized the classic goals of enduring personality and behavioral changes, the transcendent “side effects” were simply too potent and robust to overlook. I have been compelled to follow these exciting and elusive enigmas with wonder and curiosity for many decades.

For this chapter, I’ve elected to chronicle this mysterious journey of inquiry: a passage which has been clinical, scientific, and personal (including an exploration of diverse spiritual traditions). About two months after the lunar landing in 1969, an unexpected event occurred that changed my worldview, in a way that seemed no less significant to me than the images of the Earth seen perched upon the moon’s horizon. A chance encounter initiated an exploration into the nature of how instinctual reactions lie at the root of human trauma. It also brought to light the evolution of a therapeutic methodology.<sup>3</sup> This approach enrolled the organic processes of invigorating resilience and restoring natural equilibrium. It promoted self-healing and catalyzed transformations, which could be described as “spiritual.”

This story began when a psychiatrist, aware of my keen interest in the nascent new fields of stress and mind/body healing, referred one of his patients to me. “Nancy,” who had been suffering from frequent migraines, hyperthyroidism, and fatigue, was also plagued by chronic pain<sup>4</sup> and debilitating PMS. Her difficult life was further diminished by severe panic-anxiety attacks and “agoraphobia” that kept her tied to home.

I had been developing some body-oriented relaxation/stress-reduction procedures that the psychiatrist thought might be



beneficial to her.<sup>5</sup> They were not. On the contrary, they led her straight into a major panic attack. At first I had helped her become aware of, and then learn to release, her chronically tense neck muscles. She seemed to be relaxing deeply. Her heart rate dropped and her (shallow) breathing deepened. However, moments later she became extremely agitated; her heart rate shot up, pounding wildly, to about 150 beats per minute. Her breath was rapid and she was gasping erratically. Then, abruptly, she froze in terror. As I watched helplessly, her face turned deathly white, her fingers icy blue. She appeared paralyzed and barely able to breathe. Her heart seemed to almost stop, dropping precipitously to about 50 beats per minute.<sup>6</sup> Fighting my own impending panic, I was at a loss as to what to do.

"I'm dying; don't let me die," Nancy pleaded in a small, taut voice. "Help me, help me . . . please don't let me die." Suddenly, in my mind's eye, a dream-like image appeared. A crouching tiger, preparing to strike, materialized out of the far wall of the room. "Run, Nancy . . . a tiger is chasing you," I commanded without thinking. "Climb those rocks and escape." Bewildered by my own outburst, I gazed in amazement as Nancy's legs began to tremble, then undulate in what appeared to be spontaneous running movements. Her whole body started shaking, first convulsively, then more softly. As the shaking subsided (over the better part of an hour), she experienced a feeling of peacefulness that, in her words, "held her in warm, tingling waves."

Later, Nancy reported that during the session she had seen nightmarish images of herself as a four-year-old child, struggling to escape the grasp of doctors who held her down in order to administer ether anesthesia for a "routine" tonsillectomy. Until that moment, she recounted, this event had been "long forgotten." To my utter amazement these unusual gyrations turned Nancy's life around. Many of her symptoms improved significantly and some disappeared altogether. The

panic attack that occurred during the session was her last, and there were also dramatic improvements in her chronic fatigue, migraines, and menstrual symptoms (which I noted while following her for two more years until her graduation). In addition, she reported that she “felt more alive and happier than [she] could remember.”

#### OBSERVATION

*To acquire knowledge, one must study;*

*but to acquire wisdom, one must observe.*

—Marilyn vos Savant

(“Highest IQ” since 1986, *Guinness Book of World Records*)

The astonishing event with Nancy initiated a search that turned into my life's work. I was struck, of course, by the dramatic abatement of her symptoms, the intensity of her positive feelings, and her sense of aliveness and wholeness. I was also surprised by my “hallucination” and gripped by a curiosity about its effects on her physiological responses. I recognized that my vision, which prompted the spontaneous command for Nancy to run, was informed by some study material on predator/prey encounters from a class I was attending at that time. This zoology class in comparative animal behavior had been taught from the perspective of evolutionary biology and ethology (the scientific observation of animals in their natural environments). Simultaneously, I was developing a keen interest in brain physiology, most particularly those areas involved with stress and the autonomic nervous system. I realized I needed to learn more in order to make sense of Nancy's death-like descent, rapid recovery, and improbable transformation. I began a journey of a thousand steps by ensconcing myself deep in the musty stacks of the graduate library, learning what animal behavior and brain physiology might suggest about such vigorous resilience.



