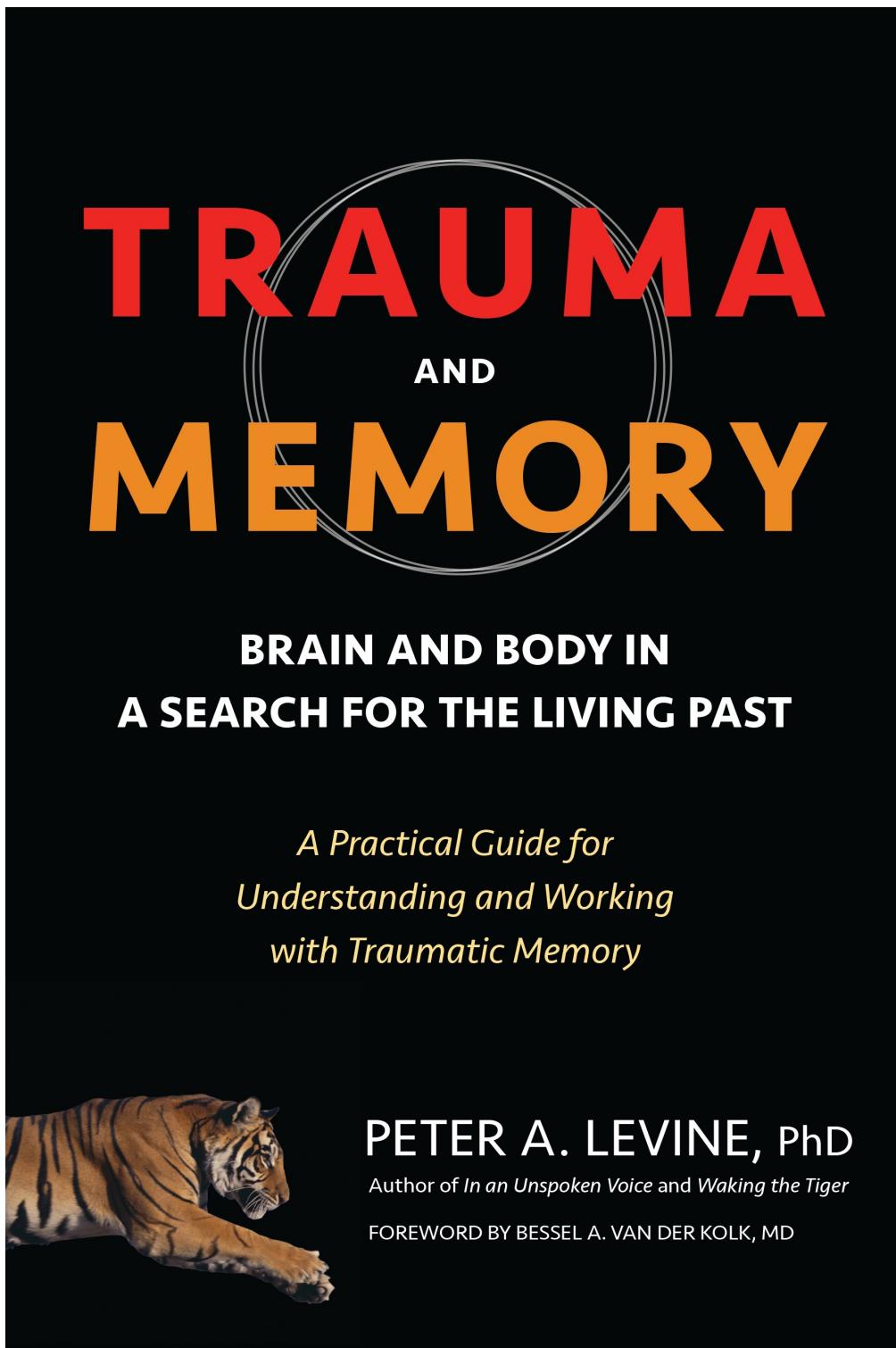


***Trauma and Memory: Brain and Body in a Search for the Living Past (2015) - Peter A. Levine, PhD***



### **About Peter Levine**

Peter A. Levine, PhD, holds doctorates in both medical biophysics and psychology. The developer of Somatic Experiencing®, a body-awareness approach to healing trauma, and founder of the Foundation for Human Enrichment, he conducts trainings in this work throughout the world and in various indigenous cultures. Dr. Levine was a stress consultant for NASA on the development of the space shuttle project and was a member of the Institute of

World Affairs Task Force of Psychologists for Social Responsibility in developing responses to large-scale disasters and ethno-political war-fare. Levine's international best seller, *Waking the Tiger: Healing Trauma*, has been translated into twenty-two languages. His recent interests include the prevention of trauma in children, and he has co-written two books, with Maggie Kline, in this area: *Trauma Through a Child's Eyes* and *Trauma-Proofing Your Kids*. Levine's original contribution to the field of Body-Psychotherapy was honored in 2010 when he received the Life Time Achievement award from the United States Association for Body Psychotherapy (USABP). For further information on Dr. Levine's trainings, projects and literature, visit [www.traumahealing.com](http://www.traumahealing.com) and [www.somaticexperiencing.com](http://www.somaticexperiencing.com).

***What follows are quotes from the book above. These quotes stood out to psychotherapist Emil Barna in his first reading of the book back in 2018. They are not meant to be exhaustive nor representative of the entire book. All quotes are to be read in this context and must not replace medical and/or other professional advice. Note: Any typographical errors occurred through the transcription process and do not reflect what may be found in the book. Note also: Beneath various quotations from the book, I have added my own comments/things (these I added when I reviewed the book in December 2025 for this resource). These will always be in bold italics. Further, where I have made bold text from the quotations below, it's to emphasise a point. My emphasis does not appear in the original text.***

## **Book Overview**

In *Trauma and Memory*, bestselling author Dr. Peter Levine (creator of the Somatic Experiencing approach) tackles one of the most difficult and controversial questions of PTSD/trauma therapy- Can we trust our memories? While some argue that traumatic memories are unreliable and not useful, others insist that we absolutely must rely on memory to make sense of past experience. Building on his 45 years of successful treatment of trauma and utilizing case studies from his own practice, Dr. Levine suggests that there are elements of truth in both camps. While acknowledging that memory can be trusted, he argues that the only truly useful memories are those that might initially seem to be the least reliable- memories stored in the body and not necessarily accessible by our conscious mind. While much work has been done in the field of trauma studies to address "explicit" traumatic memories in the brain (such as intrusive thoughts or flashbacks), much less attention has been paid to how the body itself stores "implicit" memory, and how much of what we think of as "memory" actually comes to us through our (often unconsciously accessed) felt sense. By learning how to better understand this complex interplay of past and present, brain and body, we can adjust our relationship to past trauma and move into a more balanced, relaxed state of being. Written for trauma sufferers as well as mental health care practitioners, *Trauma and Memory* is a groundbreaking look at how memory is constructed and how influential memories are on our present state of being.

## Foreword (by Bessel van der Kolk)

"The **areas of the brain that are devoted to self-awareness** (the medial prefrontal cortex) **and body awareness** (the insula) often **are shrunk in people with chronic PTSD**—the body/mind/brain has learned to shut itself down. This shutting down carries an enormous price: The same brain areas that convey pain and distress are also responsible for transmitting feelings of joy, pleasure, purpose, and relational connection."

***If you're traumatised, most of your time is spent managing your internal experience—there's too little left over for matters of the mind...***

"Attention to internal experiences uncovers procedural movements that tend to be unintentional and reflexive, and that probably engage different brain systems, like the cerebellum and extrapyramidal system, than intentional, willed actions do."

**Interoception. Inner experience is often fleeting in trauma, the awareness of it anyway. For many, alexithymia pervades—one's inability to put words to experience. They don't know what they feel...**

## Introduction

"Increasingly, therapists are being drawn to work with traumatic memories as various techniques (and their offshoots) are becoming widely known, taught, and practiced. These various approaches have arrived on the scene in this approximate chronological order: mesmerism, hypnosis, analysis, exposure, Somatic Experiencing (SE), eye movement desensitization reprocessing (EMDR), and various "energy psychologies" (e.g., point tapping)."

***Great to see Levine mention this—there are many therapies out there, and not all are made equal. Too often I've seen how cognitive-based therapies fall short just for trauma but for many mental health conditions. There's more to healing than what's thought. Sad that the suffering who are paired with an ineffective therapist may never return because "therapy doesn't work."***

## Chapter 1: Memory *Gift and Curse*

"**Memory** is not a discrete phenomenon, a fixed construction, cemented permanently onto a stone foundation. Rather, it is more like a **fragile house of cards**, perched precariously upon the shifting sands of time, at the mercy of interpretation and confabulation."

"our present **mood, emotions, and somatic sensations** (generated for

whatever reasons) **profoundly influence what we are “remembering.”**

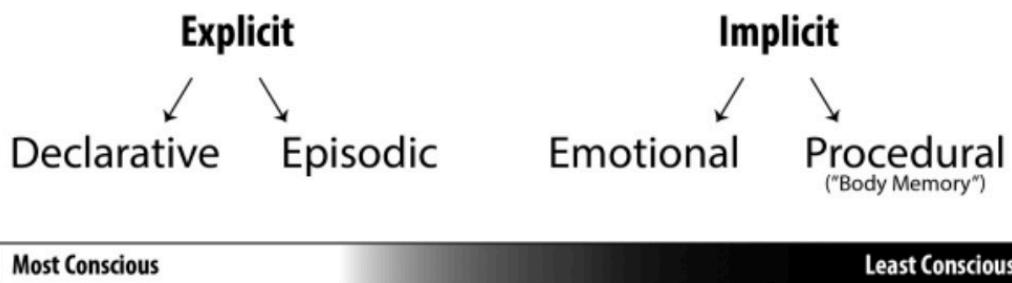
Remembered images and thoughts that appear in our field of awareness are evoked and (unconsciously) selected to match our current emotional state. Our current moods and sensations play a key role in how we remember a particular event—they structure our evolving relationship to these “memories,” as well as how we deal with and reconstruct them anew.”

*In her book **How Emotions are Made**, neuroscientist **Lisa Feldman-Barrett** argues that we’re not born with built-in emotions. Instead, they’re ‘made’ based on experience. Here’s what she says: “our present mood, emotions, and somatic sensations (generated for whatever reasons) profoundly influence what we are “remembering.” Remembered images and thoughts that appear in our field of awareness are evoked and (unconsciously) selected to match our current emotional state. Our current moods and sensations play a key role in how we remember a particular event—they structure our evolving relationship to these “memories,” as well as how we deal with and reconstruct them anew. do not shine forth from the face nor from the maelstrom of your body’s inner core. They don’t issue from a specific part of the brain. No scientific innovation will miraculously reveal a biological fingerprint of any emotion. That’s because our emotions aren’t built-in, waiting to be revealed. They are made. By us. We don’t recognize emotions or identify emotions: we construct our own emotional experiences, and our perceptions of others’ emotions, on the spot, as needed, through a complex interplay of systems. Human beings are not at the mercy of mythical emotion circuits buried deep within animalistic parts of our highly evolved brain: we are architects of our own experience.”*

“In contrast to “ordinary” memories (both good and bad), which are mutable and dynamically changing over time, **traumatic memories are fixed and static**. They are imprints (**engrams**) from past overwhelming experiences, deep impressions carved into the sufferer’s brain, body, and psyche. These harsh and frozen imprints do not yield to change, nor do they readily update with current information.”

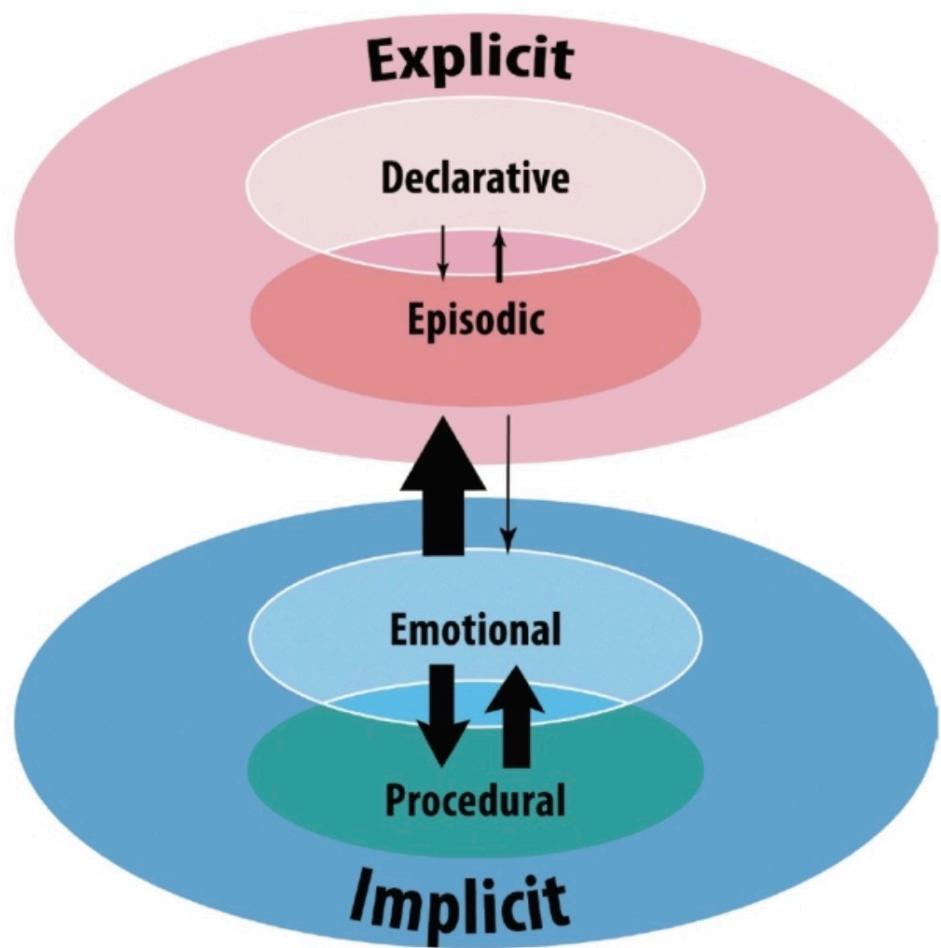
## **Chapter 2: The Fabric of Memory**

## Types of Memory

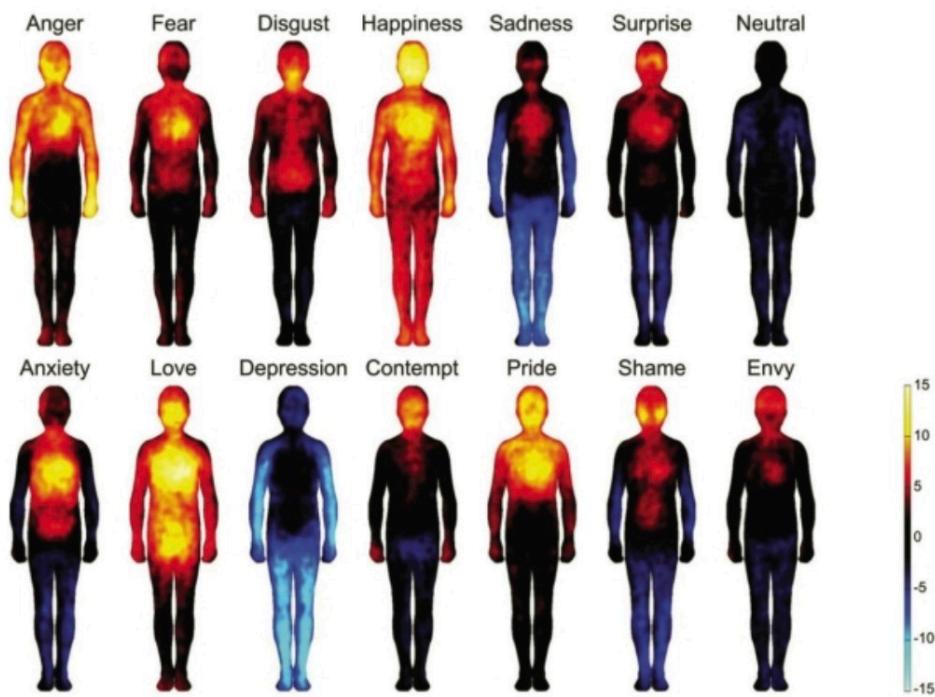


**Figure 2.1. Basic Memory Systems**

"Implicit memories appear and disappear surreptitiously, usually far outside the bounds of our conscious awareness. They are primarily organized around emotions and/or skills, or "procedures"—things that the body does automatically (sometimes called "action patterns")."