In the investigation that followed, I came across two formative scientific papers that laid a foundation for the dual pillars of my inquiry: naturalistic observation and the physiology of transcendent states. The first article was a transcript of the acceptance speech of the ethologist Nikolas Tinbergen, recipient of the 1973 Nobel Prize in medicine and physiology.<sup>7</sup> Tinbergen, whose life's work was to pioneer the observation of animals in their natural environments, implored scientists to observe human behaviors as they occurred naturally (as opposed to under the "controlled" conditions of the laboratory). As I continued to see other trauma sufferers in the years following Nancy, I was inspired to hold to this essential principle of "raw" observation of peoples' bodies. It echoed the message of my childhood baseball hero, Yogi Berra (the catcher for the New York Yankees, circa 1950s), who quipped, "You can observe a lot just by looking." And so, I did just that.

Because the formal diagnosis of trauma, as Post Traumatic Stress Disorder (PTSD in the *Diagnostic and Statistical Manual of Mental Disorders III*), was still over a decade away, I didn't have a preformulated set of pathological criteria to distract me. I was freer to observe in the tradition of Tinbergen and the ethologists. From this vantage point, and without a premeditated list of symptoms, I was able to monitor my clients' bodily reactions and self-reports as I participated in their transformative process of healing. I began to recognize that as a group, they were manifesting physiological responses similar to reactions of the animal prey that I had been reading about. Observations of animals and discussions with ethologists<sup>8</sup>, veterinarians, zoo-keepers, and wildlife managers confirmed my hypothesis that these responses represented the resolution of stress following predator-prey encounters. The highly charged reactions included shaking, trembling, and dramatic changes in temperature, heart

rate, and respiration. In both animals and humans, I was to infer that these involuntary physiological reactions restored their equilibrium and promoted a relaxed readiness, an aptitude that is cultivated in Zen and martial arts such as aikido. The physiological reactions deactivated the intense arousal associated with the survival actions of "fight or flight."

My clients frequently had endured decades of frozen suffering before being able to restore their equilibrium. With support and guidance, they were able to "discharge" and "thaw," releasing powerful "survival energies." In sorting through these types of involuntary, energetic, and deeply moving experiences, I realized that their reactions manifested what was right and normal—rather than what was wrong and pathological. In other words, they exhibited innate self-regulating and self-healing processes, similar to animals in the wild. And as the animals went on about their business after such discharge reactions, so too did my clients re-engage into life with renewed passion, appreciation, and acceptance.

In addition to my role as observer, I learned to engage my clients in becoming aware of their bodily sensations and then tracking them during these spontaneous reactions. In our shared efforts, my clients were consistently able to engage and transform their traumas. At the same time, they frequently touched into a variety of experiences that I learned to appreciate as spiritual encounters, such as Nancy's feelings of aliveness, joy, and wholeness. In moving toward an understanding of this intrinsic relationship between trauma ("survival energy") and spirituality, I was excited to come across the second formative article, published in the prestigious journal *Science*, by Roland Fisher. Together with the Tinbergen transcript, a surprising and unexpected tenet emerged: that spiritual experience is welded with our most primitive animal instincts.



## TRANSCENDENTAL STATES

*Your deepest presence is in every small contracting and expanding,  
the two as beautifully balanced and coordinated as bird wings.*

—Rumi, "Bird wings"

Roland Fischer's article, titled "A Cartography of the Ecstatic and Meditative States,"<sup>9</sup> described a schema for showing the association of various parasympathetic and sympathetic (autonomic-instinctual) activities with mystical and meditative experiences. While the details of his work are well beyond the scope of this short chapter, suffice it to say that I suspected his view of the psychophysiological underpinning of various mystical states paralleled the range of "transpersonal" experiences that my clients were encountering as they unwound and released their traumas.