**Figure 2.2.** Interrelationship between Memory Systems



**Figure 2.3.** Emotional Bodily Signatures (Source: Lauri Nummenmaa, Enrico Glerean, Riitta Hari, and Jari. K. Hietanen, “Bodily Maps of Emotions,” *Proceedings of the National Academy of Sciences* 111, no. 2 (January 2014): 646–651, <http://www.pnas.org/cgi/doi/10.1073/pnas.1321664111>.)

“Emotions have the potential to connect us to deep parts of ourselves; they are part of the inner prompting that tells us what we need. They are the basis of how we relate to ourselves and get to know ourselves. They are an important part of the connection to our inner knowing, our inner voice, our intuition—to who we really are. Emotions connect us to the very core of how we experience ourselves, with our aliveness, vitality, and purposeful direction in life. Indeed, **one of the most vexing “psychological” conditions is alexithymia, the inability to connect with, name, and communicate our emotions.** This troubling condition is often associated with trauma, and it leaves its sufferers in a state of demoralizing numbness, as if they were “the walking dead.””

## Chapter 3: Procedural Memory

"Procedural memories can be divided into **three broad categories**. The first involves **learned motor actions**. These include but are not limited to skills like dancing, skiing, bike riding, and lovemaking. With practice, these "action patterns" can be continuously modified by higher brain regions, as in learning and synchronizing new tango steps and refining sex by incorporating more sensuality and containment, as taught in various Tantric lovemaking practices. A second category of procedural memory has to do with **hardwired emergency responses** that call upon our basic survival instincts in the face of a threat. These fixed action patterns include **bracing, contracting, retracting, fighting, fleeing, and freezing**, as well as the setting and maintenance of territorial boundaries. These compelling instinctual emergency responses play a crucial role in the formation and resolution of traumatic memories. The third category of procedural memories is the **fundamental organismic response tendencies** of **approach or avoidance**, of **attraction or repulsion**. We physically approach that which is likely to be a source of nourishment and growth and avoid sources of injury and toxicity. These avoidance mechanisms include the motor acts of stiffening, retracting, and contracting. On the other hand, those mechanisms of approach involve expanding, extending, and reaching. Patterns of attraction include reaching for a person close to us or moving toward things we want in our lives. Those patterns of avoidance include steering clear of foods that don't smell or taste right, or avoiding individuals who seem "emotionally toxic" to us."

## Chapter 4: Emotions, Procedural Memories, and the Structure of Trauma

*"persistent maladaptive procedural and emotional memories form the core mechanism that underlies all traumas, as well as many problematic social and relationship issues."*

The sequence of evoked motor patterns and their associated emotions is as follows:

1. **Arrest and alert**—associated with curiosity.
2. **Stiffen and orient**—associated with focused attention, interest, and preparedness.
3. **Assess**—associated with intense interest, friendliness, or repulsion.  
This assessment is informed by our genetic memory banks, as well as our personal histories.
4. **Approach or avoid**—associated with pleasure and displeasure.

In the more **intense activation states**, there is an abrupt shift to the powerfully compelling emotions of fear, rage, terror, and horror that erupt into all-out action, immobilization or collapse:

5. **Fight-or-flight**—experienced as fear. When these active responses are thwarted we:
6. **Freeze**, as in “scared stiff”—associated with terror.
7. **“Fold” and collapse**—associated with helpless/hopeless horror.

## SIBAM

Therapeutically, renegotiation and transformation are clarified and guided by a map of a person’s inner experience. The **SIBAM Model** incorporates the **neurophysiologic, somatic, sensory, behavioral, and affective** aspects of an individual’s experience, whether traumatic or triumphant. In a nontraumatized state, the elements of SIBAM (sensation, image, behavior, affect, and meaning) form a fluid, continuous, and coherent response that is appropriate to the present situation. In this way, coherent narratives evolve from primitive sensory-motor processing. However, **where there is unresolved trauma, elements of SIBAM are either too closely linked (over-coupled), or dissociated and fragmented (under-coupled)**.

### **Sensation**

These are the interoceptive, physical sensations that arise from within the body, including (from most conscious to least conscious):

- **Kinesthetic**—muscle tension patterns
- **Proprioceptive**—awareness of our position in space
- **Vestibular**—acceleration and deceleration
- **Visceral**—sensations from the viscera (guts, heart, and lungs) and blood vessels Image Image refers to the external sense impressions, which include sight, taste, smell, hearing, and touch (the tactile sense).

### **Behavior**

Behavior is the only channel that the therapist is able to observe directly. The therapist can infer a client’s inner states from reading his or her body’s language. These include:

- **Voluntary gestures**
- **Emotional/facial expressions**
- **Posture**—the platforms from which intrinsic movement is initiated; typically refers to the spine.
- **Autonomic signals**—includes the cardiovascular and respiratory systems. The pulse rate can be measured by the client’s carotid artery in the neck.
- **Visceral behavior**—digestive shifts can be “observed” via changing sounds in the gut.
- **Archetypal behaviors**—include involuntary gestures or postural shifts that convey a universal meaning.

### **Affect**

Affect refers to the **categorical emotions of fear, anger, sadness, joy, and disgust**, as well as contours of feelings. **Contours are the nuanced, sensation-based (felt sense) feelings of attraction and avoidance, of "goodness" and "badness," that guide us throughout our lives.** They are the rudders and bearings that take us through the day.

### **Meaning**

Meanings are the **labels we attach to the totality of experience** from the combined elements of S, I, B, and A. These include **trauma-based fixed beliefs**. The therapist helps the client to freely access the full spectrum of developing sensations and feelings to form new meanings, allowing the old cognitive beliefs of "badness" to transform as part of the process of renegotiation.

## **Chapter 5: A Hero's Journey**

*Pedro is a fifteen-year-old adolescent suffering from Tourette's syndrome, severe claustrophobia, and panic attacks, as well as intermittent asthma like symptoms.*

**"His tics involved myoclonic jerks and convulsions in the muscles of his neck and face, causing abrupt lateral movements of the jaw and repetitive turning of the head to the right."**

"A fundamental concept in Somatic Experiencing (SE) is **pendulation**, used in resolving implicit traumatic memories. Pendulation, a term I have coined, refers to the **continuous, primary, organismic rhythm of contraction and expansion**. Traumatized individuals are stuck in **chronic contraction**; in this state of fixity, it seems to them like nothing will ever change. This no-exit fixation entraps the traumatized individual with feelings of extreme helplessness, hopelessness, and despair. Indeed, the **sensations of contraction seem so horrible and so endless, with no apparent relief in sight, that individuals will do almost anything to avoid feeling their bodies**. The body has become the enemy. These sensations are perceived as the feared harbinger of the entire trauma reasserting itself. However, **it is just this avoidance that keeps people frozen**, "stuck" in their trauma. With gentle guidance, they can discover that when these sensations are "touched into," just for a few moments, they can survive the experience—they learn that they won't be annihilated. **While exiting numbness and shutdown often feels more acutely disturbing at first, with gentle yet firm support people can suspend their resistance and open to a tentative curiosity**. Then as these sensations are contacted, momentarily and very gradually, the contraction opens to expansion and then moves naturally back to contraction. This time, however, the contraction feels less stuck, less ominous, and then leads to another spontaneous experience of quiet expansion. **With each cycle—**

**contraction, expansion, contraction, expansion—the person begins to experience an inner sensation of flow and a growing sense of allowance for relaxation.”**

**“I engaged Pedro in a series of slow, repeated titrated, movement exercises that involved gradually opening his mouth to the point of resistance and then gently closing it.** These exercises replicated his earlier exploration of contraction and expansion, and interrupted Pedro’s compulsive “over-coupled” sequence of neuromuscular contractions in his head, neck, and jaw. A rest between each set of these openings and closings allowed for an interlude of settling, a periodic quieting of his arousal.”

***Below you’ll read about a series of exercises Levine conducted with Pedro to help him process various traumatic body-based memories. The book contains the entire process and deeper behind the exercises—if you want the entire thing, get the book.***

He told me that previously he had experienced a **panic attack** when he was in a hot, stuffy plane that got delayed at the gate, held in waiting for over thirty minutes with its doors sealed shut. I asked him what he noticed when he thought about being in the plane. “Scared,” he murmured. **“And how does that feel in your body?”** “Like I can’t really breathe … like there’s a band around my chest … I really can’t breathe.” **I put my foot next to Pedro’s, asking first if that would be OK.** “Yes,” he responded, “it helps me not go away into the air.” With this added **“grounding,”** I asked Pedro whether the tension in his chest had become stronger or weaker, stayed the same, or if it had changed to something else.

**“Is there anything else that you notice?”** I asked. “Yes,” he replied “I feel some warmth in my chest again … and it’s starting to spread up into my face. “Yeah,” he added “it’s really spreading now, moving through the rest of my body … it feels really good, like warm tingles and a gentle shaking … and inner shaking … that’s really funny … it’s like the panic went away, like it’s gone … like it’s really gone!” I asked Pedro if he could recall another recent experience involving his claustrophobic panic.

***Pedro recounts being stuck inside a giant floating ball.***

“the closed interior was stifling to him and he fell backward. This re-created the terrifying **interoceptive experience** of his previous falls, as well as the suffocation panic he had experienced when he was caught in the airplane.”

“As Pedro completed his rendering of this most recent panic episode, I noted that **he was slumped over in his chair.** It was as though his shoulders had hunched forward and his middle spine had collapsed over his diaphragm. This sunken posture mirrored the abject shame, despair, and overwhelming passivity of his rescue—both as an adolescent and as an infant. Recognizing a timely

opportunity to help Pedro experience some agency in his body, **I brought his attention to his fist, which he was once again subconsciously opening and closing.**"

**"I then guided him to sense his posture and to gently deepen his forward slump.** This sinking collapse came to rest, and then **a spontaneous gradual upward rebound movement began.** I encouraged him to simply notice his felt experience as his spine lengthened and his head lifted upward."

"I asked Pedro if he would be willing to revisit his most recent moment of defeat. He agreed. I suggested that he picture himself inside the ball. He seemed ready to engage in this challenging **somatic visualization.**"

"I guided him to once again **attend to the specific sensations of constriction around his chest,** and his breathing gradually settled and he took several spontaneous, slow, and easy breaths with full exhalations."

"He immediately reported that he "needed to get out!" I responded calmly with the question, **"And how can you do that?"** To this he replied, "It feels like I am leaving my body."

**""OK," I answered, "let's just see where you go."** He acknowledged that **he was afraid to give into "this weird floating feeling."** Pausing to provide reassurance, **I gently encouraged him to notice the floating sensations and asked him where he might float to.** When this kind of dissociation occurs, **it is important not to ask body-based language questions, but rather to accept and follow the dissociated experience.**"

***If somebody dissociates, don't ask them to focus on their body but to track where they're heading to, to notice where their mind is wanting to take them. I've seen this clinically, where one begins to notice they're dissociating and they follow the experience and then, spontaneously, come out of it. It's like the person is mindfully aware they're dissociating, something that's almost feels like a contradiction. Of course, good clinical intuition and experience is required to guide something like this. The person must be confident you're not afraid to guide the process.***

"Even though Pedro was **partially dissociated, he was able to envision and execute, in his imagination, this active (motoric) escape strategy.** Previously, he had to rely on his mother to rescue him—hardly an empowering experience, particularly for an adolescent. This **"renegotiation"** led to a further reduction of his tics."

"with the one success in **embodied imagery** of getting out of the ball under his belt, and with a **relaxed determination in his jaw from the jaw awareness exercise,** I had the sense that he would be able to complete his five-year-old escape from the bedroom in a way that he had not been able to accomplish

previously. I felt that he would persevere and not be defeated this time. I now asked Pedro to continue imagining pulling at the door knob and urged him to feel his whole body as he engaged in this assertive effort."

*Here, Levine worked with Pedro, getting him to notice what's happening inside and working those somatic sensations through and out of the body so that Pedro felt a sense of accomplishment. Once accomplished, Pedro felt more confident and was more open to trying other visualisation techniques in combination with somatic strategies. What's follows is the structure of Peter Levine's Somatic Experiencing process.*

**the basic steps in renegotiating a traumatic memory generally involve these processes:**

1. Help create a **here-and-now experience of relative calm** presence, power, and grounding. In this state the client is taught how to **visit his positive body sensations**, as well as his difficult, traumatically based sensations.
2. Using this calm, embodied platform, the client is directed to **gradually shift back and forth** between the positive, grounded sensations and the more difficult ones.
3. Through this sensate tracking, the **traumatic procedural memory emerges** in its traumatic, truncated (i.e., thwarted) form. The therapist continues to **check that the client is not in an over-activated (or under-activated) state**. If they are, the therapist returns to the first two steps.
4. Having accessed the truncated form of the procedural memory, the **therapist, recognizing the "snapshot" of the failed (i.e., incomplete) response, encourages further sensate exploration and development of this protective action** through to its intended and meaningful completion.
5. This leads to a **resetting of the core regulatory system**, restoring balance, equilibrium, and relaxed alertness.
6. Finally, the **procedural memories are linked with the emotional, episodic, and narrative functions of memory**. This allows the memory to take its rightful place where it belongs—in the past. The traumatic procedural memories are no longer being reactivated in their maladaptive (incomplete) form, but are now transformed as empowered healthy agency and triumph. **The entire structure of the procedural memory has been changed, promoting the emergence of new (updated) emotional and episodic memories**. A key feature in working with traumatic memories is to visit them incrementally from the vantage of a present state which is neither a state of hyper-activation and overwhelm nor a state of shutdown, collapse, and shame. This can be a bit confusing for therapists, because **individuals**

***who are in a state of shutdown may appear to be calm.***

"My forty-five years of clinical work confirms a fundamental and universal instinct geared toward overcoming obstacles and restoring one's inner balance and equilibrium: an instinct to persevere and to heal in the aftermath of overwhelming events and loss."

"In [a] provocative case study handed to me by my German friend, a group of Stanford researchers published an article with the intriguing title "**The Will to Persevere Induced by Electrical Stimulation of the Human Cingulate Gyrus**." It reported on an unexpected experience provoked by the delivery of **deep brain stimulation** to a completely different part of the brain than had been previously explored by Penfield and other earlier neurosurgeons. This brain region is known as the **anterior midcingulate cortex** (aMCC). The patients in this study experienced something quite remarkable. The exact words of patient number two, as his aMCC was stimulated, were: "I'd say it's a question ... not a worry like a negative ... it was more of a positive thing like ... **to push harder, push harder, push harder to try and get through this ... if I don't fight, I give up. I can't give up ... I (will) go on.**"

***The study: Josef Parvizi, Vinitha Rangarajan, William R. Shirer, Nikita Desai, and Michael D. Greicius, "The Will to Persevere Induced by Electrical Stimulation of the Human Cingulate Gyrus," Neuron 80, no. 6 (December 2013): 1359–67. [<https://PMC3877748/>]***

"From a physiological point of view, **there is at the level of the aMCC a functional convergence of the (dopamine-mediated) systems for motivation and the (noradrenergic) one for action**. To keep things in perspective, let us not forget that for thousands of years, well before the advent of neuroscience, **such triumphant convergence of motivation and action, of focus and the will to persevere, has been described in numerous myths** from around the world and in our everyday lives."

***Dopamine. Adrenaline. Both linked for motivation and action. And both through this tiny place in the brain. Now ... the applicability: one must build a sense of drive in the client not just through talk but through movement and feeling and, yes, action. Once this is achieved, there's greater buy-in.***

"In his landmark book *The Hero with a Thousand Faces*, the eminent mythologist Joseph Campbell [...] makes a compelling case that it is precisely this coming to terms with one's destiny, through meeting a great challenge (whether external or internal) and then mastering it with clear direction, courage, and perseverance, that is at the core of this universal archetype, the hero/heroine myth."