Trauma represents a profound compression of ("survival") energy: energy that has not been able to complete its meaningful course of action. When in the therapeutic session, this energy is gradually released (the term I use is "titration") and then redirected, one observes (in a softer and less frightening form) the kinds of reactions I observed with Nancy. At the same time, the numinous qualities of these experiences consistently integrate into the personality structure. The ability to access the rhythmic release of this bound energy makes all the difference as to whether it will destroy or vitalize us.

Primitive survival responses engage extraordinary feats of focused attention and effective action. The mother who lifts the car off of her trapped child mobilizes vast (almost superhuman) survival energy. These same energies, when experienced through titrated body-sensing, can also open to feelings of ecstasy and bliss. The ownership of these primordial "oceanic" energies promotes embodied transformation and (as suggested in Fischer's methodology) the experience of "timelessness" and "presence" known in



meditation as "the eternal now." In addition, it appears that the very brain structures that are central to the resolution of trauma are also pivotal in various "mystical" and "spiritual" states.

In the East, the awakening of Kundalini at the first (or "survival") chakra has long been known to be a vehicle for initiating ecstatic transformation. In trauma, a similar activation is provoked, but with such intensity and rapidity that it overwhelms the organism. If we can gradually access and reintegrate this energy into our nervous system and psychic structures, then the survival response imbedded within trauma can also catalyze authentic spiritual transformation. In a practical sense, gradual therapeutic movement in this direction provides a vital resource for helping people engage back into life after the devastation of trauma.

As I began to explore the relationship between trauma-transformation and the Kundalini experience, I searched for confirmation of this connection. Around that time I met a physician named Lee Sannella in Berkeley, California. He shared with me a large compilation of notes he had taken about individuals who were experiencing spontaneous "Kundalini awakenings." I was intrigued by how similar many of these reactions were to those of my clients. Dr. Sannella's notes formed the basis for his valuable book, *The Kundalini Experience: Psychosis or Transcendence?*<sup>10</sup> This phenomenon has been described by great contemporary adepts such as Gopi Krishna.<sup>11</sup> In addition, the book by C.G. Jung titled *The Psychology of Kundalini Yoga*<sup>12</sup> (based on a 1932 seminar) gives an erudite exposition but concludes, ironically, that Kundalini is unlikely to ever be experienced in the West. However, Jung goes on to say: "The life of feeling is that primordial region of the psyche that is most sensitive to the religious encounter." The essence of religious experience is an act of feeling the animating force—spiritus—within the lived encounter. When my clients experienced this

*elan vital* surging forth from within them, it was not surprising that they also encountered aspects of the religious experience.

Over the years I had the opportunity to show some videos of my clients' sessions to Kundalini teachers from India. These were wonderful exchanges. The yoga masters, with genuine and disarming humility, seemed as interested in my observations as I was in their vast knowledge and intrinsic "knowing."

"Symptoms" frequently described in Kundalini awakenings may involve involuntary and spasmodic body movements, pain, tickling, itching, vibrations, trembling, hot and cold alternations, changed breathing patterns, paralysis, crushing pressure, insomnia, hypersensitivity to environment, synesthesia, unusual or extremes of emotions, intensified sex drive, sensations of physical expansion, dissociation, and out-of-body experiences, as well as hearing "inner" sounds such as roaring, whistling, and chirping. These sensations associated with Kundalini awakenings are often more forceful and explosive than those I observed with my clients. As I developed my methodology (called Somatic Experiencing<sup>®13</sup>), I learned to help clients gradually "touch into" their bodily sensations so that they were rarely overwhelmed. In general, focusing inward and becoming curious about one's inner sensations allow people to experience a subtle inner shift, a slight contraction, vibration, tingling, relaxation, and sense of openness. I have named this alternation of feelings of dread, rage, or whatever one likes to avoid, and "befriending" one's internal sensations, *pendulation* (an intrinsic rhythm pulsing between the experienced polarities of contraction and expansion/openness). Once people learn to do this, "infinite" emotional pain begins to feel manageable and finite. This allows their attitude to shift from dread and helplessness to curiosity and exploration.

The mystical text, the Hermetic Kybalion, says, "Everything flows, out and in; everything has its tides; all things rise and