**Go, then, and seek what you want where you least want to look...**

"Current research on the aMCC shows that **this brain region is activated when there are stimuli of strong affective salience, whether positive or negative**. It has clear neural **connections with areas in the insula, amygdala, hypothalamus, brain stem, and thalamus**. The aMCC, along with the insula cortex, receives its primary input from sense receptors inside the body. In addition, it is the only part of the cortex that can actually **dampen the amygdala's fear response**. Indeed, this circuit of thalamus, insula, anterior cingulate, and the medial prefrontal Cortex receives interoceptive information, i.e., involuntary internal body sensations, and affects the preparation for action via the extrapyramidal motor system."

*convergence of motivation and action systems (dopamine and noradrenaline) is what I have called "**healthy aggression**."*

***Okay, this is important. You can 'sell' the idea of trying out strategies that build this kind of resilience (despite discomfort) by framing it "healthy aggression". Especially in those more meek and without confidence, this can be very powerful. It's through the action of the aMCC that this kind of work can be done. In fact, in Latin the word aggression (agredi) is "to approach".***

"Fyodor Dostoevsky, who suffered from grand mal seizures, wrote of his experience in words which might seem fanciful: "A happiness unthinkable in the normal state and unimaginable for anyone who hasn't experienced it ... I am then in perfect harmony with myself and the entire universe." These sensations seemed to inform his epic novel *The Idiot*, whose central character, Prince Myshkin, says of his attacks, "I would give my whole life for this one instant."

## **Chapter 6: Two Case Studies**

### ***An Intimate Visit***

#### **Jack's Story**

*Jack is a bright and energetic toddler, yet at the same time painfully shy and reserved. He had been referred to me by a colleague because he had struggled through a **very difficult birth** and was now contending with the sequelae to that ordeal. Jack had been in a **breach position with the umbilical cord wrapped three times around his neck and his head caught high in the apex of the uterus**. Each push he directed with his tiny feet and legs drove his head into a tighter wedge, while further constricting the cinch around his throat; this was a "no exit" ordeal evoking a **primal suffocation terror**, something difficult for most adults to comprehend. During the emergency C-section, doctors noted Jack's serious distress; his **heart rate had dropped precipitously, indicating a life-threatening situation**. In addition to the C-section, it*

*required forceful suctioning to dislodge Jack's head from the uterine apex. His arrival into this world was accompanied by multiple clinicians poking and prodding at him, plying their trade with the necessary needle sticks, IV insertions, aggressive examinations, and rushed interventions. Now fourteen months old, Jack was being worked up for yet another invasive procedure to investigate a condition of intermittent gastric reflux. His mother, Susan, was dutifully following through with the pediatrician's recommendations and had scheduled an endoscopy for two weeks from the day of our first session. While she appreciated the pediatrician's thoroughness, Susan was hoping that there might be another solution, one that was not invasive and potentially traumatizing. With this hope in tow, she and her young son arrived on my doorstep late in the fall of 2009.*

**"It is often assumed that when there is a disconnection between baby and mother, there was a failure on the part of the caregiver to provide the "good enough" environment required for bonding. This is not always true, as, clearly, was the case with Susan. She earnestly and lovingly provided comfort, support, and attention. It was, rather, the traumatic birth that caused a jolt, splitting them apart at birth. The subsequent "shock wave" disturbed their mutual capacity to participate in each other's most intimate moments, to fully bond and attach."**

"I picked out a turquoise Hopi gourd rattle and began slowly shaking its seeds. Using the rhythm to engage baby and mom, I made eye contact with Jack and called out his name. "Hi, Jack," I intoned in rhythm with the rattle."

"My prosody and tone modulations seemed to give him some comfort and reassurance, conveying that I was an ally and somehow understood his plight."

"Wanting to reinforce his pushing impulse and his power, I offered my finger to him; he reached out to push it away. "Yeah, that's great," I responded, conveying my feelings of encouragement, warmth, and support. "You sure want to get that away from you, don't you?" Jack let go another whimper, as if he agreed."

"When Susan mentioned that the pediatric surgeon was proposing an endoscopy, Jack seemed to show a flash of distress: His face scrunched downward in a frown of worry and anxiety as he called out, "Mama." Jack seemed to have recognized the meaning of our words (or was perhaps picking up on his mother's unease), and in a millisecond, his mid-back stiffened."

"Suddenly, Jack pushed mightily against his mother's thighs with his feet and legs, propelling him upward toward her left shoulder. This movement gave me a quick snapshot of his incomplete propulsive birth movements. These were the instinctual movements (the procedural memories) that had driven him into the apex of her uterus and strangled his throat with the cord—exacerbating his distress while further activating his drive to push, creating, in turn, even more

distress."

"This **completion** of his birth push, without the resulting strangulation, intense cranial pressure, and "futility" brought on by his head wedging into the uterine apex, was an important sequence of movements for Jack to experience. It allowed him a successful "**renegotiation**"—in the here and now—of his birth process. **His procedural memories shifted from maladaptive and traumatic to ones that were empowering and successful.** Maintaining a low to moderate level of activation in this "**renegotiation**" was essential. I quietly removed my hand from his back and allowed him to settle."

"I again reached for Jack's mid-back and spoke soothingly: "I wish we had more time to play, but since they are planning this procedure in a few weeks, I want to see if we can do something to help you.""

"I offered Jack some resistance by bringing my thumb into the center of his small palm. **By matching his force and allowing him to push me away with his strength, I observed that, as his arm extended, he was able to harness the full-throttle power of his mid-back and then follow through with a robust thrust.** We maintained eye contact and I responded to his expression of concerted aggression by opening my eyes wider in surprise, encouragement, excitement, and invitation."

"His cry strengthened as he gave one more strong push to my thumb. He howled with apparent anguish, confusion, and rage. His cry deepened, becoming more spontaneous after I placed my hand on his back. This invited the sound to come through his diaphragm in deep sobs. As he pushed my hand away, once more I spoke to him about all those people touching and poking him and how much he must have wanted to push them away too."

"Jack took a deep and spontaneous breath for the first time, turning his chest toward his mom, then looking over his shoulder to once again return my eye contact."



Susan took a deep breath and then looked down in amazement at her son. “He never cries,” she said. “Or rather, he cries with a little whimper, but never fully like this!” I reassured her that it seemed to be a cry of deep, emotional release.

**“Molding is the close physical nestling of the infants’ body into the shoulder, chest, and face of the mother. It is a basic component of bonding** —the intimate dance that lets the infant know that he is safe, loved, and protected. I believe that it also replicates the close, contained, physical positioning of the fetus in the womb and conveys similar primal physical sensations of security and goodness.”

““Whoa!” she said, breaking the silence. “He is really hot.” I commented that **heat was part of an autonomic discharge that accompanied his crying and emotional release.”**

"He took in an easy, full inhalation and released it with a deep, spontaneous exhale that sounded both ecstatic and profoundly stress relieving."

"It is assumed that we have extremely limited memory of early preverbal events. However, **"hidden" memory traces do exist (in the form of procedural memories) as early as the second trimester in utero and clearly around the period of birth.** These imprints can have a potent effect on our later reactions, behaviors, and emotional, feeling states. However, these perinatal engrams become visible only if we know where and how to look for them."

### **Ray's Story**

**"Over twenty-two suicides of military personnel occur every day.** This totals more than have been killed in the entire wars in Iraq and Afghanistan, and more than twice the incidence in the general population. Ray, whose experience we shall visit, was in a platoon that had one of the highest rates of suicide in the Marine Corps."

*Ray and his platoon were stationed in Afghanistan, in the Helmand province. On June 18, 2008, they encountered a violent ambush, several of the platoon members were killed, and his best friend died in his arms. Later that day, while on patrol, two IEDs (improvised explosive devices) exploded in rapid succession. These blasts, in close proximity to Ray, literally propelled him into the air. He awoke two weeks later in the military hospital in Landstuhl, Germany, unable to walk or talk. Only gradually, and with sheer willpower, was he able to relearn those basic skills. When I first saw Ray about six months later, **he was suffering greatly from symptoms of PTSD, TBI (traumatic brain injury), chronic pain, severe insomnia, depression, and what was diagnosed as Tourette's syndrome.** He was on a cocktail of powerful psychiatric medications including benzodiazepines, Seroquel (an "antipsychotic"), multiple SSRIs, and opioid pain meds.*

"As Ray attempted to make eye contact, I noticed [some] convulsive contractions. This sequence took place in an interval of approximately one-half second and is probably the reason he was diagnosed with Tourette's. From the point of view of Somatic Experiencing, however, **these rapid sequences are viewed as incomplete orienting and defensive responses.** At the moment of the first explosion, Ray's ears, eyes, and neck would have (just barely) initiated a turn toward the source of the event. These **premotor preparatory responses are triggered in primitive brain stem core response networks (CRNs).** However, well before this action was even executed, the second blast occurred almost simultaneously, and the two explosions hurled him violently into the air. At this point, his head and neck would have been pulled abruptly into his torso (the so-called turtle reflex), while the rest of his body initiated a curling up into a ball (or, to phrase it technically, he contracted in a global flexion reflex). Together, they form a snapshot of the **incomplete orienting and**

**protective defensive sequence that had become "stuck" and overwhelmed. This incomplete procedural memory (fixed action pattern) gives rise to perseveration and the so-called Tourette's-like tic spasms."**

"I noticed that Ray's jaw contracted first, a fraction of a second prior to the full convulsion, which involved the neck and shoulders. To interrupt this sequence, I had him very, very slowly open and close his jaw: opening to the point where he began to feel resistance or fear and then letting his mouth close, ever so slightly."

"Next, I had Ray follow my finger with his eyes. [...] Eye movements are a vital part of the orienting response. [...] **What I was looking for in this exercise was just where his eyes, along the horizontal, vertical, or circular axes, froze, jumped, or "spaced out."**"

**"Uncoupling the eye movements** allowed the clamping-down of his jaw muscles, which I had already identified as the initiator of his convulsive neuromuscular sequence (procedural memory) to further resolve. [...] I stopped my finger movement at the point where Ray's eyes froze or "spaced out." These reactions represented episodes of constriction and dissociation, respectively. When either of these outcomes occurred, I paused and allowed the activation to settle. **This combination of exertion, triggered response, settling, and stabilization promotes the forward movement of the procedural memory in the direction of an eventual completion."**

"I had Ray make a particular sustained "**voo**" sound, along with **opening and closing jaw movements**. *This was to help connect his vital energy center in his abdomen with the sense of determined aggression in his jaw.*"

"[Ray] began to **close in on himself** with a collapsing posture and constricted breathing: I suspect that this shutdown was due to his pervasive **survivor's guilt**"

"to help Ray process his rage and access his underlying feelings of loss, vulnerability, and helplessness, I enlisted two members of the group to help him both **contain and direct his rage**. I wanted him to be able to sustain this movement and direct it into a large pillow—rather than cathartically exploding with it."

"[Upon resolution, Ray reported a pleasant "soft" feeling inside.] This "soft feeling" component is the culmination of an organic, six-phase, sequential process involving (1) **resolving the shock reaction from the blasts**; (2) **imaging a future different from his past**; (3) **dealing with his guilt and rage with group support and containment**; and (4) **contacting his healthy aggression and inner strength**, which (5) allowed him to, finally, quietly **come to terms with his deeper feelings of grief, helplessness, and loss**, and (6) **orient in the here and now.**"

## Footnotes for the chapter:

"In my clinical work, I have observed that children who were born via C-section often have a lack of power when they first attempt standing as toddlers. Then, as mature adults, they often have difficulties initiating actions in the world."

"To avoid confusion, this process of visually activating the spatial-temporal quadrant of a shock response is not related in any way to the finger movements as used in EMDR."

## Chapter 7: The Veracity Trap and the Pitfalls of False Memories

*Bring [up] the past, [but] only if you're going to build from it.*

—DOMÉNICO ESTRADA

"the more intense an emotion of fear or anger, the more we are hardwired to presume our assessment of threat to be true, that is, to be a real danger we must react to full outwith our basic survival responses of flight or fight. In other words, we equate veracity with emotional intensity."

*Cf. Feldman-Barrett's thesis on emotion: "You are not a reactive animal, wired to respond to events in the world. When it comes to your experiences and perceptions, you are much more in the driver's seat than you might think. You predict, construct, and act. You are an architect of your experience. [...] I used to help my clients understand that they've been victimized twice: once in the moment and again because they've been left with emotional suffering that only they can resolve. Due to their trauma, their brains continue to model a hostile world, even after they've escaped to a better one."*

*The images and stories we attach to emotionally charged experiences not only predispose us to false memories but can make it difficult to move forward in life.*

"the client is stuck in an engram imprinted on brain and body a procedural and emotional memory that is dominating their affect, mood, and behaviors. So in either case, **whether the attribution is actual or misconstrued, we must understand that the impact and meaning of their experiences hold truth and value.** We are obliged, as therapists and healers, to help our clients liberate the vast survival energy that is bound in their nervous system regardless of the specifics of the trauma—so that they can expand into greater freedom and peaceful grace."

"traumatic memories must be approached from a platform of relatively calm, settled, and present (here-and-now) experience."

**What follows tracks a client of Levine's who was (incorrectly) "diagnosed" as having endured "ritualistic abuse". This disturbing "diagnosis" led to significant distress and when he ceased with that therapist, the client (Brad) began to see Levine for support.**

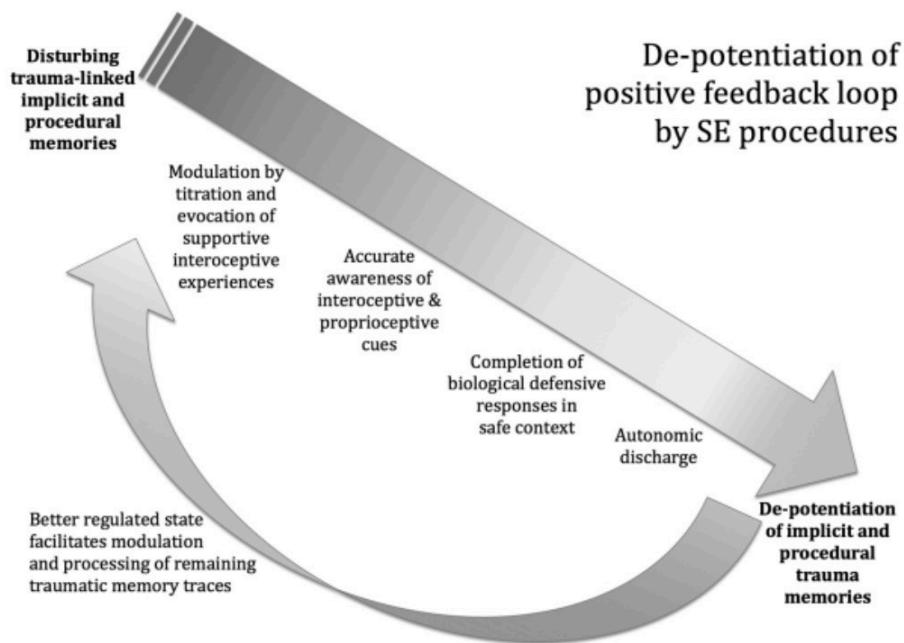
"After fifteen or twenty minutes of this **sensate tracking**, I brought his attention to a slight arching in his lower back that I had observed. As he became aware of this emerging postural adjustment, he reported a very disturbing, fearful sensation accompanying the arching. Along with an associated spontaneous retraction of his pelvis, he reported that his genitals were "going numb." Indeed, **it is likely that if Brad had been fed a leading question at this moment, a "false memory" could have easily been evoked.** Instead, I encouraged Brad to first sense his extremities (hands and feet) and then to shift his focus back and forth between these peripheral sensations (which felt neutral and even grounding to him) and the **disturbing genital ones.** This process gave him enough "distance," so that he was not overwhelmed by the distressing sensations. **Shifting between the grounding in his extremities and the disturbing genital contraction and numbing enhanced his tolerance for discomfort.** It promoted his capacity to stay focused on his body sensations. The introceptive back-and-forth also allowed the sensations accompanying the arching and retraction to unfold. Suddenly, a clear image arose of Brad's embarrassed, awkward mother, roughly pulling bandages from his penis. He then recalled how she had brusquely dressed and cleaned his wound following a medically necessary circumcision at the age of twelve. Granted, there is no way to know with absolute certainty if this was, indeed, the actual event precipitating his depression, but I did not question the image. Rather, **we integrated this new image with the arching behavior. I encouraged Brad to continue following his protective retracting movement and to now shift his attention between the movement and the potent image of his mother's angry and embarrassed face.** This retraction continued to build until it reached its full arc and completion. Brad then felt a powerful wave of release and relief. This was accompanied by tremors and a deep, shuddering intake of breath that was followed by a full, spontaneous exhalation. He was finally able to protect himself—both from his mother's harsh treatment, as well as from his former therapist's profound misattunement and misguided manipulation."

"In many cases, clearly false memories have become so deeply entrenched in suspects that their inconsistencies are then used against them by prosecutors to obtain what have been in many instances false convictions. Amazingly, a significant proportion of these innocent individuals have come to believe that they were guilty. Their newly implanted false memories may last for a lifetime, though some innocent convicts do realize that they have been duped—unfortunately far too late, and then only when DNA evidence or witness recantations have definitively proven their innocence."

***The implications for false memories in therapy are immense—not only can others contribute to how we feel and think about an event from the past, but each time we access a past memory, we can imprint further distress, making the memory even more distressing upon future recall. At another therapist (I forget who) said: "Memory recall is a memory modifier."***

"the first step in guiding a client out of the vortex of trauma, and away from this destructive "explanation compulsion," is to bring down the current activation to a significantly less distressed level. The second step is to then work with their sensations so that an individual can access their incomplete sensory-motor response and begins to experience completion in an interoceptively based *action and sensation*. These two elements—relative calm and embodied action—break the positive feedback loop with its negative retraumatizing consequences."

Somatic Experiencing “de-potentiates” (defangs) the disturbing, trauma-linked implicit and procedural memories through titration and the co-evocation of supportive and empowering interoceptive experiences. Together, therapist and client reduce and regulate extreme arousal states, facilitating completion of the biological defensive responses. In the safe and supportive context created by the therapist, a client is able to complete the thwarted defensive response, through imagery and subtle (inner) movement. This will often be accompanied by autonomic discharge in the form of heat, gentle trembling, tears, and other spontaneous movements. Once the proprioceptive experience of biological completion has occurred, the memories lose their intense charge (de-potentiate). They may now integrate into the hippocampal (autobiographical) timeline like ordinary memories. (See [Figure 7.1](#).)



**Figure 7.1.** De-potentiation of trauma-based emotional and procedural memories.<sup>40</sup>

## Chapter 8: Molecules of Memory

"In the 1950s, the famous experimental psychologist Donald O. Hebb attempted to describe the neural mechanisms of memory, typified with the mnemonic and well-worn phrase: **"Cells that fire together, wire together."** Each and every memory originates as a change in connectivity between brain cells. **For a memory to exist, previously independent cells must become more sensitive to the activity of others.** When this entrainment happens, Hebb proposed, it is easier for neurons to communicate by passing their

electrical excitation across a chemically mediated synapse (inter-synaptic cleft) to the dendrites (receptors) of the next contiguous neuron."

"In a revolutionary experiment, [the researcher Karim] Nader taught a number of rats to associate a specific (neutral) sound with a subsequent **painful electric shock**. After reinforcing this fear conditioning for some weeks, **Nader then exposed the rats to the sound without subsequently administering the shock. The rats still froze in fear of the shock**, exhibiting the same physiological arousal responses Nader had conditioned in them. In itself, this "run of the mill" Pavlovian conditioned reflex was not surprising. But Nader again repeated the conditioned stimulus (the sound exposure alone), this time after having injected a specific chemical that inhibits protein synthesis directly into the rats' amygdalae (the fear center in the "emotional" brain). Neither he nor his staid mentor could believe what happened when he played the sound this time. In Nader's words, **"The fear memory was gone; the rats had forgotten everything."**

"The stunning implication of Nader's breakthrough research is that memories are not formed and then pristinely maintained, as was previously assumed. Rather, **memories are formed and then rebuilt anew every time they are accessed, i.e. remembered.**"

***When we are able to "look back" at a traumatic memory from an empowered stance, the recollection will be updated as though this agency had been available and fully functional at the time of the original trauma. This newly reconsolidated experience then becomes the new updated memory where the (empowered) present somatic experience profoundly alters the (past) memory.***

### ***Kintsugi—a picture of traumatic distress ... healed.***

"A delightful BBC National Geographic nature film shows a scene where a lion is chasing three young cheetah cubs. Just barely escaping their demise by scrambling up a tree, the cubs wait with patient vigilance for the lion to vacate the premises. They then climb down, one by one, and take turns chasing the other two, just as the lion had. However, during this play period, **the viewer is struck by how the cubs try out multiple strategies and permutations of their successful escape. In this way they have not only escaped on this particular occasion in this particular manner, but they have also improved their performance and the likelihood of escape in future predator/ prey encounters.**"

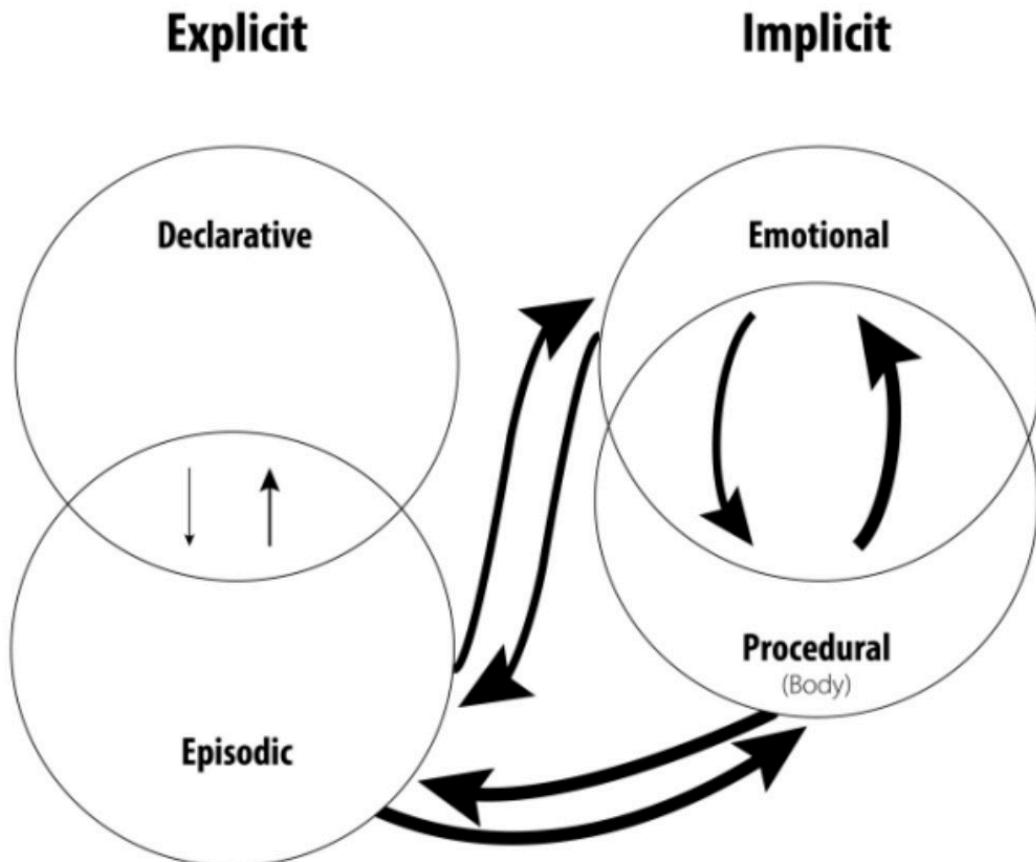
"[After a woman has been raped and undergone successful trauma therapy, once] **cultivating the experience of agency**, she learns to recognize what signals and escape opportunities she might have missed or lost to overwhelm in her original traumatic encounter. In addition, she can be **guided to reconnect with various empowering, instinctive responses that can be executed in**

the here and now so as to neutralize the lingering sense of fear, hopelessness, and overwhelm. She is now no longer a victim but has become an empowered survivor. *It has been noted that if a woman holds out her hands and convincingly yells, "Stop!"—marking a strong, clear boundary—rapists acknowledge that they would be more likely to leave her alone.*

### Renegotiation [of traumatic memories] (Naturalistic Approaches)

When a person arrives for a therapy session, troubled with a traumatic memory, they are either in an activated (**hyper-aroused**) state or feel shutdown and helpless (**hypo-aroused**). [...] The therapist acknowledges this memory recall and asks the client if they are **willing to "set aside" the memory for a while, inviting them to attend to present (here-and-now) body-based sensations**. Activation or shutdown is reduced and some regulation is restored. Then, **from this platform, the memory is brought back into view, revisited, and touched into without the client becoming overwhelmed**. From their new present experience of increased containment, calm, and capacity, **the individual is carefully and gradually guided to revisit the memory experience one piece at a time (titration)**. Each touching into ("revisiting") of the memory is followed by further normalization of arousal states, along with an augmented and empowered response capability. **The new elaborated body experience is incorporated with the original experience, forming a "new" updated procedural memory**. This new memory is now reconsolidated and the old memory of overwhelm and helplessness is "molecularly replaced" with the updated empowered version. **With the newly minted procedural and emotional memories of agency and competence under their belt, the client is guided to orient in the here and now and invited gradually to engage, via eye contact, with the therapist**. The various elements of the memory are explored and shared. There is an integration of emotional, episodic, and declarative memories into a coherent narrative. [...] This process enhances the client's capacity for **self-reflection and self-compassion**. The underlying impetus of the naturalistic process of transformation is our potent, innate drive toward completeness and competence, an evolutionarily prompted aspiration to succeed and persevere, as seen in the aMCC stimulation studies

### Relationships between memory systems



**Figure 8.3. Integration of memory system**

"In Aldous Huxley's *Brave New World*, the government manipulates the population with a benzodiazepine/Prozac combo drug called "SOMA," which is used effectively to pacify the masses. One shudders in horror in thinking about memory erasure drugs used en masse, as devious politicians bring up memories they want forgotten or enhanced. Science fiction? Maybe in the twentieth century, but certainly not in the twenty-first. **Memory erasure, perhaps, is also indicative of our culture's tendency toward a laziness that seeks solutions solely through drugs, be they antidepressants, stimulants, anti-anxiety or sleeping medications, etc., rather than through invoking our own creative capacity for generating self-regulation and resilience.** What is most concerning about erasure procedures is that there is no general understanding of the nature, function, or relationship between the multiple memory systems: explicit (declarative and episodic) and implicit (emotional and procedural)."

**Compare to what Baumeister & Wheelis said in their landmark book Willpower: "The shift in people's characters was noticed by a**

*psychoanalyst named Allen Wheelis, who in the late 1950s revealed what he considered a dirty little secret of his profession: Freudian therapies no longer worked the way they were supposed to. In his landmark book, *The Quest for Identity*, Wheelis described a change in character structure since Freud's day. The Victorian middle-class citizens who formed the bulk of Freud's patients had intensely strong wills, making it difficult for therapists to break through their ironclad defenses and their sense of what was right and wrong. Freud's therapies had concentrated on ways to break through and let them see why they were neurotic and miserable, because once those people achieved insight, they could change rather easily. By midcentury, though, people's character armor was different. Wheelis and his colleagues found that people achieved insight more quickly than in Freud's day, but then the therapy often stalled and failed. Lacking the sturdy character of the Victorians, people didn't have the strength to follow up on the insight and change their lives."*

**"Even if we are able to delete procedural memories, we might inadvertently create defenseless individuals who are divorced from their instincts, mistakenly approaching that which is dangerous and avoiding that which is beneficial.** This lack of orientation, and confusion between approach and avoidance, is something that we often see in survivors of molestation and abuse. **Before jumping, willy-nilly, into a brave new world of memory erasure, let us acknowledge that inattention to the complex mechanisms of traumatic memory could foreshadow disaster.** On the other hand, bringing clinicians and scientists together in a climate of collaboration and trust could help provide a more comprehensive understanding of traumatic memory and, in turn, alleviate unnecessary suffering."

## Chapter 9: Generational Trauma: Hauntings

"research over the past few years has [...] demonstrated some of the epigenetic, molecular, and biochemical mechanisms responsible for **[the generational] transmission [of trauma].** In one pivotal experiment, mice were exposed to the neutral (if not agreeable) scent of cherry blossoms. This neutral scent was then followed by an aversive electrical shock. After several pairings, the mice froze in fear when the scent was presented alone, in the absence of the shock. No surprise—this is a typical example of Pavlovian conditioning. However, what is astonishing about the experiment was that this same robust conditioned response was **retained through at least five generations of progeny.** *In other words, when exposed to the scent of the cherry blossoms, the great-great-grandchildren of the experimentally conditioned mice froze in fear just as though they themselves had been conditioned to the shock.* Further, when these progeny were exposed to several other neutral smells, there was no response, just as had been the case for their great-great-grandfathers. Incidentally, this generational transmission was significantly stronger through the male line. This remarkable **specificity of conditioning** to one particular odor, to the exclusion of all others, has

staggering implications for the transmission of trauma in humans. For example, I have worked with several second-generation Holocaust survivors who during their sessions were startled by perceiving the nauseating smell of burning flesh. This occurred along with an intense visceral reaction of nausea, fear, and a palpable dread that something horrible would happen. Indeed, a number of these clients were so averse to this type of smell that they became strict vegetarians. While I certainly can't offer this as proof of generational trauma, one can hardly dismiss the significance of this smell transmission, particularly given the results of the mouse experiment."

"Rachael Yehuda, one of the leading researchers on the **neurobiological effects of generational trauma**—and particularly on the children of Holocaust survivors—has demonstrated **clear changes in cortisol levels and other physiological markers of anxiety in this population**. These relatively nonspecific effects could, of course, be transmitted by compromised parenting of their infant offspring. However, **from my own clinical work with children and grandchildren of Holocaust survivors, I have frequently noticed and tracked symptoms of generalized anxiety and depression.**"

## Afterthought

"in the ancient Egyptian legend of Isis and Osiris [...] we find that the enemies of the great king Osiris had murdered and dismembered him, cutting up his body into many pieces and burying them in the far corners of the kingdom. However, Isis, empowered by her great love for Osiris, searched until she found all of the parts of his body and brought these "members" back together. In this reviving, she "re-membered" him. **When the seemingly disparate symptoms, the broken shards and fragments, the signs and syndromes that traumatized people exhibit are followed, they reveal clues that can be used to activate the process of healing.** To comprehend these symptoms we need to appreciate what happens to the body and brain when a person is frozen in fear. Many of these symptoms can be understood to represent disembodied parts of experience—inchoate [rudimentary] physical sensations that have overwhelmed these people in the past and, like the slaughtered parts of Osiris, have been cast asunder as dissociated fragments. **Treatment aimed at "putting back together" these disjointed sensations would be akin to what the mythological Egyptian goddess Isis did with the disembodied parts of her husband, Osiris—she dug them up from the hidden places where his enemies had buried them. Symbolically, she then joined them together into a coherent organism;** she "re-membered" him. Doing this involves gently coaxing individuals to begin to feel and tolerate the sensations that once overwhelmed them. This allows traumatic memories to coalesce, reconnect, and transform."

*I like this reflection—it's like what I think therapy is best thought of as: archaeology of the mind.*

## ***Final thoughts (mine)***

Somatic Experiencing holds a fond place in my heart. It's such an intuitive form of therapy, and when practiced with sincerity and competence, can help people heal when many other therapies can't. It's a bottom-up approach and lies in stark contrast to therapies that use thinking and the changing of cognitions to "heal". I love Levine's writing as it doesn't read like a textbook ... but more a blend of literature, philosophy, mythology, and science to give one a deeper, more appreciative sense of the *art* of psychotherapy. Because that's what it is—more art than science. But that's not to say it doesn't hold scientific weight. With the backing of Polyvagal theory and a deep understanding of biological evolution, the therapy can hold water ... and then some. Clinical experience teaches me that a therapist must have multiple tools in one's belt ... and to pull them out when needed. That often means, for example, starting with SE, sprinkling a bit of IFS talk, then utilising the EMDR eye movement protocol (or clinical EFT tapping) to help one reprocess a memory. Or, depending on the person, starting and ending with the one approach. I myself use the former method. I respect those who stick with one too.

*These notes were collected by psychotherapist and author Emil Barna in his efforts to assist with professional development and further education for himself and those who read them. You can find out more about Emil by visiting [www.barnacc.com](http://www.barnacc.com)*

***"A text without a context is a pretext to a proof text."***

**—Dr. Don Carson**